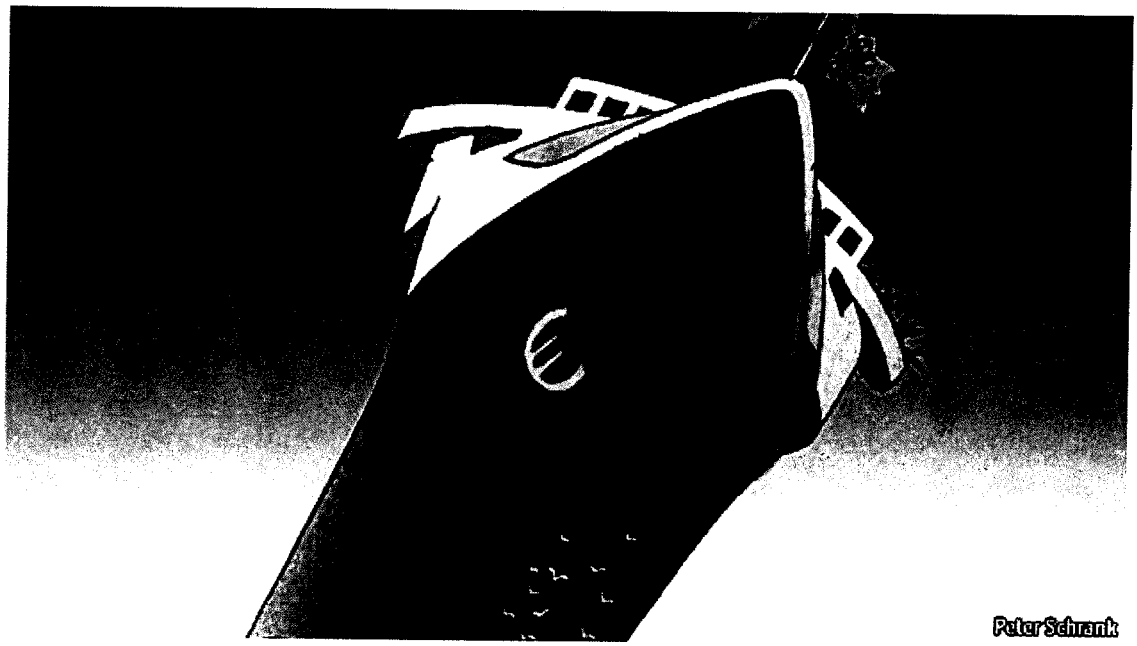
THE EUROPEAN DEBT CRISIS, THE INTRA-EURO BANKING SYSTEM AND THE ROLE OF THE EUROPEAN CENTRAL BANK

University of Ottawa

Department of Economics

Graduate Studies

MA. Economics, Major Research Paper



Supervisor: Dr. Marc Lavoie

By: Jalal Qanas

Student ID: 6304885

OUTLINE

Abstract

Government debts have been incorrectly blamed by mainstream economists for the Euro-zone crisis. However, through an unconventional analysis we have exposed that the real causes are: current and capital accounts imbalances among the Euro-zone, the sudden stop of private lending through the Euro-interbanking-system, and the absence of the ECB as a lender of last resort for governments associated with a failed political integration. In order to save the Euro-zone from collapsing, the ECB should adopt an unconventional framework, and the European government must achieve an effective political integration.

1.INTRODUCTION

"The inadequate institutional arrangements are now fairly obvious and widely noted. The Euro-zone has a central bank, without a Government, Governments without central banks, and banks without an effective lender of last of resort. With a regime of low inflation, now turning into deflation, the system has no mechanism for eliminating excessive debt in the economy." Toporowski Jan

Since 2010, the euro-zone debt crisis put the European Union and the Euro existence under question. Skeptics find the Euro-crisis a proof that both, the European Union (EU) and the Euro suffer from inadequate policy, framework concepts, and institutions.

Currently, the debate is over the EU policy framework and the Stability and Growth Pact, which arose from the mainstream economics paradigm. The latter is responsible for the narrow focus on public debts and deficits, which has characterised the various reactions of the European Central Bank (ECB) and the European Commission, despite the numerous studies that are critical of such a view. Furthermore, these studies have identified the New Consensus paradigm as being the very root of the crisis.

Several factors could have contributed to this crisis; however, imbalances in accounts among EU members, a poor role of the ECB, and a failed political integration along the EU are most likely to be the culprits.

Account imbalances (private, public and current accounts) among the Euro-zone countries exist since the creation of the Euro. For instance, imbalances were evident in Greece, Ireland, Portugal and Spain (GIPS) between 2000 and 2007, before and after the crisis. Moreover, GIPS were first to experience the public debt difficulties that caused massive increases in the interest rates on the public debt of their economies (Stockhammer 2011).

In addition, during that period, the role of the ECB was under discussion and criticism, because most non-mainstream (unconventional) economists considered this crisis as a central banking crisis. Therefore, the ECB failed to play a key role in implementing an active monetary policy and acting as a lender of last resort, as the original central banking framework would stipulate. Such failure has its origins in the addiction to the new consensus 'sound money' framework, which pretends to provide the ECB with independence and credibility by concentrating on price stability and inflation rate targeting. Indeed, since Lehman Brothers' collapse in September 2008, the ECB was pushed to end its theoretical 'sound money' framework institutional design, which was based on the presumption of a separation of the domains of macroeconomic governance which cannot be sustained in increasingly complex financial markets (Hein et al. 2011).

Finally, the idea behind the existence of the Euro was to start a European economic integration that would end in a political integration, which in fact did not happen (Pavoncello 2011).

Mainstream economists in Europe (led by German economists and policy makers) have taken various short term actions to deal with the crisis, to prevent-state defaults, through different tools such as the European Financial Stabilization Mechanism (EFSM), the European Financial Stability Facility (EFSF) and the European Stability Mechanism (ESM). Regardless of their efforts, these mechanisms cannot succeed because they do not tackle root causes. What is more, they have chosen Greenspan's "put"; it is easier to clean after an asset bubble than to try to prevent it, which could never give a timely solution.

Based on all the three previously stated root causes, this paper will: 1) show the intrinsic correlation between imbalances among Euro-zone countries and the existence of the Euro; 2) point to the lack of intervention in regulating the banking sector by the ECB and the European governments as the main cause of the crisis; and 3) propose a true political integration as the only durable solution to exit the crisis. In addition, this paper will discuss the various modern targets that play an essential role in the intra-Euro area policy coordination.

2.ORIGINS OF THE EURO-ZONE DEBT CRISIS

Under the surface of the Euro-zone public debt and banking crisis we will find a balance -of-payments crisis, the product of current and capital account imbalances, evidenced with the creation of the "Euro" (Mayer 2011). At this stage, countries like Germany started to take advantage of the current and capital account surpluses, while GIPS went through combined deficits of capital and current accounts. Notably, not all countries of the Euro-zone could enjoy at the same time current account surpluses. Moreover, the Euro-zone as a whole shows a balanced current account, which strongly supports the inverse correlation between GIPS' deficit and Germany's surplus.

Another aspect on the crisis has been the Euro-zone private banking lending system, where even before the crisis started, private banks from wealthy nations were lending to less wealthy countries. During this period there was no liquidity problem. However, when Lehman Brothers collapsed, German and French private banks took a more cautious approach, which resulted in the retrieval of funds from GIPS private banks and less of lending to the same countries (Lapavitsas et al. 2010). Consequently, Greek banks went into difficulties because they did not have any channel for liquidity. Moreover, the Greek government financed the debt of the private banks procuring them with liquidity and therefore, they were obliged to run a huge debt that led to the financial and the economic crisis in the Euro-zone.

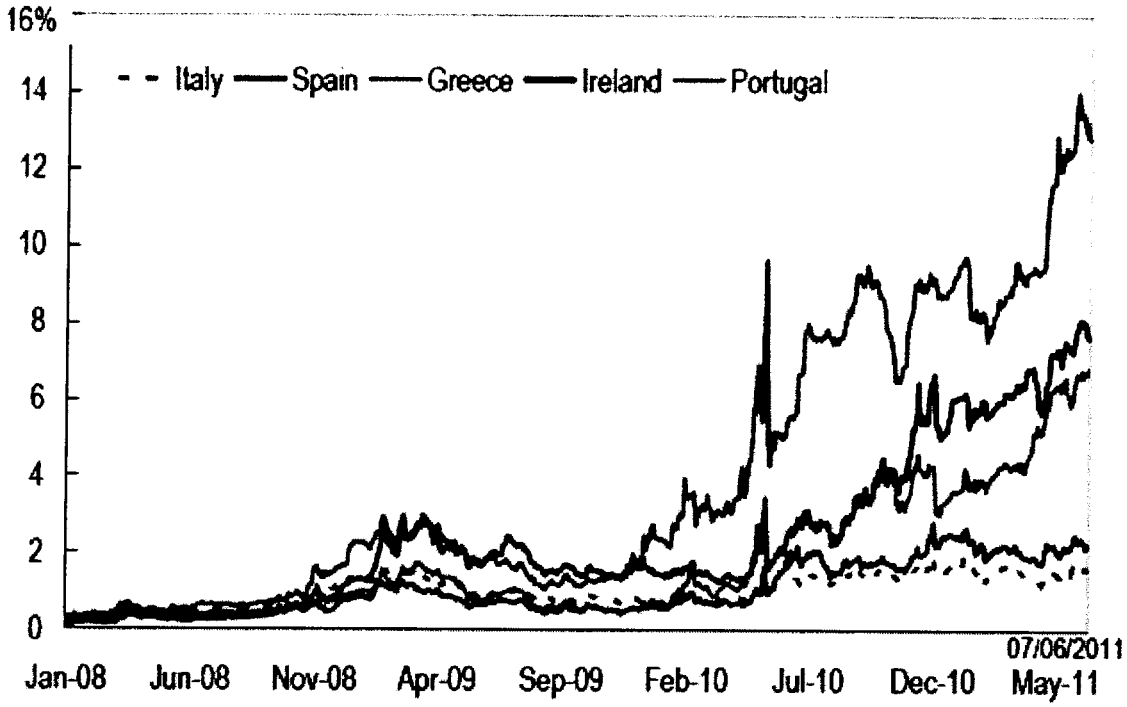
The Euro-zone crisis finds also its roots in the dysfunctional nature of the monetary union which removed the freedom to establish monetary and fiscal policy for each country of the euro-zone, thus forcing the economic adjustment to occur on the labour markets across the zone (Gills 2010). Then, it is evident that the public debt crisis, that is, the Euro-zone crisis, has been aggravated by the structural weakness of the monetary union (Hein et al. 2011).

In addition, the interconnection of the private, public and foreign debt led to the financial and the economic crisis in the euro-zone. This is evidenced by the accounting identity (Godley and Lavoie 2007), which holds for any economy that ***Public sector financial balance + Private sector financial balance + Foreign sector financial balance = 0***. The above mentioned accounting identity means that a certain sector in the economy does not have the capacity to run a surplus, without the other two sectors of the economy incurring a joint deficit of the same magnitude. Consequently, if one nation runs a current account surplus, then at least in one other nation the private or the government sector has to incur a financing deficit. This means that the private sector has adequate saving and does not change it into investment in order to enable the economy to recover. It is then evident that the task and strategies of the European central bank have focused on price stability and the inflation rate, without considering the macroeconomic impact. Another proof of poor policies and frameworks of the ECB is that they did not help the Greek government to recover from the crisis by purchasing their bonds and securities, as a central bank is meant to (Arestis and Sawyer 2011).

2.1-EURO-ZONE ACCOUNT IMBALANCES

The global financial crisis began in the year 2007 and it has spread across the region in various nations such as Greece, Ireland, Portugal and Spain. The figure below (Figure 1) shows how the cost of sovereign bonds rose dramatically for Greece, Ireland, Portugal, and more recently, Italy and Spain. This is associated with heavy speculative attack against GIPS sovereign bonds.

Figure 1: Selected Countries – 10-year Sovereign Bond Spreads vs German Bonds, Jan 2008 –Jun 2011 (Buiter et al. 2011)



Source: Bloomberg, Citi Investment Research and Analysis

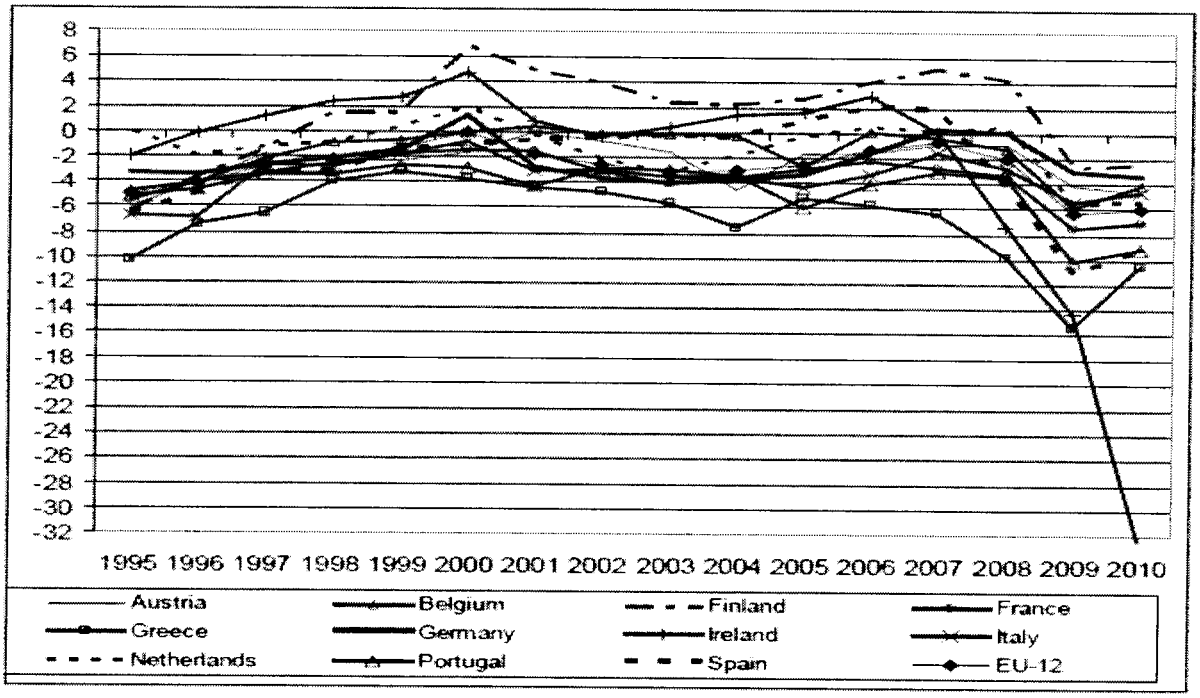
In 2007 apparently successful measures were taken in order to terminate the crisis; however, it re-gained strength in Greece by the year 2010. Consequently, dramatic measures were taken in order to avoid a default by the Greek government. The aim of those measures, proposed by economic advisors, German policy makers and the European Commission, was to rescue the Euro in the Euro-zone as a common currency (Buiter et al. 2011)

In the year 2011, the Portuguese government suffered from severe economic pressures and people across the world expected Spain to be the next victim of the Euro debt crisis. Looking to the growing economic catastrophe, economic policy makers and mainstream economists merely considered the root cause of the crisis as the failure of GIPS to follow the Stability and Growth Pact, and their inability to control government's debt and deficits. This could be true for the budget deficit of Greece (see Figures 2 and 3 below), which was very large over the whole financial period, starting In 1990. However, this is not

applicable to the Portuguese budget deficit, which was not larger than the budget deficit in Germany, during the same period. In addition, both Spain and Ireland did not experience budget deficits because they implemented the Stability and Growth Pact (SGP) correctly. For example, Ireland had a budget surplus of 4 percent of its GDP in 2006, while Spain experienced a surplus of 2 percent in 2007. Furthermore, looking at the gross government debt in relation to the GDP as an indicator of the sustainability of public finances, it is noticeable that the chosen root cause of the crisis is extremely weak.

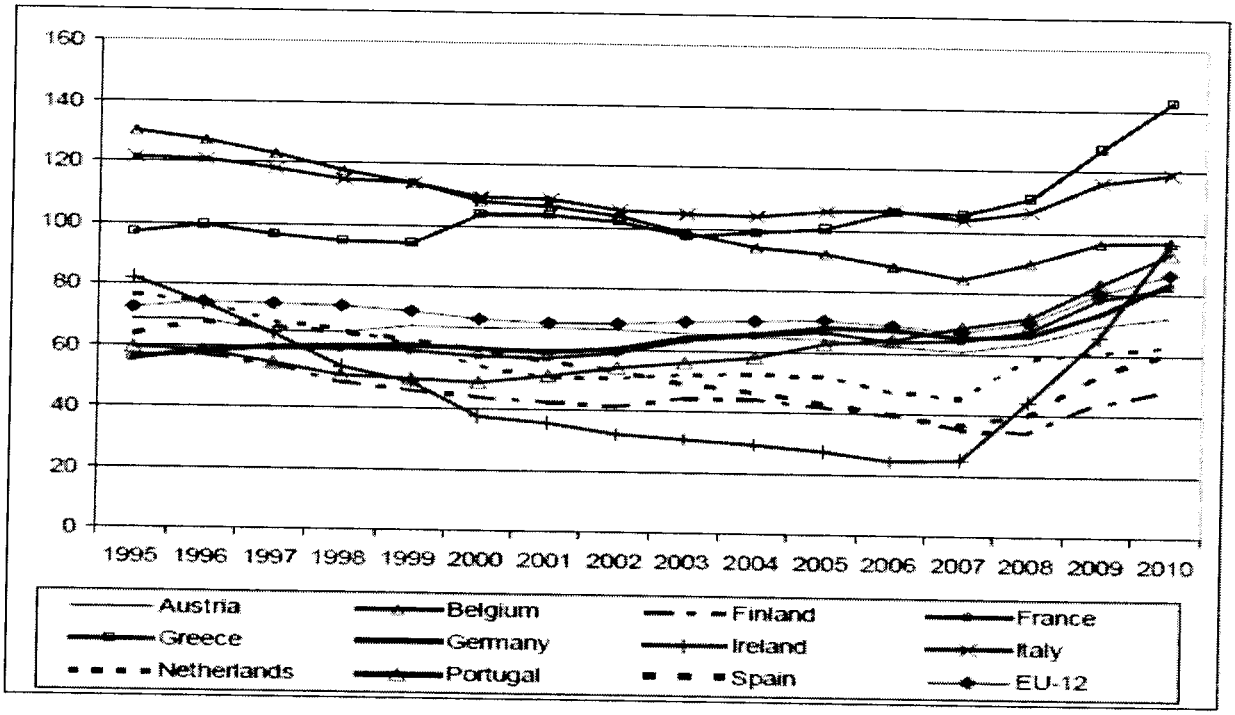
Analyzing Figures 2 and 3 (see below), it is evident that Portugal experienced smaller public debt than Germany. In 2007 the gross government debt in relation to the GDP was 25 percent in Ireland and 36 percent in the Spain. This was far below the 60 percent maximum fixed by SGP. Therefore, economic policy makers and advisors could not suspect the risk of government default in Ireland, Spain and Portugal (Hein et al. 2011).

Figure 2: General government financial balance relative to GDP, selected countries, 1995 to 2010, in per cent (Hein et al. 2011)



Source: AMECO Database of European Commission, authors' calculations.

Figure 3: General government gross consolidated debt relative to GDP, selected countries, 1995-2009, in per cent (Hein et al. 2011)



Source: AMECO Database of European Commission, authors' calculations.

It is evident that countries such as Greece, Portugal and Spain ran into a lot of trouble as a result of their imbalances. On the other hand, Ireland and Spain went into a deep debt before the crisis unfolded, because their governments made various steps to finance the private sector. The latter was playing the main role in their economies, due to a large capital inflow as investments, coming from Germany (Abad et al. 2011). The interconnection between the private and the public foreign debt can be explained by the following accounting identity (Godley and Lavoie 2007), where:

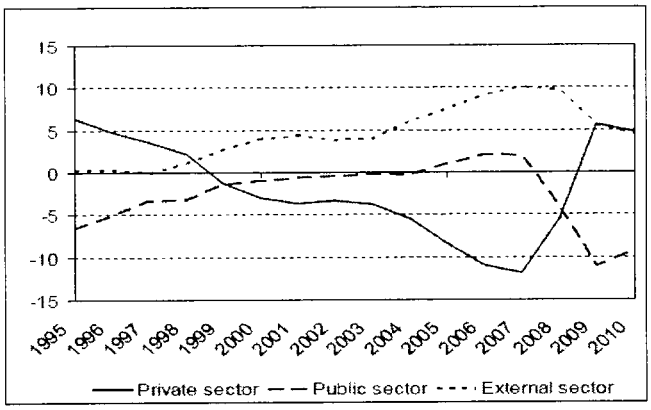
Public sector financial balance + Private sector financial balance + Foreign sector financial balance = 0.

In other words, there is no sector in a nation's economy that could run into a surplus without the remaining sectors of the economy incurring a joint deficit of equal magnitude. For instance, if one nation incurs a public account surplus, the foreign or the private sector must incur a financing deficit. Therefore, the current Euro financial and economic crisis is interpreted as the effect of the private dissaving and the

current account imbalances on public deficits. In the four countries previously mentioned, the private sector spent more than its income. Using the previously stated accounting identity, and looking at figures 4, 5, 6 and 7 (below) we can notice that in both Spain and Ireland, the private sector was running a big deficit (more than 5 per cent of GDP in Ireland for some years and more than 10 per cent of GDP in Spain) while the government balances were in surplus. However, when the crisis occurred, the private sector suffered from liquidity difficulties because private banks such as German banks stopped lending and capital outflows from GIPS occurred as well. As a result, governments stepped forward to finance the private sector, which led to a surplus in the private sector balance, while the governments were obliged to go into debt and deficit, in order to stabilize the economy. Once again, the government deficit was just a consequence of private and external sector balances (Hein et al. 2011).

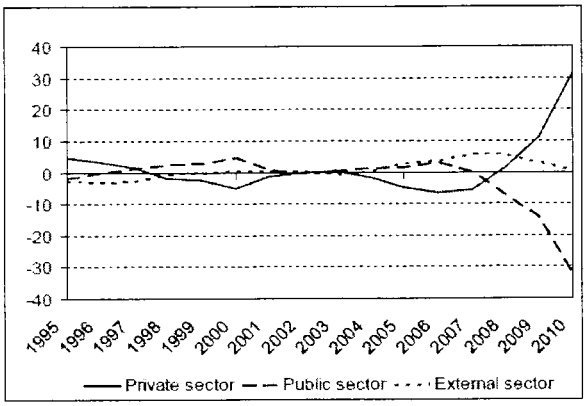
Using the same approach, we could see that in the case of Portugal and Greece, since the start of the Euro the private and government sectors were running deficits, which were financed by capital inflows. This led to current accounts deficits of about 10% of GDP for Portugal and 12% of GDP for Greece, before the crisis. However, after the crisis, both governments intervened in order to prevent the economy from collapsing by raising their public deficits. In this way governments absorbed private deficits, while private sectors went from deficit into surplus (Buiter et al 2011). Therefore, it seems that the current Euro-crisis could be better interpreted as the consequence of preceding private debt and current account imbalances (Lapavitsas et al. 2010), rather than as the result of excessive public deficits. Moreover, in GIPS countries, the private sector spent more than its income.

Figure 4: Sectoral financial balances as a share of nominal GDP, Spain, 1995-2010(Hein at al 2011)



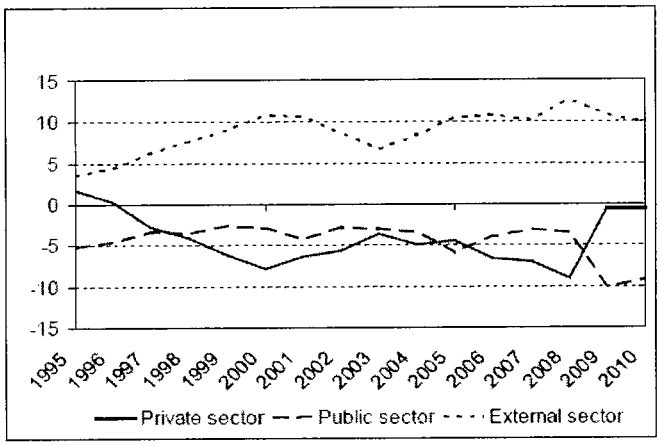
Source: AMECO Database of European Commission, authors' calculations.

Figure 5: Sectoral financial balances as a share of nominal GDP,Ireland, 1995-2010(Hein at al 2011)



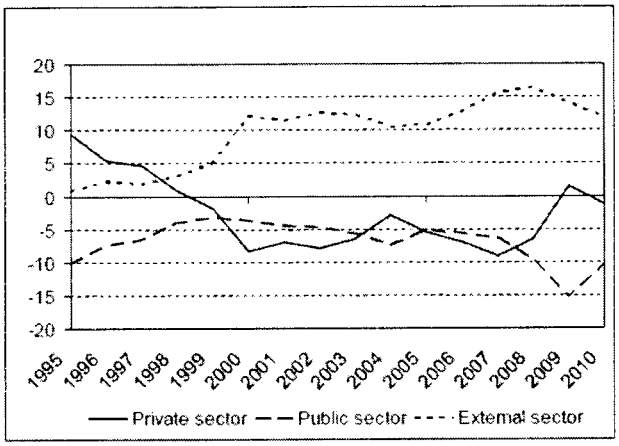
Source: AMECO Database of European Commission, authors' calculations.

Figure 6: Sectoral financial balances as a share of nominal GDP, Portugal, 1995-2010(Hein at al 2011)



Source: AMECO Database of European Commission, authors' calculations.

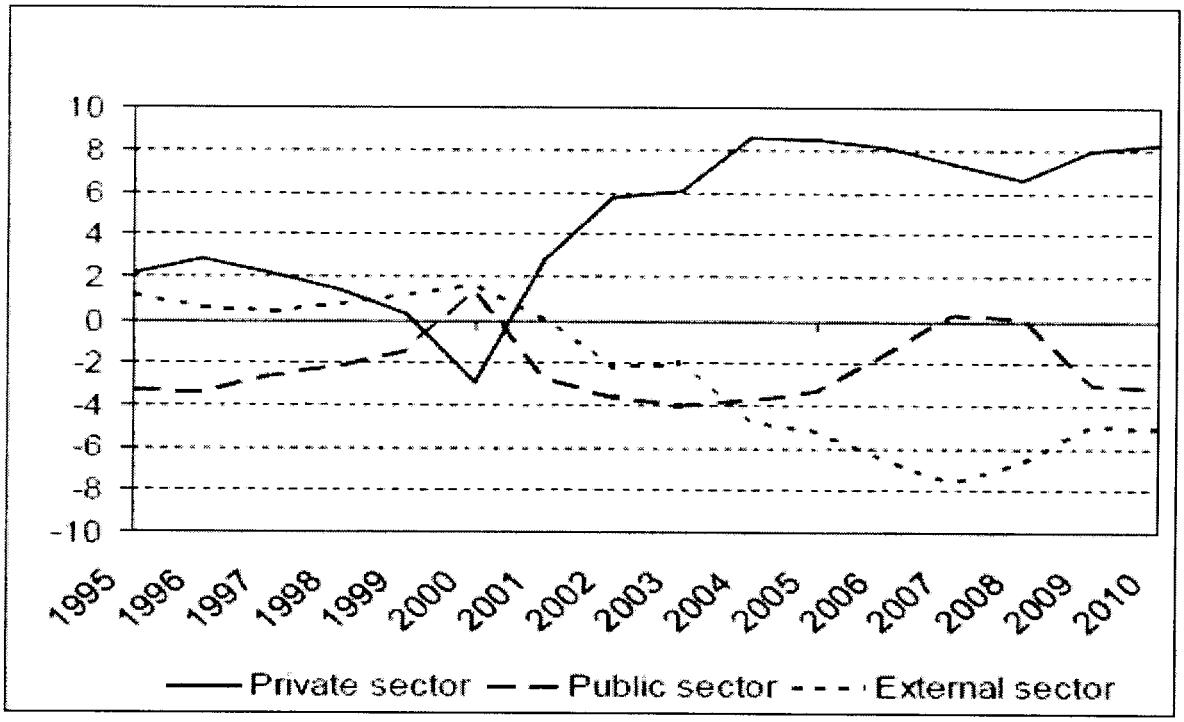
Figure 7:Sectoral financial balances as a share of nominal GDP,Greece, 1995-2010(Hein at al 2011)



Source: AMECO Database of European Commission, authors' calculations.

After discussing the private sector issue and the current account deficits for GIPS countries, now we should apply the same approach to the counterparts of these current account deficits, which are Germany, the Netherlands, Austria, and Belgium. Nonetheless, we will focus on Germany which is the largest and the most important economy in the Euro-zone. From figure 8 (below), we can see that since the introduction of the Euro (year 2000) the private sector in Germany was enjoying an increasing surplus, meaning that it spent less than it earned. However, the government was not willing to run a correspondingly high deficit, this then implied a financial deficit of the foreign sector, resulting in a current account surplus.

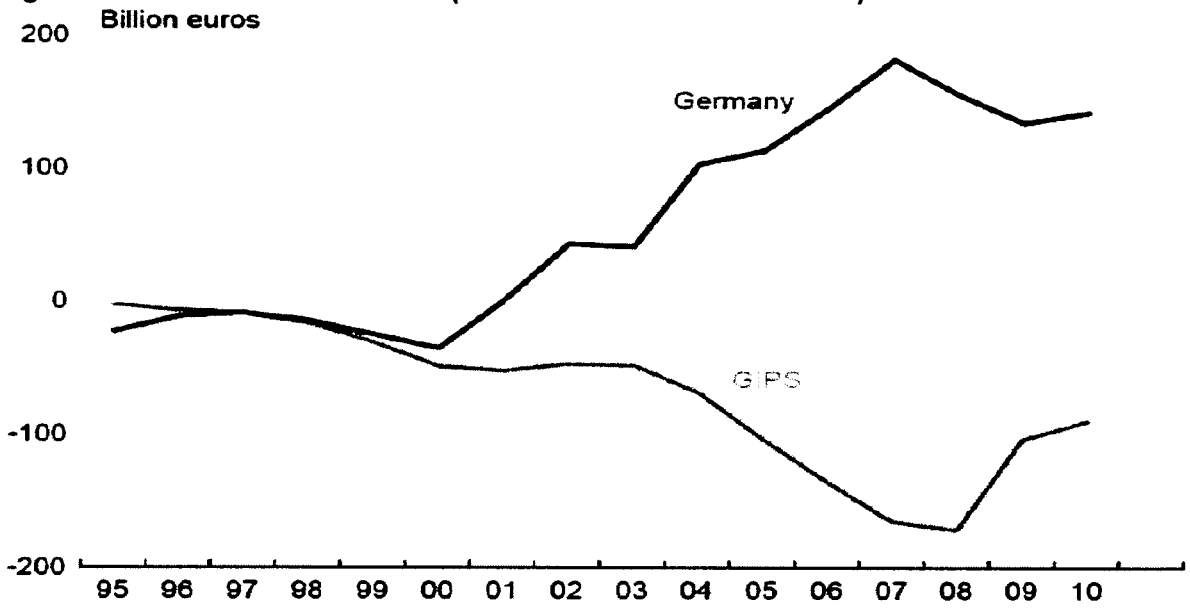
Figure 8:Sectoral financial balances as a share of nominal GDP, Germany, 1995-2010 (Hein et al. 2011).



Source: AMECO Database of European Commission, authors' calculations.

Moreover, Figure 9 (below) helps us to expose these current account imbalances (deficits and surpluses) in the Euro-zone, where since the start of the Euro, imbalances have increased continuously while peaking in 2007. This figure shows that GIPS current accounts deficits were mirrored by German current account surpluses. This supports the idea that Germany has been profiting from the GIPS since the Euro was created.

Figure 9: Current account balances (Sinn and Wollmershäuser 2011)



Source: Eurostat, *Wirtschaft und Finanzen, Zahlungsbilanz, Zahlungsbilanzstatistiken nach Land*; Ifo Institute calculations.

Until now, our analysis has explained why GIPS suffer from public debt and current account deficits, and private sector surpluses. We have also shown how Germany's current account surplus mirrors the GIPS' current account deficit, and that Germany enjoys as well a capital account surplus within the Euro-zone. However we have not explained yet the intrinsic correlation between both facts. To do so we will look to key macroeconomic variables for both Germany and GIPS.

Comparing the GDP growth contribution of the real domestic demand on the average from 1999 to 2007between Germany and GIPS within the EU-12, as shown in Table 1 above, we can notice that German GDP growth contribution to domestic demand is weaker than the EU-12 average. In contrast, in the troubled deficit countries such as GIPS, the GDP growth contribution of domestic demand exceeded the EU-12 average. This means that Germany is enjoying a current account surplus without any increase in its consumption, while it is the inverse for GIPS.

Table 1: Key Macroeconomic Indicators for the Imbalances in Selected Euro area Countries in 1999-2007, Average Values (Hein at al. 2011)

	Contribution of boom deficit economies			Slow growth deficit economies			Surplus economies
Percentage points of:	**GR**	**IRE**	**Spain**	**Italy**	**POR**	**EU 12**	**GER**
Annual real GDP growth*	4.2	6.5	3.8	1.5	1.8	2.2	1.6
Annual growth contribution of domestic demand including stocks	4.7	5.7	4.8	0.8	1.9	2.1	0.7
-of which private consumption	2.7	2.9	2.3	0.7	1.5	1.1	0.5
-of which public consumption	0.8	0.9	0.9	0.4	0.4	0.4	0.2
-of which gross fixed capital formation	1.3	1.4	1.6	0.2	0.0	0.6	0.2
Annual growth contribution of the balance of goods and services	-0.6	1.4	-1.0	-0.2	-0.1	0.1	0.9
Net export of goods and services as a share of nominal GDP	-11.3	13.5	-3.8	0.6	-9.0	1.6	3.9
Annual growth rate of nominal unit labour costs	3.1	3.1	3.0	2.	2.7	1.6	0.0
Annual inflation (HCPI growth rate)	3.2	3.7	3.2	2.3	3.0	2.1	1.5

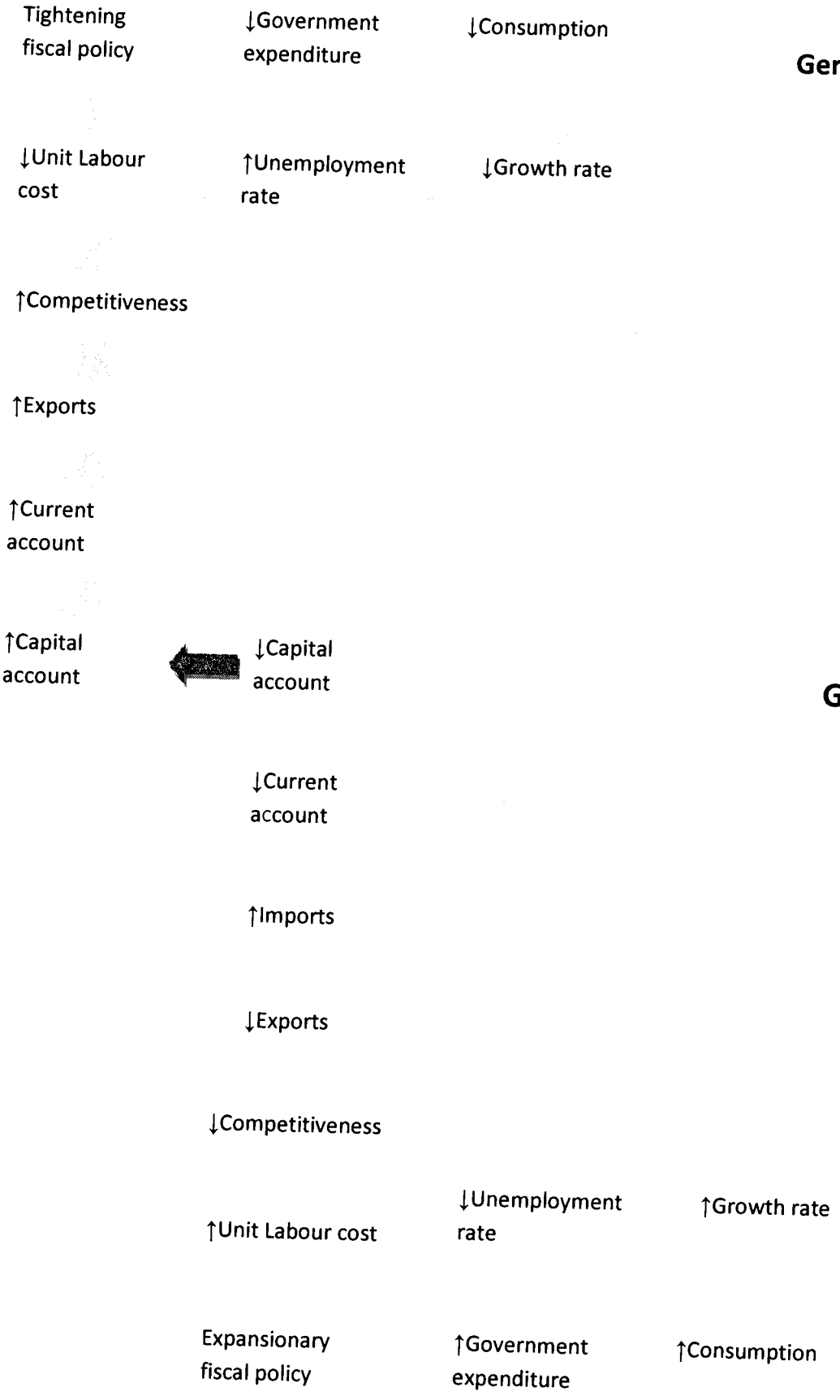
As we know the development of the services and goods in an economy depends on two factors, namely international price competitiveness and the growth of the domestic demand (Kotz 2009). Now, taking a look to the international competitiveness, it is noticeable that it increased during that period in Germany, while, it decreased in GIPS. In order to understand this observation we should analyze the evolution of the nominal unit labour cost for both, Germany and GIPS.

From the above table we can see that Germany has the lowest unit labour cost growth. By contrast, the unit labour cost growth of GIPS countries is larger than the EU-12 average. Notably, the annual unit labour cost growth was high, with 2.5 percent in Italy, 3 percent in Spain and 2.7 percent in Portugal (Hein et al. 2011). The relative inflation rates illustrate the variations in the unit labour cost growth. For instance, the current account surplus countries experienced inflation rates below the average of EU-12 countries while the current account deficit countries have inflation that exceeds the EU-12 average.

From the above table it is evident that the main factors that determine the development of the balance of the goods and services and the current account are the international competitiveness and the variation in domestic demand growth.

The following diagram (Diagram 1) schematizes how Germany has been imposing a tightening fiscal policy since the introduction of the Euro, by decreasing expenditure, consumption and unit labour cost, thus raising competiveness and raising exports. As we know, Germany is among the largest net exporters in the world, with two thirds of its exports intended to the euro zone. This eventually generated both a current and capital account surplus for Germany (see an explanation based on the Target 2 mechanism in the next section). This seems to contradict the well-known identity according to which the balance of payments (the sum of the current and capital accounts) is always zero in a pure floating exchange rate regime, as the exchange rate adjusts so as to equilibrate the current account balance with the capital account balance. However, if we are in a fixed exchange rate regime, with several countries sharing the same currency, that is not true anymore. One country of the monetary union can run both a capital and a current account surplus, while the other country can run both capital and current account deficit. It is quite possible for Germany to run a current account surplus, because of the low growth in its unit labour costs, despite low productivity growth, while simultaneously attracting foreign capital, as foreign investors start to fear the negative consequences of large current account deficits in other Euro-zone countries, thus creating large capital inflows into Germany and hence a German capital account surplus.

Diagram 1: Effect of German (left) and GIPS (right) fiscal policies in their own economies, and the interaction between them.



However, the balance of payment deficits of the GIPS countries cannot be resolved unless the GIPS countries devaluate their internal exchange rate by letting their prices go down so that they will be able to export more, and at the same time Germany should have to raise its prices, therefore, it exports less.

Once again, this analysis shows that Germany is always the biggest winner of the Euro-zone, enjoying the benefits and blaming the rest for their own losses. Hence, it cannot be denied that Germany has a lot to do in this crisis, as a main part of the problem and as provider of inadequate solutions.

2.2-INTER-BANKING SYSTEM AND CAPITAL ACCOUNT IMBALANCES: TARGET2

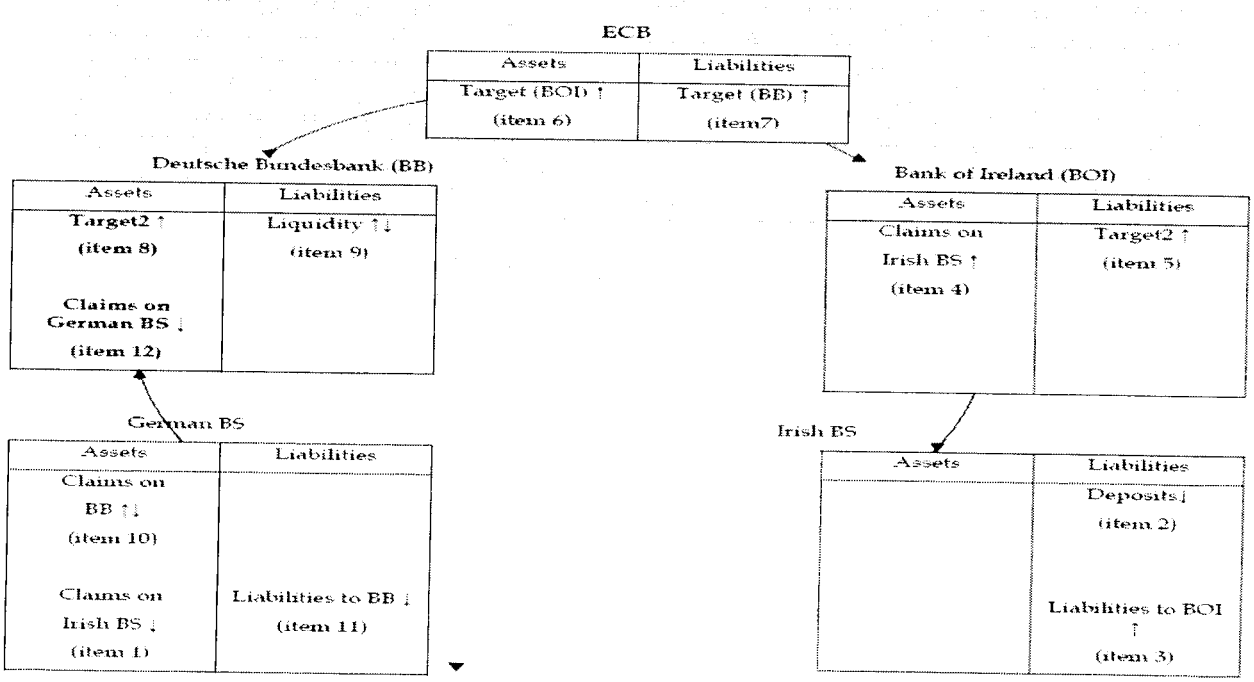
As we previously mentioned, the Euro-zone crisis was as a result of the private banks lending system. Prior to the crisis, German banks were lending extensively to GIPS, however, once the crisis occurred they stopped lending and they went even further, taking their funds back. Consequently, GIPS banks went into difficulties, because they did not have any channel for liquidity.

As there is no available data to really show the amount of capital outflows from GIPS to the core euro-zone countries, we will discuss TARGET2, which is the payment and settlement system in the Euro area for Euro transactions among national central banks (and some private participants) with central bank money (Abad et al. 2011). By looking at TARGET2 we can notice that since the financial crisis started, national banking systems of GIPS countries have been in huge liquidity troubles because of the freeze in inter-banking lending markets (Lapavitsas et al. 2010). For this reason the Eurosystem had to step in providing liquidity to GIPS' banks. TARGET2 imbalances began reflecting GIPS' net capital outflows as refinanced by the Eurosystem. Furthermore, TARGET2 balances will keep diverging for as long as foreign and even domestic bank deposits from GIPS countries are transferred to other banking systems of the core countries.

In order to show how Target 2 is supporting the capital flights, Figure 10 will illustrate the dynamics of TARGET2 mechanism and the flight of German capital out of Ireland (flowing back into Germany).

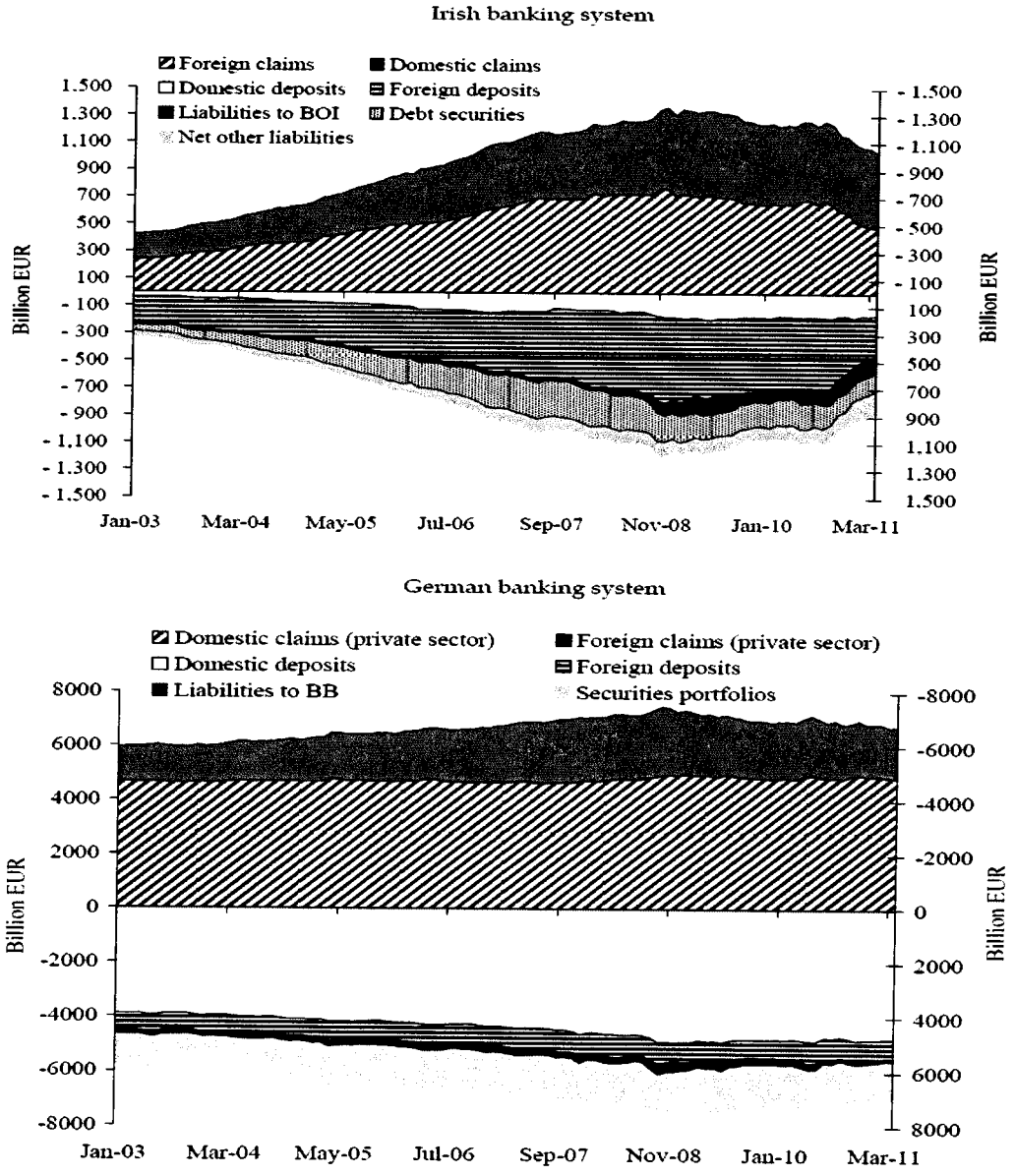
Firstly, German banks reduced their exposure to Ireland, therefore, foreign claims (item 1) of the German banking sector are declining, mirroring a reduction of foreign liabilities in the Irish banking sector's balance sheet (item 2). While also reducing their domestic and foreign claims, Irish banks fill the gap left by the reduction in (foreign) financing sources by over-relying on central bank credit (item 3). As a result, liquidity-providing operations increase (item 4) on the asset side of the Bank of Ireland's (BOI) balance sheet, and a similar increase in TARGET2 liabilities (item 5) follows. As the ECB intermediates the transfer of bank deposits – via TARGET2 – to the Deutsche Bundesbank (BB), the ECB's TARGET2 liabilities to BB increase (item 7).In its turn, BB books TARGET2 outflows among its assets (item 8) and credits the proceeds on the account of the recipient German bank (item 9). The German banking system, whose claims on the central bank have increased (item 10) now holds liquidity in excess of their reserve requirements. In order to minimise low-remunerated 'excess' liquidity (item 10), German banks reduce their reliance on refinancing operations at the BB (item11), which is equivalent to declining claims of BB on German banks (item 12) and a reduction of liquidity (item 9).

Figure 10. Financing of intra-euro area capital flight via the TARGET2 (Abad et al 2011)



Furthermore by looking at the balance sheets of the Irish and the German banking system which is represented in figure 11 (below), we can see that before the crisis the German banking system was accumulating more and more foreign claims against Irish banks, which is a proof that the German banks were responsible for building up the Irish boom. However, starting with the financial crisis, capital flew from Ireland back into Germany.

Figure 11. Banking system balance sheets (Abad et al 2011)

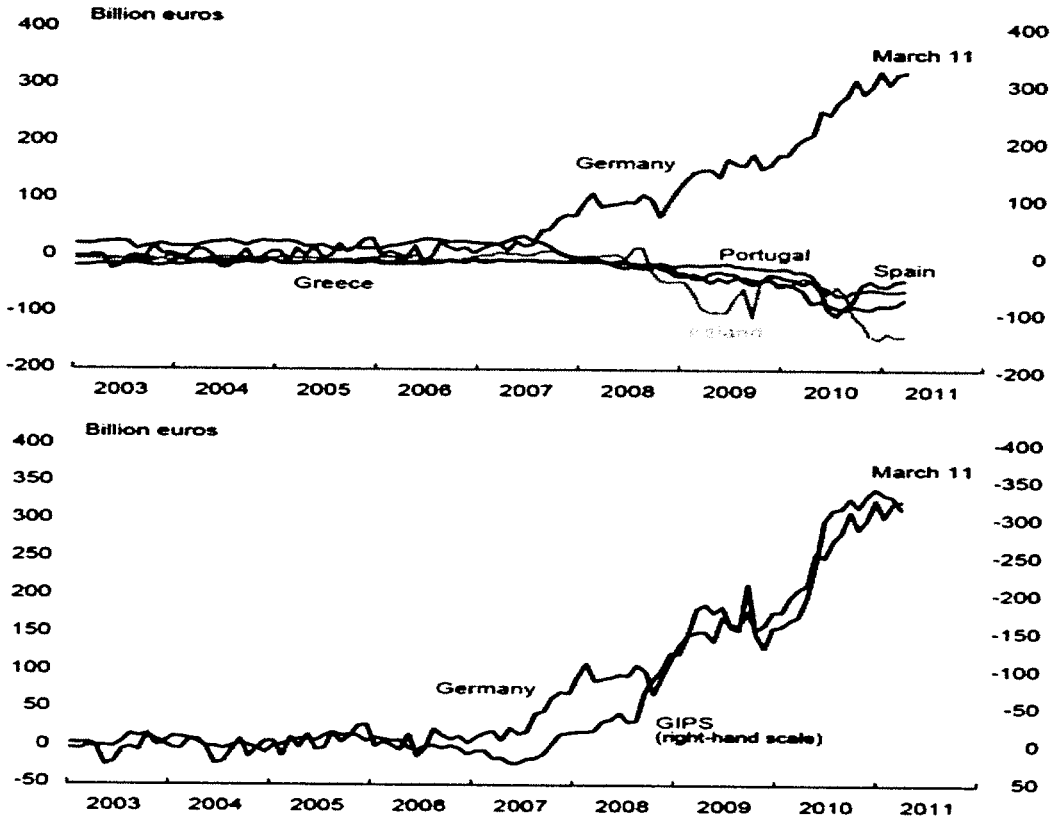


Sources: National central banks, IMF and IFS.

Therefore, until the crisis, the increase in the size of the Irish banking system's balance sheet was mainly driven by foreign deposits, which were used to finance investments both inside and outside Ireland. Nonetheless, with the financial crisis this funding source started to decline, especially in the second half of 2010 (see upper panel of Figure 11). In Germany this development was mirrored by a rise in foreign claims before the crisis, and its reversal after the collapse of Lehman Brothers (see lower panel of Figure 11).

Hence, the last figures illustrate the liquidity management problem inside the Eurosystem due to the absence of the ECB as a lender of last resort for governments. In such a role, it could provide liquidity to GIPS countries by buying their sovereign bonds, and absorb excess liquidity in the core countries, by selling government bonds and securities to German banks. Although the ECB tried to play this role with Target 2, it increased the gap between Euro-zone central banks by increasing the capital outflows.

Figure 12: Net claims of the NCBs resulting from transactions within the Eurosystem (TARGET2) (Sinn and Wollmershäuser 2011)



Sources: Germany: Bundesbank database, series EU8148 (See Footnote 5); Spain: Monthly Balance Sheet of the Banco de España; remaining countries: IMF, *International Financial Statistics* (Target claims = Net claims on the Eurosystem less the intra-Eurosystem claims related to the issuance of bank notes); calculations by the authors.

Moreover, Figure 12 illustrates the evolution of the Target2 imbalances, which shows that since the crisis started by mid-2007, these imbalances started to grow remarkably. Therefore, there is a strong correlation between the rise of the German Target claims and the rise in the Target liabilities of the GIPS. Furthermore, this figure shows also the evolution of the net claims of the Bundesbank against the ECB resulting from payment imbalances within the Target2 system. Before the beginning of the financial crisis in 2007, Germany's current account surpluses vis-a-vis other euro-area countries were funded by private-sector capital flows, and hence Germany's intra-EMU balance of payments was close to zero. However, after the Euro-zone crisis started, Germany's balance of payments moved into surplus as the current account surplus was augmented by a capital account surplus. Thus, the Bundesbank not only financed Germany's current account surplus, replacing earlier private capital flows, but also net capital imports into Germany to a large extent owed to the repatriation of German investments abroad. Associated with this change in lending patterns was also a big transfer of credit risk from the private banking sector to the Bundesbank (Mayer 2011).

Furthermore, these Target imbalances are a symptom of the banking systems difficulties in GIPS countries, which needed a public sector support. Hence, policymakers should put the banking systems in the peripheral and core Euro zone under question in order to exit this crisis. Once again, the solution for this crisis rests on the ECB policy choices.

3.THE ROLE OF THE ECB

The ECB is an important public financial institution in the Euro-zone and it is used to manage the monetary policy of countries in the Euro-zone. The ECB was established in order to replace the national

currencies, which were used in the nascent Euro-zone (Richter et al. 2011). In addition, the ECB was established in order to control the monetary policy for the nations in the currency union. The important role of the national central banks for conducting monetary policy has been moved to the ECB, which heads the European System of Central Banks (ESCB) that acts as an institutional framework in the Euro area. Germany used the ECB to impose its strict monetarist position to all the other members of the Euro-zone.

Notably, the ECB controls interest rates, it manages foreign exchange reserves and exchange rates, and it also regulates the money supply in the Euro-zone. Before the economic and the financial crisis began, the ECB based its operations on the monetarist concept of central banking. It reduced central banking in the Euro-zone to the control of the consumer price inflation. Therefore, the ECB did not realize that the financial and economic crises were coming. Now we will briefly go over the history of the ECB, to then analyze its role during the crisis.

3.1-HISTORY, TASKS, MANDATE AND STRATEGIES OF THE ECB

The European Central Bank (ECB) was established in Frankfurt in 1998, as the main structure for the European System of Central Banks. Its main task is to implement and define monetary policy for all Euro-zone members. In addition, it carries out different foreign-exchange activities, manages and holds the official foreign reserves of member states, facilitates payment system's activities, and is responsible for authorizing the provision of Euro banknotes. The ECB main mandate is to maintain price stability across the Euro-zone. The institution's design and strategy are based on the conventional concept, which is reflected in its mandate through the adoption of the principle of an open market economy with adequate free competition. Consequently, ECB's activities are carried out in accordance to such principles. The ECB is also responsible for its own accountability and transparency by submitting on its own initiative or under request, annual reports

to the European Parliament and representatives involved in the European Parliament's committees (Richter et al. 2011).

3.2-MANDATE, INDEPENDENCE, AND ACCOUNTABILITY: COMPARISON OF THE ECB WITH U.S. FEDERAL BANK, BANK OF ENGLAND, AND BANK OF JAPAN

Compared to the European Central Bank (ECB), the U.S. Federal Bank (U.S. FED), the Bank of Japan (BoJ), and the Bank of England (BoE) have broader mandates (see Table 2 below). ECB, U.S. FED, BoJ, and BoE share the mandate of maintaining price stability. Nevertheless, U.S.FED, BoJ, and BoE shall accomplish as well other objectives that accompany growth, maximum employment, and development. Furthermore, such objectives were well defined even before the crisis (Ferrari-Filho and Conceição 2005).

All four central banks present similar ways for remaining accountable and transparent. In addition, all of them have a very high level of independence. Remarkably, the U.S. FED remains highly independent even though it holds government bonds and securities. This is in clear opposition with the ECB, which does not hold sovereign bonds and securities. Moreover, the EBC independence prevents it from working along with any Euro-zone government. On the opposite side we have the BoJ, which, while remaining highly independent, has a monetary and currency control that is compatible with the government's policies.

Table 2: Overview ECB, FED, Bank of Japan, Bank of England in comparison (Richter et al. 2011)

	ECB	Federal Reserve	Bank of Japan	Bank of England
Mandate	Price stability	Price stability growth, employment	Price stability (primary) sound development (secondary)	Monetary Stability, Financial Stability
Independence	Executive Board nominated by EU Finance Ministers and elected European Council 8-year term No reappointment No loans to governments Independent since its creation 1998	Board of Governors nominated by President, confirmed by Senate 14-year term No reappointment Acquiring and holding bonds allowed	Governors elected by Cabinet; both Houses have to give consent 5-year term Reappointment allowed Loans to national government allowed Independent since 1998 (but close relationship to government prescribed in BoJ Act)	Appointed by the Crown 5-year term One reappointment allowed Lending to government allowed Independent since 1998
Accountability	Annual reports to EP Participate in the EP's committees at the request of its members or on its own initiative	Annual report to Congress Semi-annual hearings before Congress Annual hearings at House of Representatives Can be requested to additional hearings at any time	Semi-annual reports to the Diet Shall attend hearings when requested by one of the two chambers	Annual report to Parliament Regular hearings at the House of Commons New Members have to present themselves before House of Commons

3.3-THE ECB RESPONSES TO THE CRISIS AND ITS CRITICS

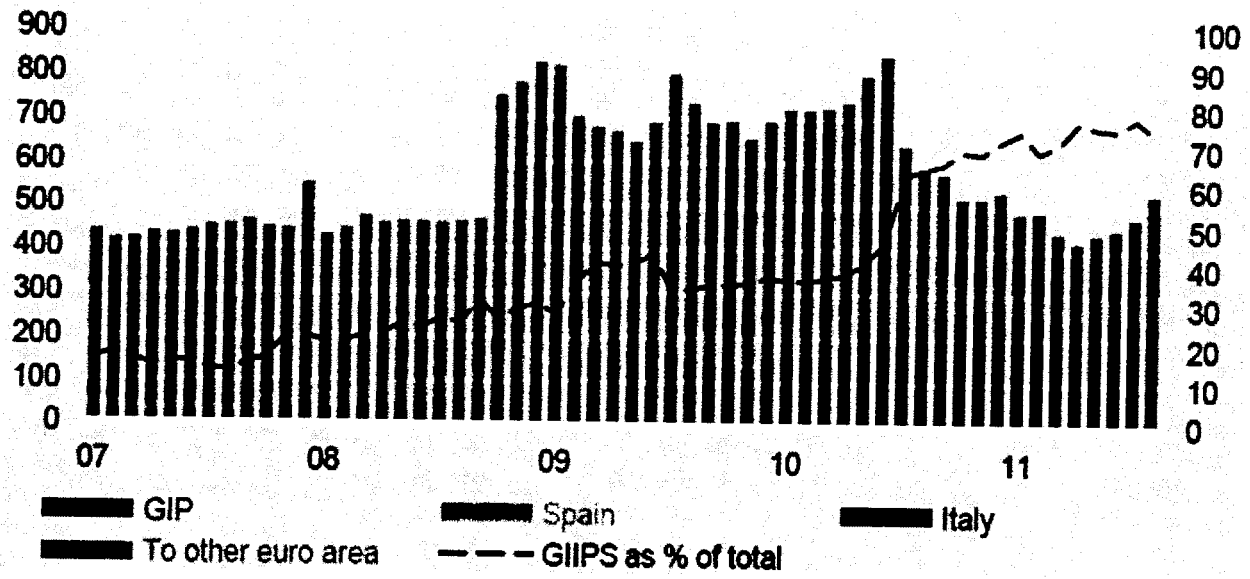
Since its establishment in 1998, the ECB has faced various criticisms, particularly, its narrow focus on price stability, and its monetarist bias. In addition the crisis has shown that the ECB's theoretical framework is faulty, which worsened the crisis. In contrast, according to the new consensus framework, the ECB's success before the crisis to achieve price stability was due to the effectiveness of its underlying framework of central banking (Cecchetti and Schoenholtz 2008). In addition, there were quiet early concerns about the Euro-zone's governance framework capability of setting up effective coordination during the crisis, given its principle of separation of fiscal and monetary policies (Buiter 1999).

Similarly to other central banks, in the first stages of this crisis, the ECB tackled the liquidity problem through financial institutions by extending the volume and the average maturity of its liquidity provision (ECB 2010). In order to restate its obligation toward the separation principle, it raised its policy rates in July 2008 in response to forecasted inflationary pressures (Trichet 2010).

The ECB identified the crisis and changed its policies after the collapse of Lehman Brothers, which hit the Euro area as a result of a lack of international liquidity. The ECB conducted various activities such as reducing interest rates, encouraging the purchase of bonds, easing the lending requirements and increasing the maturities of the refinancing activities. However, other central banks responses were different, as we can notice from figure 14 below. The US FED and the Bank of England went through big cuts in interest rates, interventions in private asset markets and credit easing measures in order to improve credit conditions in market segments by changing the composition of the central bank's balance sheet (Bini Smaghi 2009), replacing illiquid assets with short-term, risk-free reserves (Gagnon et al. 2010). By contrast, the ECB was focused on private banks refinancing (see figure 13 below) in order to reflect the bank-based nature of the European financial system (Trichet 2010). It announced that Enhanced Credit Support would provide unlimited liquidity through "fixed rate, full allotment", at longer maturities (up to six months), extended

participation (from 140 to around 2200 eligible counterparts) and eased collateral requirements (accepting a broader range of private assets). Since these measures allowed banks to exchange a broader range of illiquid private assets on their balance sheet for longer-term central bank liquidity, the ECB viewed the effects of its unconventional measures to be similar to the credit easing adopted elsewhere (Trichet 2009).

Figure 13 :ECB refinancing credit to banks (Mayer 2011)
EUR bn (left), % total ECB standard refinancing (right)

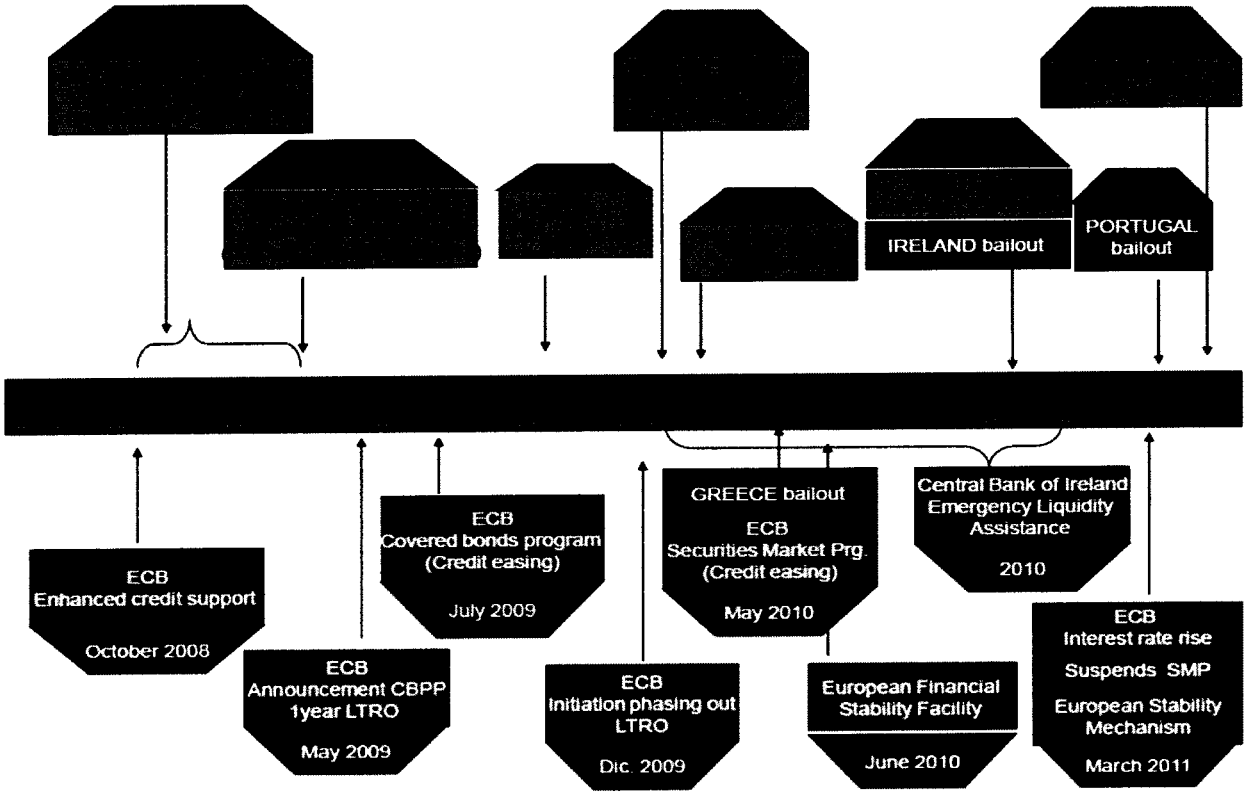


Sources: ECB, NCBs, DB Research

As shown in figure 14 below, by March 2009 the US FED and the Bank of England have approved a programme of quantitative easing, such as purchases of government bonds, that expands the central bank balance sheet , while the ECB resisted similar measures and exit strategies (Trichet 2009). By its enhanced credit support, the ECB collateralized short-term loans to commercial banks instead of using sales and purchases of sovereign debt in order to implement monetary policy as other central banks usually do.

In May 2009 the ECB announced two different measures designed to improve European banks' funding conditions (ECB 2010a).: 1) It committed to provide unlimited one-year liquidity through three full-allotment operations; 2) It detailed plans to purchase EUR 60bn of covered bonds - debt securities issued by banks and covered by a pool of assets, typically mortgages and public sector loans - from July 2009.

Figure 14 Timelines of unconventional Policy Responses to the Global Financial Crisis

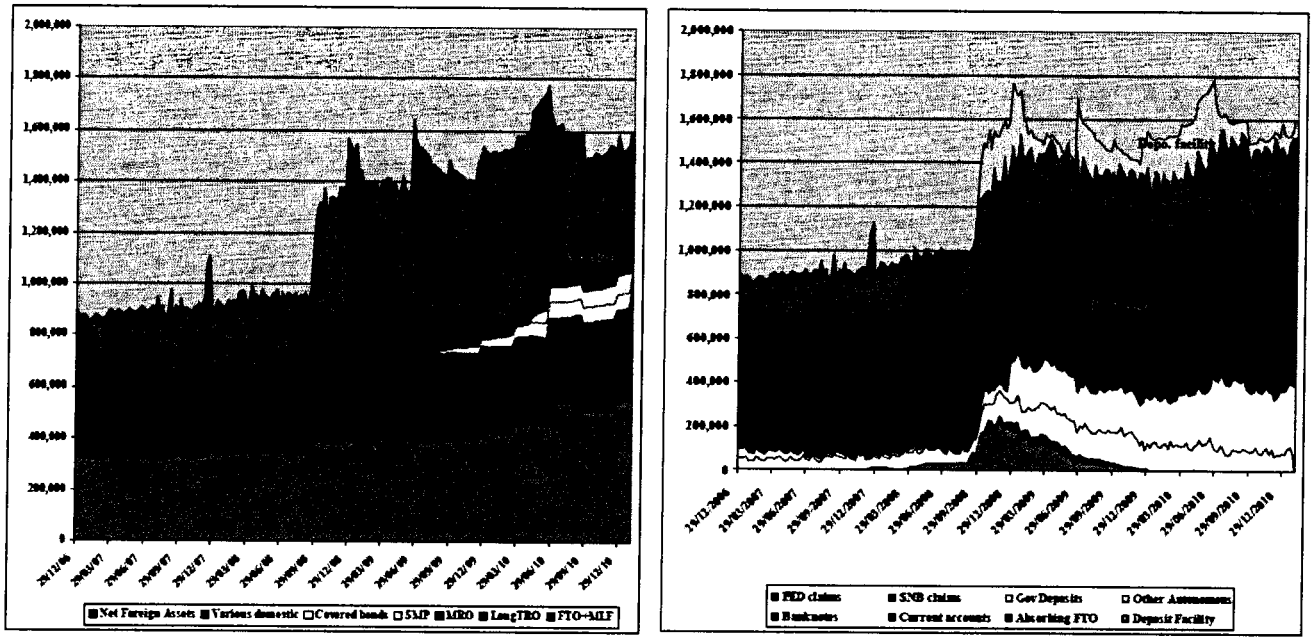


Source: New York Fed, ECB, Bank of England

These measures of liquidity injections through private banks were intended, under the assumption that "fundamentals are sound" (Lavoie 2010), to increase lending to companies and households, boosting deposits and limiting dependency on short-term market funding or ECB liquidity. However, private banks behaved differently, when after May 2009, they made increasing recourse to longer-term ECB refinancing (see Figure 15), whose contribution to the ECB balance sheet rose to almost 25% by January 2010,

approximately EUR 670bn, replacing short-term liquidity. In comparison, covered bond purchases accounted for less than 2% of the ECB asset side at that time. Therefore, instead of shifting the banks' activities from market portfolios to lending to companies and households, crisis measures replaced dependency on short-term market funding with dependency on ECB liquidity.

Figure 15 ECB's assets (left) and liabilities (right) composition 2007-2010 (Vitor Constâncio 2011)



On May 2010, after intense political pressures, the ECB relaxed collateral constraints to accept downgraded Greek sovereign debt, and a week later, it went further, introducing the Securities Market Program (SMP), committing to purchase Euro-zone government bonds in the secondary market. It also announced the restart of its long-term refinancing operations.

In contrast to other central banks, the ECB offered no quantitative measures of its intended bond purchases. However, the ECB has seen the SMP as a temporary strategy in order to correct the dysfunctional markets by reassuring its commitment to price stability and its 'sound money' framework. Therefore, the ECB stressed its determination to defend its credibility on inflation control (responding to mainly German concerns) by reabsorbing the additional liquidity through sterilizations.

The ECB welcomed the establishment of the European Financial Stability Fund (EFSF) in June 2010, a bailout fund set to raise market funding in order to provide emergency support to crisis-ridden Member States. Therefore, the ECB viewed the EFSF as an exit strategy that allowed it to come back to its conventional operational framework, since the ECB would not have the mandate to purchase government debt.

With this strategy, the ECB had the opportunity to overcome the constraints imposed by the conventional concept in order to handle this debt crisis and to address the complexity produced by financialization. However, the ECB stayed stuck with its conventional framework.

In early November 2010, The ECB extended more liquidity support to commercial banks, instead of rescuing individual governments, through the EFSF facility. Some days later, Ireland formally initiated bailout procedures. A similar bailout for Portugal took place on April 2011, a few weeks after the European Stability Mechanism (ESM) took responsibility for the Euro-zone crisis management, which is intended to replace the EFSF in 2013.

By May 2011, it had on its balance sheet around EUR 76 bn of sovereign debt, less than 10% of its assets, which is far lower than the US FED or the Bank of England (Gagnon et al. 2010). The ECB remained out of the sovereign bond markets, even when the Greek economic picture was getting worse with the menace of a second bailout throughout June 2011, accompanied with Italian sovereign bond market pressures on July 2011. Once again, the ECB with its conventional framework kept on blaming fiscal misbehaviour of individual governments for this debt crisis, rather than the systemic consequence of the macroeconomic governance framework (De Grauwe, 2011). Moreover, Lehman's bankruptcy called policy makers to recognize the failure conventional framework of central banks (Blanchard et al. 2010).

The rise in policy rates and the suspension of SMP purchases, despite renewed pressures in Greek, Spanish, Italian, Irish or Portuguese bond markets, raised concerns about the Euro-zone survival, with the

hope that a political solution would allow the ECB to change its own framework. In order to do so, the ECB must activate its lender of last resort function, where it acts as a buyer of last resort for sovereign bonds and securities of governments undergoing financial difficulties. Moreover, it needs as well to replace its separation principle of one instrument "interest rate"– one market "private" – one objective framework "price stability", to decoupling principle of one instrument – two markets – one objective framework (Borio and Disyatat 2009).

The Decoupling Principle stresses that interest rate policy can be conducted independently of the size of the central bank's balance sheet. Thus, interest rate policy will target price stability, whereas liquidity management decisions would allow the ECB to intervene in sovereign debt markets in line with its buyer of last resort mandate. These purchases could be financed either by creating additional bank reserves, or by issuing its own bills or through the operations of a modified European Stability Mechanism (Euro-zone bonds). Furthermore, the Japanese experience between 2001 and 2006, was successful using this approach, where no inflationary effect happened.

From an economic and financial standpoint and comparing the ECB with the FED and the BoE, it is noticeable that the ECB could easily use Quantitative Easing (QE) via several tools available on its balance sheet (see Table 3, below). It could increase its net lending, where it has a total lending capacity of EUR 505.13 bn. Moreover, analyzing data in Table 3, it is noticeable that the balance sheet of the ECB has the largest gold reserve, while it holds securities in portfolio for only 25.76% of total assets in comparison to over 90% for the BoE and over 80% for the FED. In addition, the Eurosystem consolidated balance sheet holds only 5.45% of total outstanding government securities, and just 1.29% was purchased in 2010 for monetary policy purposes. In contrast, the BoE and the FED hold government securities proportionally more than three and two times that of the ECB.

Table 3. FED-BoE-ECB key balance sheet indicators (€mn) (Valiante 2011)

	Federal Reserve	Eurosystem	Bank of England
Gold (Q1 2011) ^	261,480.86	363,250	9,975.93
FX currencies (Q1 2011)^	89,134.39	222,419.64	52,357.99
Tot.	350,615.25	585,669.64	62,333.91
Total assets	2,275,768***	2,000,471	256,502.48
xtimes Gold/FX	X6.49	x3.42	x4.12
Notes and coin (M0)	716,979	855,737	67,974
% tot. assets	31.5%	42.78%	26.50%
xtimes Gold/FX	x2.05	x1.46	x1.09
M2 aggregate	6,472,795	8,489,167	2,359,698
Government securities°	1,139,160	457,426**	224,613
Other securities	701,633	60,873	8,883
Tot.	1,840,793	518,299	233,496
% tot. assets	80.89%	25.76%	91.03%
xtimes M0	x2.57	x0.61	x3.44
Capital	35,969	81,480	5,011
% tot. assets	1.58%	4.07%	7.37%
Reserves balances (minimum and excess)	892,809	208,285	145,345
% tot. assets	39.23%	10.41%	56.66%
Govt debt (securities outstanding)	10,129,952	8,323,500	1,268,200
Govt sec held/Tot.	11.25%	5.45%**	17.71%
Interbank rates (Aug 4th)x	0.09%	0.851%	0.54%
Nominal interest rates	0.25%	1.50%	0.50%
Excess reserves rates	0.25%	0%	n/a
Deposit Facility	0.28% (term dep. on July 26th)	0.75%	0.25%

* Updated to end July/August 2011 where not otherwise indicated. Exchange rates at end of Q2 2011 (EUR/USD: 1.4391; EUR/GBP: 0.88274: ECB data warehouse; gold price at Q2 2011: World Gold Council).

** Estimates (assuming that the Eurosystem does not hold other securities than covered and government bonds). ECB holds €33.94 bn directly and roughly other 74 €bn for monetary policy operations. The remaining government bonds are held by national central banks and may have been sitting on their balance sheet from the inception of the euro.

*** It includes gold reserves at their current value.

° Securities of their national government(s) held in portfolio or resources allocated to purchases (e.g. BoE).

^ Value at end of Q1 2011. In the US, gold reserves and receivables are usually posted on balance sheet at a price of $42 2/9, roughly $11 bn. Gold and FX do not usually generate monetary income.

x Federal funds rate (US), EONIA (EU), and SONIA (UK).

Sources: Author from FED, BoE and ECB database, World Gold Council, AMECO database, and Eurostat.

As a result, the ECB can both increase the size of its balance sheet and adjust the assets side with very limited impact on its inflation targeting policies. Therefore, the ECB could expand its assets side by acting as a lender of last resort, thus, purchasing government bonds under the Securities Markets Programme (SMP).

4.ALTERNATIVE SOLUTIONS TO PREVENT THE EURO-ZONE FROM COLLAPSE

Through our analysis we have identified three main causes for the Euro-zone crisis: 1) current and capital account imbalances, 2) the interbanking lending system, and 3) a poor role of the ECB.

Current and capital account imbalances, as we have seen, are due to German policies, therefore, to tackle the issue, Germany and the European Government should take various steps. First, Germany should take a serious responsibility towards this crisis and it should adopt expansionary fiscal and monetary policies, which will increase their domestic demand, and rely less on exports whereas the GIPS should increase their competitiveness. Secondly, the initial plan of the Euro-zone was currency unification for economic unification, and later political integration. Therefore, the European Government should look at the Euro-zone as one state with one currency. Then these imbalances will not be regarded as negative, because the whole Euro-zone will be balanced. However, such an approach is not compatible with the existence of the Separation Principle of Monetary and Fiscal Policy within the Euro-zone, where surpluses of wealthy nations are not redistributed among poor nations. Hence, the only solution for the imbalances issue is to adopt harmonized Fiscal and Monetary Policies along with a politically and economically unified Euro-zone. In such way the European Government could do fiscal transfers from wealthy nations like Germany, to poorer countries like Greece.

Furthermore, the Euro-zone has advanced to such a level of integration that there is a strong inter-dependence among Euro-system banks. This is evidenced by the large capital lending between private banks of wealthy nations and poor nations. However, private banks are entitled to stop lending and to withdraw

their funds at any time, which, as we already explained, is one of the main roots of the Euro-zone crisis. In order to prevent this problem from happening again, the ECB must activate its financial intermediation, supervision, and intervention roles, through acting as a lender of last resort and using its interest rate tool effectively.

Looking deeper to the role of the ECB, it should take its historical responsibility in this crisis. More specifically the ECB needs to:

1. Act as a lender of last resort for both government and private sectors, by intervening and purchasing government bonds, which are considered the most safe and liquid assets, in order to save Euro-zone governments from default. For instance, it could finance such operations by increasing bank reserves. Eventually, since May, 2010 the ECB acted as a lender of last resort committing to purchase government bonds in the secondary market. However, this act was not really effective as the ECB has seen it as a temporary strategy and it was pushed back to reassure its commitment to price stability and its 'sound money' framework (responding to mainly German concerns)
2. Abandon its conventional framework put forward by German policy makers to deal with inflation targeting and price stability, and replace them by unconventional policies, which the ECB should be use various tools and objectives for macroeconomic stability. For instance, looking at the growth rate, long term interest rate targeting, and labour markets.

The European Government and the European Central Bank need to take responsibility and act immediately in order to prevent the crisis from dissolving the Euro-zone, since a bit of inflation is better than deflation. Otherwise they should be thinking of how to manage the euro-break up.

The next victims of this crisis could be Italy and Spain, which combined represent 29% of the Euro-zone economic activity. In addition they count for about a third of the Euro-zone public debt. To worsen the

picture, French and German banks have a combined exposure of approximately EUR 900 bn to Spain and Italy. It is evident that if Spain and Italy go into default, then the whole Euro-zone will meet its end.

5.CONCLUSION

Through this paper we have studied the historical roots of the Euro-zone current and capital account imbalances, mainly originated by the German tightening fiscal policy and the increase in their exports, along with the creation of the Euro. We have identified these as root cause of the Euro-zone crisis, in contrast to conventional economist (German policy makers, ECB), who had minimized this crisis to a government debt crisis. We have also shown how private banks liquidity problems in GIPS pushed governments to finance them at the expenses of their own debt, which led to the government debt crisis

Furthermore, we have shown how the Euro-zone debt crisis found its origins in inadequate policy concepts and institutions, which led to imbalances among Euro-zone countries, where we find wealthy countries like Germany enjoying combined current and capital account surpluses in favour of their labour market. At the same time, poor countries like GIPS, are suffering from combined current and capital account deficits, despite of strictly following the SGP.

We have also recognized this crisis as a central banking crisis associated to a failed political integration, which has been supported by the separation principle of monetary and fiscal policies. Thus, within the Euro-zone there are governments conducting individual fiscal policies with the absence of true central banks, and we have a narrow-minded ECB without an effective government. Consequently, the ECB does not act as a lender of last resort for governments, as most central banks do, exhibiting an addiction to its conventional framework, targeting inflation and price stability. Therefore, the Euro-zone economic system is dysfunctional, lacking the ability to handle its own debt crisis.

Finally, we conclude that unless the German policy makers, the ECB and the European Government take immediate action in order to help defaulted governments, the Euro-zone will break up.

References

Abad,J.M., Löffler, A., Zemanek, H. (2011). 'TARGET2 Unlimited: Monetary Policy Implications of Asymmetric Liquidity Management within the Euro Area'. *CEPS Policy Brief paper* No. 248, July 2011 [Online version available via http://www.ceps.eu] [accessed on November 2011]

Arestis, P. and Sawyer, M. (2011). 'Time to Say Farewell to the Euro?'. *WSI Mitteilungen,* Vol. 64, (6)

Bini Smaghi, Lorenzo. (2009). 'Conventional and Unconventional Monetary Policy'. Keynote lecture at the International Centre for Monetary and Banking Studies (ICMB), Geneva, 28 April 2009. [Online version available via http://www.bis.org/review/r090429e.pdf] [Accessed on November 2011]

Blanchard, O., Dell'Ariccia, G. and Mauro, P. (2010). 'Rethinking Macroeconomic Policy'. *Journal of Money, Credit and Banking*, 42: 199–215.

Borio, C. and Disyatat, P. (2009). 'Unconventional monetary policies: an appraisal'. *BIS Working Papers* No. 292. [Online version available via http://www.bis.org/publ/work292.pdf] [Accessed on November 2011]

Buiter, W. (1999). 'Alice in Euroland'. *Journal of Common Market Studies* Vol. 37, No. 2, pp. 181-209.

Buiter, Willem, Rahbari, Ebrahim, and Michels, Jürgen (2011). 'The Implications of Intra-Euro Area Imbalances in Credit Flows'. *Citigroup & CEPR; Citigroup, Policy insight* No. 57, August 2011.

Cecchetti, S. and Schoenholtz, K.L. (2008). 'How Central Bankers See It: The First Decade of *ECB* Policy and Beyond'. *NBER Working Papers* 14489.

Constâncio, Vitor (2011) *in* US Monetary Policy Forum, *The EBC's experience with unconventional measures,* New York 25 February 2011. [Online version available via http://www.ecb.europa.eu/press/key/date/2011/html/sp110225.en.pdf?2c310e81ccdf782ebff282d267793238] [Accessed on November 2011]

De Grauwe, Paul (2011). 'The Governance of a Fragile Eurozone'. *CEPS Working Document* No. 346, May 2011. [Online version available via www.ceps.eu] [Accessed on November 2011]

European Central Bank (2010). 'The ECB's Response to the Financial Crisis'. *ECB Monthly Bulletin*, October, pp. 59-74. [Online version available via http://www.ecb.int/pub/pdf/other/art1_mb201010en_pp59-74en.pdf] [Accessed on November 2011]

Ferrari-Filho, F. and Conceição, A.O.C. (2005). 'The Concept of Uncertainty in Post Keynesian Theory and Institutional Economics'. *Journal of Economic Issues*, 29. 3 (2005): 579-94.

Gagnon, J., Raskin, M. Remache, J., Sack, B. (2010). 'Large-scale asset purchases by the Federal Reserve: Did They Work?' *Federal Reserve Bank of New York Staff Reports* No. 441, March 2010. [Online version available via http://www.ny.frb.org/research/staff_reports/sr441.pdf] [Accessed on November 2011]

Gills, Barry (2010). 'The Return of Crisis in the Era of Globalization: One Crisis, or Many?'. *Globalizations*, 7, (2010): 3-8.

Godley, Wynne and Lavoie, Marc (2007). *Monetary Economics. An Integrated Approach to Credit, Money, Income, Production and Wealth*. Houndmills: Palgrave Macmillan.

Hein,E., Truger, A., van Treeck, T. (2011). 'The European Financial and Economic Crisis: Alternative Solutions from a (Post-) Keynesian Perspective'. *Macroeconomic policy institute*, July 11, 2011.

Kotz, David. (2009). The Financial and Economic Crisis of 2008: A Systemic Crisis of Neoliberal Capitalism'. *Review of Radical Political Economics* 41, 3 (2009): 305-317

Lapavitsas, C., Kaltenbrunner, A., Lindo, D., Michell, J., Painceira, J.P., Pires, E., Powell, J., Stenfors, A., Teles, N. (2010). 'Eurozone crisis: Beggar thyself and thy neighbour'. *RMF OCCASIONAL REPPORT*, March 2010. [Online version available via http://www.researchonmoneyandfinance.org/] [Accessed on November 2011]

Lapavitsas, C., Kaltenbrunner, A., Lambrinidis, G., Lindo, D., Meadway, J., Michell, J., Painceira, J.P., Pires, E., Powell, J., Stenfors, A., Teles, N. (2010). 'The Eurozone between austerity and default'. *RMF OCCASIONAL REPPORT*, September 2010. [Online version available via http://www.researchonmoneyandfinance.org/] [Accessed on November 2011]

Lavoie, Marc (2010). 'Changes in Central Bank Procedures during the Subprime Crisis and Their Repercussions on Monetary Theory', *The Levy Economics Institute,* Working Paper No. 606

Mayer, Thomas (2011). 'Euroland's hidden balance-of-payments crisis'. *Deutsche Bank Research,* October 26, 2011.

Pavoncello, Franco (2011). 'One for All, All for One: the Euro in Crisis'. *World Affairs*, May/June 2011. [Online version available via www.worldaffairsjournal.org] [accessed on November 2011]

Richter, Franziska and Wahl, Peter (2011). 'The Role of the European Central Bank in the Financial Crash and the Crisis of the Euro-Zone. Report based on a WEED Expert Meeting'. *World Economics, Environment & Development Assoc*, Berlin (2011): 6-8.

Sinn, Hans-Werner and Wollmershäuser, Timo (2011). 'Target Loans, Current Account Balances and Capital Flows: The ECB's Rescue Facility'. *CESIFO working paper* No. 3500, Category 7: Monetary Policy and International Finance, June 24, 2011.

Stockhammer, Engelbert (2010). 'Neoliberalism, Income Distribution and the Causes of the Crisis'. *Research on Money and Finance Discussion Papers* No. 19

The New York Fed's timelines of policy responses to the global financial crisis month by month,http://www.newyorkfed.org/research/global_economy/policyresponses.html

Trichet, J.C. (2009). 'The ECB"s enhanced credit support'. Keynote address at the University of Munich, July, 13 2009. [Online version available via http://www.ecb.int/press/key/date/2009/html/sp090713.en.html] [Accessed on November 2011]

Trichet, J.C. (2010). 'State of the Union: the Financial Crisis and the EBC's Response between 2007 and 2009'. *Journal of Common Market Studies*, Vol. 48, pp. 7-19.

Valiante, Diego (2011), The Eurozone Debt Crisis: From its origins to a way forward, CEPS Policy Brief, No. 251, August 2011. [Online version available via www.ceps.eu] [Accessed on November 2011]