

DIRECTORATE GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICIES

Central Banks in Times of Crisis The FED versus the ECB

NOTE

Abstract

Different economic and financial structures require different crisis responses. Different crises also require different tools and resources. The first 'stage' of the financial crisis (2007 -2009) was similar on both sides of the Atlantic, and the response was also quite similar. The second stage of the crisis is unique to the euro area. Increasing financial disintegration within the region has forced the ECB to become the central counterparty for the entire cross border banking market and to intervene in the sovereign bond market of some stressed countries. The actions undertaken by the ECB, however, have not always represented the best response, in terms of effectiveness, consistency and transparency. This is especially true for the SMP: by de facto imposing its absolute seniority during the Greek PSI, the ECB has probably killed its future effectiveness.

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LIST OF ABBREVIATIONS

BoE	Bank of England
СВРР	Covered Bond Purchase Program
ECB	European Central Bank
EFSF	European Financial Stability Facility
EMU	Economic Monetary Union
FED	Federal Reserve Of United States
GDP	Gross Domestic Product
LTRO	Long Term Refinancing Operation
PSI	Private Sector Involvement
QE	Quantitative Easing
SMP	Securities Markets Programme
TALF	Term Asset-Backed Securities Loan Facility

EXECUTIVE SUMMARY

Different economic and financial structures require different crisis responses. Different crises also require different tools and resources. It is crucial, in this sense, to separate the analysis of the action of leading central banks in two phases. In the first 'stage', following the burst of the global financial crisis (2007-2009), monetary policy responses undertaken by the ECB, the BoE and the FED were quite similar. On both sides of the Atlantic, these included the extension of the scope of existing facilities as well as engineering of new mechanisms to facilitate access of financial institutions to official liquidity.

The second stage of the crisis (2010 - 2012) is, instead, unique to the euro area since the degree of financial stress and risk perception dominating the EMU financial markets was unprecedented. After 2010, in the US, the main concern was about the economic cycle. In order to boost a weak economy through lower long-term interest rates, the FED undertook massive asset purchases financed by central bank money, the so-called Quantitative Easing (QE), that led the amount of Treasuries in its balance sheet to USD 1.6 trillion.

A similar approach was followed by the BoE, who kept purchasing gilts and expanding its balance sheet up to GBP 325 billion.

In the euro area the situation was completely different. In the spring of 2010, the crisis took another turn and the ECB response shifted to another level. In May 2010, as markets got into a panic about a possible Greek insolvency, the ECB Council decided to intervene in the sovereign bond market of troubled countries, through the SMP. Formally the Program did not constitute QE, however, given the huge amount of funds that, at the same time, is supplied to the banking sector, it is impossible to disentangle sterilization operations. Lastly, in December 2011 the ECB decided to implement a new set of longer-term refinancing operations (LTROs) amounting to around EUR 1,000 billion aiming to sustain a broken interbank market.

The most evident consequence of such unconventional measures has been the increase in the size of the central bank's balance sheet. Total assets of BoE and the Fed almost tripled in about 5 years, while that of the ECB almost doubled.

A simple comparison between the sizes of the balance sheets is, however, misleading. While the Federal Reserve and the BoE have done QE, the ECB had to respond to an increasing financial disintegration within the region. The ECB has been forced to become the central counterparty of the entire cross border banking market and to intervene in the sovereign bond market of some stressed countries. Therefore, its main policy approach can be qualified as 'credit easing'.

When assessing the effectiveness of the two approaches it emerges that while the ECB has responded massively to the crisis (LTRO and SMP), it has also tried to minimise its own risk. Alas, this implies that its policy cannot be fully effective. This approach is significantly different from the one chosen by the FED, who showed its willingness to take on credit risk in order to provide relief to private investors, which therefore could recover quickly.

1. INTRODUCTION

Different economic and financial structures require different crisis responses. This paper offers a comparison between the different action undertaken by the US Federal Reserve and the European Central Bank since late 2007. It is crucial, in this sense, to separate the analysis in two phases: a first 'stage', corresponding to the burst of the financial crisis (2007 - 2009) and a second stage of the crisis (2010 - 2012) that has unique characteristics in the euro area and thus has required specific and different actions of the ECB.



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¹ In the course if the paper we also make reference to the crisis' response of the Bank of England.

2. THE FIRST PHASE: SIMILAR CRISIS, SIMILAR POLICIES

When the global financial crisis started in late August 2007, the large western central banks (the European Central Bank, the Federal Reserve and the Bank of England) promptly responded to the crisis by cutting interest rates down to close to zero and adopted a large scale of unconventional policy measures. On both sides of the Atlantic, these included the extension of the scope of existing facilities, most notably the duration of the usual refinancing operations and lowering the standards for eligibility of collateral applied to banks. But central banks also engineered new mechanisms. For instance the Bank of England (BoE) swapped high-quality illiquid assets from banks in return for Treasuries. The Federal Reserve (FED) broadened the set of counterparties for liquidity operations but also opened a series of swap facilities to allow other central banks to provide banks locally with dollars as the USD is widely used in inter-bank transactions outside the US.

Despite the scale of the response, the financial crisis intensified in the fall 2008 following the collapse of Lehman Brothers. As the main effect of the collapse of Lehman was the loss of confidence in the interbank system and the reluctance of banks to lend to each other, the primary objective of monetary authorities became to unblock the interbank markets by substantially easing access of the financial system to official liquidity. In order to achieve this objective, central banks intervened more directly to improve credit conditions in particular markets segments. Those measures included expanding further the availability of credit to financial institutions, further reduction in main interest rates and asset purchases financed by central bank money, the so-called 'quantitative easing' (QE). While the Bank of England privileged the purchase of medium and long-term government bonds (GBP 200 billion of gilts between March 2009 and January 2010), the Federal Reserve purchased commercial papers, asset-backed securities and other private assets containing credit risk, for about USD 1000 billion during the year 2009. At this stage of the crisis, the FED was thus taking on credit risk (for instance through the so-called TALF, the Term Asset-Backed Securities Loan Facility)² only later the emphasis shifted to sustaining the economy via lower interest rates (see below on the difference between 'quantitative' and 'credit' easing).

Compared to the over one thousand billions of USD of asset purchases by the FED, the ECB's Covered Bond Purchase Program (CBPP, which stared in July 2009) of EUR 60 billion was puny. Instead the ECB put in place a series of other equally unconventional measures for about EUR 300 billion focussing on expanding the provision of credit to banks in the framework of the so-called 'enhanced credit support program', in order to assure the well functioning of the credit mechanism in the euro area:

- switching from variable rate tender to fixed rate-full allotment tender procedure in all refinancing operations;
- extensions of the list of assets accepted as eligible collateral for refinancing operations to further ease access to Eurosystem operations in an attempt to reduce asset-side constraints on banks' balance sheets;
- setting up of additional longer-term refinancing operations for financial institutions with a maturity of up to six months;
- providing from time to time liquidity in foreign currency, through the swap line provided by the FED.

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The TALF is intended to assist financial markets in accommodating the credit needs of consumers and businesses by facilitating the issuance of asset-backed securities collateralized by a variety of consumer and business loans. The loans provided through the TALF to eligible borrowers are non-recourse, meaning that the obligation of the borrower can be discharged by surrendering the collateral to the FRBNY' in http://www.federalreserve.gov/releases/h41/current/h41.htm#h41tab1.

The common effect of these operations was an unprecedented expansion of central banks' balance sheets: Figure 1 shows that the increase has been particularly important in the UK, where it reached 300% between May 2006 and May 2012. In relative terms, the increase in the ECB balance sheet looks small with 'only' 170% over the same period, while the Fed expansion has been of the order of 230%.

4,000,000 400,000 3,500,000 350,000 3,000,000 300,000 Willion 2,500,000 2,500,000 2,000,000 1,500,000 250,000 200,000 150,000 BoE — ECB 1,000,000 100,000 500,000 50,000 0 0 2009-03-25 2009-05-20 008-01-02 2008-04-23 2008-08-13 008-12-03 2009-07-15 60-60-6007 010-02-24 010-06-16 011-07-13 008-10-08 009-01-28 2009-11-04 009-12-30 2010-10-06 011-01-56 011-03-23 011-05-18 011-11-02 010-04-21 2010-08-11 2010-12-01

Figure 1. Total Assets/Liabilities: ECB, FED and BoE

Source: Authors' elaboration on ECB, FED, BoE data



3. THE SECOND PHASE: RISK MANAGEMENT VERSUS STANDARD ECONOMIC POLICY

The second stage of the crisis (2010 -2012) is, instead, unique to the euro area since the degree of financial stress and risk perception in the financial markets were not the same across the two sides of the Atlantic. In the US, the main concern was about the economic cycle: the economy was not growing robustly and labour market not recovering, a more intense stimulus through monetary policy was then deemed necessary. In August 2010 the FED decided to implement further asset purchases through open market operations, buying USD 30 billion of short-term Treasury Notes between August and September. In November 2010 a second wave of 'quantitative easing' was announced leading the amount of Treasuries in its balance sheet to USD 1.6 trillion. A similar approach was followed by the BoE, who kept purchasing gilts and expanding its balance sheet up to GBP 325 billion.

On the continent on other side of the Atlantic, the situation was different and in the spring of 2010, the crisis took another turn with epicentre in the euro area and the ECB response shifted to another level. Until 2010 dealing with divergent sovereign bond yields did not represent a challenge for ECB. The interest rate spreads on sovereign bonds issued by each of the euro area Member States fell almost to zero during the period 2002-2007 driven by the underestimation of intra-countries differences and internal disequilibria. While international investors were considering Greek and German bonds the same, the ECB did/could not obviously do otherwise, and accepted sovereign securities as collateral of the same quality regardless of the country who was issuing the paper.

In May 2010, as markets got into a panic about a possible Greek insolvency, the ECB Council decided to intervene and started buying Greek bonds in the secondary markets in order to reduce the pressure and give the time to euro area governments to finalize the European rescue fund, the European Financial Stability Facility (EFSF). In the exceptional circumstances that President Trichet defined as "most difficult situation since the Second World War – perhaps even since the First World War"³, the ECB launched the Securities Markets Program (SMP). The official explanation was the need to restore the proper functioning of the monetary policy transmission mechanisms "in order to maintain medium term price stability".⁴

See: http://www.ecb.int/press/key/date/2010/html/sp100515.en.html.

⁴ From the official communiqué: "address the severe tensions in certain market segments which are hampering the monetary policy transmission mechanism and thereby the effective conduct of monetary policy oriented towards price stability in the medium term".

BoE —ECB FED -25% 20% 15% 10% 5% 0% 25.nov.70 OZNAYOS 18 mars 10 30 May 20 35.80 10 09/4/09 la Jan lo 2/4/10

Figure 2. Central banks' Securities purchase as % of GDP

Source: Author's elaboration on ECB, FED, BoE data

Figure 2 shows how the purchases made by ECB under the two open market operations (SMP and CBPP) appear very limited in comparison to the QE undertaken by the FED and the BoE.

In addition, in several occasions, the ECB lowered the threshold for the eligibility of debt instruments issued or guaranteed by the governments of the most troubled countries.⁵ This was needed given that the existing rules for eligible marketable assets required fulfilment of standards of credit quality in order to be accepted as collateral in monetary policy operations. Subsequently, these rules were changed to establish a sliding scale of haircuts defined as a function of credit ratings and to be applied to eligible securities.

Formally the SMP did not constitute QE since the ECB sterilised its purchases by conducting liquidity absorbing operations by the same amount. In reality, however, it is impossible to disentangle these sterilization operations and their effect, since the ECB maintained a full allotment policy on all (standard and long term) refinancing operations. In other words, liquidity was absorbed to offset bonds purchase while unlimited liquidity was provided to banks through standard and unconventional refinancing operations. Moreover, technically the liquidity absorption (for the purpose of sterilization) consisted in the ECB attracting fixed-term deposits from commercial banks. However, deposits which commercial banks were anyway holding at the ECB were always much larger than the amount required for 'sterilisation' operations. When commercial banks park hundreds of billions of excess liquidity at the central bank, it does not make much sense to insist on a fine difference between QE and a (sterilized) 'securities purchase programme'.

Finally, on 8 December 2011 the ECB decided to implement a new set of longer-term refinancing operations (LTROs) with a maturity of 36 months and the option of early

The ECB changed eligibility rules for Greece, Ireland and Portugal, see its press releases for 3 May 2010: http://www.ecb.europa.eu/press/pr/date/2010/html/pr100503.en.html; for 31March 2011: http://www.ecb.europa.eu/press/pr/date/2011/html/pr110307_1.en.html.

repayment after one year. The first operation, conducted on 21 December, saw the participation of around 500 banks asking for EUR 490 billion, while in the second one, conducted in February 2012, 800 banks asked for EUR 530 billion (see the red square in Figure 4). Section 4 offers a critical lecture of this operation, but at this point it is important to remark that while the LTRO represents a peculiar action of the ECB during this second stage of the crisis, the FED had followed similar approach in the early stage of the financial crisis in 2008 and had moved after 2010 to direct injection of liquidity thought the QE.

4. THE ROLE OF TRANSPARENCY

In a ranking compiled in 2007 among the most transparent Central Bank in the world, the ECB was placed fifth, after (in descending order) the Reserve Bank of New Zealand, the Swedish Riksbank, the Bank of England, the Czech National Bank and the Bank of Canada. Unfortunately the same transparency has not been assured during the SMP. The ECB has only published the weekly amount of bonds purchased without any other details unveiled, neither about the composition and maturity of the purchases, nor the criteria for purchases or the planned amount of the program. Data on weekly purchases suggest that the ECB has embarked on market intervention intermittently. Market estimates indicate that in the first phase (from May 2010 until July 2011) the main (possibly only) target was Greek bonds, followed by Irish and Portugal ones. By contrast, after the 7th of August 2011, when the program was reactivated after stagnating for about one year, the purchase was directed toward Spanish and Italian sovereign bonds.

The ECB's lack of transparency appears even greater if compared to UK and US quantitative easing programs. When the Bank of England announced its QE, it stated that "the Committee agreed that the Bank should finance GBP 75 billion of asset purchase (...) the majority of the overall purchase by value over the next three months will be of gilts" and added all rules that it would follow in the bond purchase. Similarly, the FED Committee announced "to purchase up to USD 300 billion of longer-term Treasury securities over the next six months", thus specifying explicitly type of securities and length of the program.

The purpose of disclosing detailed information by the BoE and the FED was to ensure the accountability of both programs to British and American taxpayers. The ECB failed in this respect. The absence of transparency has been often motivated as necessary for the program to be effective as a full disclosure of the purchase could have caused an uproar and worsen the financial (in)stability. In fact this is weak argument. Traders could quite easily match market data with ECB purchase announcements and thus identifying the bonds targeted by the SMP.

Another issue is the transparency concerning recipients of ECB financing, especially through the LTRO. The EUR 1 trillion channelled into banks has raised concerns about the use made by banks of this money. The fall in the spreads of Spain and Italy in the first quarter of this year seemed to suggest that these part of the funds were used to sustain the demand for peripheral countries debt, however the lack of details does not allow a rigorous analysis of the effects of this operation.

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⁶ See Dincer and Eichengreen (2009).

See http://www.bankofengland.co.uk/publications/news/2009/019.htm and http://www.bankofengland.co.uk/markets/marketnotice090305.pdf for a detailed explanation of the purchase programme.

See http://www.federalreserve.gov/newsevents/press/monetary/20090318a.htm.

5. EFFECT OF POLICY MEASURES ON BALANCE SHEETS: CREDIT EASING VERSUS QUANTITATIVE EASING

The most evident consequence of such unconventional measures has been the increase in the size of the central bank's balance sheet. Total assets of BoE and the FED almost tripled in about 5 years, while that of the ECB almost doubled (though starting former higher level in terms of GDP).

3,500,000 ■ U.S. Treasury sec. ■Fed. agency debt sec. ■ Mortgage-backed sec. ■ Repo agreements 3,000,000 ■ Liquidity & Credit Facilities ■ Net Ptf Holdings Maiden Lane & TALF LLCs ■ CB Liquidity Swaps ■ Gold stock 2,500,000 Other Federal Reserve assets 2,000,000 1,500,000 1,000,000 500,000 2008-05-21 2008-07-16 2008-09-10 2008-11-05 2008-12-31 2009-02-25 2009-04-22 2009-06-17 2009-08-12 2007-04-25 2007-06-20 2007-08-15 2007-10-10 2007-12-05 2008-01-30 2010-09-08 2010-11-03 2011-04-20 2011-06-15 2009-10-07 009-12-02 2010-01-27 2010-03-24 010-02-19 2010-07-14

Figure 3. Evolution of FED balance sheet (USD

Source: Author's elaboration on FED data

Note: In million USD

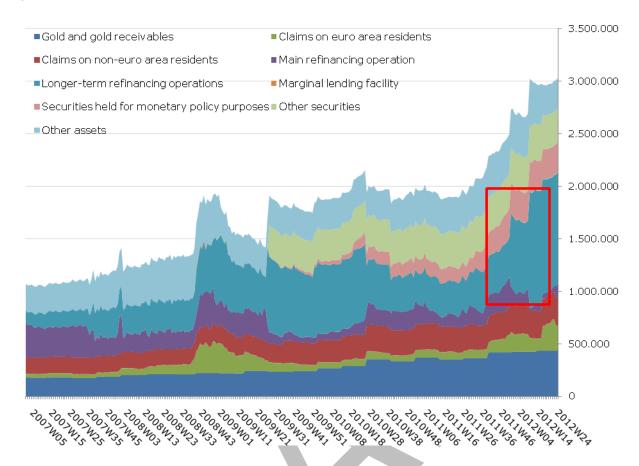


Figure 4. Evolution of ECB balance sheet 2007-2012 (EUR million)

Source: Author's elaboration on ECB data

A simple comparison between the size of the balance sheets or their increase is, however, misleading. The magnitudes are by now similar, but there are two qualitative differences between the ECB and the FED which are more important than mere balance-sheet size. The FED buys almost exclusively risk-free assets like US government bonds or government guaranteed ones (see Figure 3 for the evolution in the FED balance sheet), whereas the ECB has bought much smaller quantities of risky assets (see Figure 4, the pink area representing the SMP), for which the market was drying up. In addition, the FED has lent very little to banks, whereas the ECB has lent huge amounts to weak banks with no access to market funding (see the red square in Figure 4). The Federal Reserve does Quantitative Easing (trying to lower the riskless interest rate), while the ECB does 'credit easing'. 9

Quantitative easing is supposed to stimulate the economy when the central bank lowers long-term (riskless) interest rates by buying large amounts of longer-term government bonds with the deposits that it receives from banks. "By contrast, the ECB's credit easing is motivated by a practical concern: banks from some parts of the euro area – namely, from the distressed countries on its periphery – have been effectively cut off from the inter-bank market." ¹⁰

The difference between these two approaches shows up in the world's two biggest central banks taking.

⁹ This section is based on Gros (2012).

¹⁰ Gros (2012)

By buying US government bonds, the FED does not incur any credit risk, but it is taking interest-rate risk. The FED engages, like a typical bank, in "maturity transformation". It uses short-term deposits to finance the acquisition of long-term securities. With short-term deposit rates close to zero and long-term rates at around 2-3% the FED is earning a nice gain equal to about 2-3% per year on its bond portfolio of now roughly USD 1.5 trillion, which means about USD 30-45 billion per annum. For FED this gain is secondary to achieving the overall aim of lowering interest rates.

While QE involves little risk for the FED, equivalent operations are costly for commercial banks. Indeed, under current financial supervision rules banks are obliged to limit maturity mismatch and are required to have some long-term funding against long-term commitments. However, since long term funding is more expensive, the attractiveness of purchasing long term securities is much lower for commercial banks. By contrast, the FED can determine its own cost of funds. It sets short-term interest rates and affects the long-term ones. Hence it can manage this risk. ¹¹

By contrast, the ECB does not assume any maturity risk with its LTRO, because the rate it charges on banks is the average of the short term interest rates that will materialize over the next three years. It does, however, take on credit risk, because it is lending to banks that cannot obtain funding anywhere else.

"The banks that are parking their money at the ECB (receiving only 0.25% interest) are clearly not the same ones that are taking out three-year loans at 1%. The deposits come largely from northern European banks (mainly German and Dutch), and LTRO loans go largely to banks in southern Europe (mainly Italy and Spain). In other words, the ECB has become the central counterparty to a banking system that is de facto segmented along national lines. The real problem for the ECB is that it is not properly insured against the credit risk that it is taking on. The 0.75% spread between deposit and lending rates (yielding EUR 7.5 billion per year) does not provide much of a cushion against the losses that are looming in Greece, where the ECB has EUR 130 billion at stake.

The ECB had to act when the eurozones's financial system was close to collapse at the end of last year. But its room for maneuvre is even more restricted than that of the FED. Its balance sheet is now saddled with huge credit risks over which it has very little control. It can only hope that politicians deliver the adjustments in southern Europe that would allow the LTRO's recipient banks to survive."¹²

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¹¹ Certainly the FED would inflict losses on itself by increasing interest rates. Therefore, the recent announcement that interest rates will be kept low for an extended period might also have been motivated by more than concern about a sluggish recovery.

¹² Gros (2012).

6. HOW SUCCESSFUL CENTRAL BANKS' MEASURES HAVE BEEN?

There are different channels through which injections of money into the economy (e.g. direct asset purchases in open market operations) by Central Banks could affect the economy. If the central bank intervenes in a market segment for which demand is scarce, the asset purchase is likely to have a significant impact on prices and therefore interest rates. Considering the effect of the QE on the British economy (Joyce et al., 2010), it could be seen as the asset prices in the United Kingdom recovered substantially during 2009 (although not all of the improvement can be attributed to QE): authors' estimations suggest that gilt yields were about 100 basis points lower than they would otherwise have been without QE.

Focusing on the US experience, there seems to be some evidence supporting the effectiveness of the QE: Gagnon et al. (2011) examine the effect of the December 2008 and March 2009 instalments of the Fed large scale asset purchases and find that they raised market expectations of further asset purchases, thus reducing the yield on long-term assets. The overall size of the reduction in the ten-year term premium has been estimated to be somewhere between 30 and 100 basis points. The programs had an even more powerful effect on longer term interest rates on agency debt and agency MBS by improving market liquidity and removing assets with high prepayment risk from private portfolios. Neely (2011) shows also as the 'quantitative easing' conducted by the Fed in 2010 has succeeded in reducing international long-term interest rates, while Hamilton and Wu (2011) estimate that the effects of the Fed action to sell USD 400 billion in short-term securities and simultaneously purchasing USD 400 billion in long-term securities, has reduced the slope of the term structure of interest rates by 25 basis points.

Alas, evidence of the effectiveness of the EBC approach is not encouraging. When in August 2011, the ECB intervened in the market to buy Italian and Spanish bonds, yields experienced the largest fall since the euro began in 1999. A similar reaction had materialized for the Greek, Irish and Portuguese bonds in May 2010 when the SMP was launched. But as designed and conducted until now, the SMP has not delivered a long-term turnaround in the secondary market: market judgment about troubled countries has not changed after the ECB intervention.

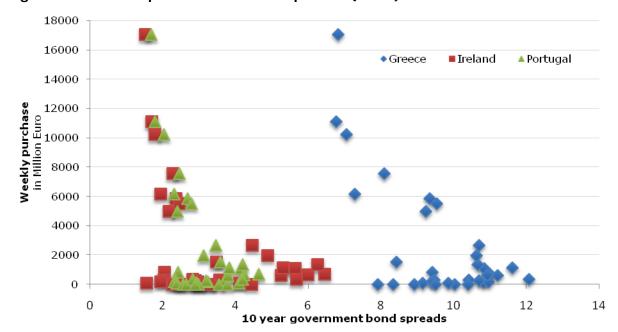


Figure 5: ECB SMP purchase and GIP spreads (2010)

Source: ECB statistical Data warehouse and Bloomberg

As Figure 5 shows, the action undertaken by the ECB trough the SMP has initially stabilised market conditions of Greek, Irish and Portuguese bonds, but only temporarily.

The ECB did not manage to achieve the unspoken aim of the SMP, namely to lower the risk premia on peripheral government debt securities. There are two explanations for this. First, if risk premia did not result from mere market panic, but actually reflected fundamentals (Krugman 1988) a very limited intervention is unlikely to be effective. Moreover, there are now signs that the SMP could actually be counterproductive. The reason is that during the de facto default of Greece of March 2012, the ECB imposed its absolute seniority. When the ECB purchased Greek bonds in 2010 it did so in the private market and it was generally assumed that it would therefore be treated *pari passu* as private investors. However, this was not the case. A procedural trick (changing the ISIN number) was used to exclude the bonds held by the ECB from the PSI operation. The official justification was that, as the ECB is acting for a 'public policy purpose', it should not bear any loss.

In reality the question is not whether the ECB should have fully participated in the PSI, but whether it could have just relinquished its bond holdings for the price at which it had purchased them. By requiring that the nominal amount should be paid back on bonds which it had acquired much below par, the ECB was telling the private investors that the haircut they had to borne was larger. Investors now likely to take this 'subordination' effect into account, every time the ECB is involved. This implies that further SMP purchases could actually now have become counterproductive. This might be the key reason why the ECB has not re-activated the SMP despite record risk premia and borrowing costs in Spain and Italy.

7. CONCLUDING REMARKS

Different economic and financial structures require different crisis responses. Different crises also require different tools and resources. For this reason, in order to understand and assess central banks' reactions to the crisis, it is crucial to distinguish the first phase of the global financial crisis (2007-2009), which was rather similar on both sides of the Atlantic, from the second stage of the crisis that erupted in Europe and it is unique to the euro area.

While in the first stage the reaction was similar in the objective and to some extent in the tools, significant differences in the approach and in the effectiveness have emerged after 2010.

During the first leg of the crisis the Federal Reserve took considerable risks by providing no-recourse loans against collateral, which at the time, appeared to be 'toxic'. The justification was that the market was in a state of panic. Ex post this judgment proved correct. The panic subsided and the Federal Reserve did not make any losses. As markets stabilized the Federal Reserve then tried to sustain employment by reducing interest rates, first the short term ones it controls directly and later longer term interest rates through its 'quantitative easing' and the 'operation twist'.

The ECB's policy was not too different from that of the FED during the first leg of the crisis. It extended the provision of central bank funds to banks and bought some assets (covered bonds) for which the market did not seem to function properly. However, in the euro area the general financial crisis mutated into a 'euro crisis' when savers in Northern Europe (especially Germany and the Netherlands) started withdrawing credit to the countries in the euro 'periphery'.

Overall, this means that while the ECB responding massively to the crisis through 'credit easing', it is trying at the same time to minimise its own risk. Yet this implies that its policy cannot be fully effective. As explained earlier, this is especially manifest in the SMP. As the markets now take the super seniority of the ECB into account, any further asset purchase by the ECB might actually be counterproductive. It could even increase the risk premium because investors know that fewer resources will be available as the ECB has a first call on the payments a government can make.

In addition to this, there is now a danger that other instruments of the ECB might also become less effective. With the LTRO the ECB not only provided longer term funding against an extended pool of assets eligible as collateral, it also increased considerably the haircuts applied to these newly eligible assets, in some cases up to 50% and even 75%. This means that huge overcollateralization is required to access the LTRO. Banks have to pledge assets between two and four times the amount of the funding they are receiving. Because of this, in case of insolvency, (unsecured) creditors of banks will have little left for them and private investors will thus become even more reluctant to provide the banks with funding. There is thus a danger that even the LTRO might not work if it were tried again.

This attempt by the ECB to limit its own risk is understandable, as much as the consequences of it on the effectiveness of the policy. This approach is significantly different from the one chosen by the FED, which by providing no–recourse loans to the private sector, through the TALF, gave a strong signal. It was willing to take credit risk to relief to private investors, which could therefore recover quickly.

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