

FIRE for the Euro

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Abstract

Government bond markets within the euro zone may have fallen victim to a self-fulfilling crisis of confidence. A strategy of structural reforms and consolidation is unavoidable. But this strategy alone could be insufficient to restore a stable equilibrium due to its long impact lags. Eurobonds may contribute to stabilization in the short-run but would imply destructive disincentives and incalculable risks for joint and several guarantors. Monetary interest rate equalization through the ECB government bond purchase program poses risks for the central bank's credibility.

A superior strategy is available: fiscal interest rate equalization (FIRE). With FIRE, countries that benefit from very low interest rates as a consequence of market panics would invest some of their savings to subsidize the borrowing of crisis countries within a conditional fiscal scheme. Conditional on reform and consolidation measures, the scheme involves a partial equalization of the fiscal burden from differing government bond yields in the market.

This study presents FIRE's principles, discusses its advantages over alternative stabilization approaches and suggests options for its institutional details. Furthermore, a simulation is presented which would shield Italy and Spain against interest rates above 5 percent. The results indicate that a FIRE scheme is financially feasible and affordable for the safe haven-countries.

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1 Introduction

More than two years after the outbreak of the confidence crisis in euro government bond markets no fundamental stabilization has occurred. Although a whole battery of fiscal and monetary instruments has been created and employed market panics persist and reappear in waves.

The fundamental challenge originates from the asynchronous dynamics of the confidence crisis and reform and consolidation measures. The confidence crisis has immediate destructive consequences: Crisis countries are faced with a sudden rise of refinancing costs which put a large additional burden on their reform and consolidation task. Thus, a vicious circle is set into motion. Many well-motivated reform and consolidation measures have long impact lags and are thus unable to contribute to a short-run stabilization. Even worse, the short-run downward spiral of deteriorating confidence, rising interest rates and deteriorating budgetary position may eliminate all measurable positive effects from structural reforms, consequently undermining the political-economic feasibility of further reforms.

This downward spiral is at the heart of the current crisis. Conditional credit mechanisms (EFSF, ESM), new fiscal rules (reform of stability and growth pact, fiscal compact) or unconventional monetary measures might be helpful elements of an integral strategy, but do not target precisely at moving the bond markets away from this self-enforcing bad equilibrium.

In this situation, Eurobonds are a highly prominent and popular reform conception. Jointly and severally guaranteed Eurobonds as a new financing source for crisis countries are indeed likely to restore short-run confidence in bond markets. However, the short-run gain would be traded off against severe long-run economic and political risks. Eurobonds would fully eliminate any interest rate differentials across euro member countries and, hence, destroy market discipline completely. Given the bad fiscal experience with full interest rate convergence between 1999 and 2007, it is unrealistic to expect reform perseverance over years without the threat of market sanctions for reform backlashes. Eurobonds' moral hazard has two dimensions: First, with Eurobonds potential investors in euro zone government bonds lose any interest in an examination of a single euro country's individual creditworthiness. And second, a (small) single euro zone government would face refinancing rates which are unrelated to its individual reform and consolidation performance. Furthermore, joint and several guar-

antees imply incalculable risks for guarantors making commitments of this nature hardly feasible given political and constitutional constraints.¹

2 FIRE – Principles

There exists a different strategy which – like Eurobonds – would target at the core of the problem which is the destructive self-fulfilling dynamics of panic in government bond markets. At the same time it is superior to Eurobonds since it avoids their severe negative side effects. This superior way is the establishment of a fiscal interest rate equalization (FIRE) scheme.² It is based on the insight that market panics in Euro government bond markets create winners and losers. Issuers with a (relatively) high creditworthiness benefit from historically low refinancing conditions whereas issuers with deteriorating market standings can be confronted with an excess risk spread as a consequence of a deteriorating panic. In situations of market panics the resulting risk spreads exceed the size of what could be expected from fundamentals in normal market times.

A straightforward remedy is that winners invest some of their interest rate savings into a fund which subsidizes the refinancing rate of crisis countries. To limit the size of the

¹ The German Constitutional Court has linked the constitutional acceptance of German guarantees for Euro credit mechanisms to a precise quantitative definition of the risks involved for the German budget. Joint and several guarantees for total Euro zone debt emissions would, therefore, hardly be consistent with German constitutional constraints.

² The idea to address the government bond market's dysfunction through a direct equalization of interest rates is straightforward but has, compared to the rich literature on Eurobonds variants, received little attention so far. Related ideas are e.g. synthetic Eurobonds without any guarantee which could imply some form of interest rate subsidy between the Euro countries that would pool their emissions (Bundesverband mittelständischer Wirtschaft, *Die Anleihe der Euro-Länder/Synthetische Euro-Bonds*, Denkanstöße zur Wirtschaftspolitik, Berlin, August 2011; Beck, Thorsten, Uhlig, Harald and Wolf Wagner, *Insulating the financial sector from the European debt crisis: Eurobonds without public guarantees*, Vox Blog, 17 September 2011). A further reaching variant is the full equalization of interest rates through "Euro-coupons" (Fonseca, Joao and Pedro Santa-Clara, *Euro-coupons: Mutualise the interest payments, not the principal*", Vox Blog, 11 May 2012). The principle idea of a less ambitious equalization through an interest stabilization mechanism was recently also suggested by Ivo Arnold without developing any details (*An Interest Stabilization Mechanism as a Feasible Alternative for Eurobonds*, *economonitor Blog*, 25 May 2012).

financing volume and to keep market discipline active no full compensation for interest rate differentials should be targeted at.

Implicitly, interest rate equalization has already been practiced by the ECB through its government bond purchasing program. By targeted purchases of bonds from the crisis countries at the secondary market, the ECB has influenced risk spreads and temporarily contributed to slow down self-fulfilling panic developments. However, fiscal interest rate equalization as proposed here is preferable to the ECB's monetary interest rate equalization. The monetary interventions at government bond markets are in conflict with a stability-oriented monetary framework. They imply government financing through the money printing press. Furthermore, this conflict impairs the long-run credibility of equalization. In contrast to the monetary approach, FIRE is more explicit and credible. It does not stand in contrast to long-run monetary objectives and has a natural financing source: the gains of countries that are the safe havens in a situation of market panics.

The figure below describes FIRE's basic logic for a simplified setting of two countries with a high and a low creditworthiness. Initially, the market risk spread is (a-b). Jointly and severally guaranteed Eurobonds would eliminate the spread altogether and safeguard an interest rate at i^{EB} . FIRE would narrow the spread by (sr+sf) to (c-d). Due to FIRE's budget constraint the subsidy received, sr, and the subsidy financed, sf, must involve identical amounts of resources. Since low risk countries have lower debt levels than high risk countries, sr will normally be smaller than sf.³

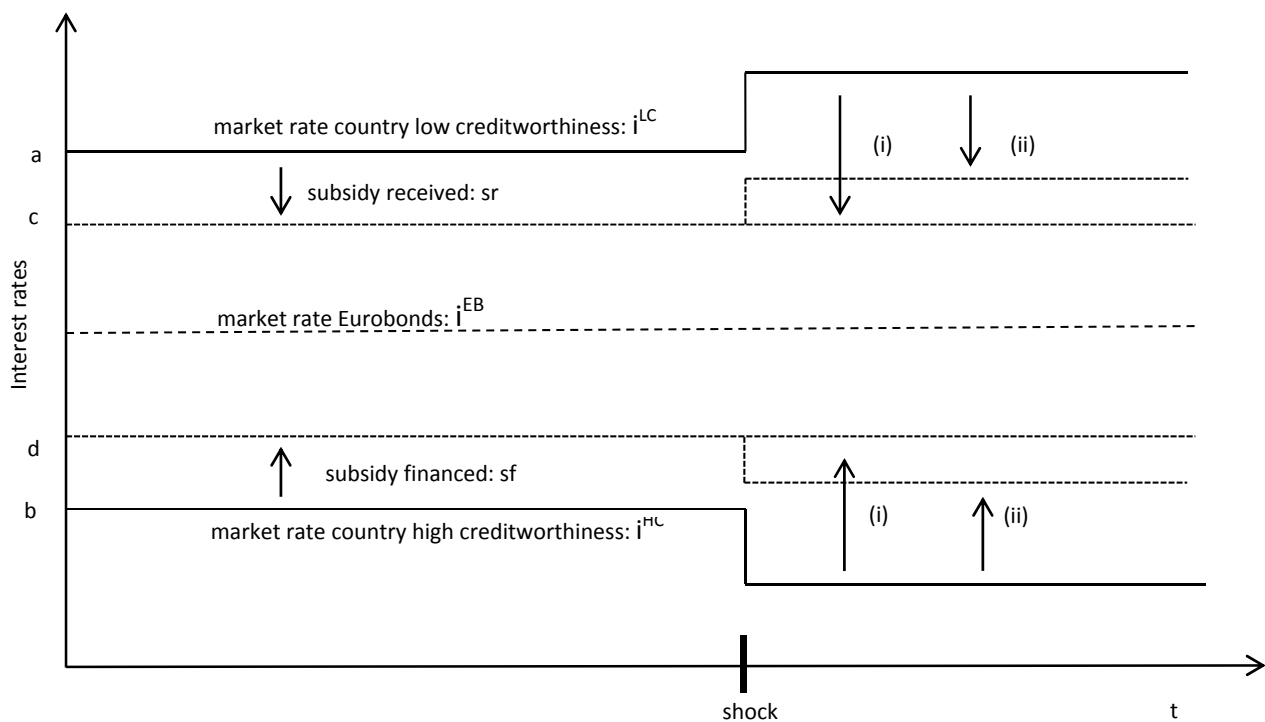
In theory, the level of subsidies should be chosen in such a way that (c-d) represents the fundamentally justified spread given in a market environment without panics. In practice, this fundamentally correct spread can hardly be quantified precisely and will be a matter of political negotiations. For FIRE's stabilizing function, sr must be large enough to ensure benefitting countries to regain a sustainable long-run financing situation given a consequential reform and consolidation path. The difficulty on the precise definition of the fundamental risk spread is unavoidable. However, this difficulty does not constitute any disadvantage compared to Eurobonds. The latter are, even in

³ With d denoting the debt level and $d^{LC} < d^{HC}$ the budget constraint (assuming an identical maturity structure and identical country size) amounts to $d^{LC} * sf = d^{HC} * sr$. Hence $sf = d^{HC}/d^{LC} * sr$ and $sf > sr$.

this regard, clearly inferior. By construction, Eurobonds eliminate any spread and do not offer any leeway for fundamentally justified spreads at all.

With a further aggravation of the situation and an increasing risk spread after a new wave of panics, the subsidizing intensity could increase. Low risk countries would be able to pass through their additional interest rates savings to high risk countries and could prevent a self-fulfilling downward spiral (case (i)). However, a rise in the spread could also follow partially from a further divergence in the long-run fundamental prospect of both countries. In this case, only a partial compensation would be appropriate (case (ii)).

Figure 1: FIRE versus Eurobonds



3 FIRE - Advantages

Although the scheme targets at the limitation of the same market phenomenon as Eurobonds or ECB bond purchases, FIRE is different in numerous important respects:

- FIRE does not involve any guarantees on the side of the giving countries. The support would be achieved through a transparent fiscal instrument and would not create any hardly predictable contingent liabilities. Costs would materialize instantaneously and not imply any burden shifting to later generations of voters.
- The scheme has a natural and politically well defensible financing source: the gains from market panics on the side of the creditworthy countries. These countries only have to invest these gains. There is a beneficial side-aspect: In the absence of any correction, the extremely low interest rates dampen the safe haven-countries' own consolidation ambitions. Thus, the FIRE rebalances some of the consolidation requirements between euro area countries in an appropriate way.
- This financing source is self-enforcing with an aggravation of market turbulences. It is possible to finance increasing subsidies with intensifying market panics. As long as these panics reduce interest rates of stable countries even further, increased gains allow enlarging subsidies. Thus, intensified market speculation simultaneously creates increased financing resources for an extension of the scheme. Consequently, FIRE is inherently credible on the financing side.
- FIRE leaves interest rate differentiation existent. While joint and several Eurobonds would fully level interest rates, this would not be the case with FIRE. FIRE has flexibility on the degree of narrowing interest rates spreads which Eurobonds, by construction, do not have. There is also no political risk that FIRE would degenerate into a full scale leveling of interest rate differentials. Since the size of subsidies in the context of FIRE is highly transparent, a full equalization of interest rates would result in a massively increasing fiscal burden for highly rated countries. Consequently, such a move is not politically feasible.⁴

⁴ In principle, Eurobonds could be constructed to safeguard some interest rate differentials. The proceeds from Eurobonds emission could be transferred to euro zone countries with differing surcharges depending on the debtors' creditworthiness. All experience from the EFSF shows that such political

- FIRE is reversible whereas Eurobonds hardly are. The intensity of FIRE can gradually be reduced. Thus a continuous and cautious phasing-out of FIRE is realistic after structural reforms are starting to pay off. The exit from Eurobonds to national bond emissions would imply an abruptly changing refinancing scheme which suddenly would have to cope with the loss of joint and several guarantees. This, combined with the lack of transparency of the true economic burden of Eurobonds, makes it very difficult and politically unlikely that an exit could ever be achieved. From a political-economic perspective a phasing-out of FIRE is likely because it is constantly perceived as a financing burden on the side of paying countries.
- FIRE allows a credible conditionality which links the continuing flow of interest rate subsidies to ongoing structural and fiscal reforms on the side of the benefiting countries. Giving countries face voters' attention for the explicit transfers. Non-cooperating receiving countries would, therefore, not be able to expect a continuation of these transfers.⁵ A similar credibility of conditionality exists neither with Eurobonds nor with ECB bond purchases.
- One superficial criticism of the FIRE concept would be that it might be less credible in the eyes of markets compared to full scale joint and several guarantees or ECB bond purchases. The answer is that this might be true but that this seeming disadvantage is an additional strength. FIRE will only be an effective stabilization for countries for which a long-run reform and consolidation path is economically and politically feasible (under moderate interest spreads). If markets do not believe that a country, even if protected by FIRE, is able to stick to a prolonged reform path the scheme is ineffective. In this case markets will correctly expect that subsidizing countries will in the not too distant future end their FIRE support. In this respect, the FIRE's stabilization effectiveness is a test whether a country is merely illiquid or already insolvent. Eurobonds or monetary interven-

differentiations are not feasible, initial interest rate surcharges from EFSF loans have quickly been reduced. By contrast, FIRE's interest rate differentiation is politically self-enforcing since a narrowing of spreads would immediately raise the explicit fiscal costs of the financing countries. This advantage is related to the fact that redistribution is explicit and transparent under FIRE but implicit and disguised with Eurobonds.

⁵ Like in the case of the ESM a ratification of the Fiscal Compact would be one of the self-evident conditions.

tions in the bond markets are not able to offer such a test. Both alternatives stabilize any country, even in case of an obvious insolvency. Hence, FIRE is superior also with respect to this aspect.

4 FIRE – Institutional Details

For FIRE's institutional implementation, a solution is desirable which is as transparent as possible. For that purpose, euro area countries should establish a mutual FIRE fund based on a FIRE treaty. The treaty's contents could be limited to a fundamental agreement of euro zone countries' readiness to equalize interest rate differentials in situations of market panics and a clear definition of the decision procedures. It is obvious that the treaty's voting rules must allow for a veto of any financing country. This is essential for its acceptability. In order to safeguard FIRE's credible availability, provisions should clarify that a veto of single countries would not prevent other countries from participating in the FIRE scheme.⁶

On conditionality, similar general provisions as they are formulated in EFSF/ESM agreements are sufficient. Due to the high inherent credibility of FIRE, there is no need for protection by highly precise treaty provisions. Specific interest rate equalization programs agreed upon under the FIRE treaty should include the definition of the agreed issuance volume of program countries, the amount available for interest rate equalization per program country and a financing key. The precise financing key can be left to negotiations. But in line with the logic of the approach, a financing country's burden would increase with its own volume of issuance and decrease with its own re-financing conditions since both components define a country's crisis related gains.

There is the difficulty that the precise market spread is not predictable for the duration of the program. One pragmatic solution would be to decide on the specific sums in-

⁶ In analogy to the ESM Treaty, countries not supporting the scheme would lose their voting rights. A free-rider problem is given but this difficulty is not fundamentally different from the mutual credit facilities ESFS and ESM where this problem was manageable, too. The stabilization of euro bond markets against destructive market panics is in the mutual interest. This motivation should enable an agreement on FIRE as it did for EFSF/ESM.

volved for a limited period in advance (e.g. six months or one year) based on the currently observable market spreads. After one period this can then be adjusted to the new market conditions.

FIRE's compensatory payments should aim at roughly neutralizing the fiscal consequences of a panic driven widening of spreads. Pragmatic formula can be used to make this theoretical consideration operational, for example "average euro area yields for a given maturity plus/minus X per cent". As long as a crisis country is protected by this support scheme it would not experience a deterioration of its fiscal position caused by an interest rate above FIRE's upper ceiling. Thus, this approach is tailor-made to preclude the panic-driven deterioration of a fiscal position. In this respect, FIRE also offers an improved environment for measuring a country's inherent fiscal progress. With each year a country benefits from FIRE, its fiscal performance is not distorted by abnormal refinancing conditions.

A crucial question for the feasibility of the system is the financing burden for the giving countries and simulations are presented below. By construction, however, FIRE is cheaper than Eurobonds for creditworthy countries. Risk spreads are only partly compensated. Furthermore, low risk countries do not act as a guarantor. Thus, no provisions for losses have to be taken which would be part of the instantaneous full economic costs of Eurobonds. Therefore, if Eurobonds are affordable there cannot be an insurmountable objective financing problem for FIRE since the latter involves substantially less transfers.

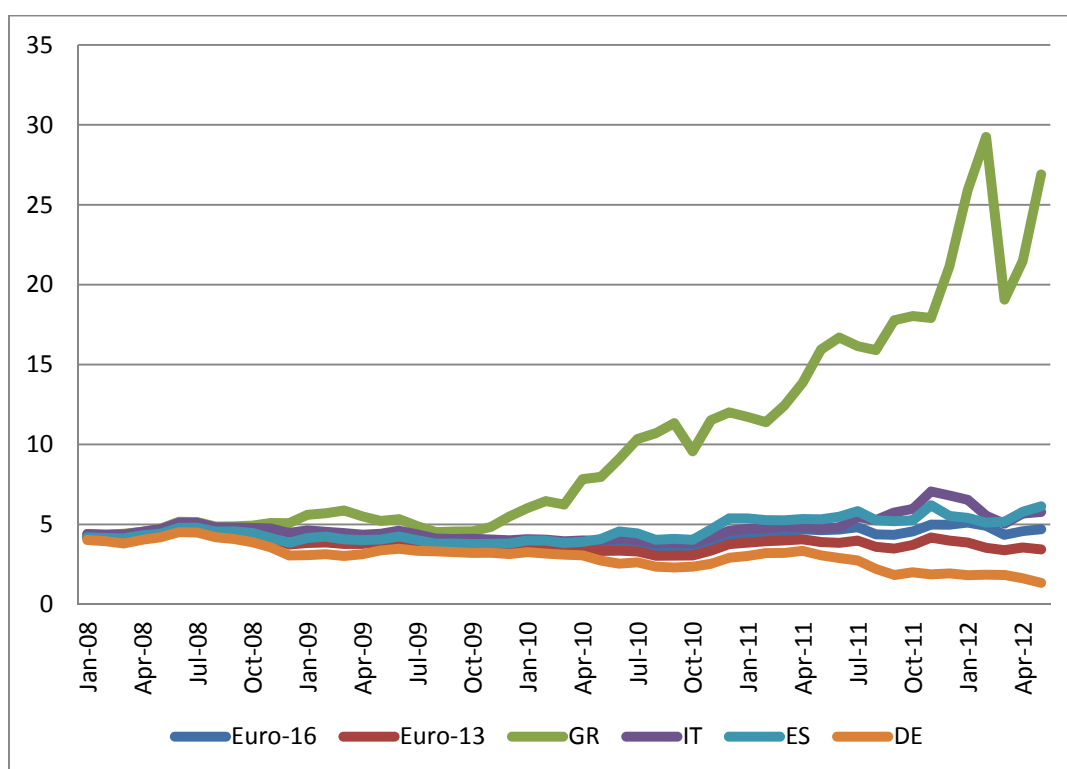
A final institutional question concerns FIRE's interplay with the existing crisis instruments. For countries which are already shielded from the burden of high bond market yields through the existing credit facilities (Greece, Ireland, Portugal) FIRE would not apply. A first obvious activation should target at the protection of Spain and Italy. FIRE would make an extension of credit facilities to these countries redundant. This aspect points to another crucial advantage of FIRE. It could be a substitute for a further massive extension of the loan facilities of EFSF/ESM which would become unavoidable once Italy seeks protection.

FIRE can also be helpful in a later stage of the crisis. A critical phase will come when countries with EFSF/ESM support are close to a return to the bond market. A supporting FIRE program could then serve as a bridge into the market and could speed up the return to the market.

5 FIRE - Quantifications

That FIRE as a mutual financing fund is financially feasible can already be inferred from an inspection of the debt weighted euro area average of government bond yields across the years of the crisis (Figure 2): Whereas a dramatic and fast widening of bond spreads has occurred over the past two years, the debt weighted average of long-term bond yields (10 years maturity) for the euro area has traded around a mean of 4.2 percentage points with low volatility between January 2008 and May 2012. This indicates that the amount of interest rate gains and losses from an increasing differentiation have indeed been symmetric so far. This implies that FIRE’s financing assumptions are empirically valid.

Figure 2: 10 year government bond yields



Secondary market yields of government bonds with maturities of close to ten years, source: ECB. EUR-16/EUR-13: Debt-weighted yield of euro countries (without Estonia/without Estonia, Greece, Portugal and Ireland), own calculations. Source of debt data: European Commission, General Government Data, Spring 2012.

It should be stressed that EFSF/ESM program countries (Greece, Ireland and Portugal) would be no candidates for FIRE support. The EUR-13 debt weighted average (which excludes the three EFSF program countries and which is the relevant group for a mutual FIRE fund) trades at an average of 3.8 percentage points in the period between January 2008 and May 2012. Even in May 2012 which was characterized by new panics and widening spreads for Italian and Spanish bond the EUR-13 debt weighted average remained at a moderate level of 3.4 percentage points.

A simulation based on the market conditions in May 2012 indicates the equalization amounts which may be associated with its implementation. The assumption is that a FIRE fund is established which compensates Spain and Italy for market rates above 5 percent. Furthermore, it is assumed that those countries are ready to support FIRE who benefit from interest rates below 2.5 percent for 10 year maturities.⁷

Table 1 summarizes the costs of a FIRE program which would shield Spain and Italy for one year against long-run interest rates above 5 percent. Given the market conditions of May 2012 and the total issuance needs of both countries the annual interest rate subsidy for the 2012 emissions would amount to approximately 6 bn. EUR.

Table 2 summarizes the distribution of the financing burden. Only those countries with a market yield below 2.5 percent would contribute to the program's financing. Given the May 2012 market conditions, these countries are: Germany, Finland, Luxembourg, Netherlands and Austria. These countries' advantage of very low interest rates is then weighted by their public debt stocks to decide their financing shares.⁸ The financing contribution of Austria and Luxembourg are marginal due to the fact that the absolute size of Luxembourg's debt is very small and that Austria's market yield trades very close to 2.5 percent. Germany would finance 90 percent, the Netherlands 8 percent and Finland 2 percent of the scheme. This result reflects the fact that these three countries benefit most from the safe haven-effect.

⁷ Currently, the term structure is steep with interest rates close to zero for very short maturities for Germany. This implies that the average gross interest rate burden for financing countries based on a typical spectrum of maturities would be far below 2.5 percent. Two other countries, Cyprus and Slovenia, pay interest rates above 5 percent. Their inclusion into the FIRE scheme would not change the simulation to any significant degree due to these two countries' low absolute size of public debt.

⁸ It is assumed that the total issuance needs of these countries are proportionate to the level of total public debt. Of course, this calculation could be refined taking account of differing maturity structures and different levels of the current deficit.

Table 1: Costs of a FIRE program protecting Spain and Italy

	Stock of debt end of 2011 in bn. EUR	Maturity 2012	Refinancing in bn. EUR	New Deficit 2012 in bn. EUR	Financing need 2012 in bn. EUR	Market rate 10 years in %, May 2012	Equalization to reach 5% in bn. EUR
	(1)	(2)	(3) =(1)x(2)	(4)	(5) =(3)+(4)	(6)	(7)= ((6)-5%)x(4)
Italy	1897	0.210	398.4	32.3	430.7	5.78	3.359
Spain	735	0.195	143.3	68.6	211.9	6.13	2.395
						Sum:	5.754

Own calculations. Sources: ECB (market rates), European Commission, General Government Data, Spring 2012 (stock of debt, new deficit 2012), CFA (maturity 2012).

Table 2: Financing of a FIRE program protecting Spain and Italy

	Market rate 10 years in %, May 2012	Distance of market rate to 2.5% in %	Stock of debt in bn. EUR	Indicator to decide the share of gains	Financing share	Financing share in bn. EUR
	(1)	(2)	(3)	(5) =(2)x(3)	(6) = share of sum of (5)	(7) =(6)x5,754 bn. EUR
Germany	1.34	1.16	2088.0	24.2	0.895	5.151
Finland	1.82	0.68	93.0	0.6	0.023	0.134
Luxembourg	1.71	0.79	7.8	0.1	0.002	0.013
Netherlands	1.96	0.54	392.5	2.1	0.078	0.451
Austria	2.49	0.01	217.4	0.0	0.001	0.005
			Sum:	27.1	1.000	5.754

Own calculations. Sources: ECB (market rates), European Commission, General Government Data, Spring 2012 (stock of debt).

The amount of 5.7 bn. EUR for the cost of the FIRE scheme refers to the annual interest rate subsidy for both countries' total emissions in 2012. This subsidy would have to be paid annually over the whole maturity of 2012 emissions. Assuming an average maturity of five years, the discounted value for the subsidies over the full maturity would add up to approximately 27.5 bn. EUR. This is the sum of subsidies to which the financing countries would have to commit in advance in order to make the shielding effect credible. The payment, and hence the budgetary burden, could be spread over the next

years according to the time profile of interest payments from 2012 emissions. Thus the initial annual fiscal burden for a country like Germany would amount to approximately 5 bn. EUR. This annual burden would increase with each year of prolongation of the scheme. This quantification demonstrates that the amounts involved for a protection even of Spain and Italy together are significant but feasible.

6 Conclusion

Europe has realized numerous important steps such as new fiscal rules or liquidity instruments during its fight against the European debt crisis. However, self-fulfilling panics in the euro government bond markets can make these reasonable attempts futile. The current debate centered on Eurobonds variants as an allegedly reliable cure is flawed and does not pay sufficient attention to the dangerous economic and political side effects of that remedy. A much milder treatment is available and has, so far, been neglected. This is a temporal and conditional subsidy on government bond emissions of crisis countries along the lines of the FIRE scheme. European leaders would be well advised to prepare new instruments along this line to have alternative tools in place for the fight against an escalating market situation.