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Social and Economic
Studies Office

Focus On

The Greek debt crisis

July, 12th 2011

Introduction

Greece has come once again under the spotlight in recent weeks re-igniting concerns about the fiscal situation in peripheral euro area and hence prompting again a sovereign debt crisis in the euro area which had initially surfaced in late 2009. Events are still unfolding and the debate is also focused on the future of the Eurozone. The majority of analysts keeps worrying about the potential contagion effects of the Greek critical position; yet, only a few go to the extreme conclusion that a break-up of the euro is unavoidable.

This note tries to shed light on some “background” data and information in order to put the Greek debt crisis in a more thorough perspective also in respect to its potential impact on the Eurozone stability. It is beyond the purpose of this note, however, to assess and describe analytically the policy intervention announced and/or implemented by the various actors at play (primarily the Greek government, the International Monetary Fund, IMF, the European Union, EU, and the European Central Bank, ECB – these latter three known also as “the troika”).

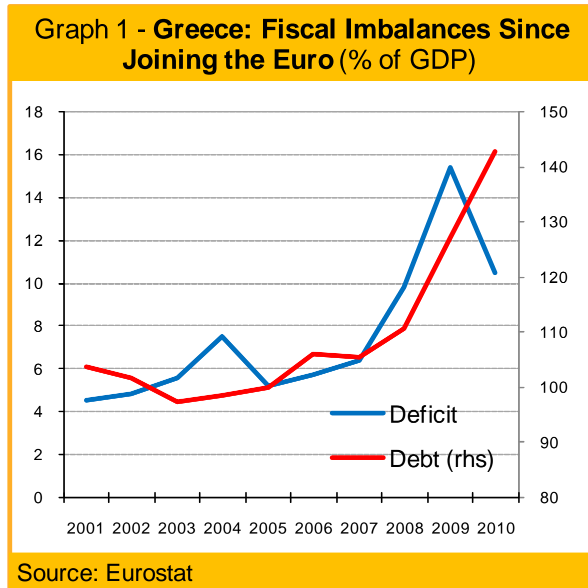
This “Focus On” is structured as follows: a brief introduction collects some background analysis; a review of the figures at play is then presented which will demonstrate how the Greek debt position is clearly unsustainable; data on banking exposure within the major euro countries point out that the potential for a contagion effect is indeed quite relevant. A conclusion tries to sum up and assess the possible outcomes of the crisis – and points to the most desirable one.

1. Causes of the crisis and main events

Over the last decade, and since joining the euro (in January 2001), Greece enjoyed a strong economic performance which was, however, based on unsustainable foundations. Average real GDP growth was close to 4% per year between 2000 and 2009, against 2% in the euro area. Growth was driven by a consumption and residential boom which in turn was supported by high real wage increases, rapid credit growth, low real interest rates associated with the euro entry and financial market innovations and liberalisation. In addition, a loose fiscal policy contributed to buoyant growth.

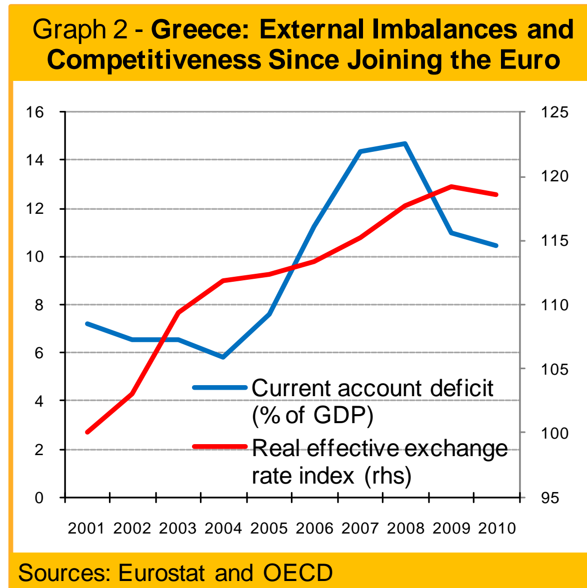
Internal as well as external imbalances, however, were piling up: a growing public debt, partly hidden by unreliable statistics, rigid labour and product markets, loss of competitiveness, and rising external debt. Fiscal imbalances have remained persis-

tently high over the whole decade. In fact, since submitting its first stability programme in December 2000 which set a medium-term objective of a balanced budget, Greece has never posted a deficit to GDP ratio below 3% (graph 1). The combination of booming domestic demand and deteriorating competitiveness translated into a rapid widening of the current account deficit which hit almost 15% of GDP in 2008 (graph 2).



Graph 1 - **Greece: Fiscal Imbalances Since Joining the Euro** (% of GDP)

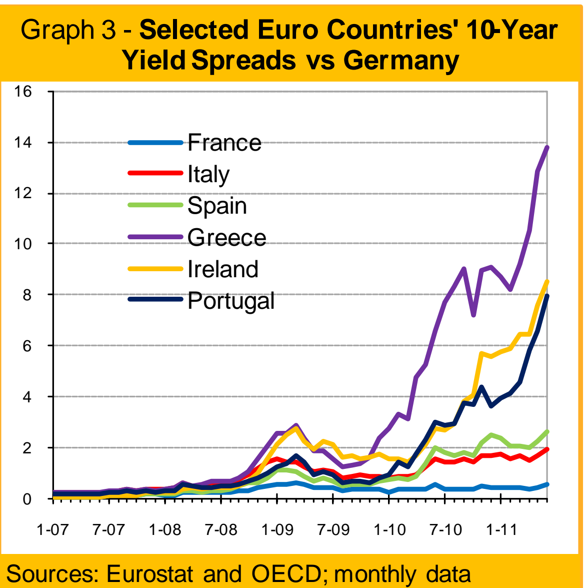
Source: Eurostat



Graph 2 - **Greece: External Imbalances and Competitiveness Since Joining the Euro**

Sources: Eurostat and OECD

The 2008-9 global crisis emphasised all the above vulnerabilities and made Greece an easy target for financial markets' rising risk aversion. The sharp economic downturn in Greece took a further heavy toll on public finances pushing the deficit to over 15% of GDP in 2009. Serious deficiencies in Greece's accounting and statistical systems gave a huge under-representation of the countries' fiscal woes. Successive revisions, also induced under Eurostat's pressure, of the 2009 deficit estimate resulted in a shocking revelation in October 2009 when the projected deficit was revised up to 12.7% from the previous estimate (April 2009) of 3.7%. That episode marked the start of the Greek crisis and market sentiment deteriorated sharply since then, while attention focussed also on other peripheral euro countries (as reflected in the widening spread of the yields on 10-year government bonds on the German counterparts, graph 3). Clearly, the delayed disclosure of effective fiscal figures caused a parallel delayed implementation of corrective measures thus feeding markets' concern on the country's fiscal sustainability.



Graph 3 - **Selected Euro Countries' 10-Year Yield Spreads vs Germany**

Sources: Eurostat and OECD; monthly data

Sizeable financial needs in April 2010 were met through the issuance of bonds at a high cost (with an average interest rate exceeding 6%), but further worsening of financial conditions led the government to call for official financial assistance in the same April 2010 in order to meet the incoming obligations. In early May, an agree-

ment was signed between the government, the European Commission, the ECB and the IMF on a comprehensive policy package for the period 2010-13 supported by official financing for a total amount of €110bn (€80bn by the Eurogroup and €30bn by the IMF). This financial package aimed at covering all the government financial needs related to its maturing liabilities until the beginning of 2012 and progressively less thereafter. The planned disbursements were in thirteen tranches with stringent conditionality being an integral part of the package. This means that each disbursement will be made subject to the compliance of Greece with policy conditions reviewed by the EC. Four tranches have already been disbursed with the latest, the fifth one, having just been approved following a turbulent period when street violence contested the setting up of a further fiscal austerity package.

Meanwhile the ECB has kept sustaining the Greek banks (as well as troubled banks in other euro countries) through its refinancing operation window accepting as collaterals on offer even government debt below investment grade. With the rating of Greek sovereign debt at the lowest level among advanced countries (Standard&Poors downgraded Greece in mid-June to CCC - "junk" level, just a few notches above the D rating of default, and with a negative outlook) financial conditions for Greece remain particularly stretched.

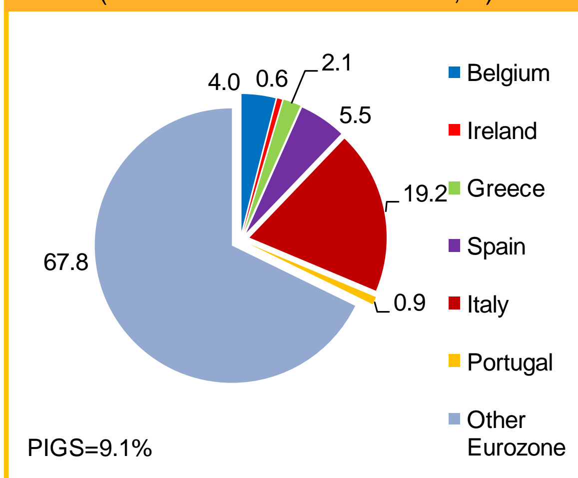
The approval of the fifth instalment of the "troika" support package (worth €12bn) is now providing vital oxygen to the country's financial needs but short to medium term prospects look still very uncertain. Eurozone finance officials are set to decide on a fresh credit facility for Greece, with the first discussions on a new strategy to reduce Athen's debt ongoing at the time of writing and a final decision expected in late 2011. A key issue at stake is the active participation of the private sector in the rescue process which can be tricky as rating agencies are keen to interpret any voluntary scheme aimed at rescheduling or renegotiating the Greek debt as a default.

2. The numbers at stake. Is the Greek debt sustainable?

The Greek economy in 2010 was just around 2.5% of the total GDP of the euro area. As shown by the following graphs (graphs 4-5), the actual size of the Greek public debt is in itself not alarming, particularly when compared with that of the major euro countries. In absolute terms, it is estimated to be currently around €360bn. Notably, in the last ten years the weight of the combined government debt of the so called PIGS countries (i.e. the countries of peripheral euro area most exposed to financial risks, Portugal, Ireland, Greece and Spain) has increased by just over 3pp relative to total debt in the euro area while its weight - at 14% - relative to total euro area GDP has increased by almost 5pp.

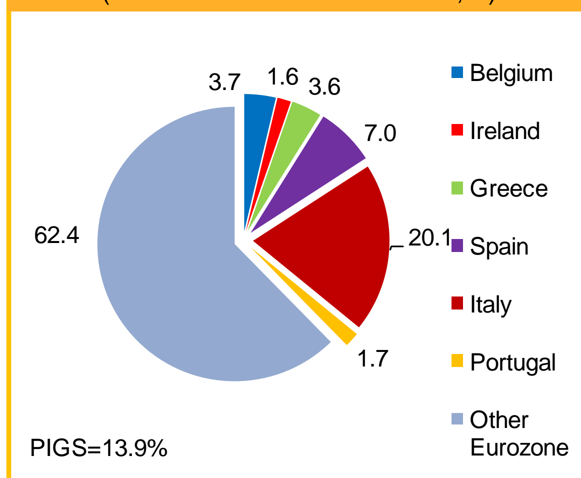
However, the sustainability of the debt for Greece is, in fact, very much questionable. Crucially, the starting level of the Greek debt is impressive relative to GDP. Most importantly, the policy response "imposed" to enact the "conditionality" under which financial support could be given continued to be geared too much on fiscal austerity. The recessionary impact of such policy stance has been largely underestimated with the result that the economy continues to contract, hence making improvements on the fiscal front hardly achievable. In addition, market sentiment is pushing yields at levels which inflate the interest rate payments on the public debt on a spiralling trend.

Graph 4 - **Euro Area Government Debt - 2000**
(Share of Euro area total GDP,%)



Source: Eurostat

Graph 5 - **Euro Area Government Debt - 2010**
(Share of Euro area total GDP,%)



Source: Eurostat

In this regard, we have carried out a very simplified exercise based on a number of assumptions on growth, inflation, and interest rate trends to calculate the size of the adjustment needed in percentage of GDP in order to stabilise public debt. In any case, enormous amounts would be needed in order to pursue a "virtuous" path aimed at gradually reducing the size of the debt. The results are reported in the following table 1 and, as for Greece, leave no doubts while some glimmer of hope remains for the other PIGS (and Italy) although conditions for Ireland appear also stretched. Looking more in the details, our simple simulation indicates that in order for Greece to keep its debt stable at the estimated level of 158% of GDP in 2011 a fiscal adjustment of almost 29% of GDP should be implemented (that is a *manoeuvre* worth approximately €70bn). In the longer term, Greece should stick to primary balances (i.e. the budget balance before interest payments) well above 6% of GDP in order to reduce its debt burden. This is clearly unsustainable, both in economic terms and for its social costs. A higher inflation scenario would clearly be beneficial to erode the debt burden but is less likely to be maintained over a long period of time.

Table 1 gives also some interesting insights on the other PIGS and on Italy as well. Among this group of countries Italy and Spain appear to be in theory less vulnerable than the remaining ones with Ireland showing the riskier situation after Greece, and Portugal following suit (which helps explain the recent downgrading of Portugal sovereign to "junk"). As for Italy, under the hypothesis presented in Table 1 for the long-term (and with a 2% inflation assumption), it would take a full 15-year period with a primary surplus of 3% of GDP to bring down the debt to GDP ratio under 100%. This is simply to show that fiscal consolidation is not an impossible target but would be in any case very costly and in some respect questionable in terms of growth.

Table 1 - **Size of the Fiscal Adjustment Needed to Stabilise the Debt to GDP Ratio in Selected Euroarea Countries in 2011, 12 and After (%)**

	i	**π**	**r**	**n**	**r-n**	**b**	**d***	**d**	**d*-d**
2011									
Euro area	3.4	2.6	0.8	1.6	-0.8	87.7	0.7	1.3	-0.6
Germany	3.1	2.6	0.5	2.6	-2.1	82.4	1.7	-0.4	2.1
France	3.5	2.2	1.3	1.8	-0.5	84.7	0.4	3.1	-2.7
Italy	4.8	2.6	2.1	1.0	1.1	120.3	-1.4	-0.8	-0.6
Spain	5.4	3.0	2.3	0.8	1.5	68.1	-1.0	4.1	-5.1
Greece	15.2	2.4	12.5	-3.5	16.0	157.7	-26.1	2.8	-28.9
Ireland	10.2	1.0	9.1	0.6	8.5	112.0	-9.5	6.8	-16.3
Portugal	9.0	3.4	5.4	-2.2	7.6	101.7	-7.9	1.7	-9.6
2012									
	i	**π**	**r**	**n**	**r-n**	**b**	**d***	**d**	**d*-d**
Euro area	4.0	1.8	2.2	1.8	0.4	88.5	-0.3	0.4	-0.7
Germany	3.5	2.0	1.5	1.9	-0.4	81.1	0.3	-1.2	1.5
France	4.0	1.7	2.3	2.0	0.3	86.8	-0.2	2.4	-2.6
Italy	5.5	1.9	3.5	1.3	2.2	119.8	-2.6	-1.9	-0.7
Spain	6.0	1.4	4.5	1.5	3.0	71.0	-2.1	2.9	-5.0
Greece	15.0	0.5	14.4	1.1	13.3	166.1	-21.9	1.8	-23.7
Ireland	10.0	0.7	9.2	1.9	7.3	117.9	-8.5	4.2	-12.7
Portugal	9.0	2.0	6.9	-1.8	8.7	107.4	-9.5	-0.3	-9.2
Long-term scenario with 2% inflation									
	i	**π**	**r**	**n**	**r-n**	**b**	**d***		
Euro area	4.5	2.0	2.5	1.8	0.7	89.0	-0.6		
Germany	4.0	2.0	2.0	1.9	0.1	81.0	0.0		
France	4.2	2.0	2.2	1.9	0.3	87.0	-0.2		
Italy	5.0	2.0	2.9	1.3	1.6	120.0	-1.9		
Spain	5.2	2.0	3.1	1.5	1.6	71.0	-1.1		
Greece	7.0	2.0	4.9	1.5	3.4	166.0	-5.6		
Ireland	5.5	2.0	3.4	1.6	1.8	118.0	-2.1		
Portugal	6.0	2.0	3.9	1.4	2.5	107.0	-2.7		
Long-term scenario with 4% inflation									
	i	**π**	**r**	**n**	**r-n**	**b**	**d***		
Euro area	4.5	4.0	0.5	1.8	-1.3	89.0	1.2		
Germany	4.0	4.0	0.0	1.9	-1.9	81.0	1.5		
France	4.2	4.0	0.2	1.9	-1.7	87.0	1.5		
Italy	5.0	4.0	1.0	1.3	-0.3	120.0	0.4		
Spain	5.2	4.0	1.2	1.5	-0.3	71.0	0.2		
Greece	7.0	4.0	2.9	1.5	1.4	166.0	-2.3		
Ireland	5.5	4.0	1.4	1.6	-0.2	118.0	0.2		
Portugal	6.0	4.0	1.9	1.4	0.5	107.0	-0.6		

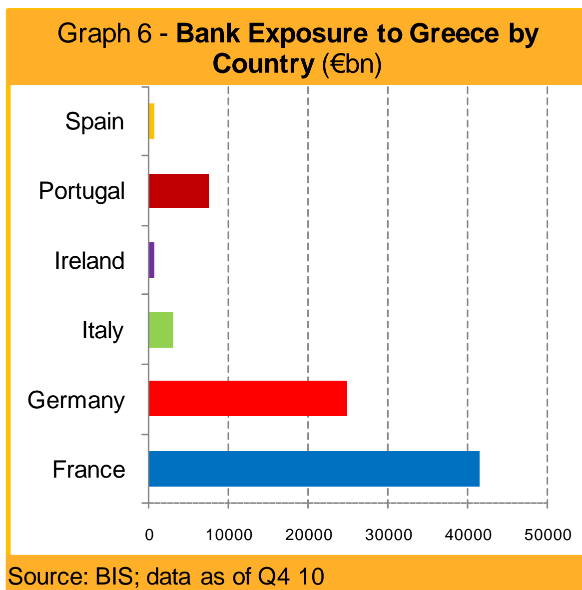
Source: our elaborations on European Commision data and forecasts; long-term interest assumptions are our arbitrary hypotheses.

Legenda: i: nominal interest rate; π: inflation; r: real interest rate; n: real GDP growth rate; b: debt/GDP, d: primary deficit/GDP; d*: stabilisation deficit/GDP when the primary balance is zero; d*-d: fiscal balance adjustment needed to stabilise debt/GDP

3. Debt exposure in the euro area banking system

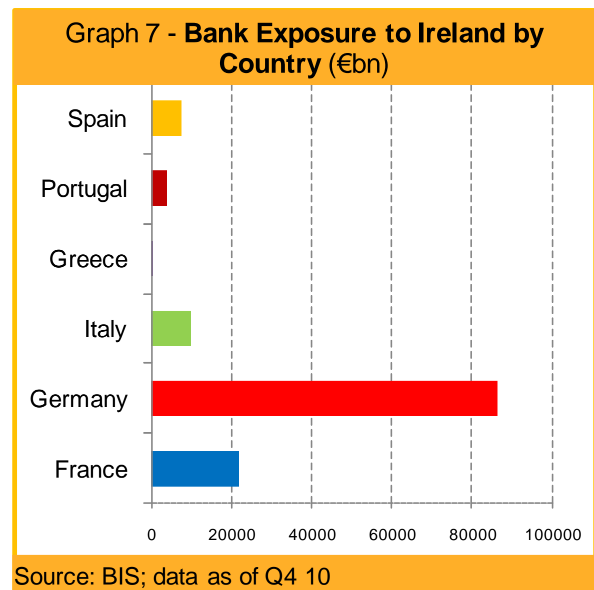
Worries related to the Greek solvency issue can be better understood looking at the interlinkages within the banking sector in the euro area. Notably, the ECB is estimated to have made purchases over the past year worth €75bn of which between €45 and €50bn reckoned to be Greek debt (this may help explain the ECB's resistance to talks of restructuring).

The latest data from the Bank for International Settlements (BIS) document the debt exposure of the banking sector in the euro area as at the end of 2010. It should be pointed out that these statistics cover all consolidated claims on a country and not only the ones related to the sovereign debt. The following graphs show the debt exposure by target country (issuer of debt, graphs 6-10) and by country of origin of banks, the latter group in historical perspective (graphs 11-22).



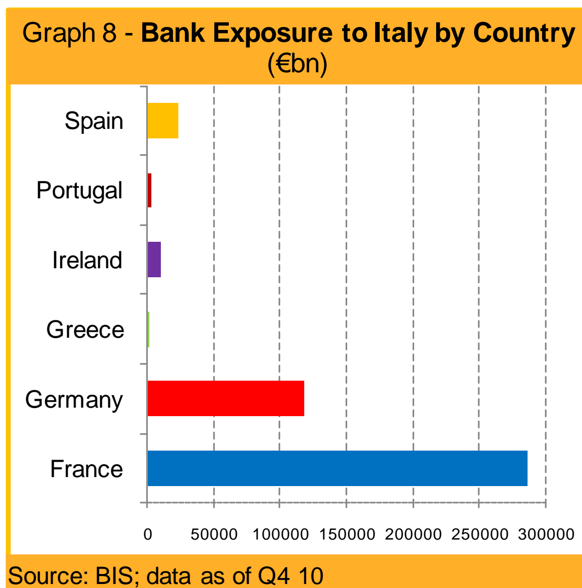
Graph 6 - **Bank Exposure to Greece by Country** (€bn)

Source: BIS; data as of Q4 10



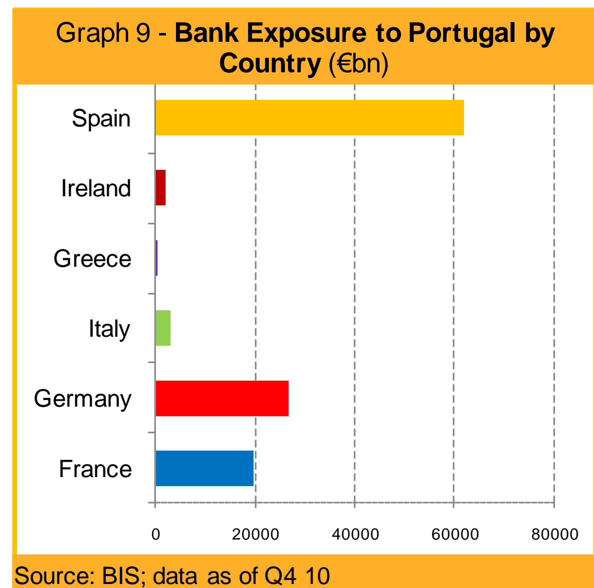
Graph 7 - **Bank Exposure to Ireland by Country** (€bn)

Source: BIS; data as of Q4 10



Graph 8 - **Bank Exposure to Italy by Country** (€bn)

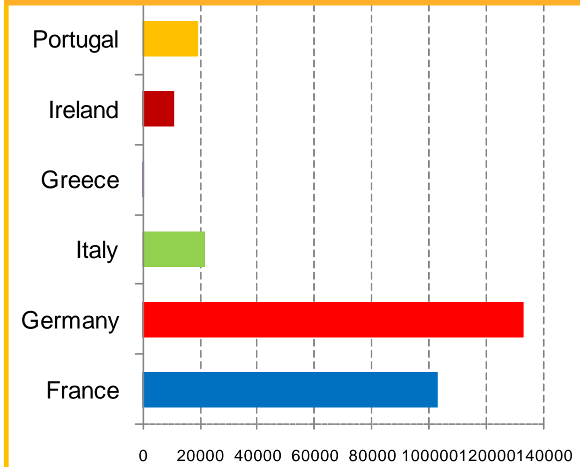
Source: BIS; data as of Q4 10



Graph 9 - **Bank Exposure to Portugal by Country** (€bn)

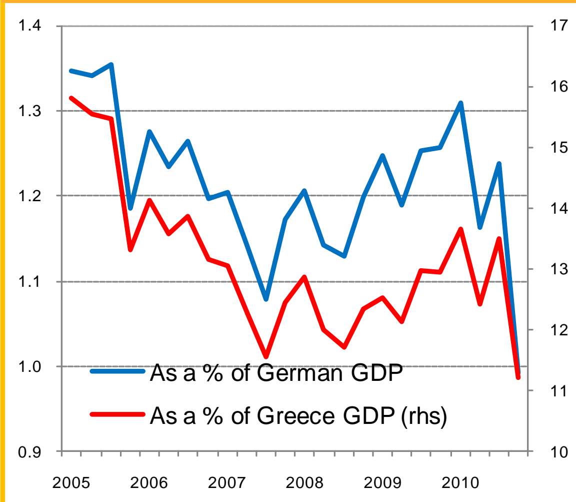
Source: BIS; data as of Q4 10

Graph 10 - **Bank Exposure to Spain by Country** (€bn)



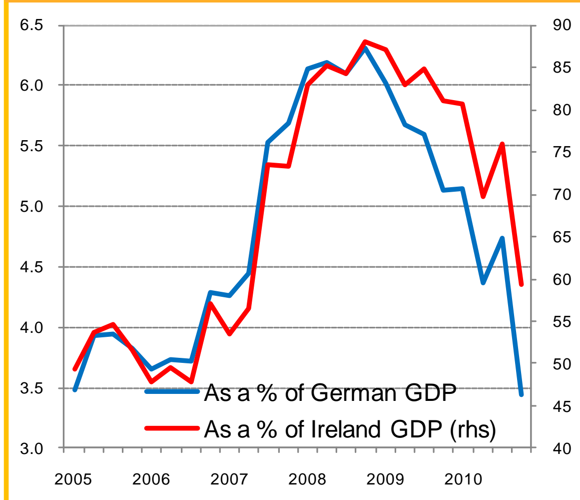
Source: BIS data as of Q4 10

Graph 11 - **German Banks' Claims on Greece**



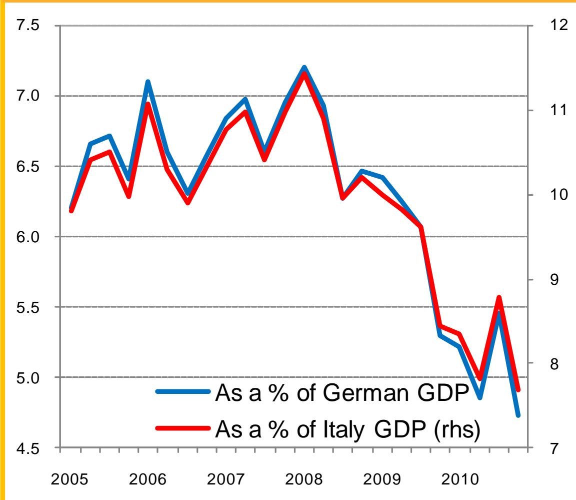
Source: BIS and OECD; quarterly data

Graph 12 - **German Banks' Claims on Ireland**



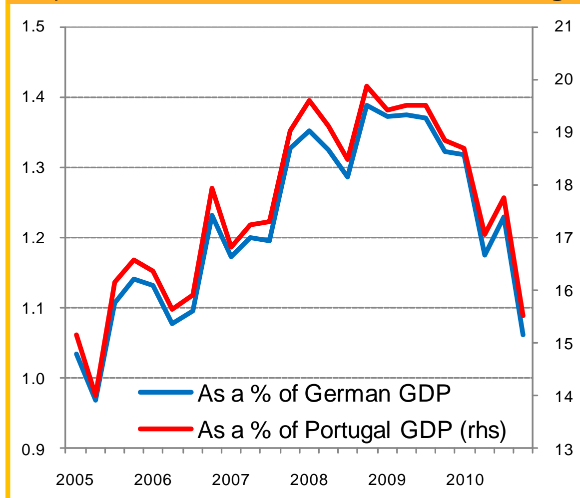
Source: BIS and OECD; quarterly data

Graph 13 - **German Banks' Claims on Italy**



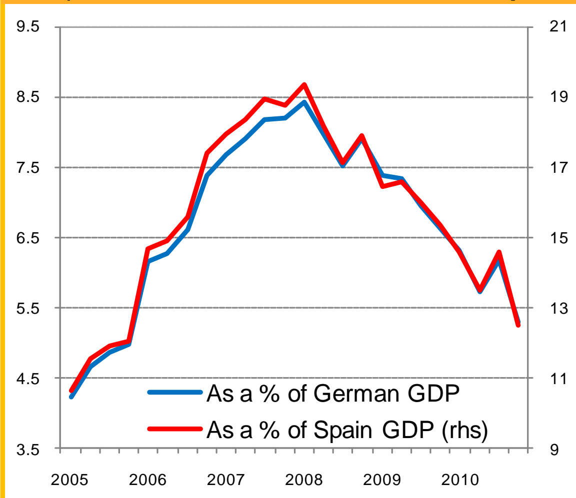
Source: BIS and OECD; quarterly data

Graph 14 - **German Banks' Claims on Portugal**

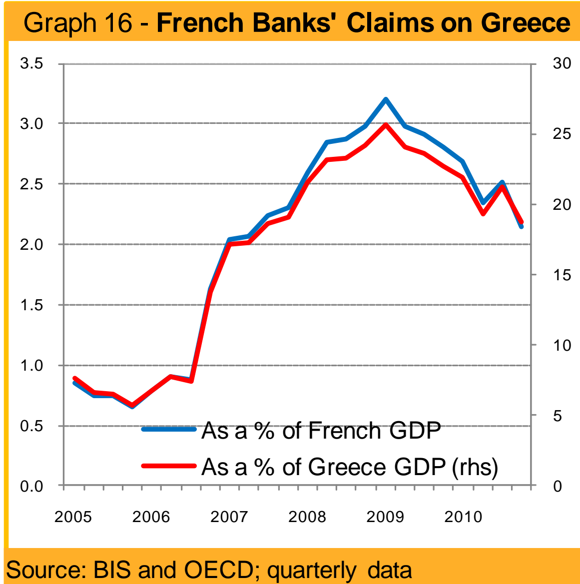


Source: BIS and OECD; quarterly data

Graph 15 - **German Banks' Claims on Spain**

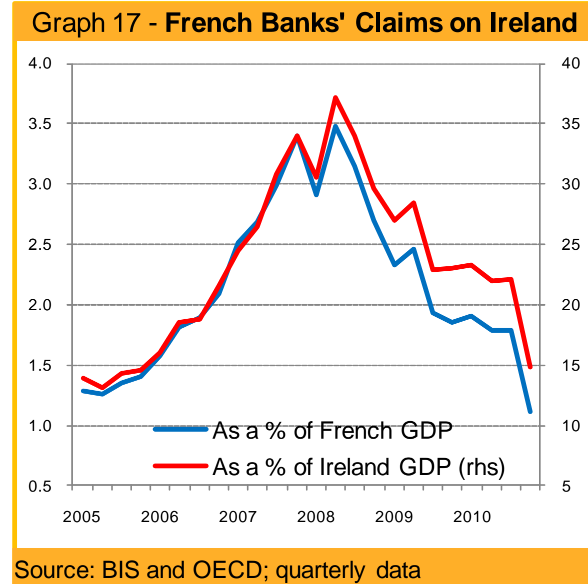


Source: BIS and OECD; quarterly data



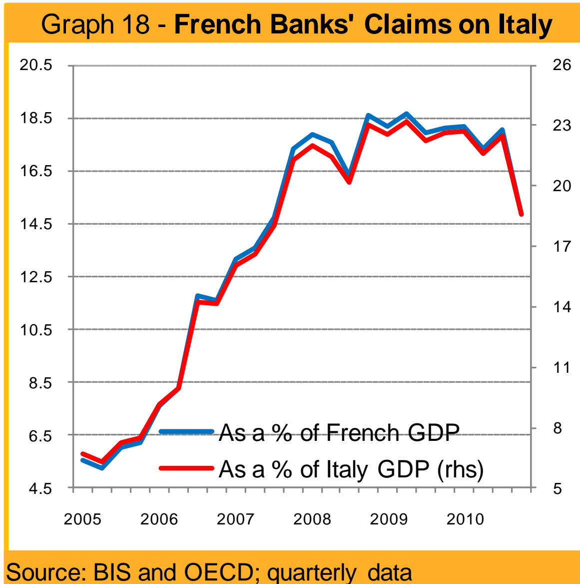
Graph 16 - **French Banks' Claims on Greece**

Source: BIS and OECD; quarterly data



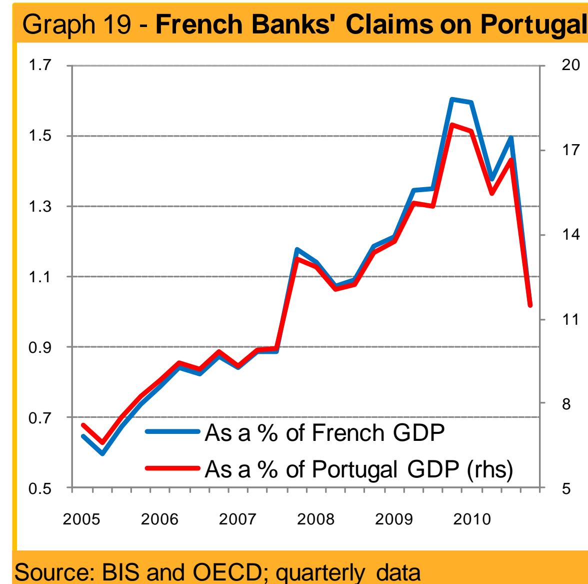
Graph 17 - **French Banks' Claims on Ireland**

Source: BIS and OECD; quarterly data



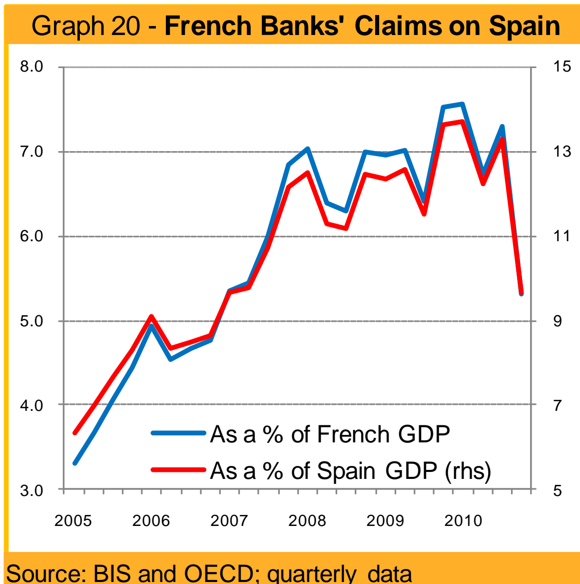
Graph 18 - **French Banks' Claims on Italy**

Source: BIS and OECD; quarterly data



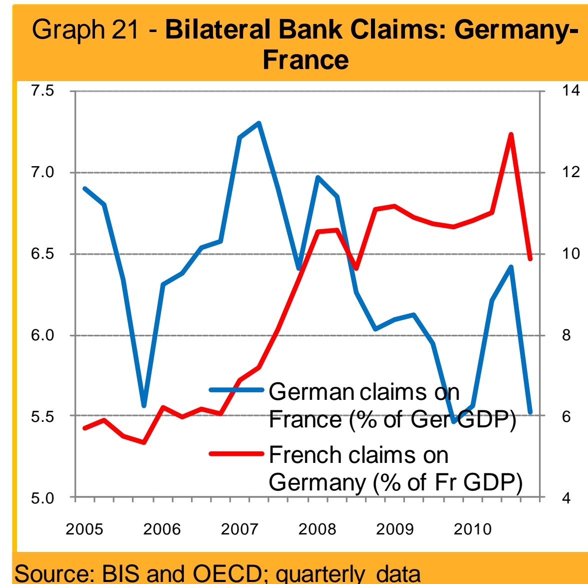
Graph 19 - **French Banks' Claims on Portugal**

Source: BIS and OECD; quarterly data



Graph 20 - **French Banks' Claims on Spain**

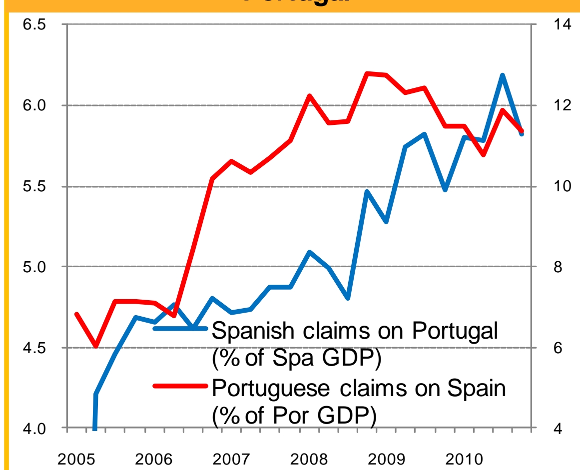
Source: BIS and OECD; quarterly data



Graph 21 - **Bilateral Bank Claims: Germany-France**

Source: BIS and OECD; quarterly data

Graph 22 - **Bilateral Bank Claims: Spain-Portugal**



Source: BIS and OECD; quarterly data

France and Germany's banking sectors appear to be heavily exposed to all euro –peripheral countries while the Italian one is, surprisingly, not. As of Q4 10, total banking exposure of French and German banks to PIIGS was €473bn and €390bn, respectively (in turn 24.2% and 15.6% of their respective GDP). Note also the large exposure of French banks particularly on Greece, Italy and Spain and that of the German ones on Ireland, Italy and Spain. As expected, Spain's exposure to Portugal is also sizeable. Graphs 11 to 22 illustrate bilateral bank claims on a historical perspective and focus on the point of view of France and Germany. All figures are expressed in % of GDP in order to give an idea of amounts at stakes in relative terms. The two final graphs concentrate on the bilateral claims of two significant pair of countries: France-Germany and Spain-Portugal.

In general, the relative size of claims on GDP of target countries is impressive (particularly, Germany on Ireland graph 12, rhs) and the interconnections of French and German banks are such that any default in the euro area may end up having important repercussions on the euro banking system. Another noteworthy point is that exposure has fallen in most cases since the start of the crisis. Anecdotal evidence points to further recent retrenchment in banking debt exposure. This decline probably reflects both a portfolio reduction and the lower market value of debts on the balance sheets of those banks that booked them at market value.

As for the ownership of the Greek debt, Barclays Capital has recently published a study of top holders of the Greek debt. Updated estimates are reported in Table 2. According to these figures a large amount of debt is in the hands of international official institutions but also a sizeable chunk is in Greek hands, be it public of private. Major German and French private institutions also stand out.

Table 2 - **Barclays Capital Estimated Top Holders of Greek Debt**

Country	Name	€bn	Country	Name	€bn
Euro Area	Eurosystem SMP[1]	45.0	Greece	ATE Bank	4.6
Euro Area	EU loans	38.0	Greece	Alpha Bank	3.7
Greece	Greek public sector funds	30.0	Bel/Lux/Fra	Dexia	3.5
RoW[2]	Official institutions	25.0	Greece	Hellenic Postbank	3.1
IMF	IMF loans	15.0	Italy	Generali	3.0
Greece	National Bank of Greece	18.6	Germany	Commerzbank	2.9
Euro Area	National Central Banks	13.1	France	Societe Generale	2.9
Greece	Eurobanks EFG	9.0	France	Groupama	2.0
Greece	Piraeus	8.0	France	CNP	2.0
Germany	FMS (ex Defpa/Hypo Real Estate)[3]	6.3	Germany	DB/Deutsche Postbank	1.6
Greece	Bank of Greece	6.0	Germany	LBBW	1.4
France	BNP	5.0	Netherlands	ING	1.4

Source: original Barclays Capital table reported in various internet websites. Table version as of July 4th.
[1] SMP: Securities Market Programme; [2] RoW: Rest of World; [3] FMS is owned by the German government

Among the top 40 debt holders, Greek private and public institutions hold around €87bn, international official institutions hold around €110bn while the main French, German and Italian banks hold just above €50bn. Of the remaining €134bn, €25bn are in the hands of Sovereign Wealth Funds from probably Asian official institutions while the rest is fragmented among unspecified players. The large exposure of the Greek banking system makes it particularly vulnerable to markets' trends while the official international intervention appears already sizeable.

4. Conclusions: which way out?

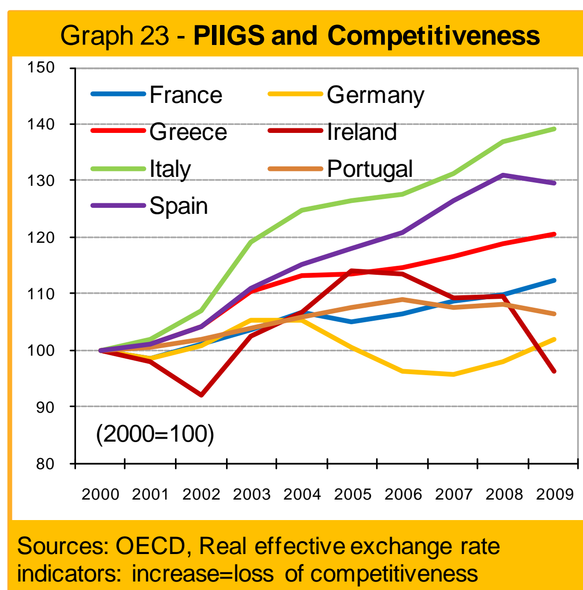
The current crisis in the euro area is undoubtedly of a difficult, though not impossible, solution. The contagion from Greece to Ireland and Portugal (which have both already requested for official assistance in the past months) appears on track and seemingly unavoidable. If the contagion stops at this stage then the extent of the crisis could be limited; problems of course mount should Spain and/or Italy come to the forefront as the sheer size of their imbalances and obligations is too large to be possibly bailed out. For instance, looking at the next few years, within 2013 Italy and Spain have maturities falling due for a stunning amount of €842bn according to some estimates (namely, €576bn Italy and €266bn Spain).

Current talks of a euro break out are thus not fully misplaced although the consequences of such an event would be hardly imaginable and produce catastrophic economic effects. Also, the probability that Greece exits the euro (albeit opting-out from the euro area was not explicitly taken into accounts in European treaties) is as for now still relatively low, though not negligible. Here, we stick our analysis to the ongoing phase of the crisis and try to figure out the possible way out of the Greek crisis.

In this regard, it is preliminarily worth noting that the ongoing economic disturbances in the euro area are not uniquely caused by fiscal imbalances. In fact, these are somewhat the symptoms of a deeper economic disease in the countries affected. Putting aside Ireland (where a massive private debt issue and the real estate bubble were at the roots of its crisis) all the other countries suffered to various extent from loss of competitiveness mainly driven by strong unit labour cost growth (graphs 23-24) and widespread rigidities in their economic systems[1]. Any strategy aimed at solving the current *impasse* cannot ignore these fundamental economic issues as the current crisis is not only financial/fiscal but also of structural real nature.

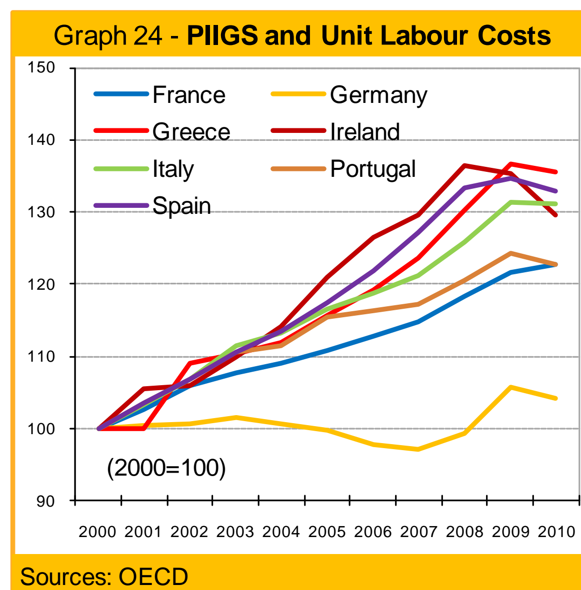
Apart from the above mentioned euro collapse or Greek exit options, there remain two other possible outcomes: a default of the Greek debt, and what the Bank for International Settlements calls a "mutualisation" of the crisis.

[1] As a matter of fact, these economic weaknesses have been long acknowledged as being an important issue to be tackled so that the European Commission keeps insisting in its policy recommendations to euro peripheral countries (including Italy) on introducing widespread structural reforms able to permanently increase productivity and competitiveness.



Graph 23 - **PIIGS and Competitiveness**

Sources: OECD, Real effective exchange rate indicators: increase=loss of competitiveness



Graph 24 - **PIIGS and Unit Labour Costs**

Sources: OECD

In the previous paragraphs we have seen that a default is unavoidable, - or, put in other words, that the Greek government at some point in time will not be able to meets its obligations - and this fact is now widely accepted, albeit not explicitly so at official levels. A default could occur in a straightforward or in a softer manner. In the first case, the so-called "haircut" on the value of the Greek debt would impose immediate losses on private creditors, seriously hurt the Greek banking system, and raise the risks of a euro area wide contagion. A softer way out is the restructuring (or re-profiling) of the Greek debt. Without entering the technicalities of financial engineering, a debt restructuring would primarily involve the re-design of its time structure or terms of provision and a degree of reduction of the debt value. There are also talks of bonds buy-back operations financed by international institutions although the economic literature has already demonstrated that such financial devices tend to benefit disproportionately private banks and increase costs to government relative to other financial options. Debt restructuring could be difficult to control in an orderly way especially given the losses that banks would suffer. While an "orderly" restructuring is desirable, a "disorderly" one is the most likely outcome which will increase costs. As mentioned above, voluntary renegotiations from the private sector are now being invited and discussed. Trying to replicate the "Vienna initiative" (a plan drawn in 2009 which halted financial contagion throughout central and eastern Europe) there are currently calls for banks to volunteer to roll over holdings of Greek debt and the French initiative of recent weeks goes in this same direction. This latter option is, however, very hard to coordinate and may not be sufficient to address the solvency issue. In general, and with respect to international financial markets, it is difficult to disguise voluntary renegotiations for what they really are, i.e. a sort of partial default.

The other solution, mutualisation, is that other euro countries pay the bill for those in trouble, an option which would be extremely hard to sell to an already hostile European population (particularly in "virtuous" Northern countries). As a matter of fact, in this latter case, richer countries' taxpayers should have to pay the bill for more profligate countries, a "solidarity" act which would be hardly acceptable and could in addition encourage further profligacy.

To remain realistic, however, what we deem a most likely scenario for the coming months is that a restructuring of the Greek debt will eventually occur, with a higher probability that this happens in a disorderly manner. The issue at stake will then be

who bears the costs with the most desirable option being that a fair share of losses is born also by private investors and not only by taxpayers. In any case, and somewhat paradoxically, the sooner the restructuring the lower the risk of a default contagion to other countries. Delaying it simply amounts to “buying time”. European institutions and leaders have so far failed to agree on a decisive unitary stance and lacked a more long-term view. Hopefully, at some point in time, pro-active thinking will prevail on wishful thinking. In the meantime, markets will keep on suffering from bouts of volatility and a contagion to all other peripheral countries will remain a non-negligible threat. One thing is certain, whatever the outcome of current days troubles it will come at a high cost as fiscal consolidation and structural economic reform cannot be postponed in euro-peripheral countries.

In conclusion, the lesson that is emerging is that to prevent a crisis such as the current one a most desirable option would be to move more effectively towards a deeper economic integration of euro participant countries. This should involve a gradual and progressive devolution of fiscal policy levers to more centralised European bodies and should also yield a greater degree of cooperation and the abandonment of national egoisms (which have played a big role in recent times, e.g. when decisions were taken with an eye at incoming local elections). In other words, it appears that the mantra is becoming more and more true that has been circulating since the inception of the euro - i.e. that in the euro area the absence of a fiscal union makes any attempt to retain the “one-size-fits-all” policies required for the monetary union doomed to fail. In perspective, only accepting this reforming challenge a significant improvement and advancement in the construction of a united Europe could be made.