THE MONETARY POLICY OF THE EUROPEAN CENTRAL BANK IN THE PERIOD OF SOVEREIGN DEBT CRISIS

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Abstract. *The European Central Bank was forced to start using non-standard measures in order to manage the situation determined by the global financial and sovereign debt crisis, namely to sort out liquidity problems and expand credit supply. The European Central Bank is criticized for applying non-standard tools because of increase in inflation risk. However, the analysis shows that the inflation could be managed by the absorption of liquidity surplus. However, there is a negative side of using non-standard measures, such as a significant increase in the credit risk, which arises due to having government bonds in the balance sheet of the European Central Bank. In addition, this indicates that the European Central Bank indirectly finances governments.*

Key words: *monetary policy, inflation, sovereign debt crisis, credit risk, quantitative easing*

Introduction

Central banks have used different unconventional monetary policy responses since the global financial crisis erupted five years ago. Gross et al. (2012) argue that the first stage of the global financial crisis (2007–2009) was similar in the USA and the euro zone, and the response was also quite similar. However, the second stage of this crisis is unique to the euro zone. The increasing financial disintegration in the region has forced the European Central Bank (hereafter ECB) to become the central counterpart for the entire cross-border banking market and to intervene in the sovereign bond market of some stressed countries. According to Gross et al. (2012), the actions undertaken by the ECB arise the questions worth discussions if the ECB financing of governments is appropriate, what are its risks and possible consequences.

Thiman et al. (2013) argue that the ECB's response to the crisis has relied on banks as intermediaries to ensure the continuous financing of households and firms rather than intervening in asset markets directly. The rationale of safeguarding monetary policy transmission across the euro zone and addressing dysfunctional market segments differs

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from that behind the quantitative easing which is aimed at providing an extra monetary stimulus via outright transactions when the lower bound for policy rates has been reached. Thiman et al. (2013) states that at the same time both approaches operate via the size and composition of the central bank balance sheets and provide safe and liquid assets to the bank and non-bank sectors of the economy in response to impairments in financial intermediation and deleveraging pressures weighing on sectoral balance sheets.

Grauwe (2011) also argues that the ECB's being the lender of the last resort for the governments allowed stabilizing the government bond markets. However, Grauwe (2011) states that at the same time further steps towards political unification must be taken, without which the effective control of national government deficits and debts cannot be implemented. According to Grauwe (2011), some steps in this direction have been taken recently when the European Council decided to strengthen the control of national budgetary processes and of national macroeconomic policies. These decisions, however, are insufficient, and more fundamental changes in the governance of the euro zone are called for. These changes should be such that the central bank can trust that its lender of last resort responsibilities in the government bond markets will not lead to a never-ending dynamics of debt creation. that the ECB takes on the full responsibility of a lender of the last resort in the government bond markets of the euro zone. Without this guarantee, the government bond markets in the euro zone cannot be stabilised, and crises will remain endemic.

The article discusses changes in the ECB monetary policy in the period of a sovereign debt crisis. The first part identifies changes in the main monetary policy instruments of the ECB. The second part discusses non-standard measures introduced in respect to a sovereign debt crisis and the negative sides of using these measures. The last part identifies similarities and differences between the monetary policies applied by the ECB and the Federal Reserve Bank in the crisis. At the end of the article, the main conclusions are summarized.

Instruments of the European Central Bank monetary policy and their variations

The primary objective of the ECB monetary policy is to maintain price stability. The ECB aims at inflation rates below, but close to, 2% over the medium term. In order to achieve the primary objective, the ECB regulates liquidity in the markets and short-term interest rates. The ECB uses a variety of monetary policy instruments and procedures, such as open market operations, standing facilities, and minimum reserves.

Open market operations play an important role in steering interest rates, managing the liquidity situation in the market, and signaling the monetary policy stance. The other important instruments of monetary policy are marginal lending facility which enables

banks to obtain overnight liquidity from national central banks against eligible assets, and deposit facility which could be used to make an overnight deposit with national central banks. The third measure of monetary policy is the requirement of minimum reserves. The intent of the minimum reserve system is to pursue the aims of stabilizing money market interest rates, creating (or enlarging) a structural liquidity shortage, and possibly contributing to the control of monetary expansion.

The global financial crisis, which started in 2008, encouraged the ECB to find new solutions in order to stabilize the financial system. As a result, the list of monetary policy tools was supplemented with the recent non-standard measures. Firstly, unlimited liquidity providing facility was set for banks in the euro zone, applying fixed interest rates for all refinancing operations against the acceptable collateral.

Secondly, the maximum maturity of refinancing operations was extended by up to 6 months, the list of acceptable collaterals was expanded, and the liquidity provided in foreign currencies (especially in USD) was endorsed. Furthermore, in May 2009, a covered bond purchase programme (hereafter CBPP) was launched. The aim of the CBPP was to buy covered bonds issued in the euro zone in order to strengthen a particular financial market segment, which is important in financing banks and was especially affected by the financial crisis. The bonds were able to be purchased in primary and secondary markets. The initiative was based on four goals: to decrease the cost of borrowing in money markets, to ease lending conditions for credit institutions and enterprises, to encourage credit institutions to expand lending, and to increase liquidity in private debt security markets. But basically, by using non-standard measures, the ECB was intended to manage liquidity and short-term interest rates in the market, to stabilize the financial system.

In May 2010, the possibility of Greece insolvency caused panic in the financial markets, and the ECB made a decision to start buying Greek bonds in the secondary market. The new non-standard measure was confirmed under the name of the securities markets programme (hereafter SMP). The aim of the SMP was to ensure the working of the monetary policy transmission mechanism. Buying obligations was strictly limited: it was possible only in secondary markets; an increase in liquidity through the SMP was eliminated by weekly liquidity absorbing operations.

Also, in December 2011, the set of long-term refinancing operations (hereafter LTRO) with the maturity of 36 months and the option of early repayment after one year was introduced (Lemieux, 2013). In combination with fixed-rate full allotment procedures, this contributed to keeping money market interest rates at low levels and increased the euro zone's intermediation role aimed at easing refinancing concerns of the euro zone banking sector, especially for term maturities. Reduced liquidity costs and uncertainty and a longer liquidity planning horizon were expected to encourage banks to continue providing credit to the economy (Thiman, 2013).

The ECB considers its non-standard measures primarily as a complement to its interest rate instrument, not as a substitute, as is the case for the bulk of unconventional policies of other major central banks. As a complement, the ECB's non-standard measures could be adjusted regardless of the prevailing level of interest rates; and vice versa, interest rates could be adjusted with non-standard measures still in place. For instance, the illustration of this complementarity could be the indexation of the interest rate in LTROs on the future main refinancing rate over the lifetime of the operations. This indexation means that an increase in the policy interest rate is immediately translated to increased costs for the remainder of the outstanding operations (Thiman, 2013).

Considering the period since 2008, one of the most substantial changes was the ECB becoming the lender of last resort not only for the banking sector, but for governments in the euro zone as well. The reason why this function of the lender of the last resort for governments was chosen is that it is considered to be a measure to tackle the euro zone problems. In banking theory, the lender of last resort is a necessary condition to stabilize the banking system. It guarantees that deposit holders will always be available to withdraw their money. In the same way the idea is working for the euro zone. The ECB ensures that cash will always be available to pay out the bondholders. Thus, the ECB having the goal to stabilize the system started to use non-standard measures so as to save some time for other EU institutions to make appropriate decisions for the future of the euro zone.

Changes in the monetary policy of the European Central Bank in respect to a sovereign debt crisis

In 2010, the ECB introduced monetary policy non-standard measures as a result of the beginning of a sovereign debt crisis. One of the most noticeable consequences was a significant increase (by 60%) in the size of the ECB balance sheet (Fig. 1). In 2008–2012, the balance sheet expanded because of the fact that the ECB purchased securities under CBPP and SMP programmes whose scope doubled. Respectively, the highest increase in the balance sheet was influenced by long-term refinancing operations which grew up by approximately 4 times (Brown, 2012).

The ECB had the aim to stabilize the financial system by ensuring liquidity and encouraging increase in lending. Thus, in the end of 2011, the second stage of the CBPP was started. It was announced that the euro system was going to buy covered bonds issued in the euro zone, whose nominal value was equal to 40 billion euro. Also, in December 2011, overnight interest rates were decreased to 0.25% and in July 2012 to 0% in order to increase liquidity and lending (Gross, 2012).

The CBPP programme was launched with the purpose to decrease the cost of borrowing in the euro zone. In May 2010 and August 2011, when bonds of Greece, Ireland, Portugal, Italy and Spain were purchased, the bond spreads shrank. In August 2011,

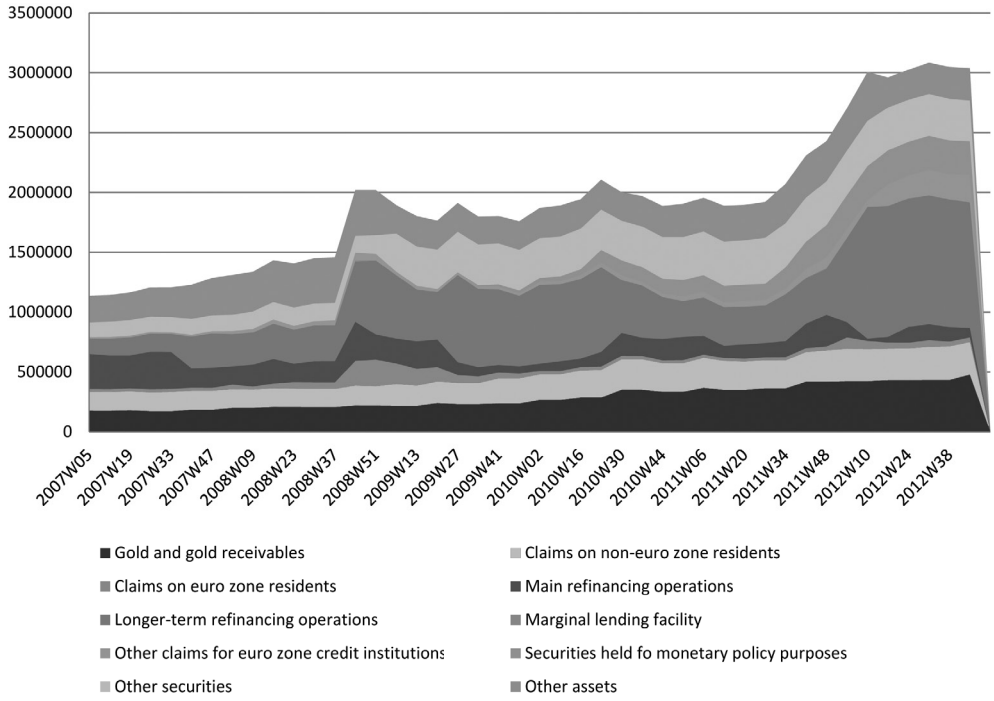

FIG. 1. **Changes in the ECB balance sheet in 2007–2012 (million EUR)**

Source: ECB statistics.

ten-year government bond spreads decreased by 28 base points, i.e. from 4.38% in July 2011 to 4.10% in August 2011. However, in general, considering the long-term government bond spreads in the euro zone, there was no significant impact. The core reason is that the increase in risk premium was influenced by fundamental reasons. It was not the consequence of the panic in the markets. Therefore, small ECB interventions into the market had little power.

Also, the ECB undertook other actions so as to increase activity in the markets. Firstly, the performance of maturity transformation increased significantly. By increasing the share of liquidity supplied at its LTROs relative to its regular main refinancing operations (MROs) and increasing the maturity structure of its LTROs by offering operations out to one year, the ECB substantially increased the average maturity of its outstanding repos. As these operations were 'funded' by the accumulation of excess liquidity at the ECB's (overnight maturity) deposit facility, this resulted in a substantial maturity transformation, allowing the banking sector to become less reliant on short-term financing (Giannone, 2012).

Secondly, the ECB used liquidity transformation. It started to accept as collateral in its refinancing operations less liquid assets. The ECB provided cash loans against the

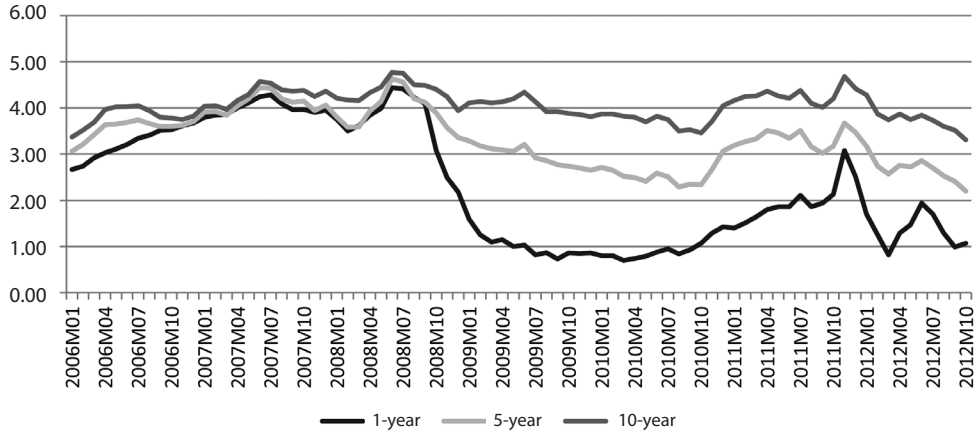

FIG. 2. **Government bond spreads in euro zone in 2006–2012 (%)**

Source: Eurostat.

security of these assets. It was an especially good thing for the banking sector. Banks were able to transform illiquid instruments into cash at a relatively low cost and avoid 'fire sales' for low prices.

However, non-standard measures used by the ECB are controversially valuated because of their negative impact on inflation. When analyzing the period since 2010, it was found that M3 started marginally to grow in 2010, but until 2012 the growth rate did not exceed 2% (Fig. 3). Respectively, implications could be made that non-standard measures used by the ECB had a small impact on increase in inflation. If the ECB buys securities, it does not mean that the money base increases, i.e. there is no stimulus for the money base to increase if the ECB provides liquidity loans which are not directed to finance the non-banking sector (Grauwe, 2011). Also, there is a possibility not to increase money supply, for instance, if securities are being bought and the other asset sold at the same time. Moreover, in 2010–2011, the increase in liquidity determined by the CBPP was decreased by using liquidity absorbing operations (Fig. 4). The ECB implemented corrective operations which attracted fixed-term deposits. Thus, the ratio of fixed-term deposits to securities purchased under the aims of the monetary policy grew up from 50% in the middle of 2010 to 75% in the end of 2011. In order to raise deposits, interest rates increased from 1% up to 1.5% in the end of 2011. Because of the previously mentioned actions taken by the ECB, non-standard measures had no influence on increasing in inflation.

Considering the non-standard measures applied by the ECB in order to achieve price stability, a conclusion could be made that the responsible use of these measures had a very little effect on increase in inflation (Fig. 5). Despite the fact that in 2010 the annual

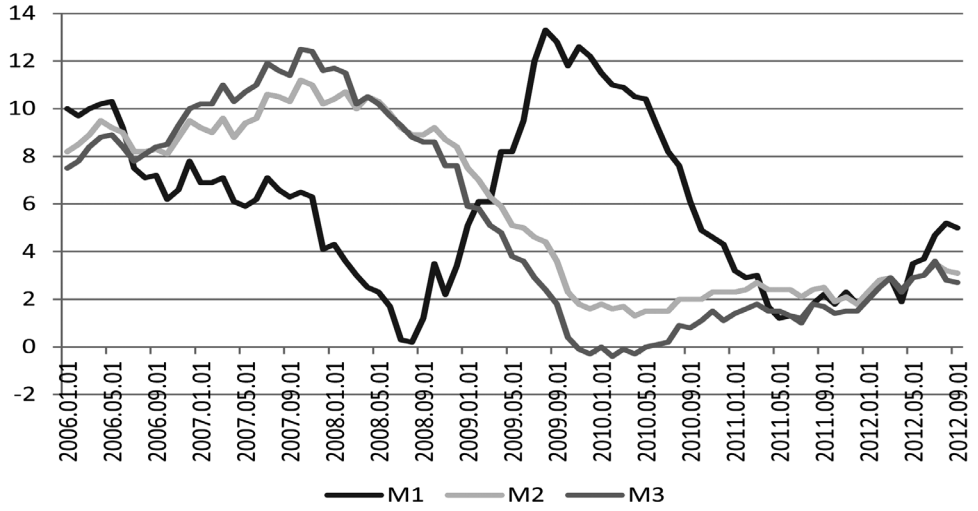

FIG. 3. **Growth of M1, M2 and M3 in euro zone in 2006–2012 (%)**

Source: Eurostat.

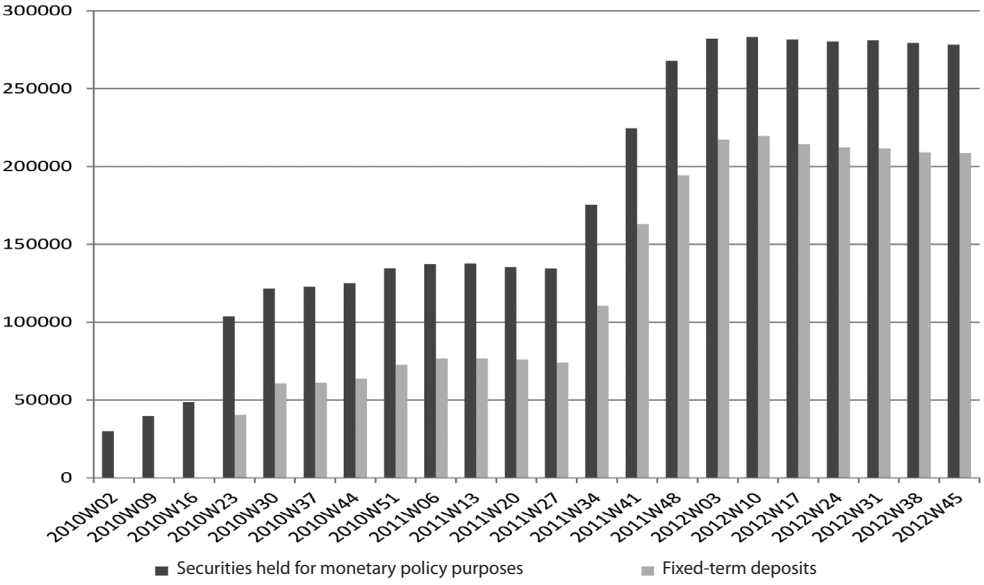

FIG. 4. **Securities held for monetary policy puposes and fixed-term deposits in the ECB balance sheet in 2010–2012 (million EUR)**

Source: ECB statistics.

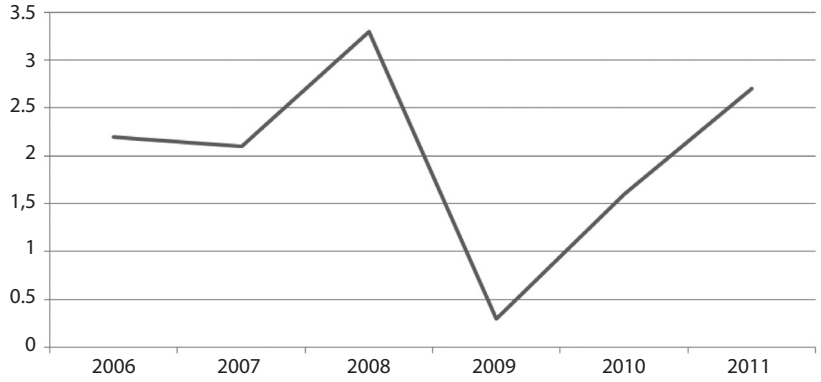

FIG. 5. **Average annual inflation in euro zone in 2006–2011 (%)**

Source: Eurostat.

inflation was 1.6% and in 2011 grew up to 2.7%, exceeding the ECB target rate, the increase was caused by the economic situation in the euro zone states but not the result of taking the non-standard measures. States in the euro zone were forced to tighten their fiscal policy because of a significant increase in public debts. As a result, the increase in indirect taxes caused a higher inflation rate.

The other disadvantage of the ECB taking non-standard measures is an increase in moral hazard. The currently applied monetary policy is working as an insurance mechanism. It ensures that sovereign bond holders will always get their return, and this leads governments to continue issuing debt. However, there is another way for the ECB to keep its role of the last resort lender and to help tackling the problems in the euro zone as well. There could be imposed some rules according to which governments could be constrained in issuing debts. In the same way, the banking sector solves the moral hazard by imposing limits on risk-taking by banks.

Moreover, the lender of the last resort function should only be used when goverments experience liquidity problems, but not in case of insolvency. The problem is that it is difficult to distinguish between solvency and liquidity crises. A sovereign debt crisis usually contains both solvency and liquidity problems. Because of liquidity problems, the governments issue debt for a higher interest rate and quickly start facing solvency problems. Thus, it is right to think that the ECB should only provide liquidity to the governments that are illiquid but solvent. On the other hand, this is hardly apllied in practice. Moreover, if the ECB were able to separate liquidity problems from solvency problems, markets would also be able to do this. Thus, financial markets would be ready to credit governments facing liquidity problems. In case of insolvency, neither financial markets nor the ECB would want to provide credits.

Similarities and differences in the monetary policy of the European Central Bank and the Federal Reserve Bank in the period of financial crisis

Until the global financial crisis started in 2008, central banks applied the conventional monetary policy aimed at maintaining a low and stable inflation. However, because of the global financial crisis central banks were forced to look for new solutions which made the monetary policy to become unconventional. The more common forms of an unconventional monetary policy involve a massive expansion of central banks' balance sheets and attempts at influencing interest rates other than the usual short-term official rates (Joyce, 2012). For instance, the Federal Reserve Bank (hereafter FED) purchased mortgage-backed securities; as a result, its balance sheet expanded. By these purchases, liquidity to markets was provided and mortgage interest rates went slightly down. Thus, credit was possible to be provided to a significant part of the economy. The FED also started the other activity influencing interest rates without increase in balance sheet – selling short-term government bonds and using the proceeds to buy long-term bonds in order to lower long-term interest rates.

Taking into account the period 2008–2012, the ECB and the FED were implementing the monetary policy which had similarities up to 2010. Both institutions expanded the list of monetary policy tools and introduced new operations intended to increase liquidity. For instance, the FED allowed other central banks to provide loans in USD so as to increase liquidity. The currency was chosen because of its broad use in interbank markets. Moreover, in 2009, the FED purchased asset-backed securities and other assets whose value amounted to 1 000 billion USD. In 2010 a sovereign debt crisis started in the euro zone. Meanwhile, in the USA, the main issue was a slow economic growth and labour market recovery. Therefore, in August 2010, the FED bought treasure bills worth 30 billion dollars and in November did not sell treasury bills worth 1.6 trillion USD (Gros, 2012).

A common feature of the ECB and the FED was an increase in the size of their balance sheets. Since 2007 until the end of 2009, the value of the FED assets doubled and until November 2012 tripled (Fig. 6). However, there was a qualitative difference. The FED bought risk-free assets, for instance, the USA government bonds, government-guaranteed bonds, and lent small amounts of funds to commercial banks, because the FED had the aim to decrease interest rates and asset acquirement financed by the central bank. Thus, the FED was focused on the quantitative easing, whereas ECB paid attention to the credit easing.

Usually, the ECB purchases of assets and the expansion of its balance sheet are a response to a different problem than that faced by the FED. Stresses within the euro zone determined a steady and very substantial outflow of euro deposits from banks to some

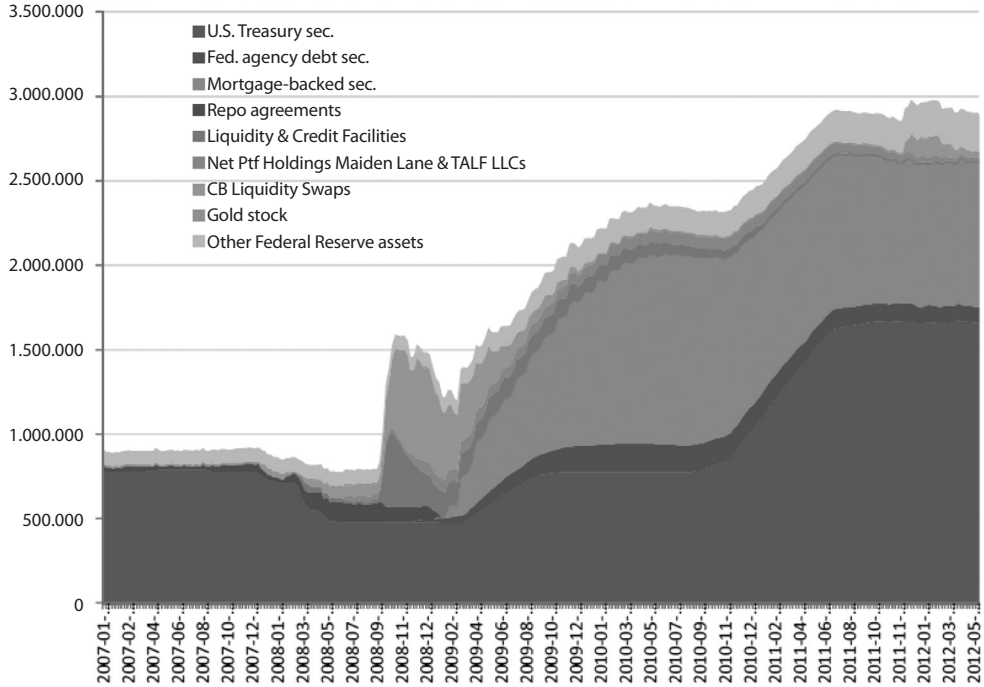

FIG. 6**. Changes in the FED balance sheet in 2007–2012 (million USD)**

Source: FED statistics.

of peripheral countries and into banks in other euro zone countries. This caused a major imbalance within the euro zone banking system (Joyce, 2012). The ECB long-term repo operations were designed to ease the generated funding difficulties.

Another important difference between the FED and the ECB is that the FED buying government bonds instead of taking a credit risk incurs an interest rate risk. The FED, as a typical bank, engages in maturity transformation. The FED uses short-term deposits to finance the acquirement of long-term bonds. With short-term deposit rates close to zero and long-term rates at around 2–3% for bonds, the FED is earning approximately 2–3% per year on its bond portfolio, i.e. about 30–45 billion USD per year. Applying these operations for commercial banks is expensive as compared to the FED because of the capital adequacy requirement. By contrast, the FED is able to determine its own cost of funds. It sets short-term interest rates and affects the long-term ones. Thus, the risk is managed (Gross, 2012).

Meanwhile, the ECB does not take maturity risk with the LTRO, because the interest rate it charges on the banks is calculated based on short-term interest rate. However, the ECB assumes the credit risk because of lending to commercial banks for which it is the lender of last resort. The banks that deposit funds with the ECB and earn about 0.25%

do not need three-year loans for the 1% interest rate from the ECB. Deposits are made by such countries as Germany, the Netherlands, but the main borrowers are the Southern European countries. The main issue for the ECB is the absence of protection against the credit risk, because 0.75% profitability (about 7.5 billion EUR per year) is not sufficient to cover the losses that could incur as a result of Greece insolvency (Greece's debt in the ECB balance sheet is equal to about 130 billion EUR).

The monetary policy of the ECB is directed to a sovereign debt crisis and a rescue for governments in order to stabilize the financial situation in the euro zone. By contrast, the FED was not restricted and shifted monetary policy to a quantitative easing focused on a decrease in interest rates. Currently, the ECB has to focus on managing the credit risk which grew up because of the non-standard monetary policy measures introduced in 2010–2012.

Conclusions

The ECB's approach to date appears to stand out in that its non-standard measures have been aimed not at providing an additional direct monetary stimulus to the economy, but primarily at supporting the effective transmission of its standard policy. Hence, for the ECB, non-standard measures are a complement to rather than a substitute for a standard interest rate policy. The non-standard measures the ECB has introduced in 2010–2012 are criticized maintaining that these measures increase inflation risk. However, an analysis shows that an excess of liquidity could be eliminated using liquidity-absorbing operations. Thus, the inflation is managed. The ECB policy was not very different from that of the FED during the first stage of the crisis. The banking sector was provided with funds, and less liquid assets were bought up. The common result of the ECB and the FED monetary policy was expanded balance sheets. However, in the euro zone, the general financial crisis has transformed into a sovereign debt crisis. The ECB started to focus on the credit easing and the FED on the quantitative easing policies. Furthermore, because of using non-standard measures, the ECB currently has to find the ways to manage the significantly increased credit risk.

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