

NON-STANDARD MONETARY POLICY AND FINANCIAL STABILITY

DEVELOPING AN APPROPRIATE MACRO-FINANCIAL POLICY MIX

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Abstract: What are the potential risks of central bank balance sheet policies for financial stability? The answer to this question depends on the type of balance sheet policies and on the type of financial stability risk. Allowing central bank intermediation to substitute for private intermediation when markets seize up tends to bolster financial stability. Such interventions can be characterised as ‘circuit breakers’ that halt a potentially vicious downward spiral of market dislocation and loss of market participants’ confidence. By contrast, central bank asset purchases aimed at reducing returns on safe assets and pushing private investors further along the risk and maturity spectra than they would otherwise choose to go may serve to generate financial stability risks. This is the case if the primary concern for stability is the squeeze on banks’ profitability generated by a flat yield curve. On the other hand a flat curve decreases the incentive for financial institutions to engage in maturity transformation thereby decreasing a different source of financial stability concerns. Banks as a consequence become safer but less profitable.

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“An ultra-accommodative monetary policy brings with it long-term risks to the stability of the financial system. First, because of the mounting risk of financial market bubbles, ... [and] second, because profitability in the banking sector can take a hit.”

Dr. Jens Weidmann
President of the Deutsche Bundesbank¹

1. Introduction

Central bank balance sheets in advanced economies have expanded significantly since the onset of the financial crisis in 2007-08. Faced with market dislocations and the threat of deflation, all the leading central banks have engaged in non-standard monetary policy actions (such as quantitative easing, credit easing, liquidity injections and forward guidance) in an attempt to contain the crisis, revive economic activity and stabilise the outlook for price developments.

Yet such non-standard measures are understood to come with risks which are larger than those associated with the standard monetary policy practice aimed at lowering the target short term interest rate.

Initially, the rapid expansion of central bank balance sheets associated with the adoption of various non-standard policy measures was seen to portend inflation risk.² But, at least thus far, inflation has failed to materialise. On the contrary, despite an ongoing expansion of both the ECB and Bank of Japan's balance sheets, concerns in Europe and Japan remain centred on downside risks to price stability (and deflation), rather than on inflation. Even in countries that are more advanced in their recovery (the US, the UK and – within the Euro area – Germany), price and wage developments have been persistently and surprisingly weak. In most macroeconomic forecasts, the global inflation outlook remains benign across the advanced economies, with risks to the downside rather than the upside.

Nonetheless, concerns about the pace and magnitude of central bank balance sheet expansion endure. But these have shifted away from inflation towards worries about financial stability.

In this short paper, we argue that not all central bank balance sheet expansions are the same in this regard. Allowing central bank intermediation to substitute for private intermediation when markets seize up tends to bolster financial stability.³ By contrast, asset purchases aimed at reducing returns on safe assets and pushing private investors further along the risk and

¹ See Weidmann (2016).

² See Meltzer (2009), which contains the sentence: *“the enormous increase in bank reserves – caused by the Fed's purchases of bonds and mortgages – will surely bring on severe inflation if allowed to remain.”*

³ See Giannone et al. (2012a).

maturity spectra than they would otherwise choose to go may have an ambiguous effect on financial instability risks.

Unlike with a traditional reduction in the policy rate, which is associated with a steepening of the yield curve, active central banks' purchases of longer term government securities, have a flattening effect on the yield curve. As a consequence, these policies squeeze financial institutions profitability and this may raise concerns about the effect that this has on banks' capital. On the other hand, a flatter yield curve reduces the incentives for banks to engage in maturity transformation and therefore makes these institutions safer.

Therefore, even abstracting from the beneficial effects that balance sheet policies have on aggregate demand, their financial stability effects depend on a variety of factors: the 'active' or 'passive' nature of these policies and the way in which financial intermediaries respond in their balance sheet management which in turn depends on their business model and the characteristics of the financial sector.

2. Two rationales for central bank balance sheet expansion

In the academic monetary policy literature, non-standard central bank measures have been motivated on two broad grounds.⁴

(a) Complementing standard policy by supporting conventional transmission channels

One set of measures aims at maintaining the normal channels of monetary policy transmission, from interest rate decisions to price-setting behaviour. By their nature, such non-standard measures are natural *complements* to the conduct of conventional monetary policy. The two elements work together: unconventional tools act to maintain the transmission of conventional instruments in what would otherwise be difficult circumstances.

Viewed from this perspective, central banks provide support to the private sector through non-standard measures at times of stress, so as to maintain the functioning of financial markets, institutions and infrastructure. In essence, the central bank acts as a "central counterparty of last resort", facilitating trades that are necessary for the operation of the wider financial system (and thus for the economy as a whole) that the private market can no longer intermediate. The expansion of the central bank balance sheet – as larger monetary policy operations on the asset

⁴ See Lenza et al. (2010) and Pill (2010). A third motivation is often also highlighted, although it remains something of a legal and institutional taboo: supporting government financing. In the Euro area, non-standard central bank policy measures – in the form of sovereign asset purchases by the ECB – have created 'fiscal space' on government balance sheets, allowing easier fiscal policies than would otherwise have been the case.

side accompany an accumulation of excess reserves on the liability side – is typically one outcome of such support.

In the Euro area context, one prominent example of such a measure was the introduction of fixed rate / full allotment tender procedures at the ECB's monetary policy operations in October 2008 (Chart 1). At a time when the private interbank money market had seized up owing to concerns about bank default risk following the failure of Lehman Bros. In mid-September,⁵ the ECB acted as a de facto central counterparty, replacing interbank payments via private intermediation that were no longer possible.

Not only did such actions contain and ultimately reduce money market spreads (Chart 2), but by maintaining interbank flows these actions were crucial in avoiding other market malfunctions and ultimately had a more significant impact on credit flows, economic activity and the outlook for price developments.

In previous work (Lenza et al., 2010), we have argued that at a two-year horizon such measures supported credit growth by about 1.5 percentage points (in annualised terms) in the Euro area, while reducing the rise in unemployment by about 0.5 percentage points. While clearly insufficient to arrest the downturn in economic activity in the Euro area post-Lehman, the non-standard measures introduced by the ECB to support market functioning had an economically and statistically significant supportive effect on both the economy as a whole and on the stability of the financial sector.

(b) *Substituting for standard policy by exploiting unconventional transmission channels*

Another set of non-standard policy measures aims at exploiting additional unconventional channels of monetary policy transmission, beyond the conventional impact of lower interest rates. Such measures are thus a potential *substitute* for conventional monetary policy, should the lower bound on nominal interest rates bind or traditional channels of transmission be blocked (or both).

By their nature, the empirical properties of these measures are uncertain: they are “non-conventional” precisely because (prior to the crisis) they had rarely (if ever) been used and therefore (in real time) lacked a well-developed basis in empirical experience. Recourse to such measures was appropriately cautious.⁶ But that does not mean that such measures are necessarily ineffective: on the contrary, former Federal Reserve Chairman Ben Bernanke has

⁵ See Heider et al. (2015) who propose a model of adverse selection in the interbank money market to explain the seizing up of private intermediation in this period.

⁶ For a discussion of the incentives for caution, see Orphanides and Wieland (2000), who develop the arguments of Brainard (1967) in this context.

argued that, even if he could not explain how such measures worked in theory, he was confident that they had worked in practice. In particular, it is now well understood that such policies are likely to have stronger effects in situation of financial market distress when arbitrage conditions are likely to fail and portfolio effects may be stronger (see Cardia and Woodford (2013) for a discussion on conditions under which the neutrality of these policies fail) and in general may have a justification if we think financial frictions are pervasive. Yet non-standard policy actions may come with side-effects and if, in normal times their effect is likely to be small, the negative effect that they have on financial stability maybe larger than the positive one on aggregate demand.

In the Euro area, the leading example of such measures is the ECB's asset purchase programme introduced in mid-2014 and extended to sovereign debt in March 2015. (On the basis of the ECB's own rhetoric) ECB asset purchases are intended to trigger portfolio balance effects. By buying sovereign debt and lowering the rate at which they remunerate excess reserves, central banks reduce the supply of and lower the return on 'safe' assets such as money and government bonds. In response, the private sector – in order to maintain returns and sustain earnings – has to shift from safe to riskier assets, moving further out along the credit and maturity spectra in a 'search for yield'. The resulting strengthening of asset prices and expansion of credit creation will support activity and ultimately underpin price dynamics.

3. Potential implications for financial stability

The nature of the non-standard measure determines its likely implications for financial stability.

(a) 'Passive' unconventional policies tend to support financial stability

At a time when private markets are 'seizing up' owing to concerns about counterparty credit risk, central bank intermediation can substitute for transactions that were previously undertaken between private parties, but which are hampered by market malfunctioning.

When expanding central bank intermediation, the ECB's role – and, in particular, the expansion of its balance sheet – is '*passive*'. Banks make recourse to the ECB's facilities in the face of their own problems undertaking transactions with each other. The increase in private risk-taking following the provision of central bank support represents a recovery from the defensive posture that underlay the malfunctioning of markets (e.g., reflected in hoarding of central bank liquidity and/or reluctance to assume private interbank counterparty credit risk). ECB interventions can be characterised as a 'circuit breaker' halting a potentially vicious downward spiral of market dislocation and loss of market participants' confidence.

In essence, this is little more than a re-statement of Bagehot's (1873) rule. At times when liquidity in private interbank markets dries up, central banks should stand ready to "lend freely to banks, but only against good collateral and at a penalty rate" so as to contain panic and prevent the breakdown of financial intermediation. Such action prevents contagion from one market segment to others and ultimately into the wider economy.

Expanding central bank intermediation to substitute for malfunctioning private markets should largely be supportive of financial stability (at least on impact). It is a defensive policy aimed at preventing a potentially catastrophic collapse of the broader financial system. The greater private risk-taking prompted by such central bank intermediation is a reflection that the underpinning of the financial sector is working and private risk sentiment is returning to 'normal' pre-crisis levels.

(b) 'Active' unconventional policies may threaten financial stability

By contrast, when seeking to prompt portfolio shifts, the ECB plays an 'active' role in the expansion of its balance sheet. The ECB itself initiates asset purchases and drives the pace and nature of the balance sheet expansion by its own choices. Rather than providing a backstop that helps private-sector risk-taking to recover towards more 'normal' levels, it is inherent in the portfolio balance transmission channel for ECB asset purchases that the central bank pushes asset managers into securities with risk profiles they would otherwise be sceptical about at prices they would otherwise deem too high.

This is the same effect that the central bank achieves through conventional easing via a decrease of the interest rate target. As with asset purchases the central bank increases the incentive for the private sector to invest in riskier assets. Prompting private portfolio shifts into riskier assets may entail some risks to financial stability, but these may take different forms. While both policies encourage risk intermediation, conventional policies encourage also maturity transformation whereas asset purchases do not (this observation has been recently formalized by Woodford, 2016).

The key difference is that while a decrease in the policy rate causes a decline in the equilibrium rate on riskier assets through an increase in the spreads, active balance sheet policies at the zero lower bound, by lowering the risk premium, have a dampening effect on the spread.

Yet, current financial stability concerns have emphasized the risks arising from a flat yield curve generated by the ECB quantitative policy, rather than its risk mitigation effects. Such policy, it is argued, makes safe assets expensive and therefore encourages private investors into riskier

instruments, prompting the squeezing of term premia and credit spreads that will ease general financial conditions and, while this supports the economy, it also creates risks.

To the extent that banks earn returns from maturity transformation (as is the case for important segments of the European banking sector, particularly for the mutual and regional banks), the flatter yield curve implied by quantitative easing threatens their earnings outlook. For banks holding legacy portfolios of questionable assets and seeking to re-capitalise by retaining earnings, a flatter yield curve lengthens the period of adjustment (and may even make it infeasible). Moreover, for pension funds and insurance companies that have defined-benefit liabilities (i.e., they have promised a certain positive return to their customers), holding assets with low or negative returns (Chart 3) eats into their capital and reserves. Institutions that were poorly capitalised at the outset are, by nature, particularly vulnerable to these concerns.

The appendix provides a summary table with a stylized summary for the implication for financial stability of conventional and unconventional monetary policy easing.

(c) Specific measures may have both passive and active elements

Let us go back to the distinction between ‘active’ and ‘passive’ central banks balance sheet policies. The preceding discussion portrays a black and white distinction between these two different types. But this distinction is rarely clear-cut. Many of the measures implemented by central banks during the financial crisis have elements which support market functioning as well as elements that promote portfolio shifts and/or support macroeconomic stimulus.

For example, our characterisation of the ECB’s fixed rate / full allotment operations as a ‘passive’ policy intervention providing a “central counterpart of last resort” stems from the assumption that the ECB simply employed its own balance sheet to match banks long liquidity with banks short of liquidity, so as to clear the market. Since these transactions were collateralised, in principle the ECB took no credit risk, but merely provided liquidity to a system that had seized up.

Given its access to the “printing press” and consequent ability to create liquidity costlessly in potentially unlimited amounts, a central bank is uniquely well-placed to provide this service. Doing so is an implication of the Friedman (1969) rule: the central bank should satiate the private demand for liquidity at the market interest rate.

In practice, central banks face a more complex challenge. As the events of 2007-08 amply demonstrate, making an assessment of bank credit risk and/or the quality of the collateral offered at monetary policy operations is difficult. The Bagehot and Friedman rules assume

liquidity problems can easily and immediately be distinguished from solvency or credit problems in real time. That is never the case.

The ECB's fixed rate / full allotment operations therefore may be better characterised as the provision of a "market maker of last resort" rather than a central counterparty of last resort. The ECB took a position in the market, accepting risk on to its balance sheet in the form of transactions with banks of potentially uncertain creditworthiness and/or accepting collateral of uncertain value.⁷

Taking such a position extends the role of the central bank beyond that of the mere liquidity provider envisaged by Bagehot and Friedman. Central banks are forced to take a view on the 'fair value' of an asset it accepts as collateral and/or a loan it makes to a risky bank. This entails making an assessment of whether (and how) market failure drives asset prices away from fair value and thus whether the risk implied by acting as a market maker of last resort is acceptable.

But crucially the actions of the central bank also influence the nature of the market failure. While individual banks concerned about idiosyncratic credit risk in their private counterparts are susceptible to a market failure owing to adverse selection,⁸ the central bank is able to internalise the externalities caused by the resulting drying up of market liquidity by acting to sustain market functioning and thus change the nature of the idiosyncratic risk.

(d) General equilibrium implications need to be kept in mind before coming to an overall view

The preceding sub-section brings out the potential macroeconomic consequence of unconventional central bank policy, which can extend beyond solving microeconomic problems at the level of individual institutions. More broadly, in coming to an overall assessment of non-standard policy actions, their general equilibrium implications – the effects of policies on the wider economy beyond their immediate impact on the financial sector, and the feedback into the financial system from those macroeconomic effects – also need to be taken into account.

We do not intend to be alarmist about the potential for financial stability to be impaired by the ECB's adoption of asset purchases (and other more proactive forms of central bank balance sheet expansion). After all, the ultimate objective of these policies is to revive aggregate demand and boost nominal growth. If successful, the beneficial effects of the improvement in macroeconomic conditions on financial stability would more than outweigh the short-run and

⁷ Although the ECB in principle valued collateral at market prices, its ability to do so was compromised for those assets where markets seized up at the outset of the financial crisis, notably the market for asset-backed securities.

⁸ This is the situation analysed by Heider et al. (2011).

partial implications discussed above. In response to criticism that its policies have weakened the financial sector, the ECB has repeatedly argued along these lines. By staving off the break-up of the Euro area and supporting recovery, the ECB rightly believes it has more than compensated for the initial adverse impact of some of its unconventional policies on bank profitability.

Nor do we wish to downplay the potential negative effects of central bank intermediation. Reestablishing normal market functioning ultimately relies on normalising the behaviour of market participants. The central bank can support this process, but in the end it is the private sector that creates and maintains the market. Central banks must ensure that their support of the functioning of the financial sector during a crisis does not morph into a dependence of the financial sector on that support even in normal times.

By implication, necessary emergency measures should not blunt the incentives for governments, regulators and the private sector to address the underlying structural problems in the financial system and the economy more broadly. Should those incentives to deal with the fundamental weaknesses be absent, central bank intermediation could increase the risk to financial stability over the medium term. However this need not happen if the right policy mix is pursued.

The relationship between non-standard monetary policy measures and central bank balance sheet expansion, on the one hand, and the outlook for financial stability, on the other, is thus complex. While it depends crucially only on the character of the non-standard policy, it will also be influenced by other policy actions and the horizon over which an assessment is made.

In the context of the euro area, a key area of policy action is the consolidation of the banking sector, a solution for the stock of non-performing loans and a realistic approach for banks recapitalization. In a fragmented banking sector, with many banks still under-capitalized, potential risks to financial stability stemming from non-standard measures are real and potentially significant but these problems can be addressed with different policy tools.

4. The implications of some recent empirical results

A number of recent empirical analyses of Euro area data shed light on the issues described above, showing how non-standard monetary policy measures can influence financial stability in a variety of ways.

Koijen et al. (2016) explore a unique data set on the securities holdings by different categories of investors across Euro area countries. They investigate how ECB asset purchases have influenced the sectoral holdings of these securities over time and the distribution of risk amongst the central bank and various types of intermediaries. Their estimates show that in the three

quarters since the beginning of the ECB extended asset purchase program (APP) in January 2015, the foreign sector and banks, whose response to the ECB purchases has been the most elastic, have seen a decline in their share of duration risk. The results reveal heterogeneity among financial institutions' reaction to APP and, in particular, a different behaviour between banks and institutional investors. Facing a risk-return tradeoff institutions' reaction is driven by both hedging and speculative motives. The former leads to inelasticity in response to APP and prevails among pension funds and insurance companies, whereas the latter motivates elasticity and prevails in banks.

The different behaviour of banks and institutional investors can be rationalised as follows. In line with the argumentation offered in Andrade et al. (2016), banks that are holding large portfolios of domestic (peripheral) sovereign debt stand to make large capital gains as central bank purchases of government bonds reduce the sovereign spread of peripheral over core countries. The resulting strengthening of the banks' capital position serves to support the stability of both individual banks and the banking system as a whole.

In this context, banks are prepared to sell bonds into the asset purchase programme, so as to realise those capital gains and increase their balance sheet flexibility. In principle, that new flexibility could be used to extend additional bank credit to the private sector – one example of the shift into riskier and less liquid assets that the 'portfolio balance' channel of transmission of central bank asset purchases is intended to generate. In practice – in the face of a still weak demand for credit in the Euro area and the additional regulatory capital requirements imposed on banks – the balance sheet flexibility has largely been used to support a more orderly deleveraging. All of this is broadly supportive of financial stability.

Yet this capital gain enjoyed by the banks is a one-off benefit of the asset purchase programme. Once sovereign spreads have shrunk and the risk-free yield curve has been flattened through the squeezing of sovereign credit risk and term premia by central bank asset purchases, banks face a flat and (in a context of negative policy rates) low yield structure. For banks reliant on short-term funding and extracting returns from maturity transformation, this is a difficult environment.

Indeed Hazell and Pill (2016) show that further central bank easing from this point can weigh on the outlook for bank earnings. Using changes in the 5-year swap rate around ECB press conferences as a proxy for monetary easing on both conventional and unconventional dimensions (on the basis that this will capture not only changes in policy rates, but also the impact of forward guidance and asset purchases), they find that such innovations weigh on bank equity performance relative to a broad Euro area equity index. They thus conclude that even if

the start of asset purchases yielded a one-off capital gain for banks, the impact of further non-standard policies from here on bank earnings is viewed (at least by equity market participants) as negative after that initial effect. Looking forward, threats to the earnings potential and thus stability of the financial sector could emerge, as additional non-standard measures are implemented. Such concerns are at the heart of recent policy debates in both Europe and Japan. As we commented earlier, the significance of this argument must be evaluated on the basis of a broader quantitative assessment of the macroeconomic effect and distribution of risk effects of the policy in discussion.

Relative to banks, life assurance and pension funds enjoy less balance sheet flexibility. The nature of their business (in conjunction with the current regulatory regime) forces them to hold long duration assets to match their long duration liabilities. Although they also have made significant capital gains on their holdings of government debt as a consequence of central bank asset purchases, they face the problem of having to reinvest in long duration assets that now offer very low returns.

To the extent that pension funds have defined benefit liabilities that promise positive nominal returns, the emergence of very low or even negative yields on long-dated sovereign debt poses a threat to their business model if it persists. In that context, seeking to 'ride out' the low yield environment by holding onto the existing debt paying higher coupons and waiting for a revival of yields before reinvesting makes sense. But should that revival of yields not happen, the viability of the institutional pension business model is in question, raising significant financial stability risks.

In short, the (albeit still limited) empirical evidence available on the response of financial institutions to Eurosystem non-standard policy measures is consistent with the view that banks and asset managers stand to benefit from the impact of ECB asset purchases in the short-term, but will suffer if the low and flat yield curve environment created by unconventional policy persists for some time. By implication, non-standard measures can support financial stability in the short run, but should those measures not produce the desired macroeconomic revival of growth and inflation expectations to re-steepen the yield curve, financial stability may be at risk at longer horizons.

5. More emphasis on the appropriate macro-financial policy mix

In the preceding sections, we described how the squeeze on financial institutions' earnings associated with negative policy rates and sovereign debt purchases may create and perpetuate

financial stability risks, especially in an environment where banks, insurers and pension funds are already poorly capitalised as a consequence of the financial crisis.

Yet such a squeeze on financials' earnings is a key link in the transmission of the ECB's asset purchase programme. To induce the desired 'search for yield' in riskier and longer duration assets, central bank actions must have an effect on private investors' earnings, so as to induce the shift out of safe assets.

Where the preferred habitat for safe assets is strong – as is the case for many German banks and asset managers, for a mixture of cultural and regulatory reasons – the pressure required to induce such a shift is greater. In particular, following the sovereign and banking crises of 2011-12, many German institutions are reluctant to hold peripheral assets at any price (or return) (Chart 4). The reputational risk of potentially taking losses on non-core sovereign or private instruments is deemed too great.

In short, flattening the German sovereign yield curve to weigh on the earnings of German financial institutions is a necessary part of the transmission process of unconventional policies such as QE. If German institutions remain reluctant to shift into riskier peripheral or corporate instruments despite the yield differentials that QE has opened up, the logic of unconventional policy measures implies that greater pressure – in other words, more QE and further flattening of the yield curve – is needed. No pain, no gain.

The challenge facing Euro area policy makers is to ensure that the pressure to engage in portfolio rebalancing into riskier and longer maturity assets is maintained, without endangering financial institutions' profitability to the extent that a process that endangers financial stability is triggered. Moreover, they must be confident that the macroeconomic impact of non-standard policy measures on growth and inflation expectations comes through to steepen and raise the yield curve, so as to revive the earnings potential of banks and institutional investors, before the financial sector faces a crisis of its existing business model and idiosyncratic and systemic financial stability risks build.

Such considerations have already achieved prominence in Scandinavia and the UK, prompting more discussion about the appropriate 'macro-financial policy mix' across (both conventional and unconventional) monetary policy, macroprudential policies and microprudential supervision and regulation, as well as fiscal policy.

This is a debate that is set to become more important in the Euro area, where the cross-country dimension promises to add further spice. With a new institutional environment emerging in the

context of banking and capital markets union and macroprudential measures as yet untested, maintaining the appropriate balance across policies will be a difficult challenge.

Some have proposed that additional pressure is applied for financial institutions to diversify across holdings of Euro area sovereign and private assets (Garicano and Reichlin, 2014 a,b, Corsetti et al. 2016, Brunnemeier et al. 2016). For example, only allowing a zero risk weighting for diversified portfolios of government debt on bank balance sheets would force a shift into peripheral debt by core banks (and vice versa), without requiring the earnings squeeze associated with a very flat and low core sovereign yield curve.

But the political and practical problems associated with such mechanisms are obvious (as responses to the proposal illustrate): using an administrative approach to overcome the strong home bias of German institutions' asset holdings is unlikely to be well received by the institutions themselves, while the shedding of peripheral debt by peripheral institutions raises questions about the transition. These considerations give a flavour of the difficult trade-offs in developing an appropriate macro-financial policy mix in the Euro area.

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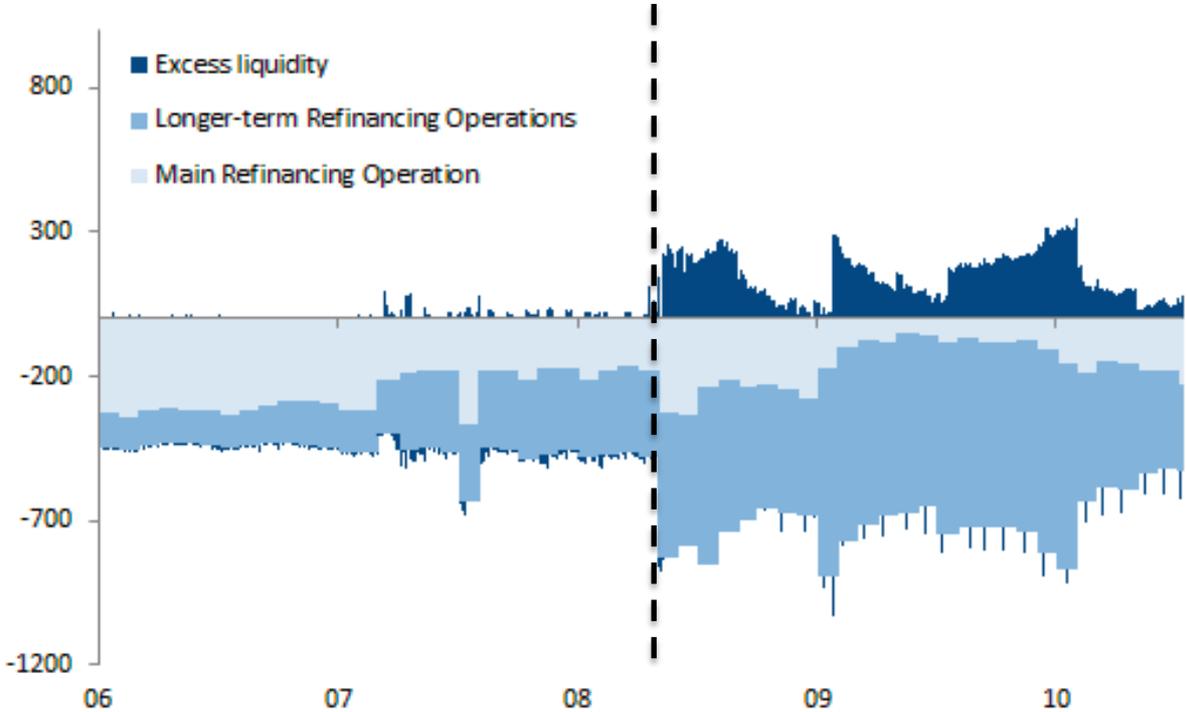
Appendix: Stylized summary of the effect of conventional monetary policy easing and ‘active’ asset purchases

	Direct impact	Implications for financial stability
Conventional monetary policy (easing)	lowers whole yield curve, reducing breakeven on capital projects, etc	+ via impact on economic growth* - via possible promotion of asset price bubbles*
	steepens yield curve, increasing incentive for maturity transformation	- via impact on banks' vulnerability
Unconventional policy: asset purchases	lowers whole yield curve, reducing breakeven on capital projects, etc	+ via impact on economic growth* - via possible promotion of asset price bubbles*
	flattens yield curve, reducing incentive for maturity transformation	+ via impact on banks' vulnerability - via impact on banks + insurance companies' profitability
Unconventional policy: market maker of last resort	restores banks access to short term funding	+ via impact on banks' funding + via encouragement of credit flows, hence impact on economic activity, etc.

* all these consequences - good and bad - prompted by the 'search for yield'

Chart 1 ECB non-standard measures facilitate central bank intermediation of money market transaction

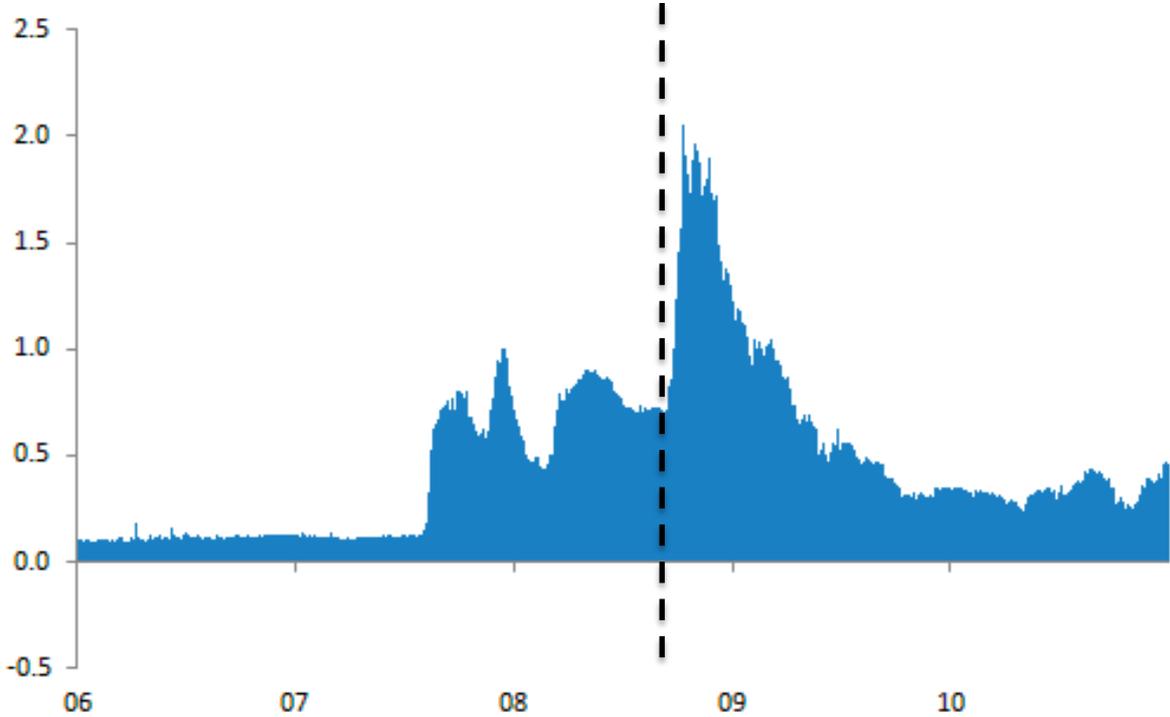
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Source: ECB

Chart 2 Money market spreads fall following introduction of ECB non-standard measures

3-month EURIBOR – 3-month OIS spread, percentage points



Source: Reuters

Chart 3 ECB asset purchases

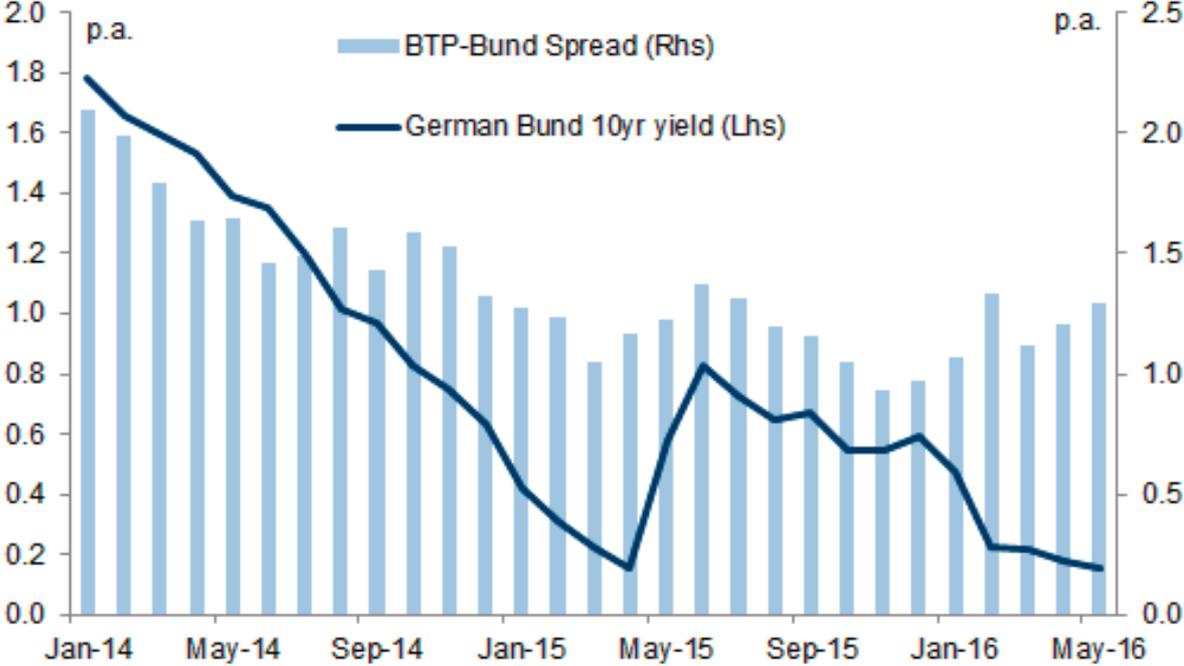
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Source: ECB

Chart 4 German sovereign yields and spreads against Italian sovereign debt

%pa (LHS), percentage points (RHS)



Source: ECB