Non-Standard Monetary Policy Measures – Magic Wand or Tiger by the Tail?

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Abstract

This paper briefly assesses the effectiveness of the different non-standard monetary policy tools in the Euro Area. Its main focus is on the Outright Monetary Transactions (OMT) Programme which is praised by some as the ECB’s “magic wand”. Moreover, it discloses further possible unintended consequences of these measures in the current context of weak economic activity and subdued growth going forward. For this purpose, it investigates specific risks for price stability and asset price developments in the first main part of the paper. It is not a too remote issue that the Fed does have a “tiger by the tail”, as Hayek (2009) expressed it, i.e. that the bank will finally have to accept either a recession or inflation and that there is no choice in between. Furthermore, it checks on whether the OMT programme really does not impose costs onto the taxpayer. Finally, it comes up with some policy implications from differences in money and credit growth in different individual countries of the Euro Area. The second main part of the paper assesses which other tools the ECB could use in order to stimulate the economy in the Euro Area. It does so by delivering details on whether and how the effectiveness of the ECB’s policies can be improved through more transparency and “forward guidance”.

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October 2013
1. Introduction

In times of extraordinary financial market tensions, the monetary transmission mechanism may well be hampered due to dysfunctional financial markets. Exactly for this reason, the ECB has resorted to non-standard, unconventional measures listed, for instance, in ECB (2013) to ensure the transmission of monetary policy impulses to the economy.

These unconventional tools comprised liquidity support to commercial banks at favourable rates such as that provided through the ECB Long-Term Refinancing Operation (LTRO) against collateral. Until early 2008, the longest LTRO maturity was three months. Since then the ECB has successively introduced six-month, 12-month and 36-month terms for LTRO finance.

The Eurosystem can also conduct interventions in the Euro Area’s public and private debt securities markets by purchasing certain assets outright, instead of merely accepting them as collateral. On 2 August 2012, the Governing Council of the European Central Bank (ECB) announced that it would undertake outright transactions in secondary, sovereign bond markets, aimed "at safeguarding an appropriate monetary policy transmission and the singleness of the monetary policy." On 6 September 2012 the ECB published the technical features of these Outright Monetary Transactions (OMTs).¹

Analysts are split over the success of these measures. One camp is arguing that ECB commitment to resort to non-standard monetary policy tools have been instrumental to calm down markets, to reduce stress in bank funding, to improve bank lending, and, overall, to take away fears of a collapse of the Euro. At the same time another camp has voiced some criticism, in particular as regards the OMT, e.g. that it would delay fiscal discipline, blur the distinction between monetary and fiscal policies, lessen pressure on painful structural reforms and/or create inflation or another asset bubble.

The remainder of the paper proceeds as follows. In Section 2, we briefly assess the current macroeconomic background and briefly summarise evidence on the effectiveness of the different non-standard monetary policy tools in the Euro Area. Section 3, the first main part of the paper, discloses further possible unintended consequences of these measures in the current context of weak economic activity and subdued growth going forward. For this purpose, we investigate specific risks for price stability and asset price developments. To be more explicit, we deal in Section 3.1 with the question whether quantitative easing US-style may serve as a blueprint for the ECB. What is more, we check in Section 3.2 with an eye on the legal

background of the OMT programme and especially the specific creditor status of the ECB under different programmes whether the OMT programme is really costless to the tax payer. Finally, we come up with some policy implications from differences in money and credit growth in different individual countries of the Euro Area in Section 3.3. The second main part of the paper, Section 4, assesses what other tools/instruments the ECB could use in order to stimulate the economy in the Euro Area. It does so by delivering details on whether the effectiveness of the ECB’s policies can be improved through more transparency and “forward guidance”. Section 5 finally concludes.

2. Macroeconomic background: what has been achieved?

The paper now briefly assesses the current stance of effectiveness of the different non-standard monetary policy tools in the Euro Area and in different Member States. This is usually done referring to Mario Draghi on July 26th 2012: “We will do everything to preserve the Euro, and believe me, it will be enough”. First of all, it is rather easy to see that, on the one hand, the risk premia on the markets have declined. The Stanford-Chicago think tank “Economic Policy Uncertainty” shows this rather clearly, based on a decreasing empirical realization of the political uncertainty index for “Europe” as a whole but, interestingly enough, not for Spain (Figure 1, PolicyUncertainty.com). What is more, the data show that tensions in the real economy appear to have gone down as well, most probably as a consequence of the former.

Figure 1 – Economic Policy Uncertainty Index


A similar picture has only recently conveyed by ISLAMI AND KURZ-KIM (2013), based on a single composite financial stress indicator and its real impact in the euro area. Given the popular theory of an option value of waiting with investment under uncertainty, this improvement
appears to be one important driver of the increase in construction investment also in Germany. In Section 3.2, we will recognize with respect to Mario Draghi’s above mentioned statement that the idiom “post ergo propter hoc” is not always valid.

On the other hand, fragmentation as measured by the spreads on short-term loans to firms has not diminished significantly compared to a year ago, except a few credit segments. At the same time, the recent contraction of the Target2 balances by about 300 bn EUR since summer 2012 can possibly not assessed purely positively (COMMERZBANK 2013). On the one hand, the dynamics of the decrease has become smaller. On the other hand, the decrease took place more than proportionally in the Netherlands and Finland, countries suffering to an increasing extent from too low interest rates of the ECB and thus worsening competitiveness. Hence, the recent Target2-dynamics cannot solely be interpreted as the expression of increasing trust in the peripheral EMU countries but, alternatively, also of shrinking trust in both mentioned core countries.

What is more, it will prove very difficult to deliver short-run empirical evidence to judge about potential long-run negative OMT side effects derived in one of my previous Briefing papers (BELKE 2012). This would clearly not comply with scientific standards. Hence, this paper does not proceed by searching for evidence of positive or negative effects of, for instance, the ECB’s OMT announcements. Instead, it does so indirectly by focusing on further risks contained in unconventional monetary policies which came up to the surface only with the benefit of hindsight and on some limitations to the apparently premature praise of the effectiveness of, for instance, the OMT programme. Furthermore we check whether more transparency and “forward guidance” may help to stabilize expectations of market participants and to reduce macroeconomic volatility.

3. Non-standard monetary policy tools - unintended consequences and risks

In the following, we investigate possible unintended consequences of unconventional monetary policy measures in the current context of weak economic activity and subdued growth. Moreover, it tries to identify the kind of risks they entail for price stability and asset price developments.

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2 For a detailed survey on available empirical studies on the effectiveness of unconventional monetary policies of the Fed and the ECB see, for instance, ECB (2013).
3.1 Quantitative easing US-style: a blueprint for the ECB?

Financial markets all around the world have become increasingly concerned with the outlook that the US Fed might abandon its policy of “quantitative easing” (QE), especially after Ben Bernanke’s press conference in June 2013 where he laid out an exit strategy from quantitative easing. As is well known by now, the Fed adopted QE in 2008 as a reaction to the financial and economic crisis.

A constitutional property of QE policy is that the central bank buys bonds in the market. If a central bank purchases a bond, the bank boosts bond demand. As a consequence, the bond price rises beyond the level that would prevail if central bank purchases would be absent. Expressed differently with an eye on the bond pricing formula, a policy of quantitative easing pushes the bond price beyond its “true” equilibrium price and the market interest rate to below its “natural” rate (POLLEIT 2013). Note that multiple equilibria will be introduced and their empiric relevance in the current Euro Area context finally dismissed in Section 3.2 of this paper.

Central bank bond purchases: a minimum price policy

To start with, it makes sense to interpret QE as a *minimum price policy* applied to bonds. Already the ECB bond purchases within the SMP framework have been interpreted as a minimum price policy (BELKE 2010, p. 7). This can be elucidated in Figure 2 which has been derived from the textbook by BELKE AND POLLEIT (2010), pp. 99f. It is important to note that in the Keynesian liquidity theory, the supply of money always equals the demand for bonds and vice versa.

Figure 2 – *Policy of QE in the bond market – money market framework*

In Figure 2, the intersection between the supply of and demand for bonds represents the equilibrium price $P_0$. If QE is in place, the central bank intends to push the bond price beyond the prevailing equilibrium bond price from $P_0$ to $P_{\text{MIN}}$. This in turn leads to an excess supply of bonds ($B' - B''$). In order to keep prices at $P_{\text{MIN}}$, however, the central bank is forced to buy the resulting excess supply of bonds, thereby expanding the money supply in the economy through newly created base money. This corresponds to a shift of the money supply schedule from $M_0$ to $M_1$. Money is created “out of thin air” (BELKE AND POLLEIT 2010, p.657).

Experience has shown that at some point investors may become concerned about inflation in the course of this kind of monetary expansion (for instance, because they do not trust central bankers’ active sterilization promises, see Belke, 2010) which lets them reduce their demand for bonds and the demand schedule move from $D$ to $D'$ in Figure 2. Excess bond supply raises to $B' - B''$, an amount which has to be purchased by the central bank to keep prices constant at $P_{\text{MIN}}$. This in turn will expand the quantity of money even further (BELKE AND POLLEIT, 2010).

**Money supply expansion: bond purchases from banks versus non-banks**

If a central bank buys bonds, it raises the supply of base money. However, in order to derive the effects of this operation on the quantity of money, one has to carefully differentiate between the sellers of the bonds, i.e. banks versus non-banks. As correctly stated, for instance, by POLLEIT (2013):

“If the central bank purchases bonds held by banks, it increases banks’ excess reserves, while the commercial money stock, that is M1 and M2, remains unaffected. M1 and M2 would be increased only if and when banks use their excess reserves for additional lending and/or asset purchases.

If the central bank purchases bonds held by non-banks (such as, for instance, insurance companies, pension funds and private savers), it increases the commercial money stock – M1 and M2 – directly: This is because the purchasing price will be credited to the seller’s checking account, which is included in M1 and M2.”

To summarize, the central bank is able to affect the outstanding stock of money directly only if it buys bonds held or newly issued by non-banks. And this is what a couple of analysts argue to have been increasingly happening in the US since 2011 (POLLEIT 2013). This was a reaction to the declining bank credit expansion since 2008, which even turned into negative in 2010. This in turn curbed M2 growth because a decline in bank credit diminishes deposit money (Figure 3). The policy of QE conducted by the Fed since late 2008 did not produce any headwind against
this development until 2011, when Ben Bernanke changed his course (Belke and Polleit, 2010).

Figure 3 – US bank loans, money supply and M2

Annual changes in US$ bn


But with an eye on the deceleration of money creation through bank credit expansion since mid-2012 it is not very probable that the Fed will be able to taper its policy of QE anytime soon, let alone exit from it altogether. This is because phasing out QE at this point in time will probably dampen economic growth, which has been fought by the Fed by all available means, or may even cause an outright recession if rising rates will disclose bad investments which have accumulated under a long-enduring regime of artificially lowered rates. The political incentives to prolong the artificial boom instead of accepting these cleansing effect of a recession are well-known and do not need to be commented on further (Belke and Polleit, 2010).

Against this background, an immediate exit from the QE programme does not seem feasible at all, contrary to the frequent insinuations by Fed representatives. Any change in the policy course will be short-run because, due to the dampening of real activity, the Fed will return to its QE policy. Interest rates will thus be kept artificially low – according to Taylor reaction function estimations by an amount of 2.5 to 3 (!) percentage points. If financial markets anticipate that the Fed will be caught in its QE policies, the gold price may increase significantly again in the
medium run and gold-backed bonds would be all the more an alternative to the current OMT policies in the Euro Area (Belke 2012).

Path-dependence and vicious circles
If the Fed suppresses rates at artificially low levels to prevent a recession, investors may wish to fundamentally decrease their bond holdings – for instance, because they anticipate that the Fed cannot act against market forces without risking negative side-effects such as inflation in the long run. This has the potential to trigger a vicious circle, beyond the path-dependence of sovereign bond purchases which I described in one of my 2010 Briefing papers (Belke 2010). The main mechanics behind this circle which may sow the seeds for a new crisis runs as follows. In order to avoid that the bond sell-off raises bond yields, the central bank must step in and buy the resulting excess supply of bonds through creating new money. This in turn leads investors to sell the bonds off their balance sheets even further.

It is not a too remote issue that the Fed does have a “tiger by the tail”, as Hayek (2009) expressed it, i.e. that the bank will finally have to accept either a recession (or even depression) or inflation (or even hyperinflation, but I would not like to take a stance on the degree of inflation here) and that there is no choice in between. It is the Fed’s responsibility to exit as soon as possible because otherwise at some point in time it will be forced to unpleasant alternatives. The bank will either have to decontrol interest rates by putting an end to money printing thus letting the economy slide into recession or even depression, or to proceed with QE policies but risking inflation (Pollet, 2013). With respect to the latter, we addressed two different sources of inflation earlier in this Section: additional bond purchases from non-banks and banks using their excess reserves for additional lending and/or asset purchases. With an eye on politico-economic considerations, it cannot be excluded, thus, that QE in combination with US style “forward guidance” (Section 4.3) really characterizes an attempt to keep the inflation regime active, at all hazards.

Seen on the whole, thus, the ECB should beware of adopting US-style quantitative easing and those interest groups on the markets recommending it with increasing but illegitimate rigour. It is not at all an adequate solution for the Euro Area.

3.2 Is the OMT programme really costless?
Commentators of the announced Outright Monetary Transactions (OMT) Programme by the ECB allude to the fact that the programme is unfolding its effect since a year without forcing the ECB to buy sovereign debt. Only recently, a group of economists celebrated the announced
OMTs as „one of the most skilful and successful monetary policy communications in decades“ (FRATZSCHER ET AL. 2013 and CŒURÉ 2013). DARVAS (2012) even called the OMT programme the “ECB’s magic wand”. But has the ECB indeed succeeded in delivering a substantial contribution to a solution of the Euro crisis without debiting its own balance sheet and, thus, the taxpayer?

Figure 4 – Does the market react to the announcement of the OMT Programme?

Figure 4 shows the development of Spanish sovereign bond yields over time, dependent on the announcement of the ESM and the OMT Programme.³ WESTERMANN (2013) argues that Spain is one of the first countries for which OMT could be activated, since it receives money from Euro rescue package already today.⁴ He also points at the interesting fact that bond yields have increased after the announcement of the Secondary Market Support Facility (SMSF), one component of the European Stability Mechanism (ESM) whereas they started to fall after announcement of the OMTs. Obviously, interest reactions went into opposite directions because (a) the volume of the SMSF programme was limited whereas the OMT are unlimited (“whatever it takes”) and, even more important, (b) the ESM enjoyed a preferred creditor status whereas the ECB does not in the context of its OMTs (SINN 2013).

The latter point is related to the exchange of bonds purchased within the Securities Market Programme (SMP) by the ECB with the intention to be exempted from any haircut in order to avoid official sector involvement and a violation of the prohibition of monetary public debt

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³ In Section 2, we disclosed that the Policy Uncertainty Index has declined for Spain in the recent months.
⁴ See also BELKE (2012) for this specific country choice, but based on a different argument.
financing. This had the potential to raise fears because this implied that the ECB generally acquired a preferred creditor status within the SMP. The risk of investors not to be paid out in case of recovery thus increases the more, the stronger the ECB intervenes, i.e. the more it extends its balance sheet. This pattern might discourage investors from acquiring bank and sovereign bonds on the capital markets (BELKE 2011).

On September 6, 2012, in terms of creditor treatment, the Eurosystem imposes the same treatment for itself and private or other creditors (i.e. a “pari passu” arrangement) concerning bonds issued by Euro Area member countries and acquired by the Eurosystem through OMTs, of course in strict accordance with the terms of such sovereign bonds (BELKE 2012). Legally, the ECB thus was not senior in the case of a member country default anymore; it enjoys a preferred creditor status (DRAGHI 2012). WESTERMANN (2013) claims that the announcement unfolded its full effect not earlier than after September 6 and that his was due to the preferred creditor status of the ECB.

This pattern is supported by recent empirical evidence for the recent rescue packages which clearly reveal that interest rates on sovereign bonds have significantly been driven by the creditor status connected with the character of the rescuing money – ESM or ECB (WESTERMANN AND STEINKAMP 2012). This is the case because the subordinated creditors demand higher interest rates in order to be compensated for the lower recovery values in case of a country’s insolvency (BELKE 2012). These results are valid for a panel of countries beyond Spain and mirror earlier results gained by the IMF for the Latin American debt crisis in the 1980s.

Taking these results as a starting point, it cannot be claimed anymore that the OMTs are costless for the taxpayer. With an eye on the „pari passu“ status of the ECB, the market participants have every reason to expect that the ECB will participate in any loss sharing. This „insurance“ provides the owners of sovereign bonds a non-cash benefit consisting of increasing bond prices and correspondingly shrinking yields (WESTERMANN 2013).

Under the (too? strong) assumption that markets were irrational before and the announced OMTs now produce a „good“ equilibrium of expectations5, the call initiated by FRATZSCHER ET AL. (2013) which praises the ECB’s OMT announcement would be on solid ground (see explicitly WESTERMANN 2013). The OMT would then have been the adequate response to the

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5 For multiple equilibria in government bond markets see DE GRAUWE AND JI (2012) and FAVERO AND MISSALE (2012).
confidence crisis. Especially, because Fratzscher et al. (2013) further argue (again a too? strong assumption!) that anchoring the OMTs to the ESM conditions prevent moral hazard.

But remember the caveats raised in one of my previous Briefing papers (Belke 2012): “Mario Draghi addressed the criticism by noting that there was a case for central bank intervention in countries that had found themselves in “a bad equilibrium in which you may have self-fulfilling expectations that feed on themselves”. He went on: “But we must remember why these countries found themselves in a bad equilibrium to start with – this is because of policy mistakes.” (Financial Times 2012). The idea behind this is that the larger the firepower of the fund is the lower the bond yield of the countries under distress is and the lower the probability of default of a government is due to lower interest costs. But this argument neglects that there is political uncertainty in between two points in time, for instance induced by election dates and different inclinations of different political regimes to declare a default. So there is no unique interest rate threshold which triggers ECB intervention (Gros 2012a)

But Westermann (2013) comes up with an apparently even stronger caveat which runs as follows. Should financial markets assess the ability to repay of the financially distressed countries, its own creditor position and the resulting recovery values correctly, the yield compression taking place since the OMT announcement and especially the abandonment of the ECB’s preferred creditor status are no free lunch; they clearly come at a cost for the taxpayer. As with any other insurance benefit, where the damage has not yet materialised, the insurance supplier owns an implicit liability. With an eye on the worrying debt dynamics in some financially distressed Euro member countries it cannot be discussed away that these liabilities will be realized at some point in the future. The current anticipation of a haircut on Greek debt is a case in point here. So far, so good. But is Westermann’s (2013) logic really overall consistent?

Westermann (2013) does not take into account an important differentiation between SMSF and OMT which may weakens the above argument: OMTs are possible only if the relevant countries have bond market access. Necessary conditions for OMT eligibility thus are both an EFSF/ESM programme and steady bond issuances. The first condition is literally excluding Italy and Spain (if one assumes, according to the OMT ‘s legal framework, that imposing a programme is not a quick free lunch). For Italy, there a programme does not exist up to now. And the programme for Spain relates merely to the country’s financial sector, does not contain the possibility of primary market purchases and anyway ends in December 2013 (Cœuré 2013).

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The bond market criterion excludes Greece. And also Portugal is, as Draghi expressed it at one of the recent ECB’s press conferences, currently not OMT eligible. However, one possibility to fulfill the programme criterion is a precautionary programme. This could be an alternative for Ireland after the expiration of the current programme at an end-of-year 2013 and an important gateway also, for instance, for Spain to become OMT eligible (Belke 2012).

If one takes the wording of the OMT’s legal framework really seriously, these considerations clearly weaken the Westermann (2013) argument derived above at least in two directions. On the one hand, the negative trend in Euro Area sovereign bond yields observed in the past cannot be traced back to the OMT announcement simply because the bonds of the vast majority of the distressed countries have simply not been eligible for OMTs – and it is very improbable that the financial markets did not know about that.

On the other hand, the above considerations imply that the probability of losses from OMT bond purchases is intended to be minimised by (a) the wish that the necessity of a programme forces the interested countries to conduct structural reforms and (b) the condition that the ECB only buys if the respective countries enjoy capital market access. The latter aspect is not included in Westermann (2013) but is very relevant since it excludes that the ECB buys if the market considers a country as insolvent. Condition (b) is, of course, motivated by the prohibition of monetary financing of public debt (Coûré 2013).

In addition, one should consider that the overlap of countries obeying conditions (a) and (b) is not very large. If a country has a programme and thus is reliant on ESM loans, it generally does not enjoy access to capital markets, unless it is about a precautionary programme (Belke 2012). And even if (a) and (b) would be simultaneously fulfilled, a further and basic condition is that the monetary transmission mechanism must be distorted.

But OMT may still have had an impact on sovereign bond yields, since it has eliminated the tail risk, i.e. has lowered the probability that the return on investment will move more than, for instance, three standard deviations from the mean. Most investors in sovereign bonds are less worried about whether economic growth in the next one or two years will be positive or negative and whether the government budget will be consolidated within three or four years. However, what is very important for them is that extreme negative events are excluded. The OMT announcement has in the eyes of many market participants lowered or even minimised the possibility of such extreme negative events since one assumes that the ECB will purchase to an
unlimited extent in the course of a speculative attack and by this will prevent a default. This was not possible in the ESM framework for the above mentioned reasons.

At the same time, one cannot be completely sure that market participants are not in error. Since OMT eligibility can only prevail if the countries enjoy market access, OMT can also not be an insurance against extreme negative events. If a country is OMT eligible and is hit by a significant negative shock (for instance, induced by political turbulences like the recent corruption scandal in Spain and a departure from its reform efforts) which causes the loss of capital market access, OMT would be terminated immediately.

What is more, the market participants are probably assured by Draghi’s choice of words („whatever it takes“), particularly because the definition of capital market access is not unambiguous. Is it enough to issue one or two bonds? Must there be issuances along the whole yield curve? Is it sufficient if domestic investors purchase the bonds? Must there be effective demand from strategic investors or is demand from hedge funds and other speculative uncovered investors sufficient? Already these few considerations indicate much leeway in the ECB’s decision on OMTs.

So, what to make out of all this? I think we again end up with what I argued in one of my recent Briefing papers (BELKE 2012) “As said, a necessary condition for Outright Monetary Transactions is “strict and effective conditionality attached to an appropriate European Financial Stability Facility/European Stability Mechanism (EFSF/ESM) programme”. Such programmes can take the form of a full adjustment programme or, as a less strict variant, a precautionary programme (the so-called Enhanced Conditions Credit Line). It appears most probable that the ECB will orient itself at the latter because otherwise the respective country loses capital market access. However, incurring this loss is not at all intended for Spain and Italy.

After all experience, the ECB will act applying “enhanced conditions” as minimum requirements under this credit line, i.e. the respective country has to stick to the rules of the deficit procedure and should have a “sustainable” debt level. Moreover, it has to obey to the thresholds of the EU procedure with macroeconomic imbalances and should be characterised by a “sustainable” trade balance. Consequently, the ECB has rather much leeway in defining the conditions and also in assessing their degree of fulfilment. Since the ECB has the right to go beyond these minimum requirements, there is ample room for conflicts between the ECB and the respective country. This might well develop into an “open flank” for the ECB since it can
react on a violation of the conditions by a specific country solely by stopping its intervention on
the respective sovereign bond market. However, this would immediately drive the country’s risk
premia and interest rates up.”

It has to be added that it is not too difficult to demonstrate econometrically that the Euro Area
monetary transmission mechanism is distorted, but at the same time that it is not if one follows
the Bundesbank methodology (BELKE 2012). This leads us to conclude the following.

Except in a scenario of significant negative shocks which causes the loss of capital market
access of peripheral countries, the ECB is rather capable of enacting support to periphery bond
yields through the announcement of OMTs. There seem to be sufficient loopholes in the
conditions for OMTs which at first glance seem to be very rigid and to limit OMT applicability
to a very small sample of countries. Hence, the capital markets are not in error. But the bond
yields go down for the wrong reason: not because the structural problems of the euro area are
solved but, instead, because the rules for employing OMTs are not waterproof. This
interpretation is the only logical way to reconcile empirical yield development with the wording
of the OMT legal framework. And investors know that the ECB will defend its own assets on
board its balance sheet in the future “… whatever it takes”. A further weak point of the OMT
defenders is that, in history, announcements of expansionary monetary policies have never been
effective incentives to push through structural reforms in the respective countries (BELKE
2002).7 Hence, it does not come as a surprise that news about the Securities Markets Programme
and the Outright Monetary Transactions are found to be effective empirically in lowering the
perceived sovereign risk of a country like Italy (FALAGIARDA AND REITZ 2013).

But the abolishment of the preferred creditor status as emphasized by WESTERMANN (2013)
does play only a minor role in this game, if at all. Even worse, history shows that institutions
like the IMF or central banks always in the end enjoyed a preferred creditor status. This, in turn,
makes the “pari passu” clause of the OMT Programme less credible.

3.3 Differences in money and credit growth: Euro Area versus individual member
countries

In spite of the unconventional monetary policy put in place for a while now, money growth in
the Euro Area is (for the time being, see Section 3.1) moderate alongside with decreasing
lending volumes to the domestic private sector. However, the national dynamics behind the

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7 On the contrary, it cannot be excluded that even a small hint about retiring the programme may send bond yields
immediately to a higher level and fortunately add pressure for reform. A closer investigation of the euro area’s
history of rescue packages and their enforcement easily discloses several pertinent episodes supporting this view.
aggregate figures are differing significantly: a sustained decline in loans to the private sector causes weak lending activity in the peripheral economies and portfolio shifts in the core countries such as Germany drive positive money growth over there. Any serious Euro Area monetary analysis has to take into account these heterogeneous developments. A solid assessment of the risks and side effects of the ECB’s unconventional monetary policy thus must go beyond an analysis of aggregate developments in the Euro Area (DEUTSCHE BUNDESBANK 2013).

For instance, a thorough analysis should check, for instance, how and when the currently observed increase in money holdings in Germany will be reversed. As regards the peripheral countries, any new policy measures should be compatible with the main insights that that the decline in lending is due to cyclical developments and, even more clearly, to the indispensable correction of those credit overhangs that have been erected in previous periods. Risks to the downside thus emerge from potential further negative shocks resulting from negative feedback loops among credit supply and real economic developments (DEUTSCHE BUNDESBANK 2013).

The ECB can and should respond with its single monetary policy to idiosyncratic member country risks only if they affect the entire currency area. Otherwise, steps have to be envisaged in policy areas beyond the ECB’s reach. For instance, macroprudential instruments at the national level should come into play, if there are indications of asset price inflation appeared in core EMU member countries such as Germany which (as currently) do not threaten price stability throughout the Euro Area.

It is quite clear right now that the vulnerability of the peripheral countries’ banking systems to further negative shocks represents the main risk to the downside for them. Measures of choice in this context are those which diminish this vulnerability. You can think of tough decisions with regard to restructuring (resolution or restructuring), further pushes to disclose expected sustained losses (balance-sheet write-downs) and finally also regulation targeted at preventing new vulnerabilities (DEUTSCHE BUNDESBANK 2013). Also from this perspective, OMTs (see Section 4.2) combined with US-style “forward guidance” (see Section 4.3) would be clearly misplaced to solve the woes of the peripheral Euro Area member countries.
4 Transparency and Forward Guidance - tools to stimulate the economy in the Euro Area?

In the following, we assess what other tools/instruments the ECB could use in order to stimulate the economy in the Euro Area. We do so by delivering details on whether the effectiveness of the ECB’s policies can be improved through more transparency and “forward guidance”.

4.1 Minutes of Council meetings and publication by name

Two months ago, ECB President Mario Draghi has urged the ECB to publish the minutes of the Council meetings in the future: is this really a good idea? And, how to assess a publication by name who has voted in what way in the meeting in the minutes?

The debate about a more transparent ECB has been revived by a significant change of its tasks during the crisis. With its SMP and its OMT it has got very close to the adoption of fiscal policy tasks and hence risks not to conduct pure monetary policy any more. Like finance ministers, it should be thus made accountable in the necessary detail to parliaments. This view appears legitimate because monetary policy has de facto been re-nationalised during the crisis as, for instance, through a resuscitation of national banking systems by the emergency liquidity assistance (ELA).

The ECB’s press release as it stands does not allow outsiders to get an appropriate idea of the monetary policy discussion in the Governing Council. This is all the more so since new assignments in the area of financial stability beyond the above mentioned quasi-fiscal tasks accrue to the ECB and conflicts with the price stability goal cannot be excluded any more.

By publishing Governing Council meeting minutes, following the Fed and BoE blueprints - the ECB may improve the transparency and efficiency of its policies significantly, which would support its stability-oriented orientation from least two angles. On the one hand, the publication of minutes should provide a disciplinary incentive to improve on the quality of internal discussions between Governing Council members and counteracts any effort of Council members to deviate from a euro-wide oriented monetary policy. On the other hand, published minutes may contribute to an improved balance of “influential power” among ECB Board members and the presidents of national central banks (BELKE ET AL. 2005).

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8 Parts of the following are drawn from an interview with the author by the German daily „Börsenzeitung“. See Schroers, M. (2013).
9 See, for instance, Joerg Kraemer in HANDELSBLATT (2013) and GROS (2012).
This is of interest also from the German point of view since this country’s representatives took minority positions against the ECB Board, an group of Council member which is much more influential than the national central bank governors (BELKE AND VON SCHNURBEIN 2012) several times in the recent past. Up to now, this pattern was identified quite easily with only little guesswork on an informal basis, even without any explicit naming.

The foreseeable extension of the Governing Council due to the envisaged further extension of the Euro Area and the reform of the Council’s voting modalities enhance the rationale for publishing minutes. Further Euro area enlargement will increase the number of members which in turn will make discussions more many-faceted. Moreover, after the Euro Area will have welcomed its 19th member, a complex reform of the voting modalities will take place which could lead to irritations of the public (BELKE AND VON SCHNURBEIN 2012).

Certainly, ECB Governing Council meeting minutes shall not necessarily attribute names to individual statement made in Council meetings; they serve to explain the ECB Council’s thinking, debate and decision to the outside world. The reason is that the council members, governors of the national central banks could be put under pressure by their governments to vote in the interest of their home countries. The independence of the Council members would be jeopardised, not to speak of the difficulties due to differences in money and credit growth in the Euro Area and in individual Euro Area countries (Section 3.3). In addition: the more explicit the minutes are, the more it has to be feared that controversial topics will be discussed only informally and excluding the public in the future (FAZ 2013a).

Just reporting the statistical distribution of the arguments and votes appears in any case sufficient in order to put the ECB under pressure to explain to what extent her decisions are in line with its European mandate. Any assignment by name is not necessary for this to happen.

4.2 ECB: lack of transparency?

Is the ECB plagued by deficiencies in transparency – as claimed by some observers with an eye on the bank’s steadily growing responsibilities? Can we think of other means of enhancing transparency beyond publication of minutes and to explain ECB policies better?

With respect to monetary policy, it is widely accepted that politically independent central banks choose their policies in a way such that market participants understand them and, if necessary (because monetary policy eventually risks to deviate from its pre-announced target), are able to give voice to their criticism. From this perspective, transparency is a decisive instrument to align monetary policy with the stability preferences of the population (BELKE ET AL. 2005).
The ECB has regularly been placed quite high in a variety of transparency rankings conducted for the pre-crisis period (Dincer and Eichengreen 2007). But this transparency weakened significantly in the course of its Securities Market Programme (SMP). The ECB merely published the weekly total amount of bonds purchased without informing about the country-specific structure, the maturities of the bonds, the criteria and/or the extent of future purchases (for details see Belke 2012). This clear lack of transparency is striking, especially in comparison to the huge degree of transparency of the Fed and the BoE in the course of their quantitative easing (QE) programmes. Exactly these central banks disclosed detailed information in order to be accountable to their taxpayers (Gros 2012, p. 12).

In the public, the ECB frequently justified its “secrecy” with its necessity for the functioning of the sovereign bond purchase programmes. If there would not have been secrecy, her representatives say, the programme would have lost its efficiency. This is because complete transparency (about the fact that initially Greek and later on preponderantly Italian and Spanish bonds were purchased) would have initiated much resistance in the Northern Euro Area member countries, which itself would have additionally endangered financial stability. But this argument appears only pleaded because traders could easily identify the bonds purchased by the ECB (for details see Belke 2012, Gros 2012, p. 12).

What is more, another more pertinent reason against the ECB President’s intentions became public: clear internal clashes in the Governing Council on the issue of the ECB’s government bond purchases. In case of the SMP they turned out to be even more significant than with respect to the OMTs against which according to Mario Draghi himself only the President of the Bundesbank opposed. Former ECB President Jean-Claude Trichet called these clashes euphemistically “overwhelming majority” instead of the formerly usual “unanimous decision”. “Overwhelming majority” is a classification which became material more than once since Malta and Cyprus entered the Euro Area (see Belke in Ambrose-Pritchard 2007).

The same caveats can be raised with respect to the ECB’s lack of transparency about its Long-Term Refinancing Operations (LTROs) at the amount of one billion EUR. Remember that the bond spreads fell nearly synchronously with the LTRO implementation. This raised the suspicion that the additional liquidity was partly used for bond purchases by the commercial banks (the so-called “Sarko trade“). Although this raised serious doubts about a utilization of the financial means conforming with the intended target by the liquidity-pumped commercial banks, the lack of published information did not enable analysts like ourselves in the Monetary Experts
Panel of the EP to consequently analyse the LTRO effects in our Briefing papers to be launched in spring 2012.

This lack of transparency weighs heavily, especially because the European public represented by the European Parliament, an institution the ECB is accountable to, has been combatting full of verve for more transparency of ECB policy decisions (Belke 2012). More transparency of the ECB could really help in avoiding confusion about and negative side effects of its unconventional monetary policies.

Are there other possibilities to increase transparency and to explain ECB policies better than in the past? Traditionally, credible exchange rate pegs deliver the largest possible transparency of monetary policies. They allow a public monitoring of the policies’ compliance with the exchange rate target. The textbook alternative is direct oversight with formal control through the government. But, clearly, both solutions are not realistic alternatives with an eye on the flexible exchange rate of the Euro and the strongly emphasized ECB independence. This in turn increases the pressure to strengthen other aspects of transparency in order to make the central bank accountable to its stakeholders, the markets (Dincer and Eichengreen 2007).

Why then not returning to an intermediate target such as the growth rate of the monetary base or of to foster transparency credit (a target strongly rehabilitated since the start of the financial crisis) as a strict rule? Before the crisis, the ECB was indeed successful to create a framework which allowed market participants to estimate the ECB’s reaction rather precisely on their own - through the monitoring of data which always arrived in time. Basic ingredients for this success story were the two-pillar strategy combined with an adequate definition of price stability (which these days should include different asset price developments) and a consistent communication consequently aligned to the former (Belke et al. 2005, Issing in FAZ 2006).

4.3 Forward guidance

In the course of the transparency debate, the ECB has proceeded to deliver an outlook on its future interest rate path ("forward guidance"). In this context, a second question emerges: should the ECB stick to the instrument of "forward guidance“ even beyond the crisis period?

"Forward guidance" as practiced right now is, according to ECB and BoE representatives no promise „to keep official interest rates lower than will be necessary in the future“ or, expressed differently, to create inflation. It does just not represent an additional stimulus by an ex ante commitment to a time inconsistent policy path. Instead, the main aim connected with the interest rate outlook is to elucidate the ECB’s assessment against the background of the overall subdued
inflation prospects and, more specifically, the bank’s policy reaction function (TAYLOR 2013). From this perspective, the ECB (and, according to Taylor, also the BoE) does not describe anything else than a policy rule for its future interest rate path. This seems is overall adequate, because in times of higher uncertainty transparency and clarity help to give orientation and to stabilise expectations of market participants. Hence, “forward guidance” is an indirect instrument to loosen credit conditions and thus stimulate credit supply and economic growth without conducting any further interest rate cut (BUNDESBANK 2013a).

But “forward guidance” at the Fed appears to follow Michael Woodford’s proposal for central banks at the zero interest rate bound (WOODFORD 2008): a credible pre-commitment to a zero rate also for that future period for which economic conditions already recommend a rate larger than zero in order to guide expectations and to bring down long-term interest rates as well (TAYLOR 2013, and ECB economist SMETS (2013) at this year’s Jackson Hole Conference). Important pieces of evidence are Ben Bernanke’s commitment to stick to the zero rate as long as the unemployment rate does not fall below the threshold of 6.5 percentage points, although estimates of the Fed’s reaction function clearly disclose the necessity of interest rate increases.

The ECB and the BoE obviously strive to avoid these inconsistencies. It would be very welcomed if the rather recent emphasis of „forward guidance“ at the ECB and at the BoE would represent the entry into the exit of their unconventional monetary policies and the start of a development into the direction of a truly rule-based monetary policy. But the ECB will certainly (and will have to) struggle to avoid confusion of different interpretations of „forward guidance“ by ECB representatives like the one which could be observed only recently among Joerg Asmussen who initially bogarted the Woodford version for the ECB, and Mario Draghi.10

The ECB President knows only too well that „forward Guidance“ should be formulated only dependent on the bank’s inflation forecast. If he would do otherwise, he would violate the „inflation only“ of the Treaties: the Woodford version of “forward guidance” admits keeping rates close to zero even if inflation has started to increase. Let us now briefly discuss some further risks emanating from the “forward guidance” strategy.

Fed-style „forward guidance“ tends to further raise the inclination of investors to take over risks. Excess monetary liquidity may spillover to other economies and cause stability risks there (LANDAU 2013, p. 9). At his year’s Jackson Hole Conference even the bon mot „zero rates cheapen risk takeover, whereas „forward guidance“ makes them costless“ did the round.

Without any doubt, the Woodford variant creates massive incentives to enlarge and even

overstretch open positions. As the strong movements of the world’s stock markets after Ben Bernanke’s now-famous statements in June 2013 has clearly shown, the Fed has by its efforts to calm down the markets harvested the contrary: higher volatility. This clearly reminds us of the “liquidity spirals” described in the model developed by BRUNNERMEIER AND PEDERSEN (2009).

What is more, the ECB’s announcements may not necessarily be conceived as credible – for instance because there are election dates in between the announcement and the dates for which the outlook is made. In that case, deviations of the markets’ action and the central bank’s ideal projection of market behavior are not excluded any more (BULLARD 2013).

Finally, the central bank risks to breed even more pessimism in the markets. By indicating the need to curb official rates also for the next years to come could convey the impression that the bank anticipates a crisis enduring for several years and has surrendered autonomy over its instrument tool box and turned to passivity. But if markets become more pessimistic, consumers’ and investors’ expenditures decline (BULLARD 2013).

Hence, Mario Draghi acts correctly by not chaining the ECB to the unemployment rate. But he should have anticipated that markets would expect something similar to Fed-style “forward guidance” from himself as soon as he introduced “forward guidance” as a concept. In order to counter these expectations he should persuade the public that introducing “forward guidance” was not just following a popular fashion in central bankers’ circles and that it was more than a rotten compromise among those demanding a further rate cut at the Council meeting in July 2013 and the hawks. Otherwise, this new concept would only be perceived as a short-run placebo while capital market rates continue their increase.

4.4 How accountable can and must monetary policy be?
Through more openness the ECB intends to give the financial markets more orientation with respect to the bank’s future course: how predictable and assessable can and must monetary policy be? Can central banks endowed with too much and guidance themselves become a source of volatility on their own?

Instinctively, economists appear to follow the view/reflex that „more information is better“. They tend to assume a model with rational expectations and exogenously provided public and private information. For instance, they do not consider at all that providing public information may weaken the incentive of market participants to privately collect information on their own.
The more predictably monetary policy behaves, the better market participants are able to align their decisions with those of the central bank. The economy is developing more frictionless with a minimum of unnecessary volatility since actors are better able to forecast the future time path of monetary policy and variables related with it. This view that more transparency reduces market volatility is clearly corroborated by the vast majority of academic empirical studies (Kool and Thornton 2012 and Middeldorp 2011).

However, academic theory sees things different in some specific constellations. Under assumptions diverging from those mentioned above, a better public provision of information can interfere with the function of markets. For instance, the „theory of the second best“ suggests that the abolishment of a bias does not as a rule improves allocation if further biases exist. As a consequence, economists have examples on hand in which more transparency does not necessarily lead to an improvement of total welfare in an economy. From this point of view, there may be even an optimum degree of “secrecy” which is larger than zero (Kool and Thornton 2012 and Middeldorp 2011).

However, there is obviously no way back to less transparency (Dincer and Eichengreen 2007). The abolishment of exchange rate commitments can be interpreted as a reaction to the globalization of financial markets and the increasing popularity of central bank independence as a means to isolate banks from short-run political impacts of governments (political business cycles) in democracies. This directly implies that we have to stick closely to transparency if we want to hold on to financial globalisation and central bank independence.

If the debate in the Council has been run rather controversially, outsiders should have the opportunity to be informed about such disputes and the underlying arguments. A policy of limited transparency will hardly be able to solve such kind of internal disputes and hassles. On the contrary, it may cause irritating signals which in turn trigger undesirable volatility on financial markets (Belke et al. 2005).

4.5 The ECB and banking surveillance in the Euro Area: transparency and accountability duties

The ECB will become the dominant institution in terms of banking surveillance in the Euro Area: do particular transparency and accountability obligations result from this? And if yes, how can the latter be fulfilled?

In fact, the ECB should become even more transparent, when the bank will adopt the task of large banks surveillance next year. This makes sense because in case of a necessary bank
restructuring this decisions met within this mandate may imply additional burden for the public budget (see Joerg Asmussen and Benoit Coeuré in HANDELSBLATT 2013). In addition, the ECB will adopt competencies similar to law-making powers, since it is empowered to issue regulations concerning oversight. By publishing the deciding authorities the constitutional obligation of responsibility emerging from „clout“ is obtained. Seen on the whole, thus, accountability has to be enforced even more strongly than in case of ordinary monetary policy.

The ECB representatives should in the ideal case have to justify themselves in the European Parliament. Moreover, it is also in the ECB’S original interest to demand and finally also gain the maximum possible obligation to be accountable towards and democratic control through the European Parliament (see Joerg Asmussen on several occasions and Joerg Kraemer in HANDELSBLATT 2013). Exactly this was not the case with the SMP and the announced OMTs and led the ECB into an uncomfortable predicament at the German Constitutional Court only recently (see Section 4.2).

The European Parliament could be given access to the minutes of the surveillance committee within the ECB and of the ECB Governing Council itself, insofar the latter are related to questions regarding financial oversight issues. Information regarding company secrets of single banks or specific group of banks must be exempted of course. In order to ensure the latter, one could make only the minutes of meeting of the newly created surveillance committees ranked below the finally responsible ECB Governing Council available to the public.

4.6 Limits to transparency and communication of central banks

The former ECB’s chief economist, Otmar Issing, cautions against a "crystalline central bank" (FAZ 2006). What exactly are the limits of transparency and communication of central banks with financial markets and the public?

Surely, transparency becomes critical if the incorrect fiction, that the publication of minutes improves the markets’ understanding of monetary policy as strongly as if they would have taken part in the Council meetings themselves, is establishing itself in the minds of the market participants. Hence, publishing minutes does only make sense if it is more than a "carefully texted, corrected and attuned publication" (Issing in FAZ 2006).

What is more, central banks must avoid to be driven by financial markets and their expectations. For this purpose, they should dispense with ex ante publishing the exact dates of planned interest rate movements. It is equally important to counteract market expectations that the ECB will change its official interest rates as a rule only on days at which the bank publishes its new
inflation growth projections. This is because other reasons such as, for instance, credit and money growth could decisively drive Council decisions to change interest rates. In his respect, Mario Draghi has probably been still too ambiguous in the past.

Furthermore, limits to transparency are reached if the publication of minutes allows interest groups to enact significant and targeted impact on specific Council members (see Section 4.1). Transparency is also less useful if an open internal discourse is necessary and efforts at persuasion without humiliation of the persuaded Council member have to be accomplished („all commensurate majority positions initially started as minority positions“, Joerg Asmussen, cited in DER SPIEGEL 2013). Finally, there may be cases in which secrecy and ambiguity are especially important because both may be used as a threat potential against market participants. This is well-known, for instance, in the case of speculative bubbles because markets become more cautious by this mechanism (Hans-Peter Gruener, cited in HANDELSBLATT 2013).

However, some claim that limits to transparency arise at a point where the publication of minutes lead to „undue“ attention to the conveyed discrepancies between single members in the media and in the public discussion and thus to ambiguous signals and effects detrimental for the efficacy of the ECB’s OMT policies themselves (FRATZSCHER ET AL. 2013). This argument is less plausible, not only because the ECB has grown up in the meantime now and cannot be seen any more as a rather young institution which is in clear need of protection. This is also valid because the OMT discussion has already taken place extensively on a European level already a year ago in key institutions like the Monetary Experts Panel of the EP - reflecting and presenting both the “Northern” and “Southern” view in a well-balanced fashion also to the public in the “Northern” Eurozone, also in Germany. Hence, there is no clear need of an additional forum for a call for support of the ECB’s OMT programme to avoid any potential bias of the debate on the OMT Programme.

An additional benefit of high transparency would be that potential deviations of the ECB from a stability oriented monetary policy would be brought to the surface. This would protect individual Council members against undue pressure from national governments (BELKE ET AL. 2005). From this perspective, the publication of minutes would foster rather than damage a stability oriented monetary policy.

5 Conclusions

I would like to conclude with a citation from DAVIES (2013): “Overall, today’s developments tell the markets that any exit from extraordinary accommodation by the Fed is not likely to be
followed by other central banks, which are more likely actually to ease in response to any global effects from the Fed. Markets have already responded to this”.

References


BELKE, A. (2011): Political-economic options and constraints for the EU summit - ECB, EFSF and austerity programmes, Briefing paper prepared for presentation at the Committee on Economic and Monetary Affairs of the European Parliament for the quarterly dialogue with the President of the European Central Bank, December, Brussels.

BELKE, A. (2012): A more effective eurozone monetary policy tool – Gold-backed sovereign debt, Briefing paper prepared for presentation at the Committee on Economic and Monetary Affairs of the European Parliament for the quarterly dialogue with the President of the European Central Bank, September, Brussels.


COMMERZBANK (2013): Euro-Krisenmonitor – Der zweite Blick lohnt, Economic Insight, Frankfurt/Main, 6 September.


DAVIES, G. (2013): We are all forward guiders now, Financial Times, 4 July.


FAZ (2013a): Draghi will die EZB transparenter machen, web: http://www.faz.net/-hre-7byu1, 1 August.

FINANCIAL TIMES (2012): Weidmann isolated as ECB plan approved, September 6th.


GROS, D. (2012): Central banks in times of crisis - The FED versus the ECB, Briefing paper prepared for presentation at the Committee on Economic and Monetary Affairs of the European Parliament for the quarterly dialogue with the President of the European Central Bank, June, Brussels.


MIDDELDORP, M. (2011): Central bank transparency, the accuracy of professional forecasts, and interest rate volatility, Federal Reserve Bank of New York Staff Reports no. 496, May.


