Rising CDS spreads may correspond to an increase in protection demand by investors to hedge their underlying positions or to speculative bets on a further deterioration of credit spreads. Market participants in sovereign CDS markets may not only trade to insure against a "default"[6], but also on widening or narrowing spreads. In this latter case, their trades are based on believes about the future evolution of the issuer default risk which might increase or decrease: in this case, sovereign CDS are not a default trade, but a spread trade.

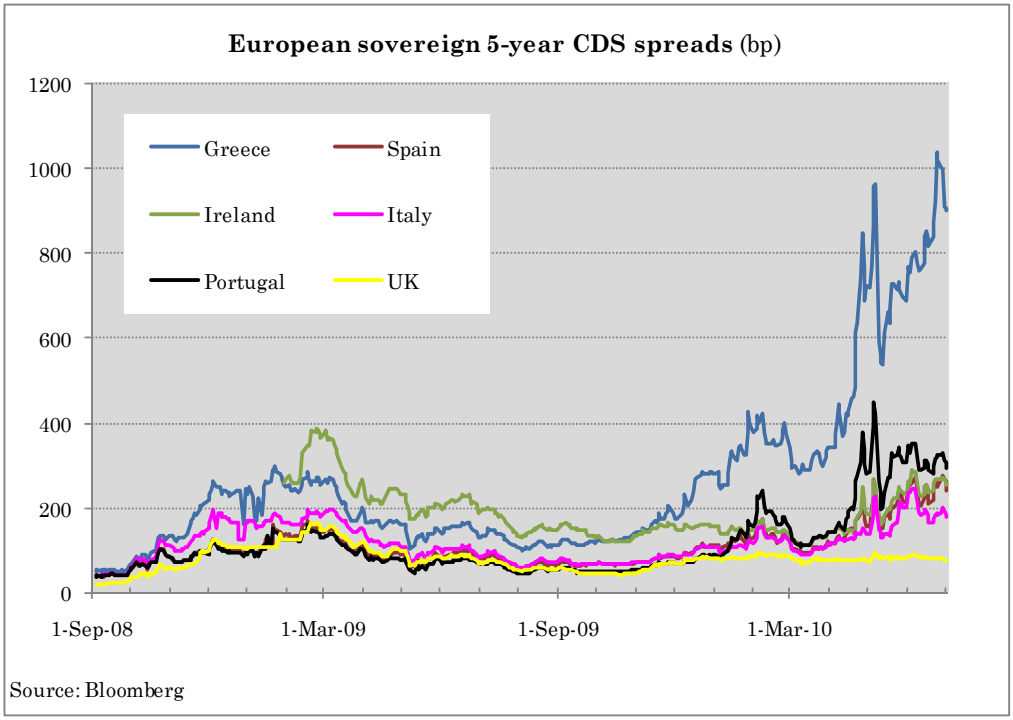

Figure 14 (data until 2 July 2010)

Looking ahead, despite the ongoing efforts by the Greek government to cut the budget deficit and put Greece on a sustainable fiscal path, it could well be that some market participants, including hedge funds and large investment banks, further test the determination of the Greek government towards an ongoing rigorous fiscal policy and the commitment of the EU to support Greece, would such support be required. Indeed, the Greek CDS curve inverted in mid-January[7], which is an unusual situation indicating that the market is seeing a higher risk that the country will experience a credit event in the short-term, than in the long-term[8]. It is possible to construct examples whereby CDS spreads reflect speculative behavior rather than fundamentals, and to show that speculative strategies can be destabilising in the sense that they lead to negative effects for financial markets, like prices not reflecting fundamentals or an increase in volatility (this would correspond to the bad equilibrium when there are multiple equilibria)[9]. In practice, at least so far, it has not been possible to make a clear case of destabilising speculation or market

[6] A "default" is a very peculiar event in the case of sovereigns as there is no international bankruptcy court so that they cannot "disappear". The "credit event" in these cases typically is one of the following: obligation acceleration, failure to pay, repudiation/moratorium, or a debt restructuring (see e.g. Barclays Capital: "Sovereign CDS trading", 11 Feb. 2010).
[7] Since then, the CDS term structure has inverted for several other European countries (Portugal, Ireland, Spain). A full appreciation of these inversions need, however, take account of the liquidity situation in these markets.
[8] There is evidence which indicates that the term structure of CDS spreads reveal information about the arrival rate of credit events, as well as the loss rate given credit events (see Pan, J, and K. Singleton (2008): "Default and recovery implicit in the term structure of sovereign CDS spreads", *Journal of Finance*, 63(5), 2345-2348). For an account of the recent events see the *BIS Quarterly Review*, June 2010.
[9] See also the recent exchange of views between R. Portes (2010): "Ban Naked CDS", *Euro Intelligence*, March 18, and D. Duffie (2010): "Is There a Case for Banning Short Speculation in Sovereign Bond Markets?", Banque de France Seminar contribution, 8 July.

manipulation concerning the developments in markets related to Greek sovereign bonds.Further analysis should be conducted as the potential risk of destabilising effects cannot be neglected.,

Figures 15-19 represent US-denominated, 5-year maturity sovereign CDS and government debt spreads for some European countries. As expected, the differences between the respective government debt spreads of those countries and the Bund spread on the one hand, and the difference between the respective sovereign CDS spreads and the German CDS spread on the other hand, are positively correlated for the period considered.

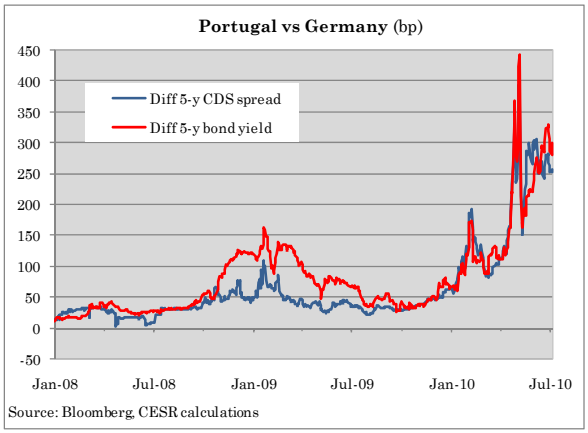

Figure 15 (data until 7 July 2010)

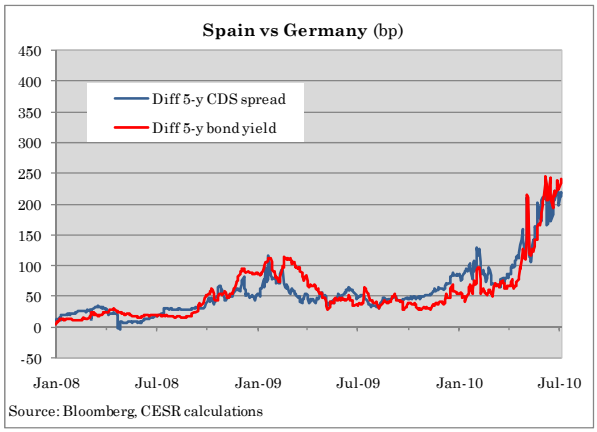

Figure 16 (data until 7 July 2010)

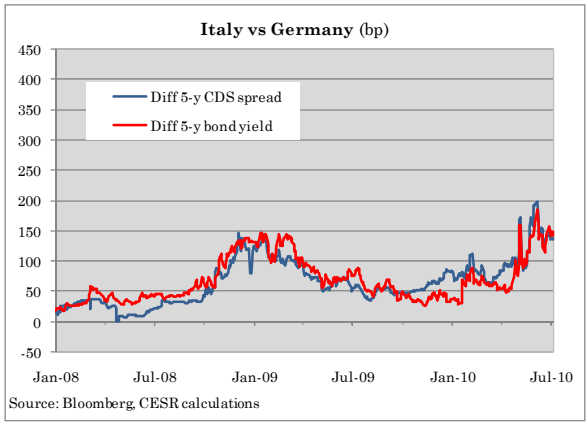

Figure 17 (data until 7 July 2010)

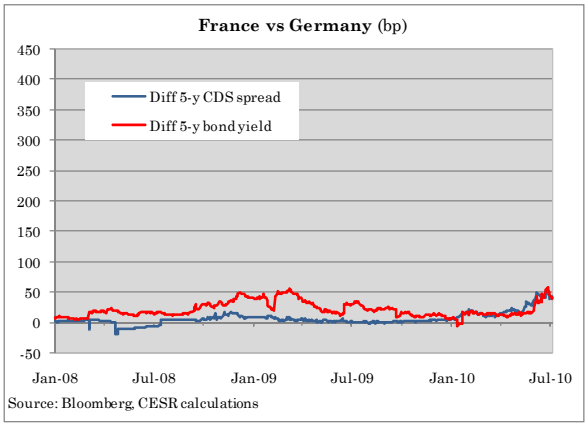

Figure 18 (data until 7 July 2010)

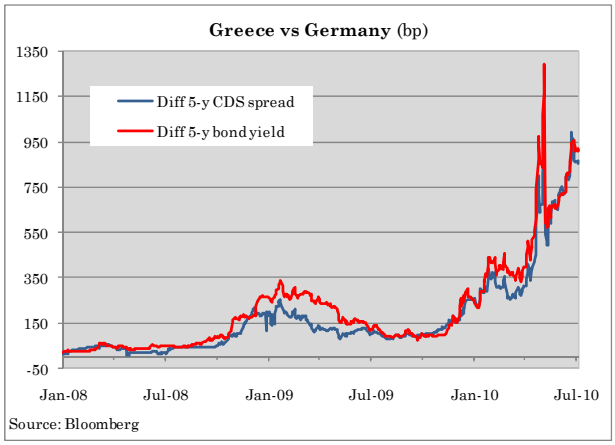

Figure 19 (data until 7 July 2010)

Both measures reflect country risk. Assuming market efficiency, market arbitrage would lead to a high positive relationship between the government paper market and the respective sovereign CDS market. It is noted that holding a risk-free asset in combination with a sell position on a

CDS contract would roughly correspond to having a long exposure to the CDS underlying security. This means, at least in theory, that the CDS premium should equal the difference between the risk-free return and the underlying security risk premium. . The figures above suggest that they are indeed quite correlated in most of the cases, particularly for the current year. It is not clear however whether there is a causal link between CDS spreads and bond yield spreads and what its direction would be.

An analysis of the dependence between the first differences of the two variables (see table 2) indicates

- higher correlation levels for countries which show higher risk levels such as Greece, Portugal and Spain over the whole period;
- lower correlation levels for all countries considered in 2009 in comparison to the whole period levels, as well as for Q4 2009;
- higher correlation levels for all countries considered in Q1 2010 in comparison to the whole period levels.

Correlation coefficients of the I(1)* spread and yield differences for selected European countries

Differences with respect to Germany	Portugal	Greece	Spain	Italy	France
Q2 2006 – Q1 2010**	0.33	0.51	0.31	0.18	0.05
Q1 2009 – Q4 2009	-0.01	0.45	0.21	0.18	0.05
Q4 2009	0.17	0.70	0.26	0.09	-0.01
Q1 2010	0.64	0.72	0.56	0.43	0.25

Source: Bloomberg (CESR computations); data from the beginning to the end of the quarters; * the series are integrated of order 1, I(1), i.e. first differences are used to take account of non stationary. ** Considering the period Q1 2008 – Q1 2010 during which the sovereign CDS markets were better developed gives results which are very close to the ones presented.

Table 2

From these results, it emerges that the relationship between the sovereign CDS and government debt markets has changed over time, and that increased visibility of the CDS market in recent turbulence periods appears to have led to a faster price adjustment between both markets.

Box 4: The European Financial Stabilisation Mechanism (EFSM)

On 10 May 2010, following the escalation of tensions in Euro sovereign debt markets, European finance ministers unveiled a European Financial Stabilisation Mechanism (EFSM). The mechanism is based on Article 122.2 of the Lisbon Treaty, and an intergovernmental agreement of Euro area Members States. Article 122.2 allows for mutual support in the event a member country is "threatened with severe difficulties caused by exceptional occurrences beyond its control". The activation of the mechanism is subject to strong conditionality, in the context of a joint EU/IMF support, and will be on terms and conditions similar to the IMF. The mechanism, which will operate without prejudice to the existing facility providing medium term financial assistance for non euro area Member States' balance of payments, has two components:

- *the first element of the stabilisation plan allows the European Commission (EC) to borrow up to EUR60bn from either capital markets or financial institutions. These funds would provide support in the form of loans or credit lines to EMU countries under conditional terms set by the EC in liaison with the ECB. Technical and financial participation of the IMF remains possible;*
- *the second and larger component of the stabilization mechanism is a joint pledge to provide up to EUR440bn to Euro area Members in need over the next three years. Further IMF funds could be added, reaching potentially an additional 50%.*

On 7 June 2010, Euro area finance ministers agreed the terms through which the promised EUR 440bn will be provided to troubled countries within the monetary union. The European Financial Stabilization Fund (EFSF) will involve setting up a special purpose vehicle (SPV) that is guaranteed on a pro rata basis by participating Member States in a coordinated manner and will expire after three years, respecting their national constitutional requirements. The IMF will participate in financing arrangements and is expected to provide at least half as much as the EU contribution through its usual facilities in line with the recent European programs. The funds will be lent to countries under strict conditionality laid out by the vehicle's board of directors. Assistance to ailing states will be provided upon the presentation of a satisfactory restructuring program. These funds will be "over-guaranteed" (120%) by each Member as a provision for the possible inability of some member states to back the vehicle. This should grant the SPV the best possible rating and its bonds will also be eligible for ECB refinancing operations. As soon as 9/10 of the shareholders have approvals from their parliaments to guarantee the SPV's debt, it will be in a position to issue securities. The interest rate charged for loans is still unknown, as are the exact circumstances under which/ purposes for which it will be used.*

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* See, for instance, W. Buiter (2010): "Sovereign Liquidity Facility, Transfer Europe or Bank Recapitalisation Fund?", *Citigroup Economics*, 23 June.

Contagion effects of strains in the Greek government bond and CDS markets on other market segments cannot be excluded (see also the presentation in the 3L3 cross-sector risk report) and could act, for instance, through the following channels:

- First, strains could propagate further to other sovereign bond and CDS markets through a higher risk premium associated with countries displaying characteristics that could be seen by the market as replicating those of Greece. With possibly rising European government bond yields, all the bond and credit markets may then experience a correction, increasing thereby funding costs for firms.

- Contagion may also spread to the European equity and bond markets to the extent that the institutional investors (in particular insurers, pension funds and banks) in Europe display significant exposures to governments bonds, but also through rising funding costs. There is therefore a risk that rising sovereign risk translates into a further deterioration of asset prices.

In order to support its members, Euro area governments agreed to the creation of a European Financial Stabilisation Mechanism (Box 4) so as to guarantee debt repayment and in parallel support their currency.