

THE SOVEREIGN DEBT CRISIS IN THE EURO AREA

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1. INTRODUCTION

We are in the fifth year of a crisis that started as a rather minor disturbance in money markets in the United States in August 2007. The crisis intensified in September, 2008, with the collapse of Lehman Brothers, which led to a global banking crisis as well as a global recession in late 2008 and 2009.

The tragedy for Europe is that while the rest of the world started to recover soon after, towards the end of 2009 the crisis morphed into a sovereign debt crisis in the euro area. This has made the euro area the epicentre of the crisis we live today.

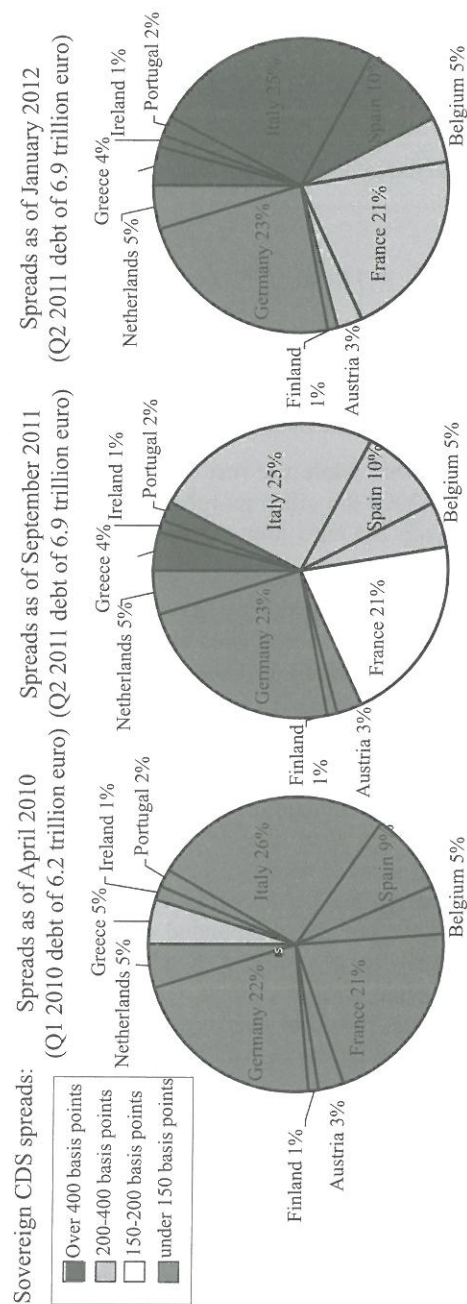
In my remarks I will discuss the reasons why the euro area is in such a dire situation today, how the initial small disturbance from far away turned into a systemic crisis in the euro area and what can be done to make progress going forward.

2. THE RETURN OF THE PLAGUE?

A figure from the January 2012 update of the IMF Global Financial Stability Report helps explain why the euro area is now the epicentre of the crisis. The figure, which is reproduced in Figure 1, shows the perceived riskiness of sovereign debt issued by euro area governments, as reflected in credit default swap (CDS) spreads. CDS spreads indicate the premium demanded to insure against losses from possible default on the underlying government bond. The higher the premium demanded, the higher the implied risk of default. Three pie charts compare the riskiness on three different dates. The pie chart on the left shows the perceived riskiness in April 2010. As judged by the low CDS spreads, as late as April 2010,

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Figure 1. Euro Area Government Bond Markets
(in percent of total euro area government debt)

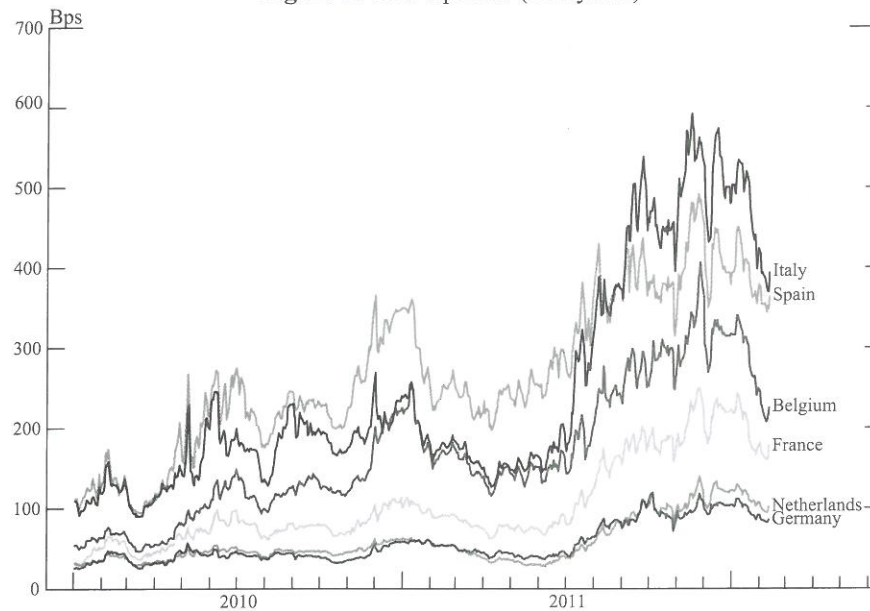


Sources: Bank for International Settlements; Bloomberg L.P.; and IMF staff estimates.

95 percent of the sovereign debt market in the euro area was considered relatively safe (CDS spreads under 150 basis points). The only exception was the small slice in the chart representing Greece, which suggested moderately high risk (CDS spreads between 200 and 400 basis points). By September 2011 the CDS spreads had increased significantly for several euro area countries. As can be seen on the pie chart in the middle, three slices (representing Greece, Ireland and Portugal) now suggested very high risk (CDS spreads over 400 basis points). Another three slices, more than a third of the total, indicated moderately high risk. The pie chart on the right shows how the situation had deteriorated even more by January 2012. The relatively safe portion got significantly smaller and the high-risk area worryingly bigger, much bigger. By January 2012, over 40 percent of the market reflected very high risk and almost another third reflected moderately high risk. Less than a third of the total was seen as relatively safe. This evolution illustrates how the euro area sovereign debt market has become the biggest global concern over the past two years.

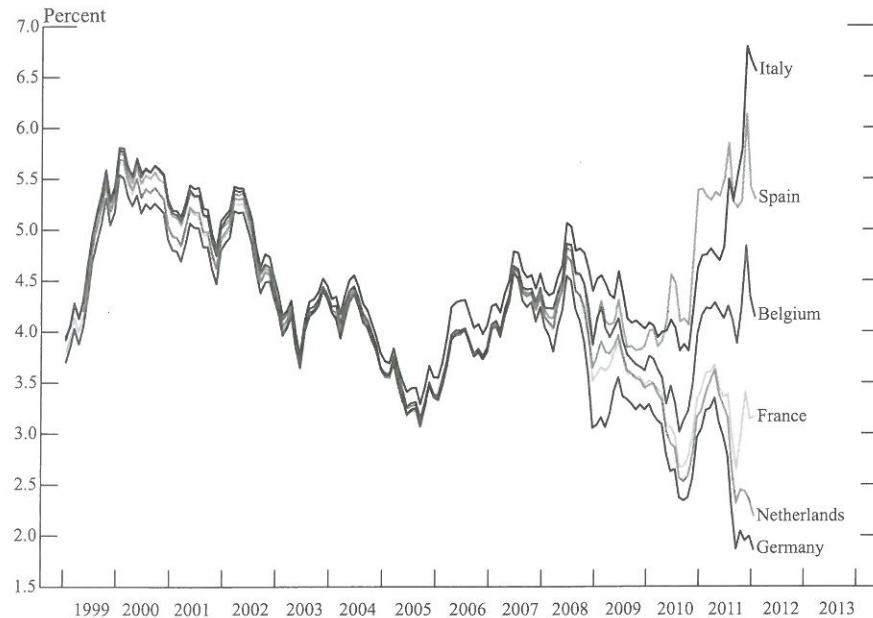
The systemic nature of the deterioration of the euro area sovereign market can be seen by tracking the co-movement of the CDS spreads over time in different countries. Figure 2 shows the six largest economies in the euro area—Germany, France, Italy, Spain, Netherlands and Belgium. These six represent almost 90% of euro area GDP.¹ As can be seen, the riskiness of debt has been on an upward trend since 2010. In the last few weeks some improvement has been observed.

Figure 2. CDS Spreads (five years)



The riskiness reflected in CDS spreads translates to a higher cost of financing for governments. Figure 3 shows monthly data for 10-year government bond yields for the period January 1999—January 2012. As can be seen, the cost of financing in the euro area was essentially the same for all governments during the first decade of the euro area. The sovereign crisis has changed the dynamics significantly, resulting in substantial differences in the cost of financing across the euro area. This, in turn, creates a number of complications for the euro area economy.

Figure 3. Ten-Year Government Yields



3. WHAT CAUSED THE CRISIS?

What is a sovereign debt crisis? What do the high yields on government debt imply? Ultimately, a crisis reflects the loss of confidence in sovereign debt. The high yields reflect doubts about whether the governments that issued the debt will be able to repay it in full in the future. Investors demand a risk premium to continue to hold on to risky debt.

What could be the cause of this loss of confidence? The usual suspect is a fiscal problem. If deficits are too large for too long, the debt-to-GDP ratio of a country can become very high, raising concerns about whether a government in the future will have the revenues that are necessary to pay off the debt in full. But even if the current deficit appears not to be an issue per se, other issues could arise. Ultimately,

the issue is lack of confidence in the ability of a government to repay the debt which is currently issued in the future.

If a country is not considered credible anymore, for whatever reason, that alone can create problems because investors will not be willing to finance that government by buying new debt. Thus, even if the deficit picture doesn't look threatening, either relative to history or relative to other countries, a government that lacks credibility will face problems. A sovereign debt crisis may also reflect a growth problem in the economy. If the economy is facing structural problems, potential growth may be revised downward and projected to be modest. Even if the debt is not very large, future growth might be seen as insufficient to generate the revenues necessary to repay the debt. In a monetary union, lack of confidence may also reflect a governance problem. When a number of countries in a monetary union issue sovereign debt securities in the same currency, a coordination issue arises that affects the trustworthiness of the governments. If the governance of a monetary union is not functioning properly problems may arise for some member states.

A comparison of the euro area with three other large economies, the United States, the United Kingdom and Japan, can help us check the relative importance of the fiscal dimension. Consider deficit-to-GDP data and projections from 2007 to 2013 and the projected debt-to-GDP ratio in 2013.² Table 1 presents the data. Is it possible to distinguish which of these four economies would be more likely to be in trouble on the basis of these data? For each year, the two largest deficits or debt are highlighted. If having the largest deficit was the key factor for precipitating a crisis, the United States and United Kingdom would be competing with each other as the economy at greatest risk. If the level of debt is too low, deficits for a few years may not pose a concern but debt ratios would get increasingly worse over time. In that case, focusing on the projected debt ratios is more important. Using the projected debt-to-GDP ratios for 2013 as a guide, Japan and the United States appear as the two countries that should be at greatest risk.

Table 1. Government Finances for Four Economies

	Euro Area	US	Japan	UK
Deficit (%GDP)				
2007	-0.7	-2.8	-2.4	-2.7
2008	-2.1	-6.4	-2.2	-5.0
2009	-6.4	-11.5	-8.7	-11.5
2010	-6.2	-10.6	-6.8	-10.3
2011	-4.1	-10.0	-7.2	-9.4
2012	-3.4	-8.5	-7.4	-7.8
2013	-3.0	-5.0	-7.2	-5.8
Debt (%GDP)				
2013	90.9	107.1	215.7	85.9

Whichever way we look at the comparison of the four economies in Table 1, the answer that emerges is that the economy that should *not* be under stress is the

euro area. And yet, the euro area is the only economy under stress in this group. Nobody questions the creditworthiness of governments in the US, UK, or even Japan. A conclusion from this exercise is that there isn't anything structurally wrong with excessive deficits and debt in the euro area as a whole.

Perhaps a few states have been performing so badly that they are skewing the average whereas other states are doing so well so that it makes the euro area overall look much better than it is. To check this, Table 2 shows five European Union member states, the four largest euro area member states—Spain, Italy, France, Germany—and the UK, which is the largest EU state not in the euro area. Comparison of these data would not lead us to the conclusion that Spain or France should be seen as riskier than the UK. Italy might be considered riskier because it has much higher debt, but Italy has had significantly lower deficits than the UK in the past several years. On the basis of fiscal performance, it is not obvious that the one economy in this group that is not in the euro area should be perceived as considerably safer. And yet this is what a comparison of CDS spreads suggests. Figure 4 compares the CDS spread for the UK with selected euro area economies and illustrates that for the past several months UK debt has been perceived as less risky than the debt of any of the euro area member states shown. Even the euro area economies perceived as strongest—Germany and Netherlands—are perceived as riskier than the UK. This confirms that forces beyond fiscal concerns are at play. It also confirms the systemic nature of the crisis that creates high costs for euro area member states perceived to be relatively weak.

Table 2. Government Finances for Selected EU Economies

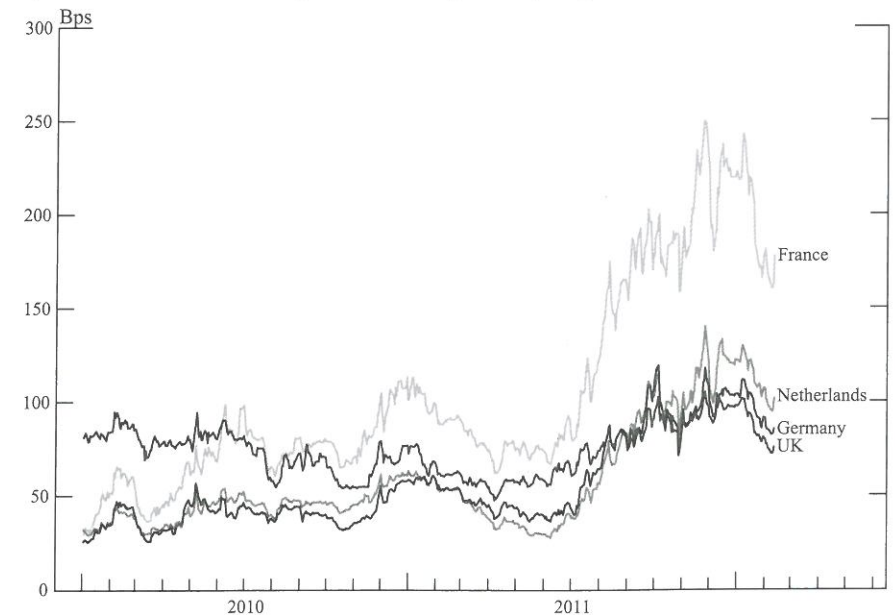
	UK	Spain	France	Italy	Germany
Deficit (%GDP)					
2007	-2.7	1.9	-2.7	-1.6	0.2
2008	-5.0	-4.5	-3.3	-2.7	-0.1
2009	-11.5	-11.2	-7.5	-5.4	-3.2
2010	-10.3	-9.3	-7.1	-4.6	-4.3
2011	-9.4	-6.6	-5.8	-4.0	-1.3
2012	-7.8	-5.9	-5.3	-2.3	-1.0
2013	-5.8	-5.3	-5.1	-1.2	-0.7
Debt (%GDP)					
2013	85.9	78.0	91.7	118.7	79.9

So what is going on? The answer is that fiscal problems are only one part of the euro area sovereign debt crisis; arguably only a small part. The intensification of the crisis has deeper roots. The euro area is paying the price for the incomplete design of the euro area when it was formed; the lack of a crisis management framework; and the mishandling of these weaknesses by governments and other policymaking bodies in the past two years.

The euro area worked well for about ten years, until its weaknesses came to the surface. Once the weaknesses were revealed, it became extremely important how policymakers dealt with them. Unfortunately, the crisis response was far less than ideal, exposing rifts in the economic governance of the euro area.

The realisation of the fiscal problems in Greece made it necessary to consider in a hurry how to complete the monetary union and how to design a crisis management framework. This was not an easy task and the urgency of the situation invited errors. Since the framework provided by existing Treaties was incomplete, the governments had to agree in a hurry how to improve the functioning of the euro area over the long run while simultaneously restoring stability and handling the immediate market stress.

Figure 4. CDS Spreads (five years)



4. ECONOMIC GOVERNANCE CHALLENGES

In a monetary union, strong economic governance, including a clear crisis management framework, is a prerequisite for stability throughout the union. When the euro area was designed the fiscal governance framework was provided by the Stability and Growth Pact, which stipulated a set of rules that would guide all participating member states to keep their deficits low and their debt manageable. It was considered so important to focus on these rules that an explicit crisis management framework was left out. It was believed that as long as governments adhered

to these rules nobody would get into trouble and thus a crisis management framework would not be needed. Providing an explicit crisis management framework would serve as a temptation to transgress. In theory, the Stability and Growth Pact should have ensured sound fiscal policy and served to avert crises.

The crisis revealed significant gaps in monitoring and enforcement and insufficient respect for the rules by euro area governments.³ The discovery of misreporting of Greek fiscal statistics created a terrible situation. It placed the governance structure of the euro area as a whole, not just Greece, under a dark cloud from the perspective of international investors (see Orphanides, 2010). Trust was lost.

5. CONSTRAINTS IN MANAGING THE CRISIS

To understand the difficulty of the task it is important to keep in mind some constraints in managing the crisis that emanate from the Treaty (European Commission, 2010 a, b). First, the Treaty prohibits member states from assuming the debts of other member states. Second, it prohibits monetary financing by any central bank in all member states. Thus, if a member state runs into difficulties, as Greece experienced in 2010, no central bank in the euro area could provide financing to the Greek government. Neither the ECB nor the Bank of Greece could do this. In addition, no other member state could assume the debt. But some mechanism had to be found to resolve the tension.

A crisis management framework would have to ensure that any assistance would not transfer resources from other states to the state in need. Any assistance should be temporary and be repaid in full. This could be done by providing loans to a member state in need, but an important question that needed to be addressed is how such a crisis management mechanism could be designed in a manner that avoids moral hazard.

What is moral hazard in this case? Simply, it is the concern that if a profligate government knew that whenever it needed assistance other states would run to its rescue, then that particular government might deliberately overspend. Consider the incentives that might appear before an election. A profligate government could decide to raise expenditure as much as necessary to improve its election prospects, knowing that in the event of difficulties someone else would bail out the country. If governments could not be trusted to respect the rules, moral hazard would induce problems down the road. The crisis management framework would need to ensure that governments would not have incentives to break the rules.

6. A MUTUAL INSURANCE FRAMEWORK

How could an overall framework be designed that could provide mutual support while avoiding moral hazard? From an economic design perspective, the problem is similar to that of designing an insurance framework (see Orphanides,

2010). In the presence of idiosyncratic risk, it is efficient to create insurance markets, but incentives are needed to deter cheating and avoid moral hazard.

Consider the parallels to household insurance. The establishment of insurance providers should serve the purpose of compensating their members when they have an accident and incur unexpected losses but not if they cheat. A good insurance provider offers insurance for unforeseen losses at low cost for the consumer and is effective and works well when the consumer faces a crisis. In household insurance, cheating is limited by enforcement of laws against fraud.

With sovereign governments enforcement is more difficult. Is it possible to design an insurance framework for the euro area that preserves the Treaty, avoids moral hazard, and gives the right incentives to governments to behave correctly?

The experience of the past two years highlights the difficulties in arriving at a good answer. There are two different ways we can think about how an insurance framework in the euro area might work. I will refer to these as the cooperative approach and the non-cooperative approach. What we have experienced in the euro area could be seen as a struggle over the two alternatives.

6.1 The Cooperative Approach

What is the cooperative approach? This essentially involves strengthening the governance of the euro area to ensure that future governments of all member states are bound to respect the rules and show solidarity when needed. In this case, and as long as the rules are respected, moral hazard is largely avoided and only legitimate accidents would be expected to cause a crisis. In the event of an accident, loans would be made from the other member states to help the one facing the crisis at a low cost. Solidarity could be demonstrated when needed. But for this mechanism to work, euro area governance would need to be strengthened sufficiently to ensure that moral hazard would be largely avoided, as desired. To that end, constraints on government behaviour would be needed, potentially limiting sovereignty, e.g., restricting a government's ability to increase spending.

However, some governments may find this approach too constraining and may thus not want to adopt it. Indeed, two years ago not all euro area governments were prepared to adopt constitutional amendments for balanced budgets that limit expenditures. Political considerations create tensions, making some governments reluctant to adopt the cooperative approach.

6.2 The Non-cooperative Approach

As an alternative to the cooperative approach just described, a non-cooperative approach could also be envisioned. In this approach, if there is a crisis and a member state (for example Greece) requires assistance, then temporary assistance is provided to avoid contagion to the rest of the euro area but the assistance is subject to conditions that make it extremely costly for that member state. This serves as a deterrent to moral hazard. By extracting a high price for providing temporary

assistance, moral hazard largely ceases to be a concern. This alternative raises the cost of financing of all weak governments in the euro area. This approach is not efficient and is very costly for the weak governments and the people in the member states under stress. It also shows poor solidarity—yes, this is intended as an oxymoron—because in this context the temporary assistance is also meant to be punishment.

Considering the two options, it is clear that the cooperative approach would be by far the better approach for completing the euro area crisis management mechanism. But for that to be feasible, member state governments would need to give up some sovereignty. If governments are not willing to give up sovereignty then we may be stuck with the second solution.

7. MISMANAGEMENT OF THE CRISIS: FOUR SUMMITS

Crisis management decisions over the past two years could be seen as a reflection of the unavoidable tension that separates these two fundamentally different approaches. To understand the evolution of the crisis we can focus on four specific dates: 18 October, 2010, the date of a summit of the French and German governments in Deauville; 21 July and 26 October, 2011, two summits of the European Union Heads of Government or State in Brussels; and 5 December, 2011, another summit of the French and German governments, this one in Paris.⁽⁴⁾

Unfortunately, the European Union, or more precisely the political leadership of the euro area, first moved towards the non-cooperative insurance mechanism, raising the costs of the crisis for the weaker states. This was reflected in the decisions taken at the first three summit meetings mentioned above. It was only in December, 2011, that the euro area political leadership started switching to the cooperative approach, which improved the future outlook. In the meantime, a lot of damage had been done. Most of the damage had been a foreseeable consequence of the misguided approach selected to handle the crisis earlier on.

7.1 Blunder in Deauville: The PSI Doctrine

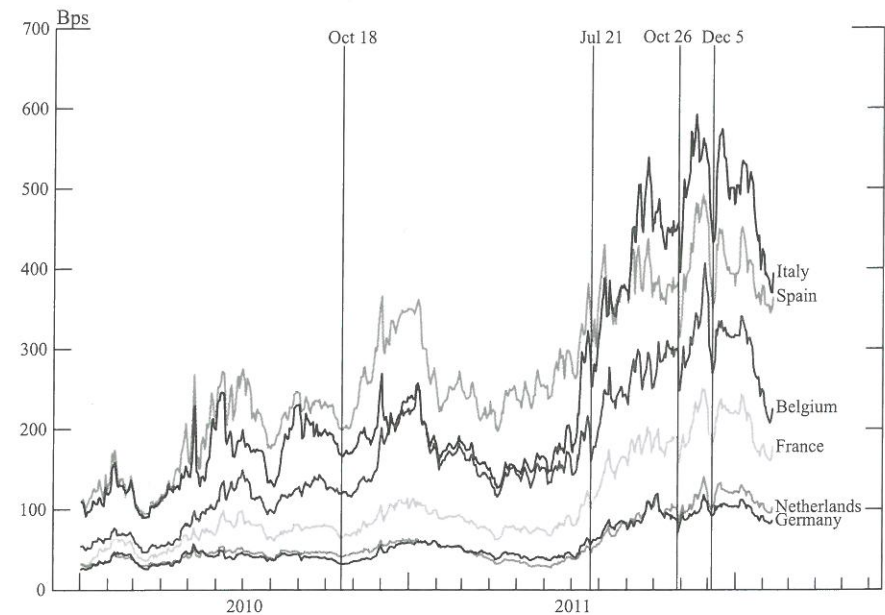
The Deauville episode started with a stroll along the beach by Ms Merkel and Mr Sarkozy on 18 October, 2010. By the end of the stroll, one of the greatest blunders of the crisis had been committed. Unfortunately for the euro area, other leaders went along with the decision in Deauville. The outcome was the introduction of the Private Sector Involvement (PSI) doctrine for euro area debt. Specifically, the two leaders agreed that whenever a euro area member state faced liquidity pressures (as opposed to solvency concerns), the imposition of losses on private creditors would be demanded before euro area governments agreed to provide any temporary assistance to the member state that needed help. Thus, a haircut would be imposed on the private sector even if the country that needed a loan was solvent.

The PSI doctrine violated IMF principles and placed euro area sovereigns at a severe disadvantage relative to others. Among other implications, it meant that while any other country facing liquidity problems could receive temporary assistance from the IMF without a haircut on its debt, the PSI doctrine ruled that out for euro area member states. A euro area member state would not be able to ask the IMF for ordinary assistance that would be available to non-euro area member states.

As a result of the Deauville blunder, the euro area sovereign debt market became unique in its risk characteristics. The message to potential investors was that euro area sovereign debt should no longer be considered a safe asset with the implicit promise that it would be repaid in full.

The implications for government financing costs were immediately obvious. Figure 5 marks the Deauville meeting with a vertical line. In the weeks following the decision, a dramatic rise in the riskiness of debt was observed. The deterioration in sentiment was far worse than the market scare observed, say in May, 2010, when the first loan for Greece was agreed, which at the time looked like a huge deal.

Figure 5. CDS Spreads (five years)



Unfortunately for the euro area, a decision taken by the German and French governments, and without much discussion, was adopted by the other government at a huge collective cost. The process leading to the decision illustrates one of the major problems facing the euro area. Germany and France represent about 50% of the euro area economy. Once these two governments agree on a decision, it is very

difficult to go against it. But the decision-making process creates a major problem. In this case, a bad decision by the leaders of these two countries caused substantial havoc primarily for other economies, first to member states under stress like Ireland and Portugal, but then also to larger economies like Spain and Italy.

The blunder committed in Deauville was recognised by many, including the ECB which tried to convince the governments to reverse it. The effort failed. There was an attempt by the governments to back-pedal, followed by discussions about what exactly the PSI concept meant and whether or not it really meant forcing losses on private investors. But from the perspective of an investor far away in Asia or in America listening to this discussion, one didn't need to know more details in order to get out of Europe. Predictably, this is what happened. Investors fled.

7.2 The July 2011 Summit

The European Union summit on 21 July, 2011, included a first decision to make the PSI concept operational by imposing a small haircut on holders of Greek government debt.⁵ Recognising the risk for contagion to the sovereign debt markets of other member states stemming from this decision, there was an attempt to convince investors that the decision represented "an exceptional and unique solution," that would not be repeated. In addition, the statement followed negotiations between euro area governments and some global banks to create the appearance that the haircut was voluntary. The statement declared:

We reaffirm our commitment to the euro and to do whatever is needed to ensure the financial stability of the euro area as a whole and its Member States. ... The financial sector has indicated its willingness to support Greece on a voluntary basis through a menu of options further strengthening overall sustainability. ... As far as our general approach to private sector involvement in the euro area is concerned, we would like to make it clear that Greece requires an exceptional and unique solution.

While effectively reinforcing the PSI concept, the governments attempted to convince market participants that euro area sovereign markets could be considered safe, except for the small and supposedly voluntary haircut on Greek debt. Of course, these efforts damaged credibility further. Predictably, the markets crashed again. This is reflected by the movement of CDS spreads following the second vertical line on Figure 5.

7.3 The October 2011 Summit

One might have thought that observing the adverse outcomes of their decisions would have led governments to change tack. It did not happen. The third vertical line on Figure 5 marks the date of the disastrous summit of 26 October, 2011.⁶ At this summit, European leaders created tremendous stress in the banking system by increasing the haircut on Greek debt and by significantly raising the capital buffers required to be held by banks, without creating a backstop that could have ensured

the availability of that capital. The statement released at the conclusion of the meeting declared:

The euro is at the core of our European project of peace, stability and prosperity. We agreed today on a comprehensive set of measures to restore confidence and address the current tensions in financial markets. These measures reflect our unwavering determination to overcome together the current difficulties and to take all the necessary steps towards a deeper economic union commensurate with our monetary union.

Incredibly, while taking one of the most disastrous decisions of the crisis, the political leaders of the euro area claimed that they meant to protect the "European project of peace, stability and prosperity". The statement continued along the incredulous line introduced in July, on the supposedly voluntary imposition of losses on private investors of Greek debt:

The Private Sector Involvement (PSI) has a vital role in establishing the sustainability of the Greek debt. Therefore we welcome the current discussion between Greece and its private investors to find a solution for a deeper PSI.... To this end we invite Greece, private investors and all parties concerned to develop a voluntary bond exchange with a nominal discount of 50% on notional Greek debt held by private investors.

Once again, predictably, the market reaction was adverse. I use the word "predictably" because anyone who has followed markets sufficiently to understand how they function and anyone who understands how easily financial stability can be jeopardised could have predicted that the October 2011 summit decision would have led to an adverse market reaction and threatened financial stability in the euro area as a whole. This is the reason why central bankers generally advised against the decision taken by the governments.

7.4 The Reversal of the PSI Doctrine

Perversely, some progress followed the October debacle. After the October summit, it was not just Greece, Ireland and Portugal that were under threat. As can be seen in Figure 5, in addition to these countries, it wasn't just Spain and Italy either. The crisis had spread further, threatening France and Belgium as well. This contagion to the core of Europe was sufficient to refocus the minds of political leaders in Europe. The non-cooperative approach had proven costlier to more member states than had been expected. An alternative approach was needed.

The last vertical line on Figure 5 marks a positive development in December, 2011. At the summit of the French and German leaders in Paris on 3–5 December the PSI doctrine was finally abandoned. Following that, in the EU summit on 9 December it was decided to change the European Stability Mechanism (ESM) treaty to incorporate the change and fully adopt the IMF doctrine.

We agree on the following adjustments to the ESM Treaty to make it more effective:

Concerning the involvement of the private sector, we will strictly adhere to the well-established IMF principles and practices. This will be unambiguously reflected in the preamble of the treaty. We clearly reaffirm that the decisions taken on 21 July and 26/27 October concerning Greek debt are unique and exceptional.

The December decision contributed to the improvement in market sentiment that followed. Thus, there was some reversal to the detrimental effects of PSI. But why wasn't there a full restoration of trust in all sovereign markets? Why is it that Spain, France and Belgium still face a premium on their debt, despite this progress? The problem remains that despite the reversal of the PSI doctrine, the European Union confirmed that the Greek haircut would proceed as planned.

With deeds not matching words, confidence cannot be fully restored. Imagine being an investor in Latin America or Asia and being told that the PSI has been abandoned but at the same time the haircut on Greek debt is proceeding and will be finalised during 2012. The adverse impact on investor confidence should be obvious.

8. THE COSTS FOR THE EURO AREA AS A WHOLE

Judging from the elevated costs of financing in a number of member states, the costs for the euro area as a whole remain substantial. Some argue that there was a benefit to Greece from reducing the interest payments from a haircut on its debt and conclude that this suggests that the haircut was a good idea. Is this correct? I am afraid not. From an efficiency perspective, the proper question to ask is whether the implementation of the PSI doctrine in Greece has resulted in reduced costs for the euro area as a whole. This could have happened only if the resulting contagion was contained and did not result in higher costs for other member states of the euro area. This is not the case. Negative spillovers from the contagion are quite costly for other member states. The PSI was inefficient for the euro area as a whole.⁷

The flaw in the reasoning of those who argue in favour of the Greek PSI can be highlighted by taking a euro area perspective. The supposed "benefit" of reducing the interest payment on Greek debt from a haircut of 50% has to be juxtaposed with the implications for the overall costs, including the elevated interest cost of servicing government debt in a number of other euro area member states. If we seek solutions that are efficient for the euro area as a whole we need to take into account developments in the other member states. We need to examine whether the contagion from the Greek PSI is contained. In other words, we need to look at the negative spillovers to the rest of the euro area. One of the flaws in the decision-making process during the crisis is that euro area governments did not take decisions, such as the one on the Greek PSI, after proper analysis of the spillovers on the other member states of the euro area.

In the case of the PSI discussion, the inefficiency of the decisions can be easily established. Consider the debt of member states whose costs of financing appear to have been adversely affected by the PSI decisions. In total, the debt of France, Spain, Italy and Belgium combined is about 15 times that of the size of the debt of Greece. Consider next that any "saving" on Greece must be compared with the "penalty" on other countries. Just accounting for France, Spain, Italy and Belgium, even a small increase in the financing cost due to contagion (e.g., 25 basis points) is enough for the total penalty to exceed the supposed benefit from the Greek PSI. Without even beginning to count any other costs the answer is clear: The total costs to the euro area due to contagion from the PSI decisions and their implementation on Greece were much higher than the alleged benefits.

Figure 6 shows the consequences of the PSI decisions on the two-year government yields of the six largest member states. The differences between Germany and France, Belgium, Italy or Spain are several multiples of 25 basis points. The five-year horizon shown in Figure 7 presents even clearer evidence. The five-year horizon is more representative of the cost as it is closer to the average maturity of debt in these countries. Several percentage points of added cost can be seen, much of which should be attributed to the PSI and the haircut on Greek debt. Figure 8 confirms that similar damage was caused by the PSI decisions to sovereign markets at the ten-year horizon. The overall costs of the PSI and its implementation in Greece far exceeded any alleged benefits.

Figure 6. Two-Year Government Yields

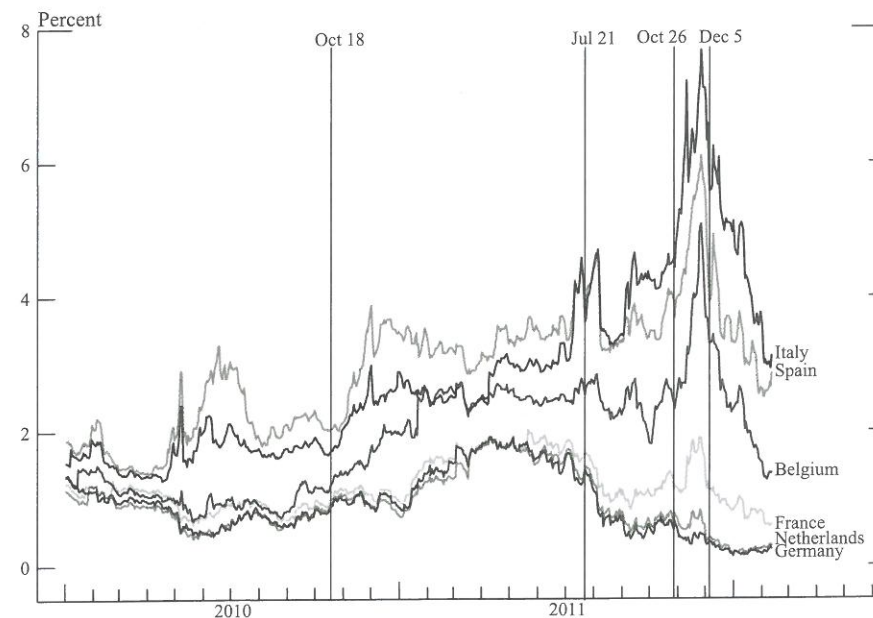


Figure 7. Five-Year Government Yields

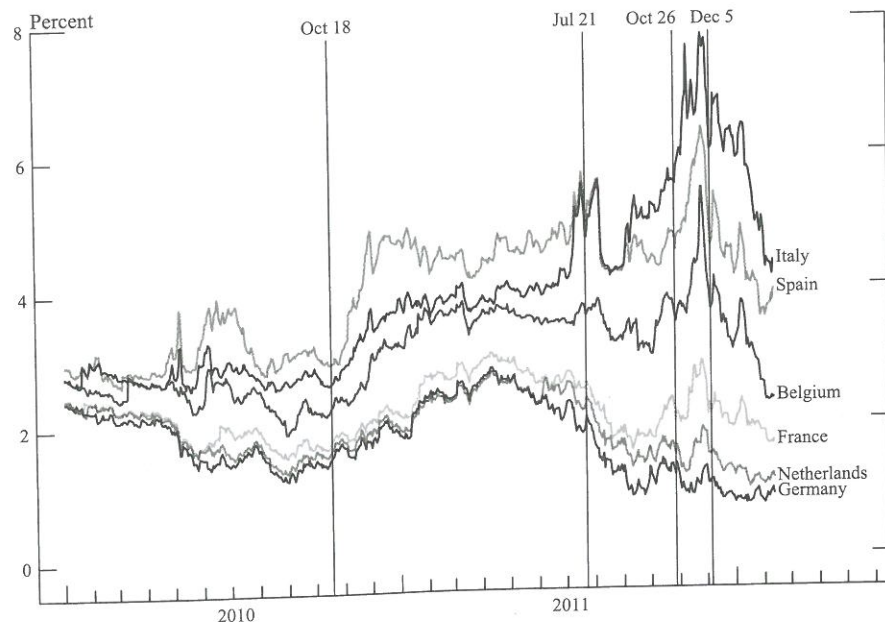
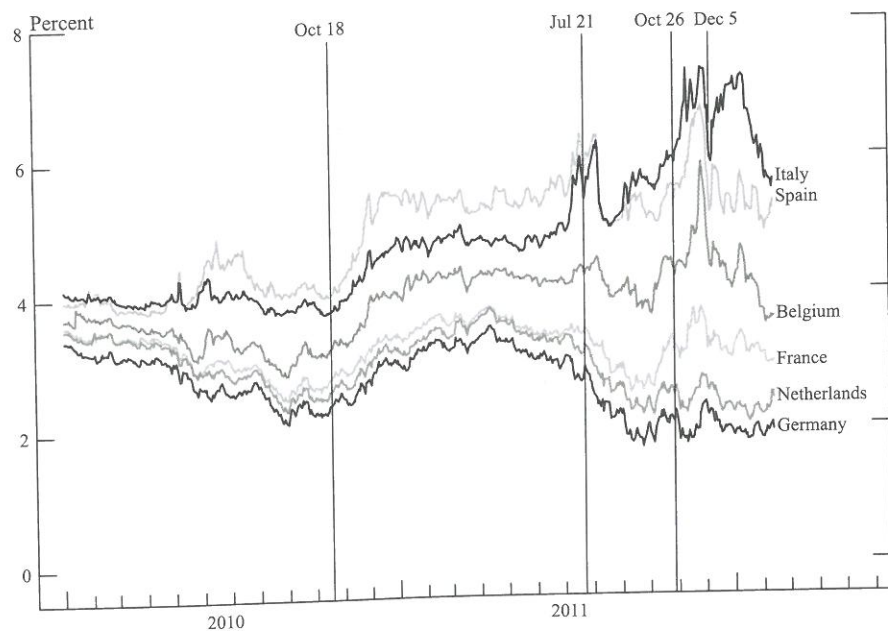


Figure 8. Ten-Year Government Yields



9. GOING FORWARD

What I have covered so far is essentially history. A question is where do we go from here? A direction is highlighted in the decisions that were taken at the December, 2011, summits, which have set a course for reversing some of the earlier damage. As I have already mentioned, one positive decision was the reversal of the PSI doctrine. Another very important decision was the adoption of the fiscal compact. All member states of the euro area, including Cyprus, have agreed to adopt the fiscal compact which represents a significant strengthening of the fiscal discipline that was meant to be, but was not, achieved with the Stability and Growth Pact. The fiscal compact effectively requires all member states to adopt constitutional amendments (or equivalent legislation) for balanced budgets. Without going into details, it suffices to say that the fiscal compact incorporates a number of elements that are important for improving governance. In conjunction with the so called "six pack" that improves the statistical reporting and monitoring of member states, the Commission will be in a better position to enforce good governance going forward (see European Parliament, 2011).

These changes imply more timely analysis and provide better incentives for future governments to respect the rules that make the euro area function properly. Once the governance framework is improved, the cooperative approach of crisis management described earlier could become feasible. This would mark a complete reversal from the non-cooperative approach that was reflected in the management of the crisis so far. Building on the December summit, the euro area functioning can be improved by changing the ESM in a way that is more cooperative and shows greater solidarity to member states in need.

As a conclusion, I will refer to a speech at Jean Claude Trichet's farewell symposium in Frankfurt on 19 October, 2011, an event attended by the political leadership of the euro area.⁸ This was the worst point of the crisis, a time when a number of people were trying to avert the decisions that would be taken a week later, on 26 October, which would cause so much damage to the euro. Many had recognised the problems that were being created and were trying to push euro area leaders in a different direction. Among them was a German speaker, one of the fathers of the euro, former Chancellor Helmut Schmidt. Addressing the political leadership of the euro area, Schmidt first explained that the problem Europe was facing ultimately was not a debt crisis but a political crisis. I share Schmidt's diagnosis for the crisis, and believe that a correct diagnosis is important for making progress. He then admitted that the original construction of the euro had gaps, but warned that this should not be an excuse for inaction:

What we have, in fact, is a crisis of the ability of the European Union's *political* bodies to act. This glaring weakness of action is a much greater threat to the future of Europe than the excessive debt levels of individual euro area countries.

It will *not* be possible in the foreseeable future to change these structural shortcomings in the *Treaties*. But under no circumstances can they be used as an

excuse not to fulfil our obligations of mutual solidarity and subsidiarity, to which we are bound both morally and through Articles 3 and 5 of the Treaty on European Union.

Towards the end of his speech, Schmidt made a powerful plea that I thought would be appropriate to repeat:

[W]e must work together *much better* than we do at present. And those who are temporarily stronger must of course help those who are weaker.

With this wish, I close my remarks.

NOTES

1. Figure 2 does not include any of the most distressed member states, for example, Greece, Ireland and Portugal, that are currently in IMF programmes.
2. The numbers shown in Tables 1 and 2 reflect the latest data and forecasts of the European Commission from the statistical appendix published in December, 2011.
3. The ECB had repeatedly expressed concerns about the weakened adherence to the Stability and Growth Pact prior to the crisis but governments did not heed these warnings (see, for example, European Central Bank, 2005 a, b).
4. Summits of EU Heads of State or Government are the most important meetings for shaping policy in the EU. Key decisions relating to the euro area crisis may involve only the Heads of State or Government of euro area member states. Decisions are typically prepared in meetings of the Eurogroup, where each member state is represented by its Finance Minister. Assistance to the Eurogroup is provided by the Euro Working Group where each member state is typically represented by a senior Finance Ministry official.
5. Cyprus was represented by President Dimitris Christofias at this summit. The Finance Minister representing Cyprus at preceding Eurogroup meetings was Charilaos Stavrakis. As was subsequently disclosed, a note was prepared for the Euro Working Group (2011) on 31 May, 2011, examining the implications of PSI, including bank-by-bank analysis of exposures to Greek debt. As a result, all governments were fully aware of the losses imposed on each bank when forming their position on PSI-related decisions.
6. President Dimitris Christofias represented Cyprus at this meeting. Finance Minister Kikis Kazamias represented Cyprus at the meeting of the Eurogroup on 21–22 October which prepared the decision.
7. On the basis of this argument, I have argued that the governments should reverse the PSI decision before its implementation (see Orphanides, 2012).
8. Among others, the President of France and the Chancellor of Germany were present. Finance Minister Kikis Kazamias represented Cyprus. I was also present at this event, having been invited as a member of the ECB Governing Council.

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ESTIMATING PRODUCTIVITY CHANGE IN SOUTH AFRICAN BANKS: DECOMPOSING PRODUCTIVITY INDEX NUMBERS

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Change in efficiency in South African banks covering the period 2001 to 2011 is estimated and decomposed into various components of efficiency change using the Decomposition of Productivity Index Numbers (DPIN). All four banks experienced, on average, positive TFP growth during the sample period with a decline starting in 2009. All four banks experienced technical progress and positive efficiency change for a major part of the sample period. On average the banks were not output technical efficient, but were output scale efficient. Each bank handled the financial crisis since 2007/2008 in its own peculiar way.

JEL classification: C50, C61, D24, G21, L21

Keywords: total factor productivity, technical efficiency, scale efficiency, technical change, productivity change, data envelopment analysis, index numbers

1. INTRODUCTION

Banking is a highly-regulated industry; moreover, it is regulated in an unusual way. It is not regulated in terms of pricing policies as is the case with most industrial regulation, but the regulation of commercial banking has taken the form of laying down certain operating rules that banks must follow (Luckett, 1976, pp. 57–58). There are various reasons for bank regulation. According to MacDonald and Koch (2006, p. 4) these reasons are: to ensure the safety and soundness of banks and financial instruments; to provide an efficient and competitive financial system; to provide monetary stability; to maintain the integrity of the nation's payment system and to protect consumers from abuses by credit-granting institutions. Banks are regarded as managers of risk and the strict regulation of the financial risks is to avoid a systemic or "system-wide" crisis that can extend to the entire financial system and trigger economic contagion (Bessis, 2010, p. 3). According to Pasiouras and Sifodaskalakis (2010, p. 337) banks, as financial intermediaries, play an important role in the financial markets and the economy as a whole, resulting in a link between the efficient operation of financial intermediaries and economic growth.

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