

France and Europe faced with the economic crisis

▶ PART 2. THE FINANCIAL MECHANISMS FOR THE SPREADING OF THE SOVEREIGN DEBT CRISIS

The fact that markets have been shunning Eurozone sovereign debt risk since the stock market crash of autumn 2008 is calling the sustainability of public finances even more into question. To address this issue, a distinction must be made between the actual erosion of the fundamentals in each country and the strictly financial mechanisms brought into play by liquidity problems on the sovereign debt markets. Although the toughening of government borrowing terms and conditions remains localised and interest rates remain relatively low, the risk of contagion must be taken into account if it is to be

avoided. It seems that both hedge funds (through a lack of transparency and prudential regulation) and rating agencies tend to foster the risks of a cumulative imbalance. The lack of any mechanisms that can reduce risk premia to levels that reflect fundamentals raises the question of whether a European or international rating agency should be created. Despite certain excesses that are jeopardising banks' balance sheets, the risk of a large-scale liquidity crisis on the sovereign debt market remains unlikely. ■

▶ PROPOSALS

- 1 Improving reporting and transparency with regard to position-taking and the risk structure of hedge funds.
- 2 Organising the more 'speculative' transactions on the default hedging market (CDSs, which hedge the risk of a borrower default). This involves securing 'naked' shorts, where the investor is covered but does not hold the underlying security, and bets on a default to make gains. Use of clearing houses should be extended to these transactions, which are most often negotiated over-the-counter, with improvements to the security deposit and margin call system to secure these transactions.
- 3 Raising the prudential ratios for CDS sellers, i.e. for insurance providers: if the latter lack the provisions to cover the risk they are insuring, they could act as channels of transmission of a systemic crisis.
- 4 Improving the transparency of risk assessment by rating agencies by publishing the methods, models and hypotheses that underlie the rating process. Having the ability of agencies' ratings to predict defaults assessed by market authorities.

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ISSUES

The issue of the sustainability of developed countries' public finances rose to the fore in the wake of the crash of autumn 2008. This is largely due to the scale and simultaneous nature of the decline in financial balances observed during the crisis in most OECD countries. It may also be attributed to the spreading of the liquidity crisis on the financial markets. Mistrust of securitised debts initially resulted in a liquidity dry-up on the interbank market and a return to risk-free securities conducive to public deficit financing. In undermining the performance of some intermediaries, however, it also led to a more selective attitude towards taking risks. **The connection between liquidity crises and the default risk of sovereign issuers has therefore been established via an increase in interest rate spreads⁽¹⁾ on the debt of various States deemed to be in a fragile state.**

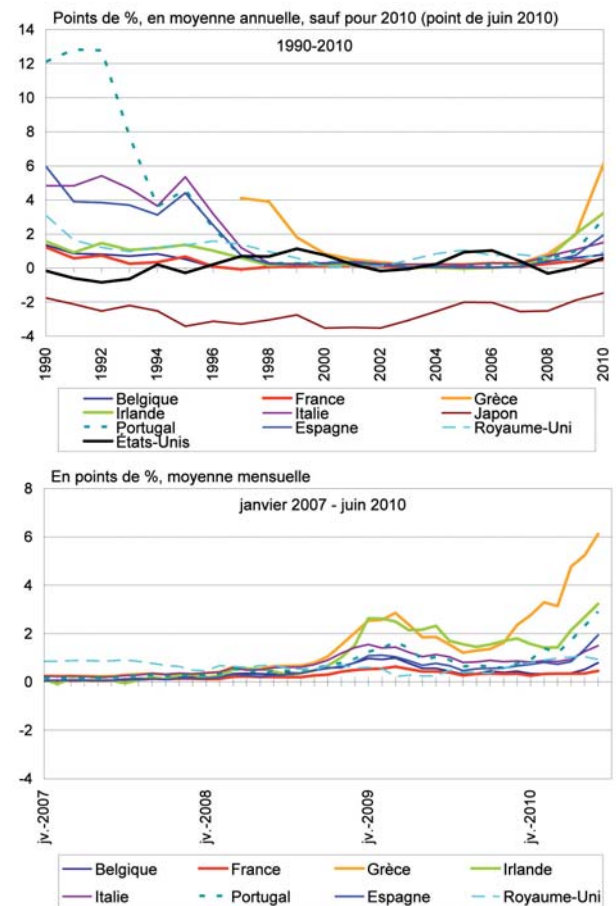
For the time being, the increased cost of public debt remains localised and the differentiation of risk premia is not calling into question the general flight-to-quality or the historically low long-term interest rates on government bonds. However, the risk that a sovereign debt crisis might spread must be considered in order to prevent this. This means analysing the financial mechanisms that are making it difficult for an increasing number of governments to issue future public debt.

▶ **SINCE THE STOCK MARKET CRASH OF AUTUMN 2008, THE FINANCIAL MARKETS ARE ONCE AGAIN DISCRIMINATING BETWEEN SOVEREIGN ISSUERS FROM THE EUROZONE**

Investors have been punishing certain Member States of the Eurozone since the start of the financial crisis by applying higher interest rates to public debt.

Before 1999, it was hard to know whether financial markets would apply different rates to public securities issued by Member States of the Eurozone, based on their respective growth, inflation and public finance outlooks, or whether they would treat them all alike. This last scenario prevailed until the financial crisis (*Graph 1*) : until 2007, interest rates on 10-year government bonds converged spectacularly towards German rates, even in countries where public debt was high and there had recently been deflation.

Graph 1: 10-year government bond interest rate spreads (percentage point differences from rates on 10-year German bonds)



Source : OCDE



[1] Spreads are differences in rates compared to a benchmark.

The decision of the Council of the European Union in Amsterdam in June 1997 to adopt the Stability and Growth Pact, which limits public deficits to 3% of GDP and public debt to 60%, can also be interpreted as an anticipated potential lack of discrimination between public debt in the form of interest rates spreads. The basic principle behind this Pact was to acknowledge the convergence of interest rates within future Member States of the Monetary Union and to prevent free riders who might take advantage of low rates to finance explosive public debt.

However, interest rate spreads increased considerably from Summer 2008 onwards, especially for Greece and Ireland, and to a lesser extent Portugal. The question is whether the sustainability of these countries' public finances will negatively affect borrowing conditions for the whole Union, or if the rates primarily reflect a reflux in the liquidity of certain markets that is benefiting other European countries, and chiefly Germany. For the time being, three observations weigh in favour of the second alternative. Firstly, the increase in risk premia has been more than offset by the medium-term slackening in long-term rates in most countries since the beginning of the crisis, with the exception of Greece, Ireland and Portugal⁽²⁾. This heightened discrimination was therefore accompanied by a 'flight to quality'. Secondly, interest rate spreads are still much narrower than they were in the 1990s. Finally, this discrimination through interest rates is also at work within another monetary 'union', the United States, where California is the black sheep, although this has not affected the average rating of the bonds issued by the Federal Treasury (T-bonds).

Investors may overestimate the erosion of the fundamentals and create cumulative imbalances

Although the phenomenon of discrimination through interest rates is still limited, the sustainability of public finances and the scope of the effort to re-establish this sustainability are largely determined by the difference between the interest rate and the growth rate. The current environment, which includes a major increase in primary deficits and high uncertainty as to potential

growth is resulting in particular sensitivity to interest rate movements. The risk of a domino effect will remain under control if the increase in rates is merely a temporary overadjustment and the budget consolidation policies implemented by the countries whose situation is critical then lead to a loosening of borrowing conditions. This scenario is not ultimately guaranteed.

Financial theory states that if confidence is lost, investors may demand risk premia that bear no relation to the fundamentals. It is possible that, if some individuals believe a situation is real, its consequences will become a reality⁽³⁾, and States are then unable to meet repayments on their debt, owing to the increase in their interest charges. The problem arises from the fact that it is perfectly rational for investors who anticipate this issue to conform subconsciously with the majority verdict, while paying little heed to objective sustainability criteria. The risk of self-referencing, and that market prices will deviate from their fundamental value, is similar in its structure to Keynes' famous beauty contest⁽⁴⁾. Furthermore, if betting on the fall of government bond prices becomes one of the main sources of gains for some investment funds in a more general environment of poor financial returns and asset deflation, the risk of difficult to reverse cumulative imbalances is foreseeable as :

- ▶ a liquidity crisis combined with a debt repayment incident can have a lasting effect on a country's reputation (the case of Argentina in 2001⁽⁵⁾ is a prime example of this), with history playing a key role in assessing the quality of an issuer ;
- ▶ an increase in rates, even if this is temporary, changes the speed at which debt is accumulated. In turn, its level coming out of a crisis affects the level of primary deficit required to stabilise public debt ;
- ▶ the recessive macroeconomic effect of any potentially premature consolidation policies adopted may complicate the budgetary equation in the long term.

The influence of hedge funds on the risks of the cumulative spreading of a sovereign debt crisis must therefore be carefully examined – although it is difficult to analyse this issue clearly, since these funds do not disclose their portfolio structures.

[2] The interest rate on German 10-year government bond fell by more than a point between summer 2008 and spring 2009, which might be taken as proof of this deferred liquidity.

[3] This is an application of "Thomas' theorem", which is the foundation of the self-fulfilling prophecy concept set out by the sociologist Robert K. Merton in his work *Social Theory and Social Structure*, New York, Free Press, 1968.

[4] According to Keynes, the prices of securities are not determined by their intrinsic value, since the best strategy for an investor is to guess what other people are thinking. To illustrate this mechanism, he refers to a beauty contest organised by a London newspaper, which involves selecting the five most beautiful women from around a hundred photographs. The winner is the one whose selection is closest to the five photographs most commonly picked, so the contest is not about choosing based on one's own tastes but rather one of guessing the overall verdict.

[5] Argentina is still renegotiating its borrowing terms and conditions with its creditors.

➤ HEDGE FUNDS MAY BE RESPONSIBLE FOR EXCESSIVE VOLATILITY THAT DOES NOT NECESSARILY REFLECT CHANGES IN FUNDAMENTALS

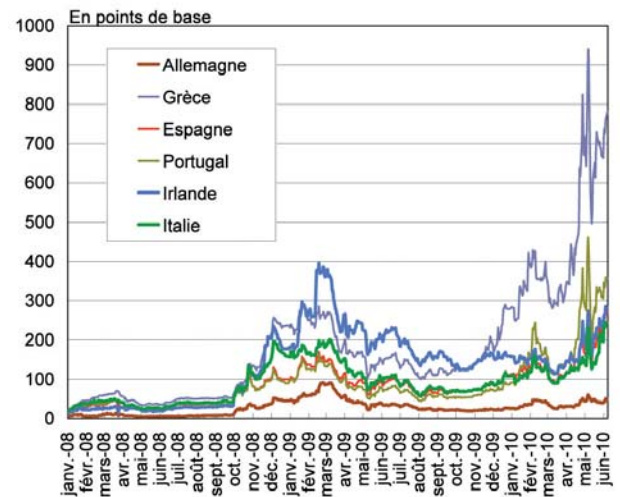
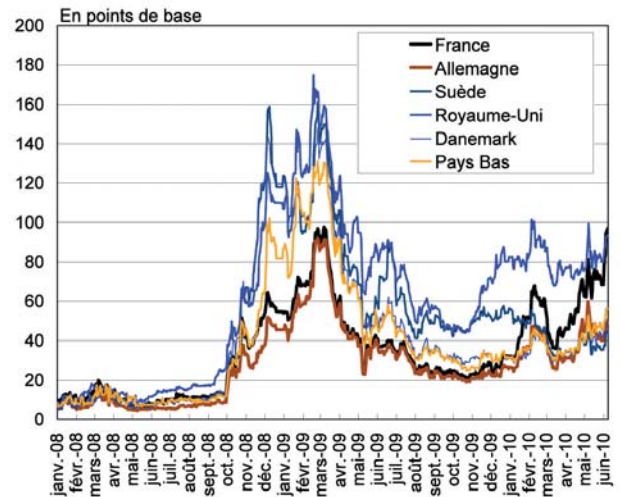
The role of hedge funds, by adopting short positions in order to bet on the fall of the price of an asset, has been debated since the onset of the crisis. Does the use of derivatives markets for speculation rather than for coverage result in an overestimation of the risk premia paid by the more fragile States with regard to their objective risk of defaulting? Does this expose other States to an increase in their financing cost, without any link to sustainability criteria?

CDSs (credit default swaps), the main yardstick of the risk of default, feed market volatility

CDSs⁽⁶⁾ have become a barometer for measuring the probability of default⁽⁷⁾ by a borrower, in this case sovereign, and for isolating this risk from all the risks faced by investors (*Graph 2*).

'Naked' position-taking on the CDS derivative markets implies that funds have taken out hedging contracts against the risk of default without holding any government securities, or that they have take a position on a security that they neither hold nor have borrowed. This practice is **undeniably likely to increase the volatility of rates**. It is very likely to cause short-term overadjustments (rates being inflated or deflated). It is not clear, however, that this type of position-taking moves rates further away from their fundamental value over the long term. Nonetheless, above a certain threshold, the cumulative risks of destabilisation should not be overlooked, since, in a self-fulfilling way, a significant rise in rates will create real insolvency in countries in precarious situations and may spread to the banking sector, which is exposed to this type of product. The recent decision of the

Graph 2 :
5-year CDS premia on government bonds



Source : Datastream

German market regulator BaFin to ban firstly naked short sales of European government bonds and shares in the major German banks and insurance companies, and secondly naked CDS contracts on government bonds, has lent considerable weight to this theory⁽⁸⁾.

[6] A CDS is a contract where the buyer (of insurance) undertakes to regularly pay a premium to the seller, on the condition that the seller insures the buyer for a certain amount if a 'credit event' occurs (bankruptcy, payment default, debt restructuring or moratorium on sovereign debt repayments). Since they were introduced in the late 1990s, CDSs have played a major role in increasing liquidity in the bond market by limiting the risks associated with holding bonds.

[7] 'Subjective' probability, i.e. based on investors' forecasts.

[8] Paradoxically, this decision comes in the wake of a position recently adopted by the German regulator to minimise speculation on the transaction database provided by the DTCC (Depository Trust & Clearing Corporation). According to this organisation, the gross outstanding CDSs taken out on Greek debt (€83 billion euros) at 12 February 2010 had admittedly doubled within a year, pointing to an increase in turnover for this type of product. On the other hand, the net outstanding amount, indicating the risk of loss that the market is prepared to underwrite, remained stable for several months at around €9 billion. This last indicator highlights that the number of short positions taken through CDSs remained relatively limited.

Over time, CDS movements may erode an economy's fundamentals and increase the risk of a country becoming insolvent

There are fairly compelling reasons to think that the development of the CDS market is not only creating volatility, but also leading to asymmetrical movements, downwards more than upwards, that may affect fundamental value. First of all, CDSs modify the behaviour of agents on the bond markets relative to the stock markets. On the stock markets, going long (the position of a buyer who owns the share and bets that its price will rise) and going short (selling without owning the asset, which has been borrowed or will be delivered later, on the assumption that that asset's price will fall⁽⁹⁾) do not have the same implications with regard to the risk taken. Recording losses on a long position exposes the agent to a risk that is by definition limited (since the loss cannot exceed the initial value of the assets). On the other hand, making a profit on a short position depends on the future repurchase value of the securities, and can lead to unlimited losses. This asymmetry therefore discourages short positions on stock markets.

On the other hand, CDSs offer a means of taking a short position on bonds while exerting opposing pressures in terms of risk. This is because buying CDSs (buying insurance protection in exchange for paying a premium) involves taking the risk of recording small losses for potentially considerable profits, whereas selling CDSs involves making limited profits for potentially huge losses. **This asymmetry encourages speculators to bet on defaults** (betting that bond prices will fall), which means that the existence of a CDS market exerts downward pressure on the underlying bonds themselves⁽¹⁰⁾. In this case, investors buy CDSs not because they are anticipating a future default, but because they expect the price of CDSs to rise in response to fears of the issuer defaulting.

For issuers teetering on the brink of insolvency, the existence of a massive CDS market without any bond counterparties can increase the pressures on rates that they are facing. If they need to make a major repayment on their debt, speculators aware of their need for refinancing may be well-advised to buy insurance⁽¹¹⁾ to trigger an overadjustment of the bond's price in order to sell once the drop has been recorded, further eroding the issuer's position. Furthermore, since holders of CDSs profit from the issuer defaulting, this situation provides an incentive for coordinating positions betting that the issuer will default. Combined with negative reactions from rating agencies, these phenomena increase the spread of defaults. The rise in CDS prices, triggered by a heightened fear of default, leads to a rise in the actual borrowing cost for the issuer. The default therefore becomes a self-fulfilling prophecy and spreads to other issuers, increasing counterparty risks. The crisis may then become systemic⁽¹²⁾.

Could permanently banning naked CDSs be a way of separating the wheat from the chaff and differentiating between CDSs held for hedging purposes and 'predatory' speculation (which would make it harder to ascertain fundamental prices)? Distinguishing between these two terms remains particularly difficult. The need to hedge against a party defaulting is not necessarily linked to whether that party holds bonds: it is thus entirely plausible for a supplier to want to insure itself against the risk of its main client becoming insolvent. Studies have shown that banning short sales of shares in fact hinders the price discovery mechanism, reduces liquidity (especially for shares with no listed options) and fails to prevent price decline.

Rather than banning them, it may be more effective to combat the damage caused by potential excesses by moving towards greater transparency and tougher prudential rules :

[9] Managers will typically borrow the asset, which they do not own, from a third party, such as an institutional investor, in exchange for the payment of interest, via a 'prime broker', who will request collateral in order to guarantee the transaction.

[10] Soros G. (2009), "One way to stop bear raids", *The Wall Street Journal*, 24 March. <http://online.wsj.com/article/SB123785310594719693.html>.

[11] The purchase may even be made prior to the sale by the forced seller, in which case it is referred to as front-running.

[12] This phenomenon was encouraged by the repeal in 2007 of the uptick rule adopted during the 1930s crisis, which was a sort of 'short circuit' that temporarily stopped certain transactions when the downward market trend was too pronounced. The Securities and Exchange Commission in the US is considering reintroducing the uptick rule: <http://imarketnews.com/node/9203>. BaFin's involvement can be compared to this potential reintroduction.

► **by improving reporting** to investors, banks that offer their services to hedge funds and are exposed to the risk of them defaulting (prime brokers) and the supervisory authorities. Standardising this reporting would mean providing more comprehensive and reliable databases accessible to the public, providing better ex-post knowledge of speculative funds' positions and therefore their role during certain phases of market instability⁽¹³⁾ ;

► **through systematic recourse to clearing houses**⁽¹⁴⁾, which would create an interface between buyers and sellers. This improves transparency and reduces the counterparty risk compared with the over-the-counter system currently in place (supervised and regulated trading platforms, central data repositories, a central counterparty⁽¹⁵⁾ and standardised products). Clearing houses make it possible to ensure that the cash underlying commitments is potentially available and that an excessive degree of risk is not concentrated on a single protagonist for speculative purposes. In this regard, one option would be to make margin calls mandatory (additional funds paid to the clearing house, in cash or as collateral, to cover the depreciation of an open position) for CDSs not used as hedging instruments ;

► **through additional capital requirements and increased supervision of CDS sellers** : sellers of insurance are exposed to a greater risk than buyers⁽¹⁶⁾. Making prudential rules tougher or increasing supervision raises the cost of issuing a CDS, which may reduce liquidity on these markets. These requirements would also reduce the likelihood of insurance sellers not being able to meet their insurance commitments in the event of default (counterparty risk) or if their commitments expose them to a bankruptcy risk. This would make it possible to reduce the systemic risk posed. This price increase, or a more radical ban, could be justified for countries whose major financial institutions know that they are 'too big to fail' and may be tempted to take excessive risks (since they know that they would be bailed out by the taxpayer).

PROPOSAL 1

Improving reporting and transparency with regard to position-taking and the risk structure of hedge funds.

PROPOSAL 2

Organising the more 'speculative' transactions on the default hedging market (CDSs, which hedge the risk of a borrower default). This involves securing 'naked' shorts, where the investor is covered but does not hold the underlying security, and bets on a default to make gains. Use of clearing houses should be extended to these transactions, which are most often negotiated over-the-counter, with improvements to the security deposit and margin call system to secure these transactions.

PROPOSAL 3

Raising the prudential ratios for CDS sellers, i.e. for insurance providers: if the latter lack the provisions to cover the risk they are insuring, they could act as channels of transmission of a systemic crisis.

Hedge funds are not the only market players accused of generating cumulative destabilisation risks : **rating agencies are also suspected of creating a risk of destabilisation.**



[13] Aglietta M. and Rigot S. [2008], "La réglementation des Hedge Funds face à la crise financière. Une contribution au débat", Research document, EconomiX, UMR 7166, CNRS - Université de Paris X-Nanterre, March.

[14] Since March 2010, it has been possible to clear CDSs in the USA through the ICE Trust, a subsidiary of Intercontinental Exchange.

[15] If A cannot meet its commitment towards B, the central counterparty (acting as an interface) honours the commitment towards B.

[16] The seller must make a capital payment in the event of default, whereas the buyer pays interest.

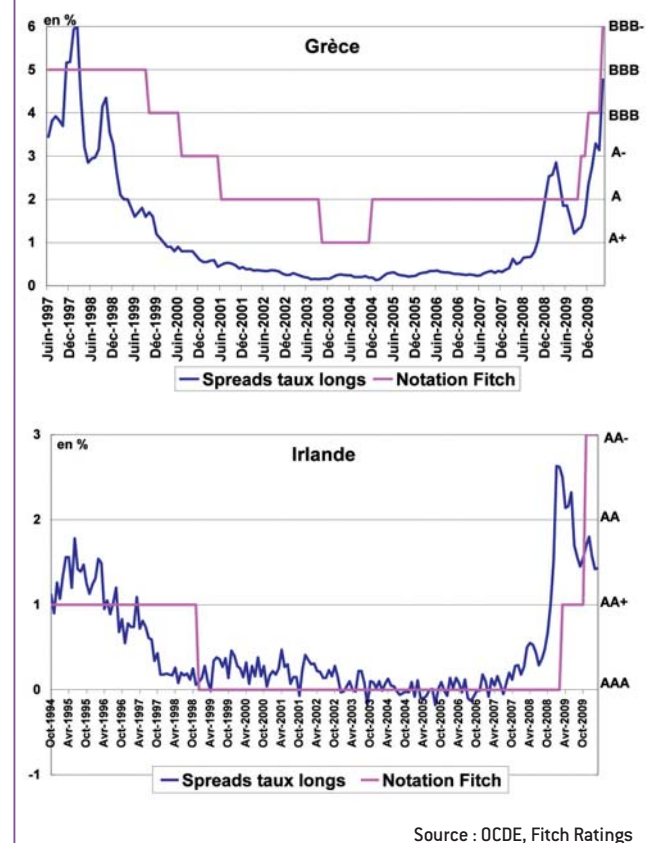
➤ LATE, PROCYCLIC AND ASYMMETRICAL REACTIONS FROM RATING AGENCIES CAN INCREASE THE RISK OF CUMULATIVE DESTABILISATION

Credit ratings play a key role in the investment decisions of stock market players⁽¹⁷⁾. Security and bond issuers seek out good credit ratings in order to improve the commercial appeal or the price of their securities. Institutional investors, on the other hand, such as mutual funds, pension funds and insurance companies, are governed by investment policies under which only securities with a minimum credit rating may be purchased. Following the same logic, when refinancing commercial banks, central banks will only agree to repurchase securities above a certain rating.

Rating agencies could incorporate all the relevant information into a single rating⁽¹⁸⁾ and give gradual warning, ahead of investors, of any rise in the risk of a specific instrument or issuer. In so doing, they would limit volatility around the fundamental value. In reality, however, agencies' behaviour tends to be delayed, procyclic and asymmetrical, and may help to increase discrimination against European States by means of interest rates independent of any analysis of the fundamentals. Sudden, late downgrades turn distrustful tendencies into mass phenomena, increasing the cost of issues and making access to the market more difficult :

► agency reactions are belated. Changes in ratings generally occur only after yield spreads have already increased. For example, the Greek bond spread (*Graph 3*) fell by almost 50% between October 1998 and February 1999, by more than 4 points to 2 points on average, whereas the rating was not adjusted until October 1999. As the European Commission notes, during the last crisis ratings were downgraded after the fall in product prices and the collapse of several financial institutions⁽¹⁹⁾. In the view of the Securities and Exchange Commission, rating agencies devote precious few resources to monitoring ratings compared to when the initial rating is established;

➤ Graph 3 :
Change in yield spreads between Greek and Irish government bonds compared with German bonds and change in security ratings



► rating agencies increase the upward movement of spreads. Their procyclic reactions have been singled out on numerous occasions as a panic factor or, conversely, a bubble factor (the Asian crisis, the boom in tech stocks, and the *Enron* and *Worldcom* crises). They therefore contribute to increasing investments during 'good times', promoting market overheating, and accelerating the fall of the markets during 'bad times', by encouraging panic transactions⁽²⁰⁾ ;

► finally, even if upward changes in spreads are as abrupt as downward ones, agencies appear to be more prepared to downgrade a rating than to upgrade it.



[17] Sy A. (2009), "The systemic regulation of credit rating agencies and rated markets", IMF Working Paper, IMF Institute, June, www.imf.org/external/pubs/ft/wp/2009/wp09129.pdf.

[18] The rating they give provides an indication of an issuer's ability to meet its obligations towards its debtors, or a security's ability to generate capital and interest payments in accordance with the planned payment schedule. Since ratings are merely an expression of opinion, agencies are not legally bound by them, which under American law means that they cannot be sued by investors.

[19] "When market conditions worsened, the agencies failed to adjust their ratings promptly"; Commission of the European Communities (2008), "Proposal for a Regulation of the European Parliament and of the Council on Credit Rating Agencies", http://ec.europa.eu/internal_market/securities/docs/agencies/proposal_en.pdf.

[20] Paquet J. (2009), *Turbulences sur les marchés financiers: l'influence des agences de notation de crédit*, Study lab on public policy and globalisation.

Two avenues may be explored to make agencies stabilising points of reference in periods when the markets surge.

The first avenue concerns the performance of the **risk assessment models used by agencies and the right of the authorities to verify the predictive capabilities of these models**. Rating processes are opaque: although agencies do publish a large amount of information online, this information is split into sections and does not necessarily cover the rating 'production process' itself⁽²¹⁾. The conventional financial analysis tools used to measure risk are not necessarily suitable for assessing its systemic dimension either. Stable criteria, approved methods and transparent underlying hypotheses used to measure risk and subsequently evaluate results, to ensure that ratings are in fact a leading indicator of default risk, would guarantee the quality of ratings. This would firstly enable the market authorities to exercise greater control, and secondly encourage genuine differentiation between methods. Better disclosure by private agencies would require them to justify their differences and could help make information more reliable (based on whether or not the results converge). If transparency could be guaranteed in this respect, it would reduce the importance of the agency financing model issue, which is an extremely tricky issue to resolve, unless the option of a public rating body is envisaged⁽²²⁾.

The second avenue concerns the creation of an independent European agency. Above and beyond the oligopoly formed by rating agencies, the problem today is linked to the weight given by public authorities to ratings of sovereign issues. Since the monetary authorities rely on the ratings of securities pledged by banks on refinancing, if these ratings are downgraded below a certain level, this may result in a sudden outbreak of extreme wariness among investors buying these securities. For this reason, the ECB announced that it was extending the range of collateral it was prepared to repurchase, to prevent any downgrading of Greek debt having an excessive effect on the rates demanded by the markets. The statement by its chairman, Jean-Claude Trichet, on 3 May 2010, was

therefore intended as a response to the downgrading of Greek government bonds by three grades by the agency *Standard & Poor's* (from BBB+ to BB+, putting them in the junk bond category). This statement was also a follow-up to the Greek government's announcement of its fiscal adjustments, which the ECB judged credible: it is clear how this judgement could seem superior to the judgement of the rating agencies, given the particular status of the ECB. However, this was expressly presented as a temporary measure. A more lasting solution might be to create an independent department within the ECB responsible for rating the sovereign debt of European countries and publishing this information. This would eliminate the conflicts of interest associated with financing, without damaging the public rating agency's credibility: the credibility enjoyed by the ECB, which is founded on its independence from Member States, could also benefit the agency. On the other hand, although monetary policy is independent from governments, such a provision would grant the ECB power to influence fiscal policy that some might judge excessive.

PROPOSAL 4

Improving the transparency of risk assessment by rating agencies by publishing the methods, models and hypotheses that underlie the rating process. Having the ability of agencies' ratings to predict defaults assessed by market authorities.

▶ DEFAULT RISK AND RISK OF CONTAGION VIA BANK BALANCE SHEETS

Aside from the destabilising role played by certain market players, are the objective difficulties suffered by a number of States and their possible partial defaulting liable to create a systemic risk that would result in a liquidity crisis affecting States whose debt is theoretically sustainable? This question is at the core of the Greek crisis, which is the epicentre of a global period of sovereign risk revision

[21] *Standard & Poor's* France's reply is that since August 2007, agencies have disclosed more information than ever about their methods (all the criteria they use are available online and are updated continually).

[22] The risk of a conflict of interest is often highlighted, since rating agencies are paid by the bodies they rate. See Securities and Exchange Commission (SEC) (2008), *Summary Report of ISSUES Identified in the Commission Staff's Examinations of Select Credit Rating Agencies*, United States Securities and Exchange Commission, July, www.sec.gov/news/studies/2008/craexamination070808.pdf.

(discrimination between risks has even affected the American states). Despite Greece's relatively limited importance in the world economy, such turbulence generated fears of a 'butterfly effect' on the financial markets. Calls were therefore made to accelerate acknowledgement of the Greek default, on the grounds that this was an inevitable scenario and was probably less costly in terms of growth. Others fear that the bank losses thereby created will aggravate the credit crunch and require States to engage in a new wave of recapitalisation.

Default by one country is not necessarily the most costly scenario in terms of growth...

Past experience shows that recessive effects generally precede default, by anticipation, but that growth rapidly reappears, rather than being hampered by numerous consolidation plans.

In a recent paper, Borensztein and Panizza (2008)⁽²³⁾ examine the potential costs of default, and specifically the loss of reputation on financial markets and the cost for the domestic economy. Regarding reputational costs, countries that have defaulted suffer in terms of their access to international capital markets, and are generally subjected to immediate downgrading and a jump in spreads of around 400 base points. This effect lasts for 3 to 5 years on average. For production, on the other hand, the authors can find no significant relationship between the occurrence of a default and the rate of production growth occurring thereafter. On the contrary, shrinkage in GDP precedes defaults, and production rises in the very quarter in which the default occurred. This suggests that, whatever negative effects a default might have on production, these results come from the anticipation of a default rather than from the default itself.

In concrete terms, a local default in a small State will not necessarily destabilise growth. However, even if recent experience does suggest that the economic costs of default may not be as high as is commonly thought, it must be noted that for the defaults examined, recovery was aided by devaluation, which is not an option for Greece. Greece still has the possibility of fundamentally revising its tax system, so as to reduce labour costs whilst restoring the budget balance. Fiscal devaluation, which is similar to a 'social VAT'-type reform in practice, can also have the beneficial effect (in light of the reduction

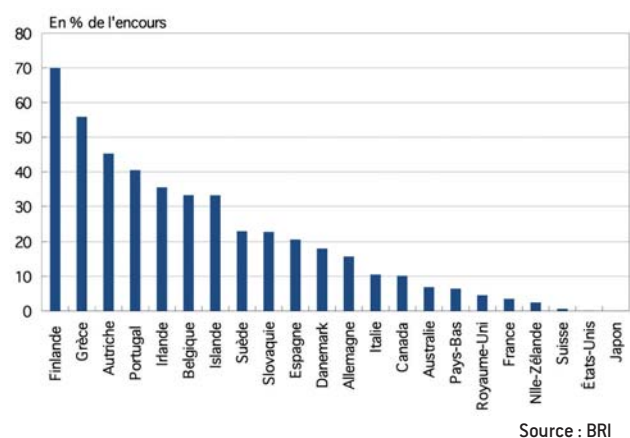
in charges it produces) of discouraging undeclared work. It can only be of limited scope, however.

...but a default by a sovereign State would overshadow the reputation of the whole Eurozone

However, a partial default by a sovereign State within a monetary union would be a world first. The impact on the reputation of any sovereign debt issuer issuing in euros is thus difficult to predict. For a Federal State, the safeguard mechanisms are guaranteed. There are rules that curb the extent of any imbalances ahead of a potential default. After the event, Federal States provide de facto guarantees for debt securities issued at the lowest level. In the USA, California, whose sovereign rating theoretically suggests a default risk close to that of Portugal, and which is thought to be on the verge of bankruptcy, cannot be compared to Greece.

In Europe, these frameworks have yet to be drawn up, despite recent progress (a European financial stability fund of €750 billion). On the one hand, the imbalances observed in sovereign States are of a different order of magnitude to those observed within a federation, and there is no European discretionary power to regulate them. On the other hand, the risks associated with securities issued by countries with excessive debt are borne on- and off-balance sheet by a large number of European banks and funds. This exposure to the risk of partner countries is even higher by virtue of the fact that the borrowers whose solvency is in dispute are also those who issue the most abroad (*Graph 4*). There is therefore

Graph 4 :
Outstanding international public issues
as a % of the total, December 2009



[23] Panizza U. and Borensztein E. [2008], "The costs of sovereign default", *IMF Working Papers* 08/238, International Monetary Fund.

now a form of restricted solidarity between countries, and when this solidarity is displayed, it can be interpreted by the markets as the expression of an imminent systemic risk.

The 'reputation' effect associated with the partial defaulting of a country is smaller when the default is perceived as inevitable, and is much greater when the default is considered to be avoidable. From this point of view, any restructuring of Greek debt appears to be premature at this stage : particular emphasis must be placed on the uncertainty surrounding the real macroeconomic situation in Greece. In a country with a significant hidden economy, behaviour is difficult to anticipate :

- ▶ tax evasion has reached such proportions that the margins for improvement of tax revenues are probably considerable in Greece ;
- ▶ the macroeconomic impact of a general rise in taxation is not easy to predict. It depends largely on the declared or undeclared liquidity reserves held by households. An improvement in the financing of social protection (especially pensions and healthcare) can result in a drop in precautionary saving.

The risk of a crisis spreading through the deterioration of bank balance sheets remains limited

Bearing this in mind, through which contagion mechanisms could a partial default by a country create a liquidity crisis domino effect on sovereign debt ? There are several possible channels :

- ▶ the depreciation of the core capital of European banks, pro rata with the losses recorded on their assets : banks are exposed to risks of losses in value or real losses (in the event of default) on their assets and to provisioning needs that diminish their capital. This risk is heightened for banks involved in CDSs as sellers of insurances, which would be faced with important payment obligations in the event of a partial default by a country. These events lead to a depreciation of capital and/or change the asset risk weighting (since certain ratings will be downgraded). Finally, they reduce bank lending capacity, since this capacity is determined by the core capital of banks⁽²⁴⁾ ;

▶ increase in banks' cost of capital :

- a rise in the volume of public borrowing has a crowding-out effect that increases the cost of capital for financial intermediaries. The size of the bank debt that becomes payable, in a situation where public aid is progressively being withdrawn (government aid and quantitative easing of central banks), can create a particularly tense situation ;
- the link between a rise in the cost of financing for States and a similar rise for banks creates a difficult environment for the financial systems of countries exposed to the caution of investors (the 'PIGS' countries : Portugal, Ireland, Greece and Spain). Since the beginning of the crisis, a great similarity has been observed between the sovereign default and the risk of bank default, as witnessed by the correlation between the CDSs of banks and those of the country where they are established. This correlation expresses the fact that, since the interest rate on public debt remains the minimum risk reference in each country, any rise will impact on other agents⁽²⁵⁾. Similarly, it expresses the fact that the financial situation of a country can be aggravated by the need to provide public support to banks ;

- ▶ interdependence between banks and governments can feed a 'vicious circle' : the depreciation of the capital stock of national banks, the rise in the cost of bank financing and the downgrading of sovereign debt are self-sustaining phenomena, since resident banks are typically major buyers of national public debt and, inversely, the government in fact shares the losses of the banking sector when they exceed a certain level.

Can the risk of losses trigger a new wave of recapitalisation and new public support measures ? If the crisis remains confined to the PIGS countries, it is likely to be absorbed by the banking system. The proportion of risky sovereign debts included in the assets of banks in the most exposed European countries (France, Germany and Belgium) represents around 30% of their core capital (tier 1) (*Table 1*). If the outstanding sovereign debts within the PIGS countries depreciated by one fifth, the negative impact on tier 1 capital would be in the range of 5-6%



[24] The minimum capital stock ratio required under the Basel II Accords is 8% of the outstanding credit weighted by the credit risk, the market risk and the operational risk (McDonough ratio, formerly the Cooke ratio).

[25] Speech by Christian Noyer, Global Interdependence Centre Conference, 17 June 2010.

**Table 1 :
Exposure of banks, by group of countries, to
Spanish, Greek and Portuguese sovereign debt,
as a % of their capital stock (tier 1)**

	Spain	Greece	Portugal
France, Germany, Belgium	12.1 %	8.3 %	5.0 %
Italy, Netherlands, Switzerland	2.8 %	2.7 %	2.0 %
United Kingdom	3.4 %	1.2 %	0.7 %
Japan	3.4 %	1.2 %	0.7 %
USA	< 1 %	< 1 %	< 1 %

N.B.: tier 1 capital is the portion of the capital stock (the core) considered to be the most solid (share capital + results held in reserve + minority interests – own shares held – goodwill). Under the Basel Accords, it must represent 4% of risk-adjusted assets (banks typically aim for 7%).

Source : BRI

on average (but the impact of total capital would be significantly less). Such an adjustment does not necessarily require a recapitalisation, even if it does tend to reinforce the credit crunch⁽²⁶⁾. Given this, French and European banks have been submitted to stress tests by Moody's. According to this agency, banks would be able to absorb potential 'PIGS' losses without having to increase their capital, "even in a scenario where losses were worse than expected".

Do potential losses create a risk of a reduction in liquidity on all public debt markets ? Sporadic and localised sovereign debt crises and the resulting depreciation of bank capital stock do not inevitably promote a "restriction on sovereign financing". In theory, the operation of the prudential regulations laid down by Basel II makes this type of propagation unlikely. Since the capital stock requirements are less strict for public debt than for loans to private agents, any deterioration of prudential ratios would rather tend to encourage redeployment towards well-rated sovereign debt. This mechanism reduces the risk that the crisis will become widespread, whilst on the other hand accentuating the difference in spreads, and so penalising the countries closest to the default risk zone.

Do potential losses create the risk of a credit crunch to the detriment of private agents ? Yes, especially for the highest-risk debtors. Conversely, the negative impact on real growth has a knock-on effect on real activity and public debt. It is probably via this real channel that the risk of imbalances spreading is the most apparent. The partial bankruptcy of medium-sized States increases the risk of latent deflation and 'Japanese-style' debt accumulation. However, in the absence of any alternative, and especially in the absence of private revenues, financial intermediaries have no other choice but to finance these imbalances.

In concrete terms, it is hard to imagine a general aversion to all European government securities, which remain a key, essential component of portfolio diversification worldwide. Even if prudential ratios were to deteriorate following partial losses in some countries, what should really be feared is more a credit crunch affecting private agents and a consolidation of deflationist trends.

The risk of financial booms and liquidity crises caused by domino effects must certainly be anticipated to be prevented. Nevertheless, it must not be considered as the most likely scenario. One the one hand, disillusionment with regard to the quality of securitised debt is creating a climate favourable to a flight to securities that are not accompanied by the traditional risks, such as those currently issued by the major issuers⁽²⁷⁾. On the other hand, pressure from the markets creates risks that the crisis will spread, but this ultimately leads to a particularly expansive monetary policy, which compensates in part for the fiscal consolidation efforts that are expected of governments. This policy mix, founded on a rigorous fiscal policy and a monetary approach that allows for a slight erosion of debt by inflation, can be favourable to growth.⁽²⁸⁾



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[26] However, note that the BIS data is aggregated for several countries, and furthermore that different banks within a single country are likely to have different levels of exposure.

[27] Caballero R. J. [2010], "The "other" imbalance and the financial crisis", *NBER Working Paper*, No. 15636.

[28] The issues involved in the post-crisis policy mix are addressed in the third section of our analysis devoted to "France and Europe faced with the economic crisis".

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DOCUMENTS
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- N° 191 (septembre 2010) ■ **La France et l'Europe face à la crise économique**
Volet 1. La soutenabilité des finances publiques dans la crise, une analyse internationale
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Tableaux de bord :

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