Eddie Gerba and Corrado Macchiarelli

Policy options and risks of an extension of the ECB's quantitative easing programme: an analysis

Discussion paper [or working paper, etc.]

European Parliament

DIRECTORATE GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY

Policy options and risks of an extension of the ECB's quantitative easing programme: An analysis

IN-DEPTH ANALYSIS

Abstract

During the press conference on 3 December 2015, president Mario Draghi reiterated the readiness of the ECB to adopt additional measures in order to maintain an appropriate degree of monetary accommodation. Different options are available, including the increase in the amount of monthly purchases of assets, currently set at 60 billion EUR per month. However, there are risks involved in extending these asset purchase operations, including the renewed criticism against the ECB for not complying with its mandate and entering the fiscal financing territory. This paper reviews the available unconventional monetary policy options for the ECB and considers the potential risks involved with each. It also briefly discusses key credibility issues that ECB might eventually face.

IP/A/ECON/2016-01 February 2016

PE 569.994 EN

This document was requested by the European Parliament's Committee on Economic and Monetary Affairs (ECON)

AUTHOR

Eddie GERBA, London School of Economics
Corrado MACCHIARELLI, London School of Economics

RESPONSIBLE ADMINISTRATOR

Dario PATERNOSTER

EDITORIAL ASSISTANT

Irene Vernacotola

LINGUISTIC VERSIONS

Original: EN

ABOUT THE EDITOR

To contact the Policy Department or to subscribe to its monthly newsletter please write to: Poldep-Economy-Science@ep.europa.eu

Manuscript completed in February 2016

This document is available on the Internet at:
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EXECUTIVE SUMMARY

During the press conference on 3 December 2015, President Mario Draghi reiterated the readiness of the ECB to adopt additional measures in order to maintain an appropriate degree of monetary accommodation. Different options are available, including the increase in the amount of monthly purchases of assets, currently set at 60 billion EUR per month. However, there are risks involved in extending these asset purchase operations, including the renewed criticism against the ECB for not complying with its mandate and entering the fiscal financing territory. This paper reviews the available unconventional monetary policy options for the ECB and considers the potential risks involved with each. It also briefly discusses key credibility issues that ECB might eventually face.

Even though bank lending in EA is slowly increasing as per the effect of QE, the level is still well below the level that would be needed to generate an improvement in the real activity. Recent evidence shows that the reason behind the low levels of (private sector) lending is the vastly growing volume of non-performing loans (NPLs).

Zero lower bound interest rate and QE risk increasing the volume of NPLs, eroding bank profitability even further, reducing credit-to-GDP ratios, and therefore putting at stake any opportunities for contemporaneous or future growth. This, however, would largely depend on the future stance and design of QE and any accompanying measures.

Regarding the practical extensions announced this December, there is a worry concerning the fact that the ECB has ventured below zero in June 2014. Should banks absorb the cost of holding money, this will risk making banks even less willing to lend. Liquidity constrained consumers and businesses might thus be the one suffering.

The ECB has timidly loosened the self-imposed “issue” restriction not to own more than 25% of any single bond. This (issue) limit has been brought to 33%. While this is an improvement, it is still not enough as QE purchases will still interact with previous acquisitions of bonds by the ECB or the NCBs, limiting the pace of purchases overall, particularly for some countries.

The idea of extend the list of eligible collateral to include securities issued by regional and local governments would alleviate the scarcity problem. Overall, however, this would help simply buying time, but would not lead to the recovery of the euro area economies. The latter is by large a political decision. Indeed, local bonds from cities and municipalities have the fall back of central governments. Hence, the decision to put these bonds in the pot will possibly change the ECB’s balance sheet composition but not its intrinsic exposure to risk.

We acknowledge that the ECB would still be able to consider

- ✓An extension of the current asset purchase programme beyond the current March 2017 deadline
- ✓An increase in the pace of monthly purchases from 60 billion EUR per month at present
- ✓A change in the composition of asset purchases
- ✓A further cut in the (currently negative) deposit rate and the ECB lending rate; the latter not without risks, considering what outlined above.

The first point clearly underscores the risk of a prolonged monetary policy easing in a conventional sense, or the "how long" scenario, making exits strategies particularly relevant when the time will come.

So far, the ECB's action in non-standard mode was based on a principle of separation between the interest rate policy and recourse to exceptional measures.

We see as a promising area the interaction of QE with fiscal expansion for the policy to succeed in stimulating aggregate demand and inflation. Overall, however, this interaction is not possible, especially in the presence of countries with limited fiscal space, in a framework which admits only limited risk sharing.

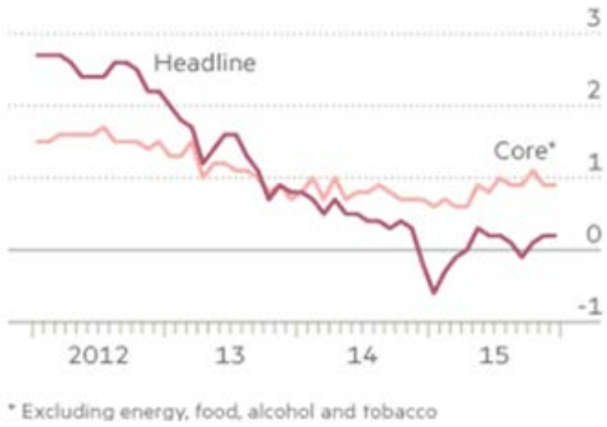
We also discuss that other (complementary) options could be direct lending to banks and non-banks; amendments in the NPL regulation and foreign exchange interventions.

1. INTRODUCTION

In March 2015, ECB officially started its extensive Asset Purchasing Programme (APP). The purchases amount to 60 billion EUR per month, and it was announced that the programme would run until at least September 2016. The aim of the QE was, as expressed by Mr Mario Draghi, to do whatever it takes to bring the core consumer-price-index (CPI) back to the 2%-target. However, by November 2015, it became clear that the core CPI was still well below the ECB's threshold. In fact, as Figure 1 shows, inflation has had hard time to even cross 1%. In light of this, and following the last Governing Council meeting of the ECB on 3 December 2015, it was announced that the APP would be extended in scope, time, and possibly even size: in particular, the list of eligible collateral would be extended to include securities issued by regional and local governments, and the programme would be extended by at least 6 months until March 2017. At the same time, the deposit rate was cut further by 10 b.p., down to -0.30%, and President Draghi confirmed that the ECB is considering of increasing further the size of QE in the near future should inflation remain low (Financial Times, 5 January 2016).

Figure 1: Euro Area CPI headline and CPI core developments

(Annual % change)



Source: FT on Datastream data

Figure 2: EA GDP growth rate

Source: Trading economics based on Eurostat data

In light of the deteriorating economic conditions in the euro area (EA), the effectiveness of QE is being brought into question; even more, now that different options of further monetary easing are being considered and their risks evaluated. In the remaining of the paper, we outline what these options are, discuss some of their economic, monetary and financial effects, as well as consider some of the risks entailed.

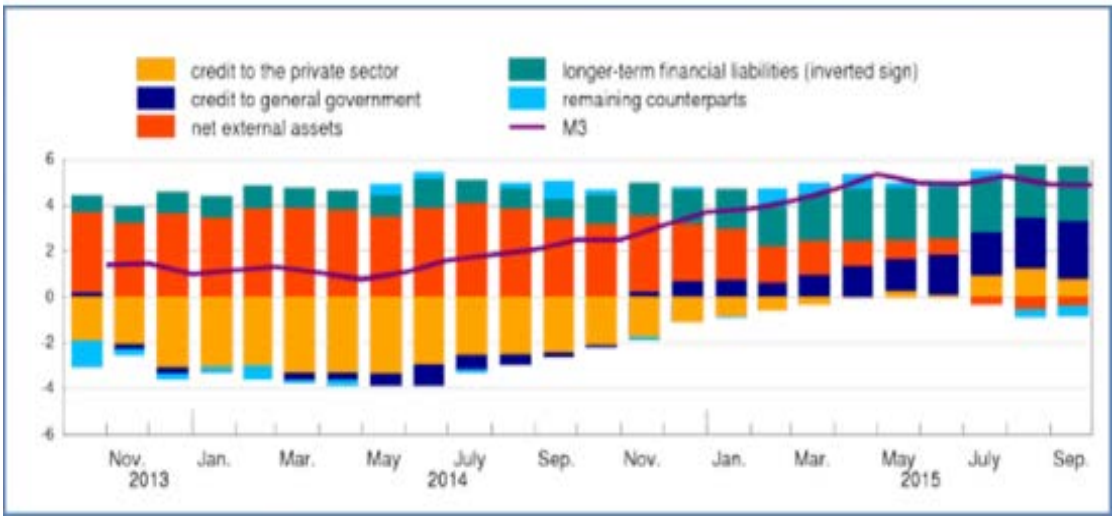
2. PROVISIONAL EVALUATION OF THE ECONOMIC IMPACTS OF QE: KEY EURO AREA INDICATORS

Before discussing what further options the central bank holds in terms of reviving the economy, we should first evaluate the impacts of QE to date. The ECB has claimed it to be a success. Looking at the empirical evidence, as discussed before, the inflation rate has been in a steady decline since April 2015. By October same year, the rate even turned negative and has remained around the zero-level ever since (Figure 1). GDP growth rate for the area has started to contract once again since May last year, putting an end to the slow climb commenced in 2014 (Figure 2).

Turning to bank lending, the downward trend observed above seems to hold. **Even though bank lending in EA is slowly increasing, the level is still well below the level that would be needed to generate an improvement in the real activity.** Using data from an ECB report in July (Figure 3), the largest share of the growth in the money supply (M3) over the past year and a half is accounted for by an increase in credit to the public sector, and not credit to the private sector, which is the one required instead in order to generate economic growth (Economonitor, 18 November, 2015).

Figure 3: Contribution of the M3 counterparts to the annual growth rate of M3

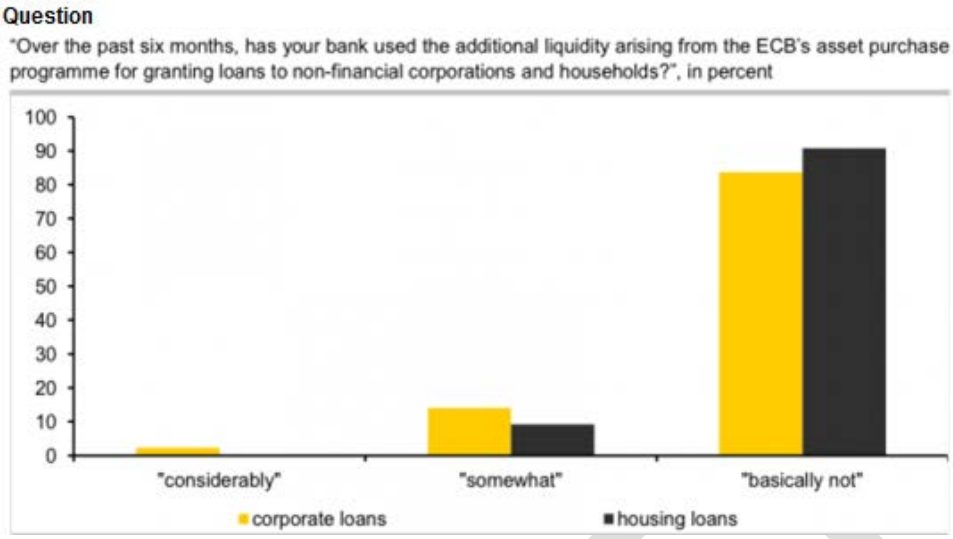
(percentage points)



Source: European Central Bank

A survey conducted by Commerzbank in October 2015 reveals a similar trend. They show that QE has had almost no effect on bank lending on balance. Roughly 85 per cent of banks said that QE has not increased lending and basically no bank saw a sizeable effect as the result of QE (Figure 4). The report concludes that liquidity is not a key factor that limits lending (Commerzbank Economic Research, 30 October 2015). In fact, the interest rates charged on loans are still relatively high despite a high liquidity on the market. Furthermore, the risk premium charged by banks is above 2 per cent despite the extremely low interest rates paid on deposits (Figure 5).

Figure 4: Impact of liquidity on loan supply decisions

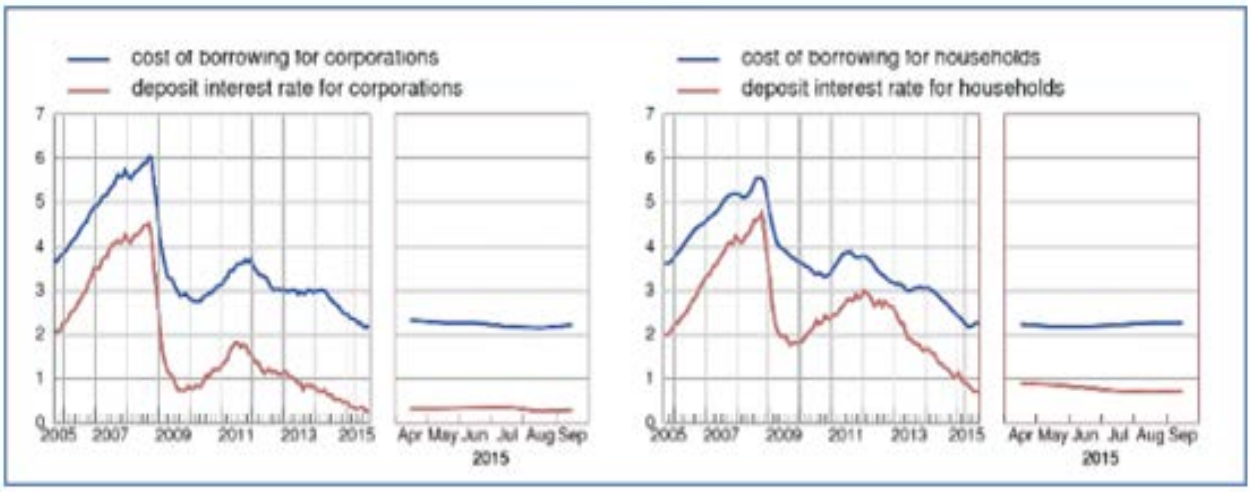


Source: Commerzbank based on ECB Bank Lending Survey

Since lending to the private sector has been pointed out as the *key* factor for reviving growth in Europe, the question remains to why the costs of borrowing remain high for firms and households. **Recent evidence** (IMF, 2015; BIS; 2015) **shows that the reason behind the low levels of (private sector) lending is the vastly growing volume of non-performing loans (NPLs)** across the continent. For the EU as a whole, NPLs stood at over 9 per cent of GDP at the end of 2014, or 1.3 trillion EUR. This is more than double the level recorded in 2009. The volume is especially high for the peripheral EA countries, such as Portugal, Italy, Greece and Cyprus (Figure 6), and for small and medium-sized enterprises (Aiyar *et al*., 2015).

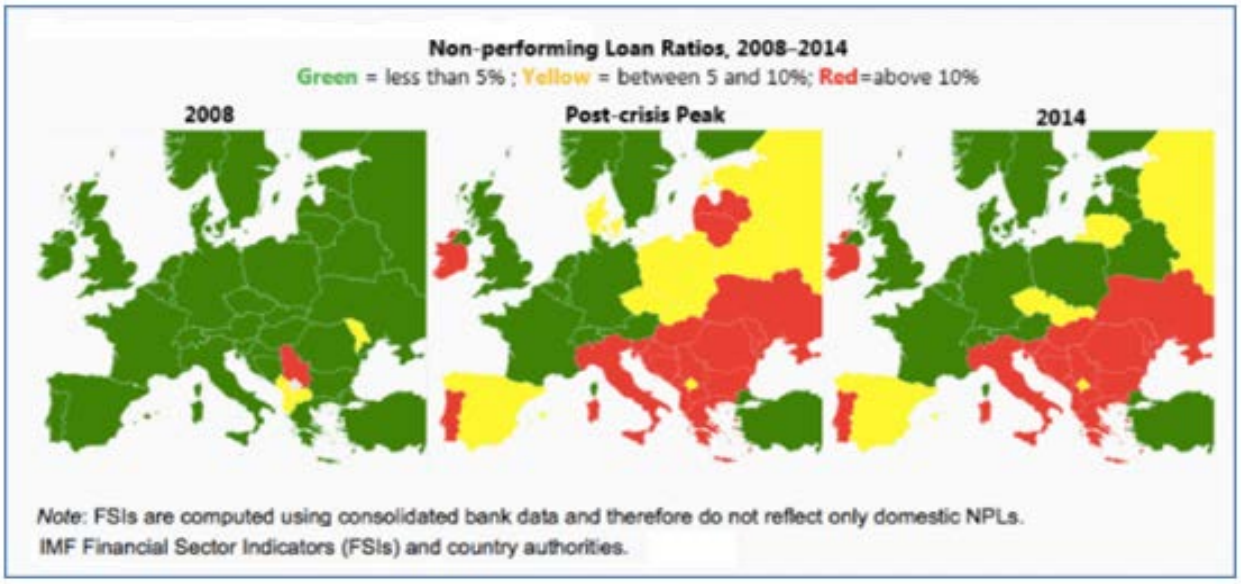
Figure 5: Bank interest rates on new loans and deposits

(percentages per annum)



Source: Economonitor

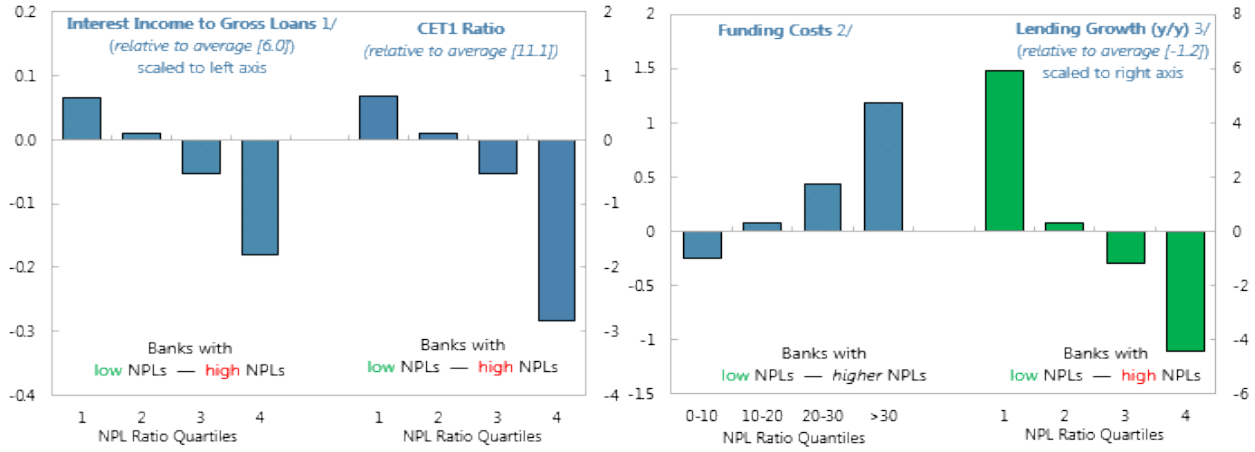
Figure 6: Non-performing loans in Europe



Source: IMF

However, SMEs are exactly the firms that are most dependent on banks extending their loans. Moreover, those are firms generating around two-thirds of EU's output and employment. This has serious implications for economic recovery since NPLs tend to reduce the credit-to-GDP ratio and GDP growth, while increasing unemployment (Espinoza and Prasad, 2010; Nkusu, 2011; Klein, 2013). In fact, high NPLs tie up bank capital that could otherwise be used to increase lending, leading to a reduction in bank profitability, a rise in funding costs and thus a reduction in credit supply overall (Figure 7; see also Aiyar *et al.*, 2015).

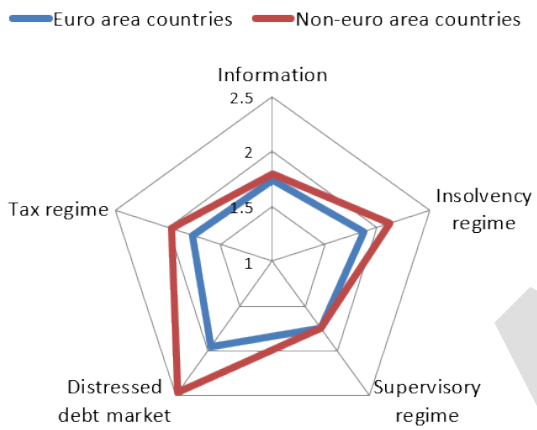
Figure 7: Euro Area implications of high NPLs for bank performance (in percentage points)



Source: Aiyar *et al.* (2015)

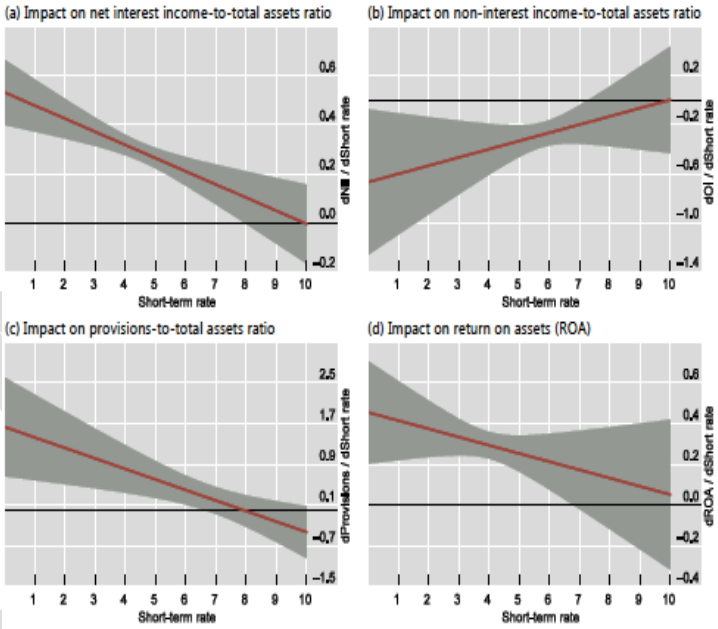
NPLs remain very persistent in the Euro Area, where the write-off rates for banks remain much lower than for US or Japanese banks. According to Aiyar *et al*. (2015), the reasons for that can be traced back to limited tax deductibility of provisions, weak debt enforcement and ineffective bankruptcy procedures that discourage write-offs and increase the cost of recovering assets provided as collateral for loans. Additional reasons are rigid accounting rules that hinder timely loss recognition and a lack of a sizeable market for distressed debt in Europe. The following diagram summarizes the results from an IMF survey, using a metrics where 1 equals 'no concern' and 3 reflects a high degree of concern for authorities and banks. From the survey, the specificities mentioned above for the EA countries are particularly evident (Figure 8).

Figure 8: Survey-based scores on obstacles to NPLs resolution: EA vs non-EA



Source: IMF survey of country authorities and banks

Figure 9: Effect of change in the policy rate on bank profitability



Source: Borio et al. (2015)

Likewise, a recent BIS study (Borio *et al*., 2015) shows that the impact of monetary policy rate on bank profitability declines with the level of interest rates and the slope of the yield curve (Figure 9). The results of the paper imply that unusually low interest rates and an unusually flat term structure erode indeed bank profitability.

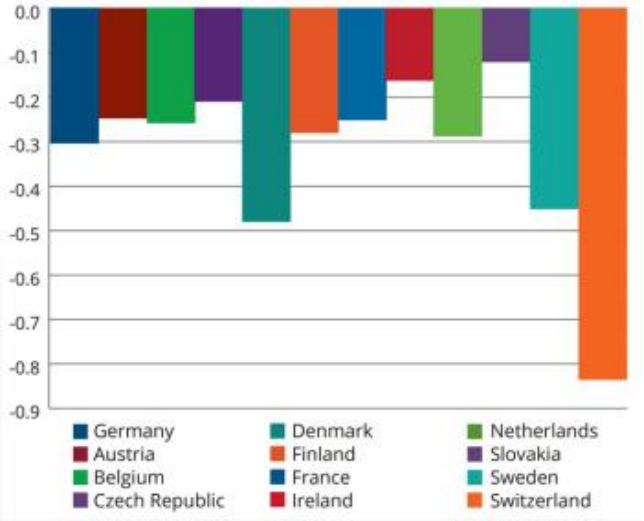
Bridging those two arguments, it means that the **zero lower bound interest rate and QE, which intends to flatten the yield curve, risk increasing the volume of NPLs, eroding bank profitability even further, reducing credit-to-GDP ratios, and therefore putting at stake any opportunities for contemporaneous or future growth. This, however, would largely depend on the future stance and design of QE and any accompanying measures.**

3. NEGATIVE INTEREST RATES, SO WHAT?

By mid-November 2015, about a third of the debt issues by Euro Area governments had negative yields. That means that investors holding to maturity won't get all their money back. Figure 10 illustrates that for 'safe' countries, almost the entire maturity spectrum of bonds trades at negative yields. If we take the shorter-end spectrum of debt, for instance 2-year, we see that by November 2015, almost all European debt was trading negatively (Figure 11). Just a year earlier, only 5 countries' debt traded below 0%. This could be seen as a success of the ECB policy, as QE aimed at lowering those yields and pushing investors out from the sovereign debt market.

Figure 10: Euro Area bond maturities trading at negative yields in Nov 2015

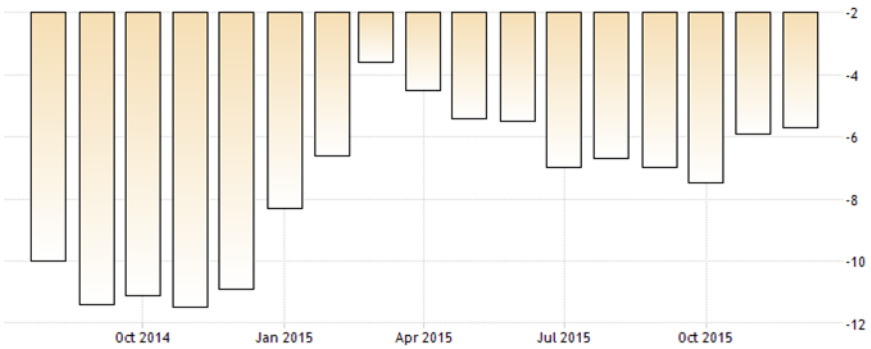
Figure 11: Two-Year Government Bond Yields for European Debt in Nov 2015



Source: Bloomberg and The Economist

But negative yields also expose the economy to certain risks. As we reminded in a previous note (Gerba and Macchiarelli, 2015a), extremely low government borrowing costs could result in misallocation of capital, which coupled with a weak currency could trigger capital flight and some asset values could collapse. **Negative yields may** also **fail to boost economic growth if consumer and business confidence remain low. This is in particular true if consumer and business believe that the policy stance is ambiguous**. In an environment of policy uncertainty, businesses will wait to invest and consumers will hoard money, resulting in low aggregate demand despite the negative yields. In September 2015, the CFA institute noted that dividends and repurchases amongst firms had recently exceeded capital spending, implying that large companies see little need for new productive capacity. At the same time, velocity of money continued to fall. Both are symptoms of an unsecure view of the future by firms and households (CFA, 7 September 2015). This is supported by persistently high saving rates across the Eurozone, coupled with a high volatility of consumer confidence (Figure 12).

Figure 12: Euro Area Consumer Confidence



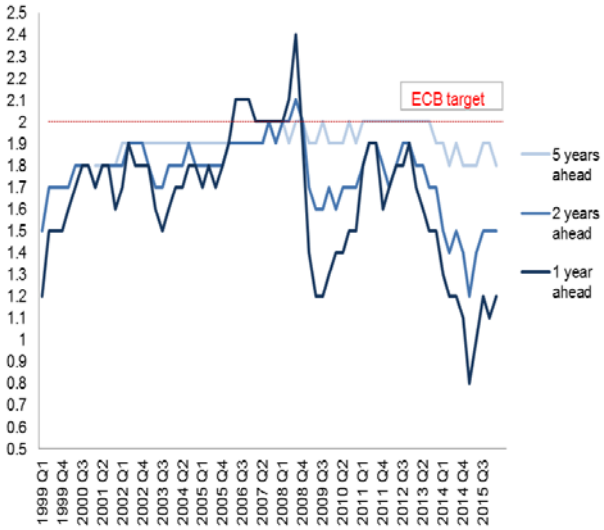
Source: Eurostat

Another obvious side effect of negative interest rates is that of pushing retirees and pension funds (and others requiring positive cash flow) to move into riskier segments of the market. Rather than accepting negative returns on government bonds, many fixed-income managers choose high(er)-yield bonds, emerging market debt, and high-dividend equities. Some observers are concerned this could result in a broad-based fixed-income asset bubble (CFA, 7 September 2015).

3.1 IS AN EXTENSION OF THE PROGRAMME A GOOD IDEA?

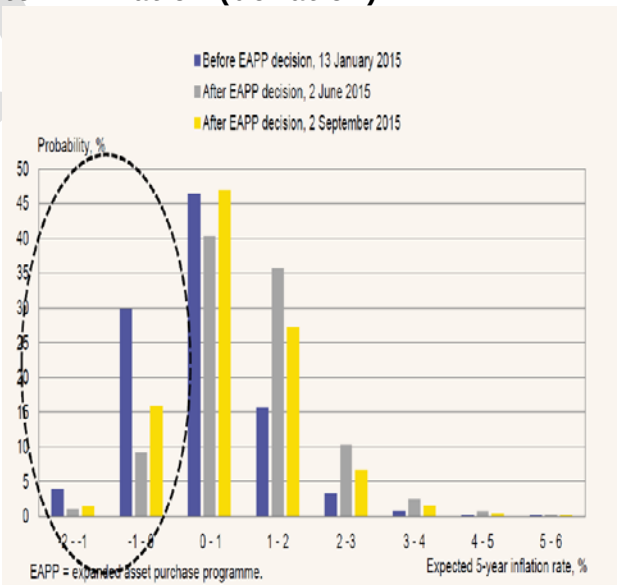
Mr. Draghi stated that the programme will possibly continue until at least March 2017 and, in any case, until the Governing Council sees a sustained adjustment in the inflation's path, consistent with the ECB's goal of achieving inflation rates close to, but below, 2% over the medium term.

Figure 13: Survey of Professional Forecasters expectations



Source: ECB Data. Last observation 2016Q1

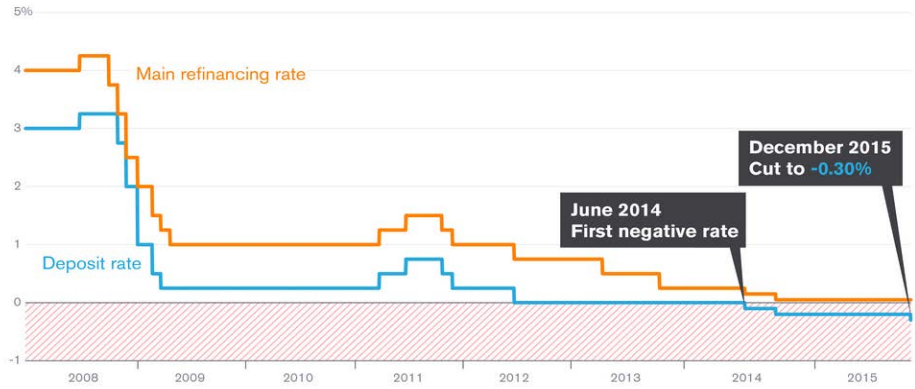
Figure 14: Probability of expected long term inflation (deflation)



Source: Bank of Finland (2015)

One of the ECB's top measures of long-term inflation expectations, the five-year, five-year euro zone breakeven forward EUIL5YF5Y has stabilized at around 1.7% recently after a rebound from a low below 1.5% in January (not shown here). Survey of Professional Forecasters' expectations have generally remained stable as well in recent months, at around 1.8%, over the long horizon (5-year), whereas expectations at shorter horizons have improved (Figure 13). All in all, the decision to implement the ECB' Asset Purchase Program seems to have indeed reduced tail risks of deflation, even if this trend has weakened over time, as the data for June vs. September in Figure 14 would suggest. The latter trend would be also possibly driven by weaker energy prices, as we reminded in a previous note. Notwithstanding some improvements in consumer sentiment and inflation expectations (particularly at shorter horizons), the ECB is dispelling any prospects of early tapering for now.

Figure 15: Euro area main refinancing rate and deposit rate



Source: Bloomberg

Regarding the practical extensions announced this December, **there is a worry concerning the fact that the ECB has ventured below zero in June 2014, and now charges banks 0.3 percent to hold their cash overnight.** Cutting the deposit rate further was indeed tailored to make more bonds eligible for QE purchases (Figure 15). In practice, however, there is a risk that the policy of cutting the deposit rate further, while unfreezing additional eligible bonds, might harm the money markets, and add to the existing uncertainty on lending (see also Gerba and Macchiarelli, 2015b). In fact, pushing the deposit rate lower implies banks may want to pass this cost and make more clients pay (rather than earn) an interest rate to hold their money, with the obvious side effect of clients preferring to hold cash instead. While that risk has not yet materialized – as banks have been reluctant to pass on negative rates for fear of losing customers – there is still a worry that when will banks absorb the cost of holding money on the books themselves, they will squeeze their profit margin between lending and deposit rates even further, giving themselves less of a cushion in case of a funding crunch. This risk making banks even *less* willing to lend, rather than more, as the policy of negative deposit rates was intended. Liquidity constrained consumers and businesses might thus be the one suffering (Bloomberg, 3 December 2015).

The ECB has timidly loosened the self-imposed "issue" restriction not to own more than 25% of any single bond, thereby increasing its portfolio composition. By decision of the ECB's Governing Council of 3 September 2015, **this** (issue) **limit has been brought to 33%**, "subject to a case-by-case verification" (ECB, 2016). By loosening the issue limit, possible OMTs and EAPP interactions would be a bit further down the line. Overall, however, there is a concrete risk that even a 33 per cent issue limit would leave barely any room for possible OMT purchases, in addition to the planned QE purchases. This is true especially for some peripheral euro area countries (Gerba and Macchiarelli, 2015b).

As the issue limit refers to the maximum share of a single PSPP-eligible security that the Eurosystem is prepared to hold, the agreed limit would thus make QE purchases interact with previous acquisitions of bonds by the ECB or the NCBs, limiting the pace of purchases overall. One of the main constraints in completely removing the issue limit is political. Said that, the latter can also be interpreted as a compromise between guarding the ECB's credibility, while, at the same time, granting markets well-functioning. Some comments are warranted in Section 5.

Finally, **the last Governing Council's decision of 3 December 2015 to extend the list of eligible collateral to include securities issued by regional and local governments would help relax some constraints on the current QE programme and release some of the collateral.** Since QE purchases are determined on the basis of the ECB's capital keys, some countries do most of the purchases. We have highlighted how for some large EA countries (e.g. Germany, the Netherlands) the short maturity spectrum is trading at negative rates, with a large proportion of bonds dipping below the ECB's threshold of, now, -0.3 per cent. This leaves some central banks – the Bundesbank *in primis* – out of bonds to buy. Hence, the decision to accept regional and local governments' bonds can enable these NCBs to reach the overall bond buying level more easily, alleviating the collateral scarcity problem. **Overall, however, this would help simply buying time, but would not lead to the recovery of the euro area economies**. The latter is by large a political decision. Indeed, local bonds from cities and municipalities have the fall back of central governments and typically enjoy lower credit rating than the latter. Hence, the decision to put regional and local governments' bonds in the pot **will possibly change the ECB's balance sheet composition but not its intrinsic exposure to risk.**

While this decision may help balance the system, and support a softening of the scarcity bond problem by helping some rates – namely Germany's – move back into green territory, this extension could also help "rejuvenate slack markets such as Italy or Spain", a Reuters report says. In the latter case, however, benefits will be limited since regional borrowings will count in calculating a country's overall debt stock, hence issuances will generally be capped for countries with low fiscal space.

4. WHAT OTHER OPTIONS DOES THE EURO AREA HAVE?

Taking into account these economic, monetary and market conditions, the key question becomes how the institutions will steer the Euro Area economies to growth? More specifically, what options do the ECB has at the moment, and what are the risks involved with each of those alternatives?

The most obvious and straightforward options are to increase the size and scope of the current QE programme. This could be a combination of:

- ✓An extension of the current asset purchase programme beyond the current March 2017 deadline
- ✓An increase in the pace of monthly purchases from 60 billion EUR per month at present
- ✓A change in the composition of asset purchases, perhaps to include the riskier corporate and high-yield bonds (possibly even to extend it into the territory of equities) and/or increasing purchase of bonds belonging to government agencies and/or expand the list of agencies eligible for QE (see also Gerba and Macchiarelli, 2015b)
- ✓A further cut in the (currently negative) deposit rate and the ECB lending rate; the latter not without risks, considering what outlined above.

The first point clearly underscores the risk of a prolonged monetary policy easing in a conventional sense, or the "how long" scenario (see also Reza et al. 2015), making exits strategies particularly relevant when the time will come (see Gerba and Macchiarelli, 2015a, and Section 5).

4. 1 JOINT MONETARY AND FISCAL STIMULUS

It is understood that the most effective way of providing liquidity directly to households and businesses without generating new debt is by giving away "helicopter money". However, since the ECB does not have a mandate to give money away directly to firms and consumers (just exchange one asset for another, in respect of the Treaty on the Functioning of the EU), helicopter money (referred to as money creation to support aggregate demand) need to be backed by fiscal policy decisions (Grenville, 2013).

In a recent article Bossone (2014) show that QE can, under strong liquidity preferences by the agents, fail to boost aggregate demand.[1] While the programme will succeed in raising asset prices, under liquidity preference dominance, it will fail to stimulate consumption and investment since agents absorb any amounts of reserve money created by QE and hold onto them without changing their decision plans. Hence, the policy-induced reduction in the nominal interest rates on less liquid assets cannot be large enough to prop up the marginal utility from holding risky assets beyond that of consumption and money. They also show that the same failures will arise from negative interest rates, forward guidance, or monetary authority acting irresponsibly in the sense of Krugman (1998). Aiyar *et al.* conclude that at the zero-lower-bound with strong liquidity preferences, QE cannot work unless it is supported by fiscal policy.[2] Thus, only the mix of monetary and fiscal stimulus can provide purchasing power directly to private and public agents.[3]

[1] In an environment of secular stagnation, exceptions for growth become low and agents' preference for liquidity high.
[2] At zero interest rate, long-term debt and liquidity are perfect substitutes and their marginal utility exceeds that of riskier assets.
[3] Since the budget deficit (generated by a fiscal stimulus) can be irreversibly funded through money creation, the government budget constraint is permanently relaxed by an equivalent amount. The

Monetary cum fiscal stimulus can resolve safety trap by boosting demand without creating public or private debt.

QE must be accompanied by fiscal expansion to boost inflation and aggregate demand. However, in economies with large public debt, fiscal expansion would worsen the debt burden and thus neutralising the expansionary effects from a fiscal stimulus. Therefore, in order for the joint policy to succeed, the central bank should commit to hold permanently the debt purchased, so as to 'neutralise' forever the government and taxpayer obligations (see also Bossone, 2015). Some comments are warranted in Section 5.

4.2 DIRECT LENDING

A complementary (see also Section 5) way of boosting lending is for the central bank to lend directly to non-bank institutions or banks for a longer period of time (the latter along the lines of the already implemented Long Term Refinancing Operations – LTROs, for instance). Beyond what already discussed, cutting the ECB deposit rate risk indeed making banks reduce the exposure to the ECB to minimum. Hence, instead of increasing their lending to households and businesses, banks could respond by hoarding money or moving money to non-euro zone central banks. To avoid such scenario and get banks to lend more, the ECB may therefore need to wave "a lending carrot" (Reuters, 2014). This could be done in conjunction with QE, in respect of the separation principle between monetary policy and liquidity management.

Lending to non-banks should only be done under some type of emergency function (so as to avoid it becoming permanent). An example of it could be Bank of England's 'Funding for Lending' program. Under this, banks can exchange loans on their books for UK Treasury bills for up to four years. The aim is to push the banks to borrow against those Treasury bills to increase their lending. This strategy will be successful if lending is primarily driven by an inability of banks to access liquidity in private markets (Labonte, 2014).

4.3 AMENDMENTS IN THE NPL REGULATION

However, if the root of the problem is an increasing number of NPLs on banks' balance sheet, then the remedy required to release that liquidity would be different. In that case, a comprehensive approach to accelerating NPL resolution is needed. The latter can be achieved if:

- ✓The ECB and national regulators tighten bank supervision
- ✓Structural reforms making bankruptcy more efficient and making it easier to collect debt are to be put in place
- ✓Markets for distressed assets are to be developed

On the first point, a line of international experience shows that swift recognition of loan losses is crucial to incentivizing NPL resolution and corporate restructuring. On the one hand, more conservative provisioning and collateral valuation would encourage banks to resolve NPLs quickly. On the other hand, higher capital set aside by banks would make it easier to meet loan-restructuring targets within a reasonable period of time. In times of systemic crises, banks could agree with supervisors on standardized criteria to distinguish nonviable firms from viable ones. The first would require liquidation, while the second a simple restructuring (Aiyar *et al*., 2015).

disposable income of all agents can thus be equally raised, and because of Ricardian equivalence effects, consumption can increase permanently.

On the second point, lengthy court procedures should be shortened and out-of-court arrangements should be encouraged as alternatives. Currently, there are high legal discrepancies between countries. Such reforms would make it easier for banks to write off bad loans since it would increase the value of collateral provided by borrowers.

Lastly, a liquid distress market would allow banks to connect with specialist investors who are experienced in managing impaired assets. That would allow them to write off their distressed assets quicker, and push them to expand their lending further. In some cases, a publically supported asset management company can help kick-off such a market. Spain's SAREB is an example. In that instance, anticipating upcoming asset sales, its entry onto the market allowed banks to adjust their asset valuations and start selling NPLs. In turn, this attracted more investors and third-party loan servicers.

These three pillars of reform are complementary and should be implemented simultaneously (Aiyar *et al*., 2015).

4.4 FOREIGN EXCHANGE INTERVENTION

There is an array of other measures that the ECB can undertake to loosen market conditions. One of them is a direct intervention in the foreign exchange market in order to devalue the EUR further and boost trade and foreign direct investment. Naturally, the central bank buys or sells its currency reserves in order to influence the value of the exchange rate directly. In practice, however, the current situation of a weakening EUR does not urgently call for this sort of intervention – strictly speaking. Said that, all such interventions would anyway have a further 'signalling effect' confirming ECB's commitment to do "whatever it takes" to boost the real economy (see also Labonte, 2014).

4.5 OTHER UNCONVENTIONAL MEASURES

A practical option might be for the ECB to re-define its inflation target, in particular if we accept the idea that the euro area is entering a period of longer-term lower economic growth (or secular stagnation). The central bank could either change its definition in order to incorporate other price-movements apart from the consumer-led one, such as the retail price index (RPI), or it could lose the current inflation-target set at 2% in order to capture the rigidities arising from the new economic environment. The risk (not to be understated) of amending the definition of inflation under policy uncertainty is that inflation expectations might become de-anchored and credibility seriously undermined.[4] Even in a scenario where the current expectations in the euro area are de-anchored, and settled at a level below 2%, a revision of the ECB's official target *might* assist in re-anchoring them, in the light of the weaker economic conjecture. Overall, however, this may come at the cost of affecting central bank's credibility as it may be seen, yet again, as a drastic change in the ECB's policy stance in an attempt to cope with stubbornly low expectations. Considering that price stability defines the very ECB's objective, and its political independence is considered conducive to maintaining price stability according to the target, making the ECB *follow* rather than *lead* market expectations (see Alesina and Stella, 2010) might affect the bank's credibility.

[4] Some would even argue that the current expectations in the Euro Area are already de-anchored such that these measures might assist in re-anchoring them.

5. IS THE ECB FACING A DILEMMA BETWEEN INTERVENTIONISM AND INDEPENDENCE?

Notwithstanding some improvements in consumer sentiment and inflation expectations (particularly at shorter horizons), as discussed, the ECB is dispelling any prospects of QE early tapering at the moment. With the latter decision of September 2015, the ECB is not attempting to violate the separation principle between standard and non-standard measures. On the contrary – due to the persistent clear downsize risks to price stability – creating an expectation for a withdrawal of the monetary accommodation further down the line is not unreasonable. Still the situation may change.

During the recent periods, the ECB has constantly expressed concerns about its targeted inflation objective, clearly communicating how QE has the sole purpose of achieving the ECB's mandated objectives, and explained how their actions would achieve these objectives.

In Section 4, we highlighted how extending the QE programme indefinitely underscores the risk of a prolonged monetary policy easing in a conventional sense, or the "how long" scenario (see also Reza *et al.* 2015). The latter making exits strategies particularly relevant when the time will come (see Gerba and Macchiarelli, 2015a). A risk remains that, beyond a certain point, large-scale purchases of long-term government bonds may be misconstrued as an attempt to monetize large fiscal deficits, which has historically led to high inflation, with no effects on the real economy.

Given the potential threats to central bank independence associated with the implementation of QE, it is clear that the latter has an "effective bound" (Reza *et al.* 2015). Nevertheless, where the ECB's bound lies is still unclear.

At the same time, it should be mentioned there are many potential elements that may put a "cap" on the size and duration of QE *a priori*: for instance people, as the result of the economic uncertainty, may react by wanting to inter-temporarily smooth the unwinding of the policy over time (by increasing precautionary savings, for instance). All in all, signalling correctly seems crucial at the moment.

5.1 A TAXONOMY OF ECB'S UNCONVENTIONAL MONETARY POLICIES

There is no doubt that narrow inflation targeting failed to deliver stability of the economic and financial system as a whole. Interventions like QE, usually requiring asset purchases, made the distinction between monetary and fiscal policy become blurred and put independence at risk. However, for the sake of focusing on the European QE's stated purpose, i.e. bringing inflation on check, we should leave financial stability implications aside here (for a discussion see Gerba and Macchiarelli, 2015a).

Table 1: A taxonomy of unconventional monetary policies

	Form of intervention	Channels of propagation	Transmission Mechanism
Market-based measures	*Targeted asset purchases* in private or sovereign debt markets	Portfolio rebalancing	Changes in relative supplies affect asset prices and long-term interest rates, easing financing conditions
Bank-based measures	*Long-term refinancing operations (LTROs)* Open market operations with full-allotment, longer maturity, extended number of counterparties, relaxed collateral requirements (acceptance of illiquid collateral)	Money multiplier	Increased bank reserves stimulates bank lending
		Collateral channel	High-quality collateral redirected to access market funding, restoring funding and market liquidity (including in collateral markets)
		Indirect portfolio rebalancing	Activated if banks use central bank liquidity to purchase private or sovereign debt

Source: Gabor (2012; 2014)

Rather, it should be noted that in times of protracted recession and high debt, combined with a risk of deflation (i.e. as the current one) the temptation to resort to central banks' facilities becomes high. In the name of growth, the recourse to "helicopter money" may be seen as the only solution (Bossone, 2014). The fundamental problem is the long-term cost associated with it: the potential loss of central bank's independence and the political consequences of inflation (Blinder, 2010).

Like other central banks in advanced economies, the ECB faced huge dilemma in finding a way out of the crisis. But in contrast to other central banks, the ECB had major constraints deriving from the complexity of the governance framework of the monetary union: one central bank and *n* Treasuries. In the jargon of game theory, the problem with this set-up is that the Member States' fiscal authorities are better off if the ECB intervenes, obviating the need for fiscal intervention; likewise the ECB is better off if governments agree to use fiscal stimulus, in a coordinated fashion – as in a one country scenario (e.g., a fully-fledged fiscal union in the long term) – thus alleviating the pressure on the ECB (see Onorante, 2007; Alcidi and Giovannini, 2013).

With the implementation of QE, the ECB delivered its assessment of the situation and explained what response it intended to provide. Therefore, the ECB's action in non-standard mode was based on a principle of separation between the interest rate policy and recourse to exceptional measures.[5] In other words, this dilemma was addressed by reclaiming the importance of distinctive financial systems, defined through the traditional market-based and bank-based dichotomy (ECB, 2010).

[5] The separation principle is a direct application of the Tinbergen Principle (1952) to the conduct of monetary policy. This framework, adapted to inflation targeting strategies, has been translated into monetary policy and liquidity management strategies, consistent with the ECB's operational framework, where a distinction of this type is more appropriate (Smets, 2009). The ECB has clearly stated that it intends to maintain a clear separation between:
(i) Monetary policy operations, signalling the appropriate level of short-term interest rates;
(ii) Liquidity management operations, which main objectives is to keep money market rates close to the policy rate and to ensure money market well-functioning.

The former is determined by assessing the situation in terms of the price stability objective. The latter depends on the functioning of the transmission mechanism. Bank-based measures, exploited the flexibility of the existing framework, and were indeed not intended as an instrument for steering inflation (Table 2). In contrast, the market-based unconventional measures were guided by financial or economic variables, for instance putting a ceiling on the yield of some peripheral long-term government bonds (see also Bernanke and Reinhart, 2004), as in the case of the Security Market Program, or, **in the case of QE, with the broader goal of overcoming deflationary pressures.**

Table 2: The ECB's unconventional crisis policies

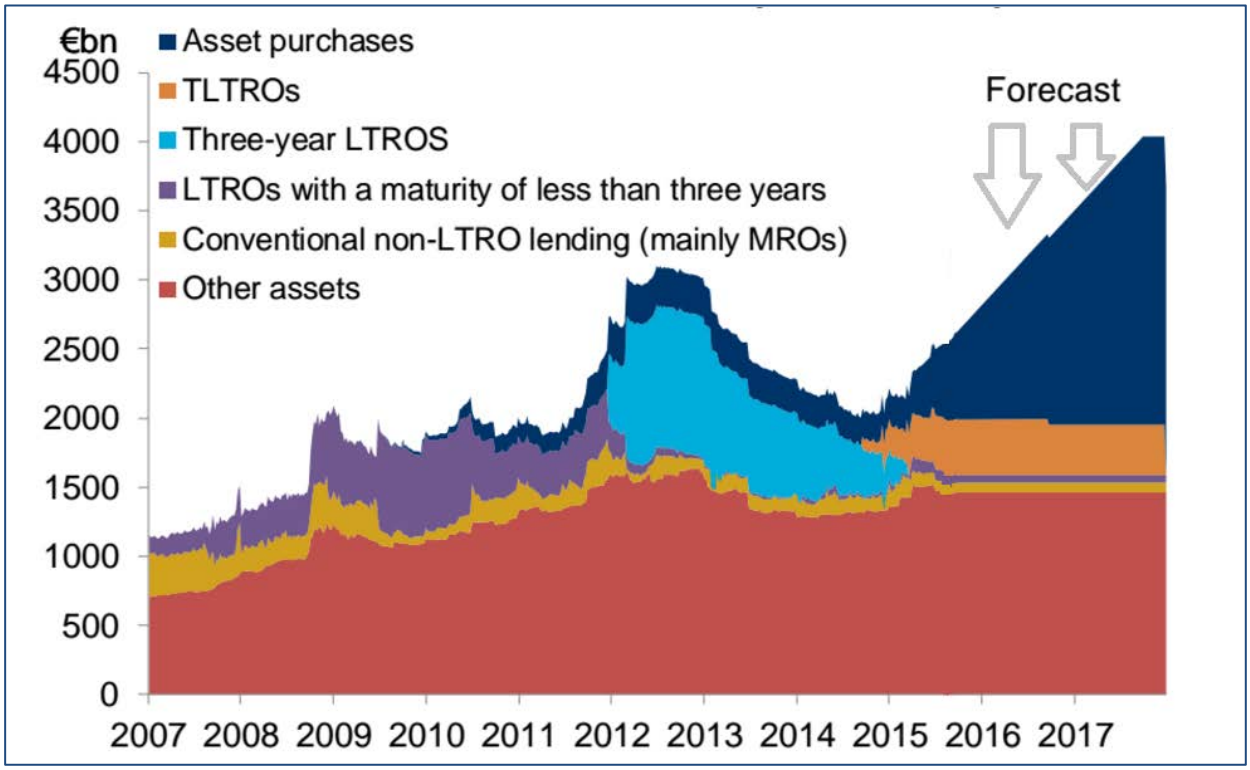
	Nature of commitment	**Interactions with funding markets**
Bank-based crisis measures (start date)		
Enhanced credit support *(Oct 2008)*	Full-allotment, longer maturity (3 to 6 months), relaxed collateral requirements	Allow collateral substitution given sovereign collateral discrimination in European repo markets
LTRO I *(May 2009)*	Three, one-year, LTROs June, Sept. and Dec. 09;	Lengthen liquidity planning horizon (Trichet, 2009) and collateral substitution
LTRO II *(May 2010)*	One, 6-months, LTRO (May 2010)	Address tensions in markets for collateral and possible contagion
LTRO III *(October 2011)*	Two, one-year, LTROs (Oct. and Dec. 2011)	Mitigate scarcity of eligible collateral and collateral discrimination. Temporary effect on Spanish and Italian yields.
LTRO IV *(Dec. 2011)*	Two, three-year LTROs (Dec. 2011 and Feb. 2012); relaxed collateral requirements	Same as above
Market-based crisis measures		
Covered Bond Program I *(May 2009 to June 2010)* and II *(Nov. 2011 to Oct. 2012)*	Commitment to volumes CBPP I = EUR 60bn CBPP II = EUR 40bn (Hold to maturity)	Lower cost of funding in the covered bond market, a long-term source of market funding for European banks
Securities Market Programme (*May 2010, suspended Jan. 2011; restored in July 2011, terminated with launch of OMTs*)	Sterilized, one-off purchases, no commitment to volume, no disclosure of originator of instrument.	Restore liquidity in sovereign bond markets important for bank funding (collateral). Temporary effect.
Outright Monetary Transactions (*announced Aug 2012; not implemented*)	Unlimited amount, conditional to implementing an adjustment program under the ESM	No intervention yet; strong *signalling effect*
Expanded Asset Purchase Programme (EAPP) (*January 2015, until Sept. 2016; possibly extended until March 2017*)	1.14 EUR trillion (or about EUR 60 billion/month) in the first round	Provide further monetary stimulus at the zero lower bound.

Source: Adapted from Gabor (2012; 2014)

As discussed, once the underlying objective has been achieved, the ECB will be confronted with the political economy aspects of unwinding extraordinary measures. Indeed, it should be noted how all the market crisis-based measured needed to be unwound at some point, leading the ECB to adopt several different measures (Table 2).

It is important to point out that the intense criticism of the QE program for discouraging fiscal discipline rarely recognizes that sovereign bond purchases have been so far of a much smaller volume than bank-based liquidity injections (see Figure 16). Even so, the European QE has to be understood as part of a monetary policy strategy, not as an attempt at indirectly funding government. Said that, purchases will increase over time, making monetary-fiscal policy interactions very relevant.

Figure 16: Eurosystem ECB's balance sheet (assets side)



Source: Oxford Economics

CONCLUSIONS

Going back to the point made in Section 4.1, we believe QE must be accompanied by fiscal expansion for policy to succeed in stimulating aggregate demand and inflation: only fiscal action could guarantee that money would be spent. As Bossone notes (2014; 2015), in economies with large public debt, fiscal expansion would worsen the debt situation. Hence, the only way out would be for the central bank to commit to holding permanently the public debt purchased, so as to 'sterilise' its corresponding government and taxpayer obligations indefinitely. Although ECB liabilities will increase, the euro system as a whole will remain solvent (see also Gerba and Macchiarelli, 2015b). This set-up is currently not possible given the design of QE with limited risk-sharing (Buiter, 2015; Gerba and Macchiarelli, 2015b ; Blaszkiewicz-Schwartzman, 2015).

Given the circumstances, the ECB did the right thing when it chose to intervene in buying government bonds, because the alternative of doing nothing would have been worse. But now the concern is: will limited risk-sharing be enough?

As discussed, full risk sharing will not constitute a risk to the central bank's credibility (Gerba and Macchiarelli, 2015b), and one should consider the potential costs of wanting to keep involvement limited, against the potential benefits.

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