

De Grauwe, Paul

**Working Paper**

## The European Central Bank: Lender of last resort in the government bond markets?

CESifo Working Paper, No. 3569

**Provided in Cooperation with:**

Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

*Suggested Citation:* De Grauwe, Paul (2011) : The European Central Bank: Lender of last resort in the government bond markets?, CESifo Working Paper, No. 3569, Center for Economic Studies and Ifo Institute (CESifo), Munich

This Version is available at:

<https://hdl.handle.net/10419/52475>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

# The European Central Bank: Lender of Last Resort in the Government Bond Markets?

Paul De Grauwe

CESIFO WORKING PAPER NO. 3569  
CATEGORY 7: MONETARY POLICY AND INTERNATIONAL FINANCE  
SEPTEMBER 2011

*An electronic version of the paper may be downloaded*

- *from the SSRN website:* [www.SSRN.com](http://www.SSRN.com)
- *from the RePEc website:* [www.RePEc.org](http://www.RePEc.org)
- *from the CESifo website:* [www.CESifo-group.org/wp](http://www.CESifo-group.org/wp)

# The European Central Bank: Lender of Last Resort in the Government Bond Markets?

## Abstract

The sovereign debt crisis has made it clear that central banking is more than keeping inflation low. Central banks are also responsible for financial stability. An essential tool in maintaining financial stability is provided by the capacity of the central bank to be the lender of last resort in the banking system. In this paper I argue that the ECB should also be the lender of last resort in the government bond markets of the monetary union, very much like the central banks in countries that issue debt in their own currencies are. This is necessary to prevent countries from being pushed into bad equilibria by self-fulfilling fears of liquidity crises in a monetary union. I also survey the different arguments that have been formulated by opponents of the view that the ECB should be the lender of last resort in the government bond markets.

JEL-Code: F330.

Keywords: lender of last resort, European Central Bank, moral hazard, inflation.

*Paul De Grauwe  
University of Leuven  
Economics Department  
Naamsestraat 69  
3000 Leuven  
Belgium  
paul.degrauwe@econ.kuleuven.be*

## ***Introduction***

In October 2008 the ECB discovered that there is more to central banking than price stability. This discovery occurred when the ECB was forced to massively increase liquidity to save the banking system. The ECB did not hesitate to exert its function of lender of last resort to the banking system, setting aside all fears of moral hazard and inflation, and concerns about the fiscal implications of its lending.

Things were very different when the sovereign debt crisis erupted in 2010. Then the ECB was gripped by hesitation. A stop-and-go policy ensued in which it provided liquidity in the government bond markets at some moments to withdraw it at another one. When the crisis hit Spain and Italy in July 2011, the ECB was compelled again to provide liquidity in the government bond markets.

Is there a role for the ECB as a lender of last resort in the government bond market? This is the question I want to analyze in this paper.

## ***Fragility of a monetary union***

It is useful to start by describing the weakness of government bond markets in a monetary union. National governments in a monetary union issue debt in a “foreign” currency, i.e. one over which they have no control. As a result, they cannot guarantee to the bondholders that they will always have the necessary liquidity to pay out the bond at maturity. This contrasts with “stand alone” countries that issue sovereign bonds in their own currencies. This feature allows these countries to guarantee that the cash will always be available to pay out the bondholders. Thus in a stand-alone country there is an implicit guarantee that the central bank is a lender of last resort in the government bond market.

The absence of such a guarantee makes the sovereign bond markets in a monetary union prone to liquidity crises and forces of contagion, very much like banking systems that lack a lender of last resort. In such banking systems, solvency problems in one bank may lead deposit holders of other banks to withdraw their deposits. When everybody does this at the same time the banks will

not have enough cash. This sets in motion a liquidity crisis in many sound banks, and degenerates into a solvency crisis as banks try to cash in their assets thereby pulling down their prices. As asset prices collapse many banks find out that they are insolvent. This banking system instability was solved by mandating the central bank to be a lender of last resort – and the neat thing about this solution is that, when deposit holders are confident that it exists, it rarely has to be used.

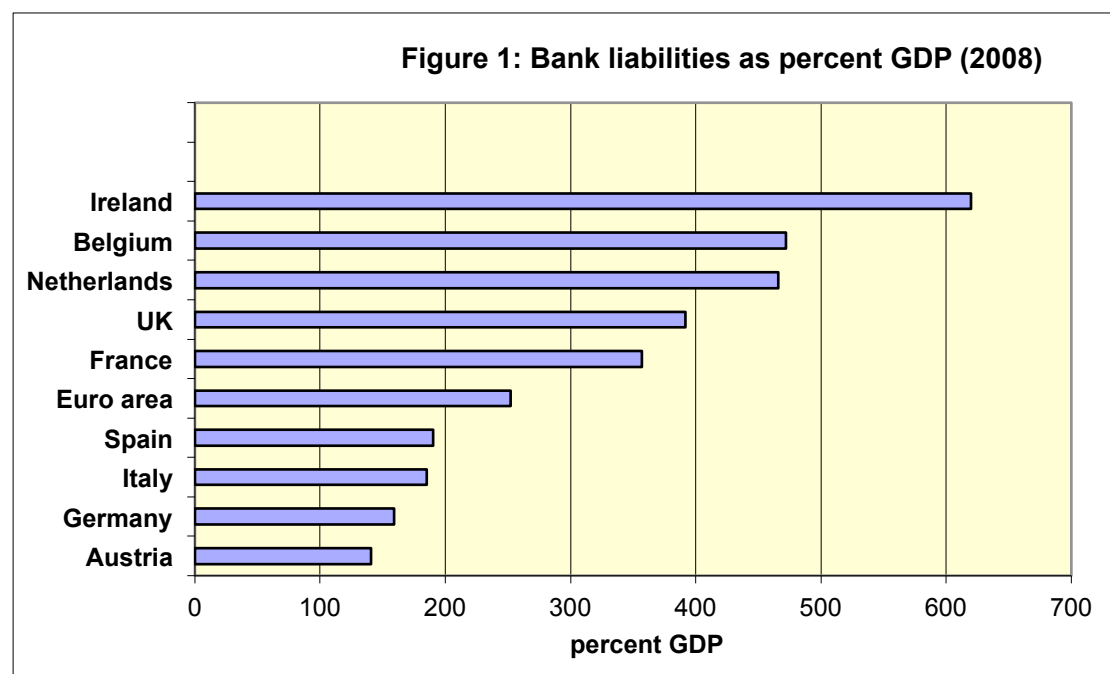
The government bond markets in a monetary union have the same structure as the banking system. When solvency problems arise in one country (Greece) bondholders, fearing the worst, sell bonds in other bond markets. This triggers a liquidity crisis in these other markets, only because there is a fear that cash may not be available to pay out bondholders. But this selling activity leads to an increase in government bond rates and turns the liquidity crisis into a solvency crisis. There is an interest rate high enough that will make any country insolvent. The characteristic feature of this dynamics is that distrust can push a country in a self-fulfilling way into a bad equilibrium<sup>1</sup>. The latter is characterized by high interest rates, recessionary forces, increasing budgetary problems, and an increased probability of insolvency. In a bad equilibrium it is also likely that domestic banks experience funding problems that can degenerate into solvency problems.

The single most important argument for mandating the ECB to be a lender of last resort in the government bond markets is to prevent countries from being pushed into a bad equilibrium. In a way it can be said that the self-fulfilling nature of expectations creates a coordination failure, i.e. the fear of insufficient liquidity pushes countries into a situation in which there will be insufficient liquidity for both the government and the banking sector. The central bank can solve this coordination failure by providing lending of last resort.

---

<sup>1</sup> See De Grauwe(2011) where this point is elaborated further. See also Kopf(2011). For formal theoretical models see Calvo(1988) and Gros(2011). This problem also exists with emerging countries that issue debt in a foreign currency. See Eichengreen, et al.(2005). The problem is also similar to self-fulfilling foreign exchange crises (Obstfeld(1994)).

Failure to provide lending of last resort in the government bond markets of the monetary union carries the risk of forcing the central bank into providing lending of last resort to the banks of the countries hit by a sovereign debt crisis. And this lending of last resort is almost certainly more expensive. The reason is that most often the liabilities of the banking sector of a country are many times larger than the liabilities of the national government. This is shown in Figure 1. We observe that the bank liabilities in the Eurozone represented about 250% of GDP in 2008. This compares to a government debt to GDP ratio in the Eurozone of approximately 80% in the same year.



Source: IMF, Global financial stability report, 2008

While the argument for mandating the ECB to be a lender of last resort in the government bond markets is a strong one, the opposition to giving the ECB this mandate is equally intense. Let me review the main arguments that have been formulated against giving a lender of last resort role to the ECB.

### ***Risk of inflation***

A popular argument against an active role of the ECB as a lender of last resort in the sovereign bond market is that this would lead to inflation. By buying

government bonds, it is said, the ECB increases the money stock thereby leading to a risk of inflation. Does an increase in the money stock not always lead to more inflation as Milton Friedman taught us? Two points should be made here.

First, a distinction should be introduced between the money base and the money stock. When the central bank buys government bonds (or other assets) it increases the money base (currency in circulation and banks' deposits at the central bank). This does not mean that the money stock increases. In fact during periods of financial crises both monetary aggregates tend to become disconnected. An example of this is shown in Figure 2. One observes that prior to the banking crisis of October 2008 both aggregates were very much connected. From October 2008 on, however, the disconnect became quite spectacular. In order to save the banking system, the ECB massively piled up assets on its balance sheets, the counterpart of which was a very large increase in the money base<sup>2</sup>. This had no effect on the money stock(M3) (see Figure 2). In fact the latter declined until the end of 2009. The reason why this happened is that banks piled up the liquidity provided by the ECB without using it to extend credit to the non-banking sector. A similar phenomenon has been observed in the US and the UK.

Another way to understand this phenomenon is to note that when a financial crisis erupts, agents want to hold cash for safety reasons. If the central bank decides not to supply the cash, it turns the financial crisis into an economic recession and possibly a depression, as agents scramble for cash. When instead the central bank exerts its function of lender of last resort and supplies more money base, it stops this deflationary process. That does not allow us to conclude that the central bank is likely to create inflation.

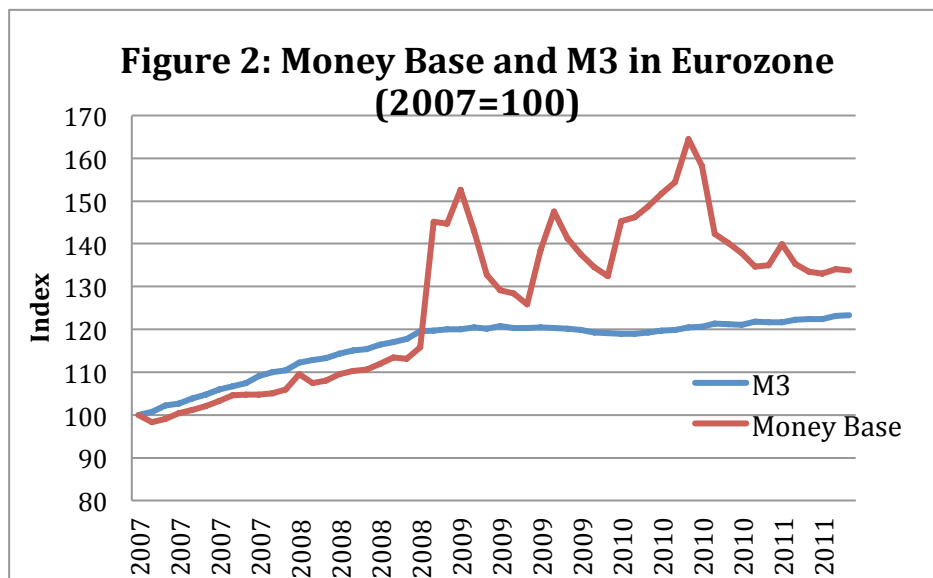
All this was very well understood by Milton Friedman, the father of monetarism who cannot be suspected of favoring inflationary policies. In his classic book co-authored with Anna Schwartz, *A Monetary History of the United States*, he argued that the Great Depression was so intense because the Federal Reserve failed to perform its role of lender of last resort, and did not increase the US money base

---

<sup>2</sup> Note that compared to the US Fed and the Bank of England the expansion of the balance sheet of the ECB was much less pronounced. See the data in appendix. It appears that the ECB has been a timid lender of last resort compared to the Fed and the Bank of England

sufficiently (see Friedman and Schwartz(1961). In fact, on page 333, Friedman and Schwartz produce a figure that is very similar to Figure 2, showing how during the period 1929-33 the US money stock declined, while the money base (“high powered money”) increased. Friedman and Schwartz argued forcefully that the money base should have increased much more and that the way to achieve this was by buying government securities. Much to the chagrin of Friedman and Schwartz, the Federal Reserve failed to do so. Those who today fear the inflationary risks of lender of last resort operations should do well to read Friedman and Schwartz(1961).

This unfounded fear of inflationary consequences of a lender of last resort activity continues to affect policymaking. For example, when the ECB recently decided to start buying Spanish and Italian government bonds, it announced that it would sterilize the effect these purchases have on the money base by withdrawing liquidity from market. This was an unfortunate decision. There was absolutely no need to do so. Since the start of the banking crisis in October 2008 the yearly growth rate of M3 in the Eurozone has only been 1%, much below the growth rate of 4.5% the ECB has previously announced would stabilize the rate of inflation at 2%. If Friedman were alive today chances are that he would berate the ECB for making the same mistakes as the US Fed during the Great Depression.



Source: ECB, Statistical Data Warehouse



### ***Fiscal consequences***

A second criticism is that lender of last resort operations in the government bond markets can have fiscal consequences. The reason is that if governments fail to service their debts, the ECB will make losses. These will have to be borne by taxpayers. Thus by intervening in the government bond markets, the ECB is committing future taxpayers. The ECB should avoid operations that mix monetary and fiscal policies (see Goodfriend(2011)).

All this sounds reasonable. Yet it fails to recognize that all open market operations (including foreign exchange market operations) carry the risk of losses and thus have fiscal implications. When a central bank buys private paper in the context of its open market operation, there is a risk involved, because the issuer of the paper can default. This will then lead to losses for the central bank<sup>3</sup>. These losses are in no way different from the losses the central bank can incur when buying government bonds. Thus, the argument really implies that a central bank should abstain from any open market operation. It should stop being a central bank. The truth is that a central bank should perform (risky) open market operation. The fact that these are potentially loss making should not deter the central bank. Losses can be necessary, even desirable, to guarantee financial stability.

There is another dimension to the problem that follows from the fragility of the government bond markets in a monetary union. I argued earlier that financial markets can in a self-fulfilling way drive countries into a bad equilibrium, where default becomes inevitable. The use of the lender of last resort can prevent countries from being pushed into such a bad equilibrium. If the intervention by the central banks is successful there will be no losses, and no fiscal consequences.

Finally, when one looks at the numbers it is striking to find that among the major central banks, the ECB has been the most reluctant to acquire government bonds. This is shown in table 1. We observe that government securities held by the ECB represent only 23% of its balance sheet, while in the case of the FED and the

---

<sup>3</sup> The same is true with foreign exchange market operations that can lead to large losses as has been shown by the recent Swiss experience.

Bank of England these percentages are significantly higher (56% and 87%). Similarly, the ECB holds a much smaller proportion of the total amount of Eurozone government debt (5.5%) than the FED (11%) and the Bank of England(17.7%). Surprisingly it is the ECB that faces the strongest criticism about its holdings of government debt.

The fact that in comparison to the Fed and the Bank of England, the ECB holds relatively few government securities in no way means that the ECB takes less risk, and that there are less fiscal implications of the ECB's policies. The reverse could very well be true, i.e. that by having so much private paper on its balance sheet, the ECB has taken more risk, and therefore commits future taxpayers more than the Fed and the Bank of England. Surprisingly, the ECB faces little criticism for having so many private assets on its balance sheet.

	ECB	FED	BoE
Gov. Securities as % Central bank assets	22,9%	56,3%	87,3%
Percent government debt held by central bank	5,5%	11,3%	17,7%

Source: Valiante (2011)

### **What about moral hazard?**

Like with all insurance mechanisms there is a risk of moral hazard. By providing a lender of last resort insurance the ECB gives an incentive to governments to issue too much debt. This is indeed a serious risk. But this risk of moral hazard is no different from the risk of moral hazard in the banking system. It would be a terrible mistake if the central bank were to abandon its role of lender of last resort in the banking sector because there is a risk of moral hazard. In the same way it is wrong for the ECB to abandon its role of lender of last resort in the government bond market because there is a risk of moral hazard.

The way to deal with moral hazard is to impose rules that will constrain governments in issuing debt, very much like moral hazard in the banking sector is tackled by imposing limits on risk taking by banks. In general, it is better to separate liquidity provision from moral hazard concerns. Liquidity provision should be performed by a central bank; the governance of moral hazard by

another institution, the supervisor. This has been the approach taken in the strategy towards the banking sector: the central bank assumes the responsibility of lender of last resort, thereby guaranteeing unlimited liquidity provision in times of crisis, irrespective of what this does to moral hazard; the supervisory authority takes over the responsibility of regulating and supervising the banks.

This should also be the design of the governance within the Eurozone. The ECB assumes the responsibility of lender of last resort in the sovereign bond markets. A different and independent authority takes over the responsibility of regulating and supervising the creation of debt by national governments. To use a metaphor: When a house is burning the fire department is responsible for extinguishing the fire. Another department (police and justice) is responsible for investigating wrongdoing and applying punishment if necessary. Both functions should be kept separate. A fire department that is responsible both for fire extinguishing and punishment is unlikely to be a good fire department. The same is true for the ECB. If the latter tries to solve a moral hazard problem, it will fail in its duty to be a lender of last resort.

### ***The Bagehot doctrine***

Ideally, the lender of last resort function should only be used when banks (or governments) experience liquidity problems. It should not be used when they are insolvent. This is the doctrine as formulated by Bagehot(1873). It is also very strongly felt by economists in Northern Europe (see Plenum der Ökonomen(2011) ). The central bank should not bailout banks or governments that are insolvent.

This is certainly correct. The problem with this doctrine, however, is that it is often difficult to distinguish between liquidity and solvency crises. Most economists today would agree that Greece is insolvent and therefore should not be bailed out by the European Central Bank. But what about Spain, Ireland, Portugal, Italy and Belgium? The best and the brightest economists do not agree on the question of whether these countries' governments are just illiquid or whether they suffer from a deep solvency problem. How would markets now?

As argued earlier, when sovereign debt crises erupt these are very often a mix of liquidity and solvency problems. Liquidity crises raise the interest rate on the debt issued by governments and therefore quickly degenerate into solvency problems. Solvency problems often lead to liquidity crises that intensify the solvency problem. It is therefore easy to say that the central bank should only provide liquidity to governments or banks that are illiquid but solvent. It is most often very difficult to implement this doctrine.

In fact it is even worse. The doctrine leads to a paradox. If it were easy to separate liquidity from solvency problems, the markets would also find it easy to do so. Thus if a government came under pressure, financial markets would be able to determine whether this government suffered from a liquidity or solvency problem. If they determined it was a liquidity problem, they would be willing to provide credit to the government. The central bank would not have to step in. If they determined it is a solvency problem, they would not want to provide credit and rightly so. The Bagehot doctrine would come to the same conclusion: the central bank should not bailout the insolvent government. The conclusion is that if solvency and liquidity crises can be separated, there is no need for a lender of last resort. Financial markets would take care of the problems<sup>4</sup>. Who wants to believe this these days?

There is one way in which the Bagehot doctrine could be used by the ECB. As will be remembered, Bagehot put forward the principle that in times of crisis, the central bank should provide unlimited liquidity at a penalty rate. The latter was seen by Bagehot as a way to take care of the moral hazard problem. The ECB could apply this principle by committing itself to provide unlimited liquidity as soon as the government bond rate of country A exceeds the risk free rate (say the German bond rate) by more than, say, 200 basis points (it could also be another number). This could be a way in which the ECB takes care of moral hazard concerns.

---

<sup>4</sup> This seems to have been the belief of Alan Greenspan. See Greenspan(2007).

### ***Legal objections***

It is often said that the ECB's decision to buy government bonds represents a violation of its statutes, which, it is claimed, forbids such operations. A careful reading of the Treaty, however, makes clear that this is not the case. Article 18 of the "Protocol on the Statute of the European System of Central Banks and the European Central Bank" is very clear when it states that "the ECB and the national central banks may operate in financial markets by buying and selling (..) claims and marketable instruments". Government bonds are marketable instruments, and nowhere it is said that the ECB is forbidden to buy and sell these bonds in financial markets.

What is prohibited is spelled out in article 21: the ECB is not allowed to provide "overdrafts or any other type of credit facilities" to public entities, nor can the ECB purchase directly "debt instruments" from these public entities.

The distinction between these two types of operations is important and is often confused. According to its statute the ECB is allowed to buy government bonds in the secondary markets in the context of its open market operations. In doing so, the ECB does not provide credit to governments. What it does is to provide liquidity to the holders of these government bonds. These holders are typically financial institutions. In no way can this be interpreted as a monetary financing of government budget deficits.

In contrast the prohibition on buying debt instruments directly from national governments is based on the fact that such an operation provides liquidity to these governments and thus implies a monetary financing of the government budget deficit.

### ***EFSF and ESM: poor surrogates***

The ECB has made it clear that it does not want to pursue its role of lender of last resort in the government bond market. This has forced the Eurozone members to create a surrogate institution (the EFSF and the future ESM)<sup>5</sup>. The problem

---

<sup>5</sup> Gros and Mayer(2010) were the first to propose the creation of a European Monetary Fund to substitute for the ECB.

with that institution is that it will never have the necessary credibility to stop the forces of contagion, because it cannot guarantee that the cash will always be available to pay out sovereign bond holders. Even if the resources of that institution were to be doubled or tripled relative to its present level of €440 billion this would not be sufficient. Only a central bank that can create unlimited amounts of cash can provide such a guarantee.

In addition, the EFSF (and the future ESM) have been designed to solve the twin problems of liquidity and solvency. First, the task of the EFSF is to provide liquidity to governments experiencing a liquidity shortage. This liquidity provision role has been strengthened by the decision of the European Council on July 21, 2011, to allow the EFSF to buy government bonds in the secondary market. Second, the EFSF also has the responsibility for solving the moral hazard problem created by liquidity provision. This has led the EFSF to impose tough conditions on the governments that seek financial assistance.

These two responsibilities of the EFSF are conflicting with each other. When the EFSF is guided by moral hazard concerns it tends to restrict and to add conditions to its liquidity provisions, thereby preventing the resolution of liquidity crises and allowing these to degenerate into solvency crises. I have argued that this is the wrong approach and that the two functions of liquidity provision and moral hazard regulation should be separated.

Finally, the EFSF and the future ESM have a governance structure that makes it ill-suited for crisis management. Each country maintains a veto power. As a result, the decisions of the EFSF and the future ESM will continuously be called into question by local political concerns (“true Fins” in Finland, Geert Wilders in the Netherlands).

The EFSF and the future ESM can simply not substitute for the ECB. It is therefore particularly damaging that the ECB has announced it wants to transfer its lender of last resort function to that institution. This is the surest way to future crises.

## ***Conclusion***

The ECB has been unduly influenced by the theory that inflation should be the only concern of a central bank. Financial stability should also be on the radar screen of a central bank. In fact, most central banks have been created to solve an endemic problem of instability of financial systems. With their unlimited firing power, central banks are the only institutions capable of stabilizing the financial system. It is time that the ECB recognizes this old truth instead of fleeing from its responsibility.

In order for the ECB to be successful in stabilizing the sovereign bond markets of the Eurozone, it will have to make it clear that it is fully committed to exert its function of lender of last resort. By creating confidence, such a commitment will ensure that the ECB does not have to intervene in the government bond markets most of the time, very much like the commitment to be a lender of last resort in the banking system ensures that the central bank only rarely has to provide lender of last resort support.

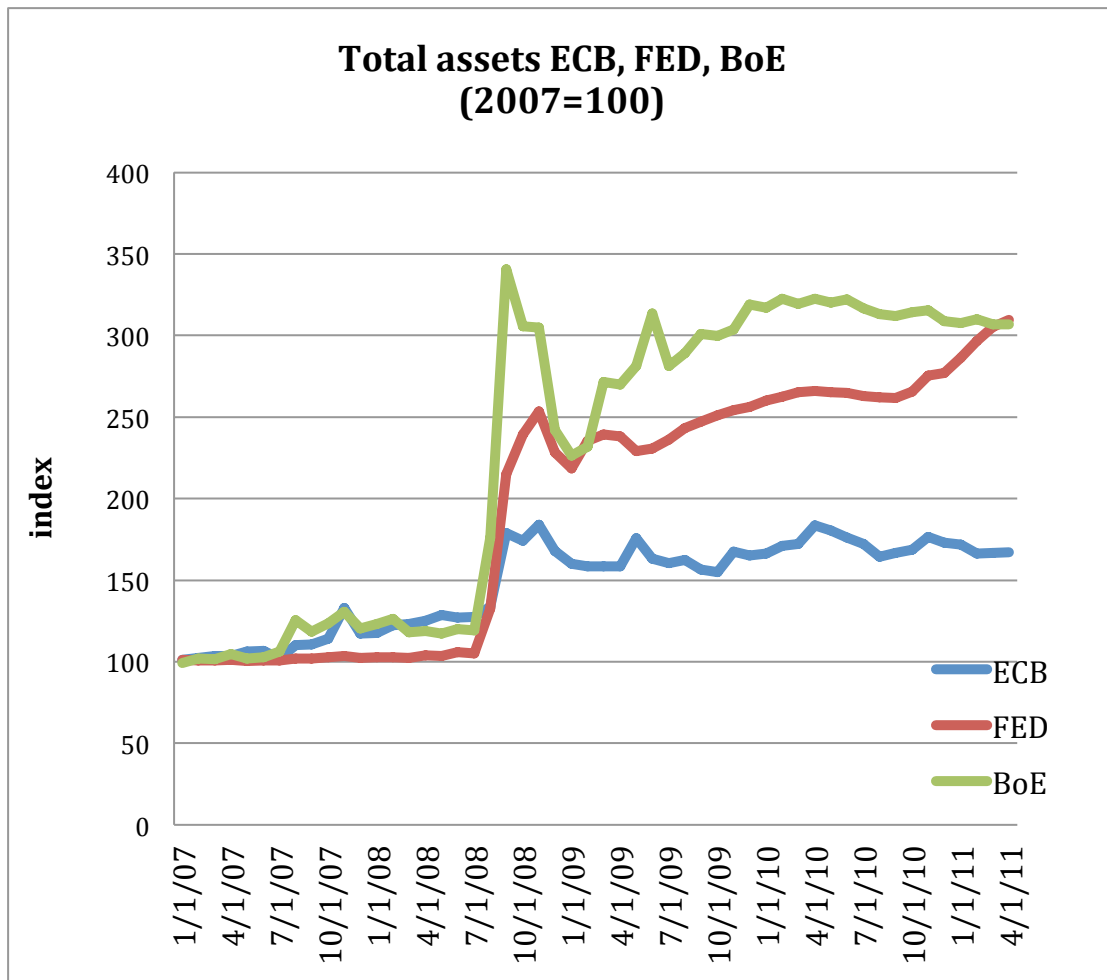
While the ECB's lender of last resort support in the sovereign bond markets is a necessary feature of the governance of the Eurozone it is not sufficient. In order to prevent future crises in the Eurozone significant steps towards further political unification will be necessary. Some steps in that direction were taken recently when the European Council decided to strengthen the control on national budgetary processes and on national macroeconomic policies. These decisions, however, are insufficient and more fundamental changes in the governance of the Eurozone are called for. These 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.

## References

- Bagehot, W., (1873), *Lombard Street*, 14<sup>th</sup> ed., London: Henry S. King and Co.  
<http://www.econlib.org/library/Bagehot/bagLom1.html>
- Belke, A., Polleit, T., (2010), How much fiscal backing must the ECB have? The euro area is not (yet) the Philippines, *International Economics*, no. 124-4.
- Buiter, W., (2008), Can Central Banks Go Broke, CEPR Policy Insight, No. 24, Centre for Economic Policy Research, London, May.
- Calvo, Guillermo (1988): Servicing the Public Debt: The Role of Expectations, *American Economic Review*, Vol. 78, No. 4, pp. 647-661
- De Grauwe, P., (2011), The Governance of a Fragile Eurozone, Economic Policy, CEPS Working Documents, May, <http://www.ceps.eu/book/governance-fragile-eurozone>
- Eichengreen, B., Hausmann, R., Panizza, U., (2005), "The Pain of Original Sin", in Eichengreen, B., and Hausmann, R., *Other people's money: Debt denomination and financial instability in emerging market economies*, Chicago University Press.
- Friedman, M., and Schwartz, A., (1961), *A Monetary History of the United States*, Princeton University Press.
- Goodhart, Charles, and Illing, Gerhard, (eds) 2002 *Financial Crises, Contagion, and the Lender of Last Resort, a Reader*, Oxford University Press.
- Goodfriend, M., (2011), Central Banking in the Credit Turmoil: An Assessment of Federal Reserve Practice *Journal of Monetary Economics*, January.
- Greenspan, A. (2007), *The Age of Turbulence. Adventures in a New World*, Penguin Books, London England, 531 pages.
- Gros, D., and Mayer, T., (2010), Towards a European Monetary Fund, CEPS Policy Brief, <http://www.ceps.eu/book/towards-european-monetary-fund>
- Gros, D., (2011), A Simple Model of Multiple Equilibria and Default, DEPS Working Document.
- Kopf, Christian, (2011), **Restoring financial stability in the euro area**, 15 March 2011 , in CEPS Policy Briefs.
- Obstfeld, M. (1994), The Logic of Currency Crises,  
[http://elsa.berkeley.edu/~obstfeld/ftp/currency\\_crises/cc.pdf](http://elsa.berkeley.edu/~obstfeld/ftp/currency_crises/cc.pdf)
- Plenum der Ökonomen, (2011), Stellungnahme zur EU-Schuldenkrise,  
<http://www.wiso.uni-hamburg.de/lucke/?p=581>
- Valiante, P., (2011), The original sin of the Eurozone debt crisis, CEPS Working Paper.
- Winkler, A., (2011), The Joint Production of Confidence: Lessons from Nineteenth Century US Commercial Banks for Twenty First Century Eurozone Governments, mimeo, Frankfurt School of Finance and Management.



## Appendix



Source: Datastream