Partial Sovereign Bond Insurance by the Eurozone - the more efficient alternative to Blue (Euro-)Bonds

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Abstract

Blue or Euro Bonds guaranteed via joint and several liability by the Eurozone Member States have been proposed by the Brussels-based Bruegel Institute as a key tool to stabilize and going forward structure the Eurozone sovereign bond markets. However, as current events teach us, a second key feature of the proposal, their limitation in volume to 60% of GDP, will be untenable during financial crisis. It promises an exploding marginal cost of funds to those sovereigns facing fast rising debt levels. Many countries would be above the 60% of GDP limit and be forced to issue 'Red' bonds on their own standing. Fast rising cost of funds would quickly drive them out of the bond market and to the Blue Bond issuing Eurozone Stability Mechanism ESM. Therefore, under the proposal as it stands, in practice all sovereign bonds issued in the Eurozone, regardless of ex-ante GDP limits, would have to be assumed to be Blue Bonds, an outcome fraught with moral hazard.

Partial insurance of sovereign bonds by the ESM that avoids such ex-ante volume limitations is the more efficient alternative. Sovereign bonds would embed a predetermined percentage of junior debt that would be spun off as a marketable bond on ESM application day while the remaining senior debt would be amortized ('rolled') as scheduled. Such 'Junior' bonds could be subjected to restructuring or haircut under an emergency fiscal adjustment program devised by the ESM. The insured portion, the 'Senior' bond, would stabilize investor balance sheets by setting a floor under sovereign bond prices – both ex-ante and ex-post. Additional debt to be issued by the sovereign during financial crisis would remain partially insured and thus carry substantially lower marginal cost of capital than 'Red' bonds. This would enhance the options for the borrower to adopt fiscal measures early and reduce the likelihood of tapping the ESM for primary market funds.

Seen from a political economy perspective, partial sovereign bond insurance is nothing else than a formalization of what has already been agreed on. This is the revealed policy action of both banks and governments in the current crisis: private sector first loss participation while avoiding a catastrophic ('Lehman') loss event.

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Why Blue (Euro-) Bonds will not work as proposed

The Brussels-based Bruegel Institute had proposed to split the Eurozone sovereign bond market along the following lines[2]:

- Blue Bonds jointly and severally guaranteed by Eurozone sovereigns via the ESM (EFSF) up to 60% of GDP of the sovereign issuing country.
- Red Bonds issued at individual sovereign standing for all sovereign debt in excess of 60% of GDP.

Debt dynamics during crisis renders limits unsustainable

I argue that in a financial crisis situation, Blue Bonds cannot work, if the goal is to limit them to 60% of GDP or another moderate threshold value, due to typical debt dynamics.

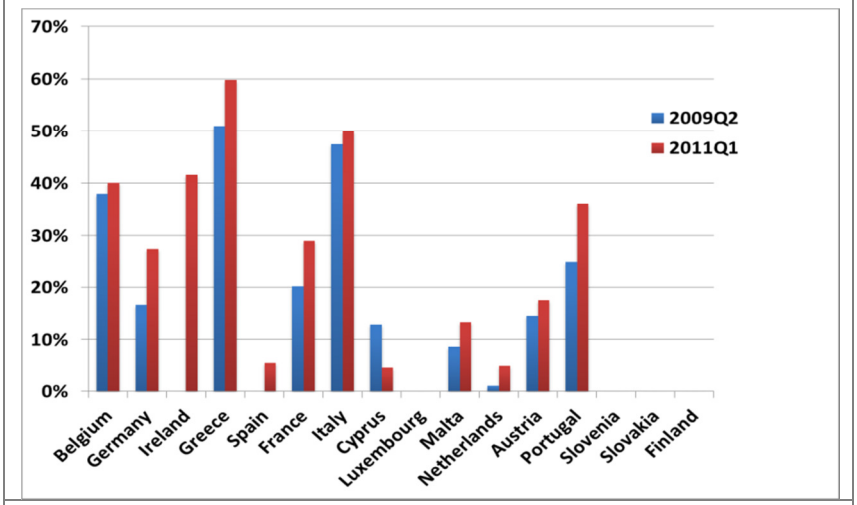
We have seen Eurozone Member States whose sovereign finances had been well-managed before the crisis rapidly piercing the 60% ceiling:

- Spain: increase in public spending, lack of control of regional spending, and decrease in particular of regional revenue (much of which real-estate related).
- Ireland: assumption of private bank debt (implicitly real estate developer debt).

As Rogoff/Reinhardt have shown in 'This Time is Different', aggressive short-term debt dynamics are the classic course of events, and will most likely end in a very messy default.

Figure 1 shows the share of total sovereign debt that is in excess of 60% of GDP ('Red Bond' Debt) for Eurozone Member States as reported by Eurostat, comparing the first quarter of 2011 with the second quarter of 2009.

Figure 1: Red Bond Debt (> 60% GDP), Second Quarter of 2009 vs. First Quarter of 2011, % of Total Debt Issued by Sovereign



Source: Eurostat, Finpolconsult computations. Notes: level of government debt in the quarter divided by sum of current and last three quarters of GDP.

2 See Delpla and von Weizsäcker (2010).

Ireland and Spain are in fact even newcomers in the Red Bond market proposed by Bruegel. Economies considered at this point as vulnerable run high and still moderately increasing ratios of debt over 60% (Belgium, Italy), while other 'more stable' European economies are also in red territory and increasing those ratios rather fast (Germany, France).

Ballooning spreads for Red Bonds during crisis increase the probability that the borrower needs to tap the rescue fund promptly (see simulation below). How credible is it that, amidst crisis, when spreads for red bonds balloon, a limitation to 60% could work?

The only positive impact of blue bonds appears to be on the secondary market, while the primary market will be thrown into turmoil at the worst possible time. This is both an economically and politically impossible outcome, exactly the reverse of what is needed.

Hence the probability will be high that any formal GDP ceiling will be declared null and void by policy makers when crisis hits.

Alternatively, Eurozone members facing steep marginal cost will apply faster to the ESM, which is an issuer of Blue Bonds and is likely to pass on most of their interest rate advantages.

In summary, the Bruegel plan is a highly pro-cyclical financial accelerator, which works well when there are small problems and falls apart when the sovereign issuers most need it.

<u>De-facto full insurance creates massive moral hazard</u>

Because Red Bonds cannot work in a stressful situation, the distinction between Blue and Red Bonds will be artificial. Rather, investors will anticipate the outcome during crisis and consider all bonds issued under the scheme as Blue, i.e. fully protected by the ESM, with the Red Bonds being merely a contingent liability.

This would eliminate market discipline almost entirely rather than defining a playing field for the market.

Full insurance renders it more likely that other markets will be 'pegged' to the benefiting sovereign market via guarantees, e.g. bank, mortgage (retail) and corporate bond markets.

This eliminates market discipline in additional markets, where far greater options for private sector control exist than in the sovereign market, and at the same time raises potential bailout cost.

The marginal cost of funds problem described will become more acute, as the surpassing of certain (60%) debt levels becomes more likely when other bond markets are being simultaneously guaranteed and lose discipline.

Necessary fiscal controls (joint fiscal policy) for a full insurance model are large and short-term implementation is out of question in the Eurozone, let alone the EU. Not even U.S. – far more advanced in fiscal (and political) integration than the Eurozone - has a full insurance model in state finance. Fiscal coordination between states in the U.S. is rather indirect, via copying of fiscal rules, and transfer policy setup.

To support a full insurance model, a very large ESM, established as a quasi-bank, will be required, which may prove very hard to control in day-to-day operations.

It is finally worth noting that the financial situation that an unlimited Blue Bond would create is exactly the situation in which the Eurozone has been in the 2000s, when spreads of sovereign bonds to Bunds were minimal. This has been causal for substantial delay in addressing fundamental fiscal and economic problems, and even deterioration.

Partial Sovereign Bond Insurance by the Eurozone ('Eurozone Bond Insurance')

Basic concept

The fundamental alternative to full insurance with a non-credible volume limit is partial insurance without a volume limit.

The goal is to moderate marginal cost of funds in a crisis situation while keeping them sufficiently high in a non-crisis situation to keep incentives for sound fiscal and economic management intact and discourage pegging of other bond markets.

Partial insurance could come in highly diverse forms as a review of products in the existing bond insurance market shows.

The particular form proposed here would be a partial insurance wrap of both principal and interest by the ESM. However, as a variant to standard partial wraps it is proposed to endow the protected bond with a 'dormant' senior-junior structure. Dormant means that a 'Junior' bond – the principal/interest not protected by the ESM - is being created if and when the bond insurance is called.

The trigger date is when the ESM is tapped as the lender of last resort by the borrower. The entire yield curve of the borrower is treated equally. For non-maturing bonds, the call leads to the creation (split) of the (tradeable) junior bond and a senior bond to be serviced and amortized by ESM as scheduled. Tradeable junior bonds serve to better manage balance sheet risks of investors, and attract additional investor classes interested in speculative assets.

Junior bonds going forward can be restructured (e.g. with payouts linked to GDP) or haircut under the fiscal adjustment program to be determined between the ESM and the borrower. As with Eurobonds, ESM-sponsoring governments would be provided with ample control rights in return for their partial sovereign bond guarantees.[3]

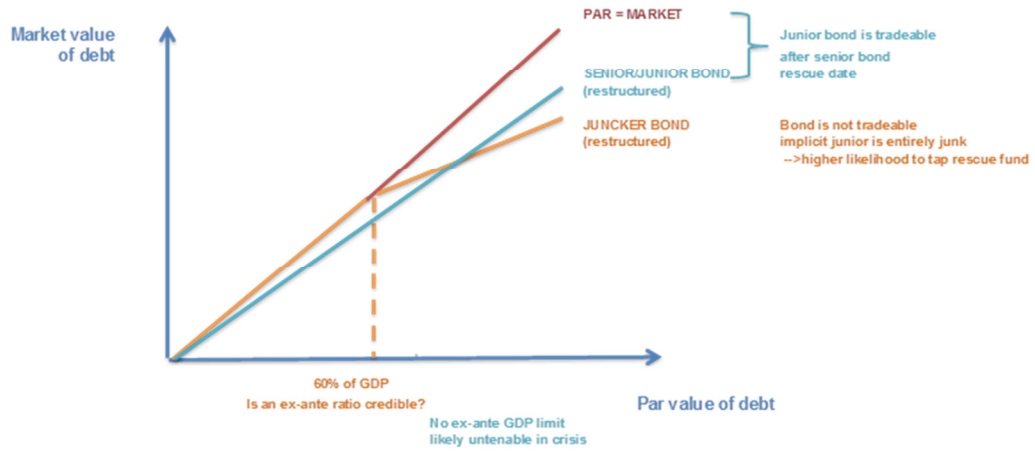
Pricing of partially insured sovereign bonds during crisis, compared to Blue/Red Bonds

The partial bond insurance concept using the Senior/Junior Bond split as described avoids the cliff-edge effect of a 60% GDP ratio while still providing investors with explicit catastrophic risk protection. This leads to drastically reduced marginal cost of funds, especially during crisis.

[3] Whether or not to continue to use the term 'Eurobond' for a partially ESM-insured sovereign bond is a matter of communication with the public. Much positioning against or in favor of Eurobonds has taken place in the European political sphere without reference to specifics.

To see this, consider the chart below, where I call the alternative Blue/Red Bond split proposed by Bruegel the 'Juncker' bond since it was proposed in the political arena by Claude Juncker for the first time.

Figure 2: Market Pricing of Eurobonds (Blue/Red Bond Split) vs. Sovereign Bonds Partially Insured by the Eurozone (Senior/Junior Bond Split)



Source: Dübel/Finpolconsult. Note: 'Juncker' Bonds = Blue/Red Bond proposal.

The Blue/Red Bond split creates a kinked curve for the market value of total debt, assuming the same coupon levels. Below the 60% GDP threshold, the value of debt is always par (with ESM debt being the benchmark). Above the 60% threshold, as additional debt is issued on the basis of sovereign standing only, the additional market value of additional debt is vastly under proportional. What could work as discouraging the sovereign from taking up excessive debt in good times, is backfiring in crisis.

In contrast, under the partial insurance concept, a sovereign risk premium will be charged at almost any (up to very small debt levels) level of debt, i.e. for a higher-risk sovereign the debt is always below par (ESM). However, additional debt will be priced the same or only marginally higher, as the markets will price in an increased probability of the bonds being split while catastrophic risk protection remains in place (potential convexity not shown in the chart, which uses a straight line). The likelihood of tapping the ESM will be far smaller as the borrower gets additional room for maneuver for strategies reducing debt or debt growth.

Figure 3 simulates the development of average and marginal cost of funds of four Eurozone Member States in a historical data simulation based on Eurostat/ECB data for 2010 and 2011.[4] I make the following assumptions:

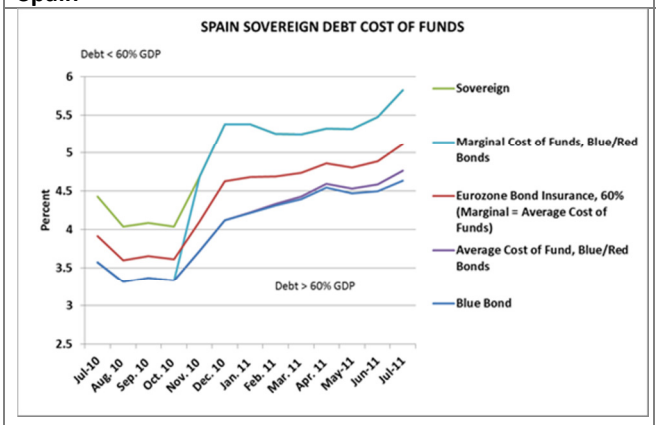
- Eurobonds: Current marginal cost of funds equal sovereign bond rates when debt > 60% of GDP and Blue (Euro-) Bond rates when debt < 60% of GDP. Average cost of funds of Eurobonds are the composite of Blue Bond and sovereign bond rates, depending on the ratio of GDP > 60%.

[4] I ignore the term structure of debt, which will massively affect average cost of funds, but to a far lesser extent marginal cost of funds. Intuitively, the sensitivity of average cost of funds to the term structure will be less in the partial insurance proposal where marginal and average cost are moving closer than in the Blue/Red Bond proposal.

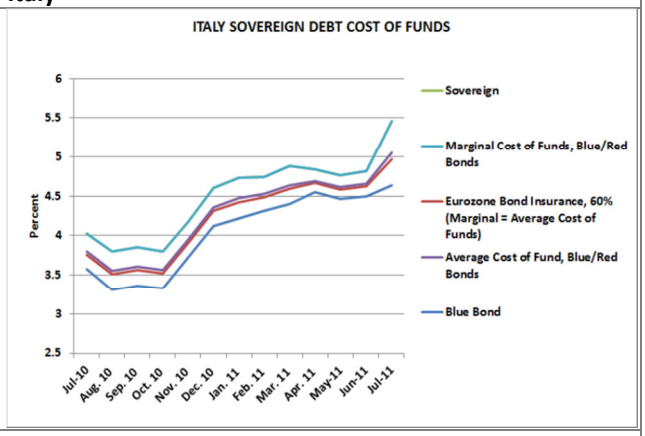
- Eurozone Partial Bond Insurance: marginal cost of funds equal average cost of funds, as all new debt is enrolled under the same partial insurance conditions. The assumption in the Figure is a partial insurance coverage of 60% of principal and interest by the ESM.

Figure 3: Simulation of Interest Rates of Eurobonds (Blue/Red Bond Split) vs. Partial Sovereign Bond Insurance by ESM (Senior/Junior Bond Split) – the cases of Spain, Ireland, Italy and Belgium 2010/11

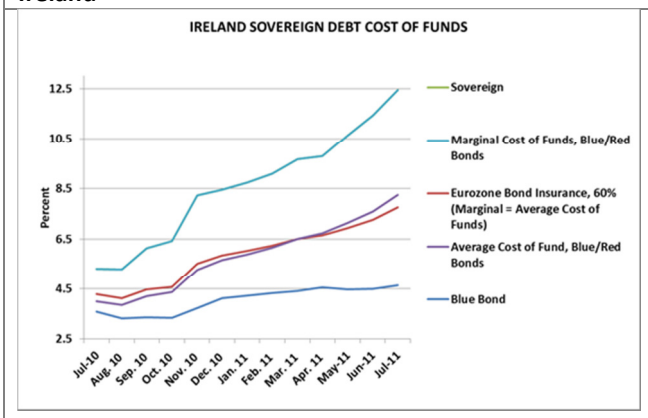
Spain



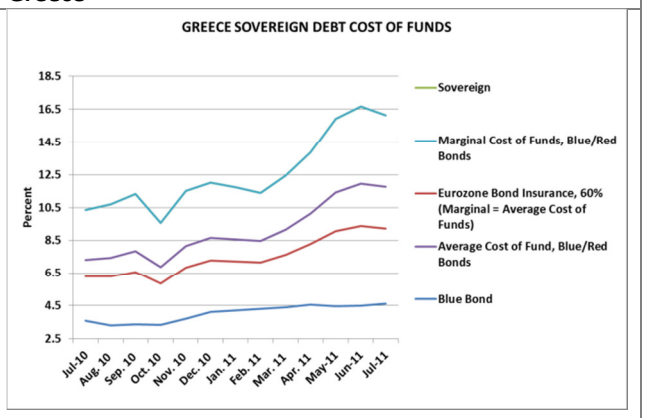
Italy



Ireland



Greece



Source: Eurostat on GDP and sovereign debt data, ECB on near 10 year sovereign bond rate data. Computations by Dübel/Finpolconsult. Note: Current Marginal cost of funds of Eurobonds equal sovereign bond rates when debt > 60% of GDP and Blue (Euro-) Bond rates when debt < 60% of GDP. Average cost of funds of Eurobonds are the composite of Blue Bond and sovereign bond rates, depending on the ratio of GDP > 60%. In the case of Eurozone bond insurance, marginal cost of funds equal average cost of funds. Partial bond insurance ratio assumed is 60%.

Result of the simulation:

- Spain: as Spain pierced the 60% GDP debt ceiling in November 2010, its marginal cost of funds under the Blue/Red Bond proposal would have risen from 3.35 to 5.4%, a 60% increase in interest cost. Marginal cost of funds of a 60% partially Eurozone-insured bond would have been only 4.65% in the same month. In the later course of events, the interest rate spike in the second quarter of 2011 would have been only partially transmitted under the partial insurance approach: at spike sovereign rates around 6%, marginal rates would have remained a full

percentage point lower. [5]Given that Spain remained close to the 60% debt ceiling, average cost of funds of the Blue/Red Bond proposal would have stayed lower than under the insurance proposal.

- Italy: with debt during the period always in excess of 60% of GDP, marginal cost of funds (Red Bond) were always higher than the average cost of funds, including Blue Bonds. Marginal cost of funds of ESM-insured bonds at the 60% ratio would have been some 30-50 bp lower, with the greater difference arising during the July 2011 crisis. Given the high debt levels, average cost of fund of both proposals would be roughly the same.
- Ireland: as Italy (the 60% ceiling was pierced with the banking crisis in the third quarter of 2009). Noteworthy is the vast marginal cost of funds advantage of the partial insurance solution of full 400 bp, resulting from the massively widened sovereign spread. Red Bonds would have been out of question for Ireland, which tapped the EFSF. The critical threshold rate of 7% would have been pierced under the partial insurance concept only very late, in May 2011. Positive feedback effects of the partial insurance might have avoided tapping the EFSF.
- Greece: facing large debt levels, Red Bonds in the Greek case would have been as unsustainable as in the Irish. We note also that average cost of funds of the Blue/Red Bond combination would have exceeded the partial insurance average cost of funds by some 100-200bp, since debt levels are so high. Again, marginal cost of funds of a partial insurance solution would have been far lower than Red Bond rates, and the critical 7% level would have been pierced far later. In the Greek case my term structure assumptions (see footnote 4) appear particularly restrictive, as the sovereign had preferred long-term issues which dampened the rise in average cost of funds. In combination with partial insurance reducing marginal cost of funds this might have substantially widened the room for avoiding tapping the EFSF.

<u>General cost-benefit considerations of the partial bond insurance proposal:</u>

- <u>Calibrated burden sharing of investors in ESM resolution</u>. When a new partially insured bond is issued, it already entails an adequate structuring for the resolution case. The junior bond is split away on rescue event date from the senior bond, e.g. in a ratio of 40-60% as in the simulation. It becomes subordinated to both senior bonds and all new bonds issued. Maturity, amortization and interest rate conditions can be changed to support the rescue program. The first option will always be to extend the maturity – of the junior bond only! - to provide room for fiscal adjustment and reduce the liquidity needs of the rescue fund. Within a certain time limit the repayment conditions of the bond can be altered to support the fiscal adjustment. Haircuts are only one option; more likely is a tying of the bond to performance conditions, such as future tax revenues or GDP growth, or a conversion into new long-term bonds.
- <u>Adequate minimum protection of investors</u>. The senior bond portion is rolled by the ESM without further conditionality (i.e. public discussion/political risk). This sets a floor under investor losses and safeguards an important volume of his liquidity needs. It is paramount to avoid another Argentina or Lehman event with bottomless senior bond prices and illiquid markets in them, in order to stabilize the bond market as a whole. Regulatory benefits for senior bonds would stabilize the capital situation of banks and insurance companies hit by an event. Regulatory capital differentiation would be focused on the junior bond, which those institutions can dispose of, however in exchange for a write-down.

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[5] It could be argued that sovereign secondary market rates embed a probability of implicit ESM protection and 'clean' sovereign rates should be even considerably higher. This argument holds more credibility for the smaller states, in particular of course those that already are with the EFSF (ESM). This strengthens the case against Red Bonds in a crisis situation.

- Freedom to dispose, beneficial speculation. The junior bond split from the senior bond on rescue event date can be sold by the investor at the most convenient point in time, or kept to its restructured maturity. Credit funds and other risk takers in the market will like those bonds as convenient leveraged vehicles to take a position in the underlying credit event. The current 'mezzanine' problem – a dryup of liquidity in the middle spread range – is being avoided.
- Avoids triggering CDS default clauses. The junior bond split from the senior bond on rescue event date will still be "performing" at that point in time. Only upon later restructuring will CDS be triggered, reducing but not eliminating another financial accelerator.
- Minimization of distortions across the curve, re-establishment of long-term investor trust. The current rescue operation via the EFSF is highly distortive since it subordinates later maturing long-term bonds under short-term or shortly maturing older long-term bonds. Such heavy and increasing subordination has substantially contributed to secondary market widening. Time subordination is extremely dangerous, as it provides governments with incentives going forward to shorten funding maturities. Since junior bonds would be created over the entire curve on rescue event day, there is no such risk under this proposal. The proposal re-establishes the priority of the waterfall over arbitrary policy action, which should help re-establishing investor trust.
- Market control. The crisis has taught us that it is very important to differentiate the liability side of any large borrower to improve risk monitoring incentives and enable efficient burden sharing. The proposed structure is just one instrument, others – such as contingent convertibles in the case of banks – are being discussed and partly already implemented. While a junior-senior split is the adequate instrument for sovereigns, it can also be applied to banks. However, in the case of sovereign finance with fewer control options over balance sheets than in corporate finance it would central to not split senior and junior already upon their creation to keep risk monitoring incentives (or the desire to hedge in markets that will certainly arise as a result of the structure) of senior bond holders alive.
- Improvement of communication with the market. The markets are highly sensitive towards political manipulation attempts. In contrast to the Blue/Red Bond proposal, where the Blue Bond GDP limit would immediately come under fire when debt levels rise, under a predetermined bond insurance contract structure political determinations and designations would not come into play before rescue event date, and even then would be limited to junior bonds.

Partial bond insurance as a step-by-step formalization of already existing crisis response policies

Bond insurance mechanisms in general and the construct of junior bonds are neither rocket science or new. They have been used in corporate and sovereign restructurings extensively, including in the Argentine case. Latin American Brady Bonds created a version of tradeable debt in the secondary market after restructuring akin to the tradeable junior bond proposed here.

The constitution of the EFSF, as a primary market lender of last resort, is already one partial insurance model.

EFSF has so far operated under what could be called 'destructive ambiguity', with key conditions such as the degree of private sector participation, the level of interest rates and terms charged for fresh money being left in the dark until political pressure mounted to specify them. This situation is highly unsatisfactory, and as we advance towards defining the rules of the ESM, which substitutes the EFSF from 2013 onwards, a more systematic solution is requested.

However, we have already two political existing agreements in the Eurozone, which could form the basis for that:

- A minimum level of protection of existing bondholders, i.e. no Lehman event (10c/$), in a large, systemically relevant debtor.
- Nevertheless substantial private sector (investor) participation. The initiative taken by the Associacion Francaise de Banques (AFB) in June 2011 comes out on Greek existing debt at roughly 50% coverage (50c/$ minimum payout), the equivalent of the proposed senior bond.

The AFB initiative also highlights the options for ESM to adopt different bond insurance payout variants: 30c/$ will be paid to participating lenders in cash, while ca 20c/$ will be paid via highly rated zero coupon bonds. The AFB initiative of June was followed by proportional additional write-downs across the European banking industry on Greek debt in July and August 2011.

The crucial point is the precedent of the acceptance of a specific ESM coverage ratio by a large investor class, banks. The step still to be made from here to a systematic partial bond insurance model is to further specify and contractually formalize that ratio.

Speculative attacks against a defined ESM partial insurance coverage ratio: time variation of coverage or structured defense system?

George Soros in his FT comment of 8/14/2011 has raised the point of the need for a rather high joint and several insurance coverage level by the Eurozone initially, to instill market confidence amidst heightened investor anxiety.

While little can be said against the tactical argument, there are also strong arguments from a structural perspective in favor of a more limited ESM insurance, including the imperative to not compromise what the industry already has agreed on, after a year of painful discussion, to shoulder as private sector participation under the AFB initiative for Greece.

A related question is whether there should be a time-constant or time-variable insurance coverage ratio: using a constant figure matching long-term needs of the entire Eurozone would have the great advantage of almost eliminating political risk, while a variable figure could be fine-tuned to the market situation. A constant figure would clearly require special protection in the ESM statutes, above the contractual level.

Clearly, the higher and more flexible the partial insurance coverage ratio, the greater the protection of weaker Eurozone members will be against speculative attacks. However, also the higher and more flexible the partial insurance ratio, the greater moral hazard and downgrade risk for the ESM.

While partial insurance already should go a long way in improving shock resilience, as the simulation shows, there are additional options to improve the defense for a moderate constant insurance coverage ratio against speculative attacks. I use the analogy of football here (pricing indications refer to fixed-rate bullet bonds with maturity 10 years).

- The goal keeper stands where the secondary market playing field is limited, e.g. @ 60c/$. This is the ESM as lender of last resort in the primary bond market.

- Defense line: ESM and ECB would both remain secondary bond market purchasers, playing at varying bond price levels, however not extremely far advanced. The danger of intervening early (as ECB did in the Greek case at 80/90 c/$) is to accumulate losses quickly and increase political resistance against an intervention mandate, while being ultimately unable to fend off the speculative attack.
- Defensive mid-field: we need fundamentally changed incentives for institutions inducing them to invest anticyclically, e.g. as borrower succumbs to fiscal adjustment program. Currently institutions in the Eurozone are told by regulators to disinvest from periphery debt, rather than anti-cyclically invest. This is despite substantial general regulatory privileges when investing in sovereign bonds. This breakdown of the mid-field increases pressure on the defense – ESM and ECB.
- Offensive mid-field: banks, which hold bonds for both investment and speculation purposes, appear hobbled by undercapitalization and the regulatory attack against proprietary trading. A number of questions, from accounting to capital requirement, need to be resolved to bring them back into the market. However, it is noteworthy that in Europe many banks have rather institutional investor character as long-term investors in sovereign bonds, and a revision of incentives to invest here should have a similar defensive impact than in the case of institutions.

Phasing-in

Should only new bonds be enrolled in the partial Eurozone bond insurance scheme or both existing and new bonds?

- Pro new bonds: absent a clear and in particular credible ranking (see above), the insurance mechanism could be focused on attracting and preferentiating fresh money in crisis situation. This would reduce the burden on the ESM on the primary lending side, while splitting the primary and secondary market and increasing the probability of secondary market selloffs.
- Pro both existing and new bonds: enrolling all bonds from day one would immediately stabilize intermediary balance sheets. However, it is potentially more costly and incentive incompatible. The better route could be the direct stabilization of balance sheets (e.g. bank recapitalization).

The call to be made here depends strongly on the scale of the feedback effects between primary and secondary market. Given that the thrust of the partial bond insurance proposal is to truly attack a large problem (dwindling confidence in the Eurozone), to minimize pricing distortions between primary and secondary market segments, and to formalize decisions already made on existing bonds (AFB on Greece), I favor a comprehensive solution, i.e. enrollment of existing and new bonds. This has substantial implications for the size of the EFSF and later ESM though.

Open questions (a few of them)

There are certainly numerous open questions with a partial bond insurance regime, in particular if integrated a staggered defense structure as described.

- Adverse selection / scope: should governments that would, temporarily or permanently, not benefit from partial Eurozone bond insurance be forced to enroll their bonds? Should bond market sectors that are government-sponsored be enrolled or implicitly backed only? Clearly, the broader the scope, the lower the probability of isolated bond market crises to turn into a

general crisis of confidence. Yet, the broader the scope, the higher the explicit capital needs of the insurance.

- Pricing: on what historical data base and from which time on should catastrophic risk protection as described be priced for the individual sovereign? Catastrophic risk pricing would implicitly set a floor under bond pricing when the most immediate need is setting a cap.
- Intervention rights: When fiscal adjustment needs to start prior to ESM primary market application (e.g. in the case of buying Italian or Spanish debt), the question of automatic triggers for adjustment arises.
- Seniority of primary market funds: Even though public claims must not be senior to private claims per se (as numerous historical examples tell, e.g. the German financial crisis of 1929/30), the seniority of fresh financial commitments over existing debt must be observed – regardless of the identity of the investor. The Eurozone has made a contrarian predisposition in June 2011: ESM funds rank pari passu with existing investors, and below new private investors. This can only weaken ESM intervention capacity and should be repealed.
- ESM size and protection: To the extent that the mid-field – banks and institutions - remains in-operational even in cases deemed to suffer primarily from illiquidity, rather than under serious insolvency risk, ECB and in particular ESM must have greater room for purchases. This might call for automatic capitalization mechanisms (such as e.g. potentially ring-fencing EU-wide VAT revenue for mobilizing capital for the ESM), possibly also for bank rather than agency charter (allowing for repo operations).[6]

Conclusion

We have tried a lot to solve the Eurozone crisis by now, and failed bitterly. The discussants of the existing regime and the Bruegel plan are aware of all the options and their drawbacks.

None of the proposals on the table in here creates a miracle solution – once over-indebtedness is a fact, some investors are going to take a loss. One financial crisis is in systemic risk stage, stronger governments are needed to support weaker.

However, a partial bond insurance solution as proposed here, in particular if combined with a structured defense system against speculative attacks, can help to manage the information situation better, both in terms of market expectations and the ESM's intentions, minimize market distortions, contain supra-national protection cost, operate anti-cyclically rather than pro-cyclically, give the investor greater degrees of freedom to operate both ex-ante and ex-post, and keep the real causes for market volatility better tied to the credit fundamentals.

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