

CPB Netherlands Bureau for Economic Policy Analysis

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Evaluation of EFSF options

On request by the Dutch House of Representatives



Centraal Planbureau

Memorandum CPB (Netherlands Bureau for Economic Policy Analysis)

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1 Introduction

As per the approved motion by Ms. Sap, the Dutch House of Representatives has asked the CPB Netherlands Bureau for Economic Policy Analysis to prepare an analysis of "The effectiveness of four options of increasing the emergency fund, i.e.: A special purpose vehicle for attracting funding from external investors, the insurance model, the banking model and an increase of the guarantees of the member states", such to be completed by mid November. This memorandum provides an analysis of the various options.

2 Objective and current form of emergency fund EFSF

In order to be able to assess the 'effectiveness' of the four above-mentioned options, we first need to clarify EFSF's intended objective and purpose. The preamble to the Sap motion describes the 'effectiveness' of the options in the context of EFSF's 'strike power'. <u>The texts issued by EFSF</u> describe the fund as: 'part of a wider safety net to preserve financial stability within Europe'.

In practice, EFSF seems to have four actual or potential tasks:

- 1. Granting credit to countries deprived of market access while implementing a reform programme (for example Portugal and Ireland);
- 2. Granting credit to countries with a contamination risk (for example Spain and Italy) in order to prevent such contamination -this may be combined with supervision of budgetary policy;
- 3. pre-approving a credit line that countries may make use of under certain conditions;
- 4. or providing capital that member states may use for recapitalisation of their banks.

Once countries have qualified for EFSF support, the EFSF can buy debt at the primary market.¹ This is a more efficient way of supporting credit-tight sovereigns than purchasing bonds at the secondary market, as the primary market for a country's debt is much smaller. Furthermore, as a large share of most countries' public

debt is owned by its own residents, by providing direct support (primary market) countries have a strong incentive to stay current on their outstanding debt. By intervening in the secondary market, this incentive might be weakened.

Where the motion mentions 'strike power', this is interpreted in this analysis as: 1) adequate resources, 2) that can be deployed quickly, 3) in such a way (for instance under certain conditions) that it is probable that that the borrowing country will be able to fend for itself at some point. Without structural improvement of the country's credit-worthiness, its market access will remain restricted and this poses the risk of obligations simply being transferred to ESFS. Such cases actually constitute budget transfers and/or monetary financing of debtor countries. The credit-worthiness can be improved by imposing conditions and is also the consequence of limiting rises in the interest rate.

Current structure of EFSF

EFSF's current form is a special purpose vehicle (SPV), see figure 1. Member states provide guarantees to the 'company' EFSF, incorporated in Luxembourg. If a country requires support, EFSF can attempt to borrow money in the market based on these guarantees by issuing 'EFSF bonds'. EFSF subsequently lends out the cash collected in this manner to its 'customers' under certain conditions (such as an adjustment programme). For the time being, its sole customers are Ireland and Portugal (euro area leaders intend to finance a new programme for Greece through the EFSF as well).²

In this construction, EFSF is dependent on the cash to be collected from its investors. This may impair EFSF's agility. As EFSF bonds become less popular, it will become more difficult for EFSF to grant support.

Figure 1, current structure of EFSF



Table 1 shows the guaranteed amounts per member state. The formal maximum of available guaranteed capital is 780 billion Euros. However, as the guarantees of Ireland, Portugal and Greece are excluded, the

² <u>http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/123979.pdf</u>

maximum effective guarantee is lower: 726 billion Euros (this is the amount included in figure 1). EMUmember states also guarantee interest payments.³ The maximum lending capacity on the latter basis is 440 billion Euros, according to the EFSFThe rating agencies only count the guarantees provided by AAA countries towards a AAA borrowing capcity for the EFSF.⁴The current 'leverage' is therefore less than 1, which means that the lending capacity is lower than the maximum amount of the guarantees.

If Italy (139,3 bln Euros) and Spain (92,5 bln Euros) would no longer be able to provide guarantees, the overall level of EFSF guarantees would fall to 494,5 bln Euros. However, the lending (and borrowing) capacity would remain unchanged. As long as the current AAA guarantors (Germany, France, Finland, Luxembourg, the Netherlands and Austria) hold their current high ratings, the 'AAA-capacity' of the EFSF would continue to be 440 bln Euros. This would, however, imply that the AAA guarantors bear a larger share of the risks, which in turn might damage some of these countries' ratings. If that happens - if for instance France loses its AAA rating - EFSF's capacity would drop. Excluding France the 'AAA-capacity' would be 293 bln Euros, of which a substantial part has already been committed.

	EFSF guarantees committed	Distribution key guarantee contributions	Guarantees granted to EFSF	Distribution key guarantees granted
	(in mln Euros)	(as a percentage)	(in mln Euros)	(as a percentage)
Austria	21,639	2.78	21,639	2.99
Belgium	27,032	3.47	27,032	3.72
Cyprus	1,526	0.20	1,526	0.21
Estonia	1,995	0.26	1,995	0.27
Finland	13,974	1.79	13,974	1.92
France	158,488	20.31	158,488	21.83
Germany	211,046	27.06	211,046	29.07
Greece	21,898	2.81	-	0.00
Ireland	12,378	1.59	-	0.00
Italy	139,268	17.86	139,268	19.18
Luxembourg	1,947	0.25	1,947	0.27
Malta	704	0.09	704	0.10
Netherlands	44,446	5.70	44,446	6.12
Portugal	19,507	2.50	-	0.00
Slovakia	7,728	0.99	7,728	1.06
Slovenia	3,664	0.47	3,664	0.51
Spain	92,544	11.87	92,544	12.75
Total	779,783	100	726,000	100

Table 1, guarantees of EMU countries to EFSF

In order to determine the capacity for future support operations, the existing commitments should be deducted. EFSF committed to contributions to the support programmes of Ireland (17.7 billion Euros) and Portugal (26.0 billion Euros) amounting to a total of 43.7 billion Euros. Furthermore, it is likely for EFSF to contribute to the second Greek support programme. This involves a total of 109 billion Euros of funding support commitment. If Europe pays two thirds of this support programme and IMF pays one third, and if 11.5 billion Euros will be charged to the European Financial Stability Mechanism (EFSM), a total of 61.1 billion Euros remain that EFSF would be expected to contribute (also see Buiter and Rahbari 2011). This means that

³ For this reason, the Dutch government has reported a maximum exposure of 97,8 bln Euro on a guarantee for a notional amount of 44,4 bln Euro.

⁴ In practice, the guarantees from AAA guarantors account for 452 billion, which is somewhat more than the stated capacity of 440 billion Euros.

EFSF committed to a total of approximately 105 billion Euros. This will be deducted from EFSF's future *lending* capacity, also under a possible new structure. In the current structure only 335 bln Euros is available for new lending - not that much when compared to for instance Spain's and Italy's financing needs.

For its current *borrowing* EFSF has already committed AAA guarantees to investors. These 'committed' guarantees can not be used to attract additional funds and can therefore not be leveraged. At the time of completion of this memorandum, EFSF had issued 16 bln Euros worth of guaranteed bonds, which implies that 16 bln Euros of AAA guarantees have already been committed.⁵ This amount has to be deducted in all options for increasing the size of the EFSF.

EFSF grants credits at an interest rate based on the costs incurred by EFSF in order to attract credit plus a surcharge for 'operational costs' (loans granted before 21 July were subject to a higher surcharge).

Various types of risk in the current structure

In EFSF's current form, investors (the parties buying EFSF bonds, i.e. those providing the cash) incur a minor risk. Only if countries that received EFSF loans should not fully pay these back and the guarantee amounts have dropped to zero, redemption of the EFSF bonds would be at risk. As long as the amount of these guarantees exceeds the amount of bonds issued into the market, i.e. when there is no leverage, this credit risk is virtually negligible.

In the current form, the guarantee countries run a higher risk, as they collectively take the first loss if countries that received EFSF support default on their payments. This may include a situation where they are unable to fully pay back their loan, but it may also concern a situation where EFSF buys government bonds and must at some point fully or partially impair these; in such situations, losses will initially be charged to the guarantees of the EMU countries (including the Netherlands). A factor in this situation is that contrary to IMF, EFSF has not adopted a 'preferred creditor' status. This implies that EFSF is at the same level as other investors if a country defaults on the bonds issued⁶. EFSF itself notes that private investors would be reluctant to provide loans to the country concerned if there were too many preferred creditors. The contamination risk towards the financial sector increases if EFSF support decreases the seniority of existing creditors.

In order to reduce the risk of debtor countries defaulting, EFSF support is subject to certain conditions. For example, a reform programme was prepared for both Ireland and Portugal in consultation with IMF, specifying that parts of the loan will be paid subsequent to the implementation of certain reform measures. The reform programme also aims to prevent that it should become attractive for debtor countries to apply for EFSF support (moral risk), increasing the chance of full redemption. This is an important potential role to EFSF: Other than ordinary investors, the Fund may impose conditions. This also justifies that the interest rate is lower than market interest rates. It follows from the principal-agent theory that risks should be borne by parties that are best able to contain such risks. Individual investors are not able to enforce sound policy measures in debtor countries, the EFSF, however, can apply and enforce conditionality. If EMU member states bear a large share of the burden of providing financial support to debtor countries, they have a strong incentive to be tough on those countries. See Teulings (2011), chapter 6.

In view of the high degree of security, it is remarkable that investors do not seem to be very interested in EFSF bonds lately. A possible explanation is that the current discussion on expanding EFSF without requiring additional guarantees from EMU countries, creating ambiguity regarding the extent of security that investors could rely on, also in the future – perhaps investors are concerned about the rules being changed before redemption time. Investors must deal with legal and political insecurity regarding EFSF's future.

⁵See: <u>http://www.efsf.europa.eu/investor_relations/issues/index.htm</u>

⁶ Whether this implies that under these circumstances, direct EFSF loans in the context of a support programme could be subject to a possible haircut is as yet unclear and has not been tested.

In the current EFSF construction, the Netherlands do not directly grant credit to countries in need, nor to the emergency fund; instead, it guarantees EFSF ltd. This implies that the Netherlands do not need to remit money to EFSF until the point where the borrowers fail to pay their loan. This construction seems mostly based on legal or political concerns regarding a prohibition of direct budgetary support. This construction avoids such objections. From an economic perspective, there is very little difference between guarantees or direct financing of EFSF; eventually, the risks and potential costs are the same and charged to the governments of the Netherlands and other member states.

3 Options for increasing EFSF's lending capacity

The <u>statement made after the Euro summit of 26 October 2011</u> indicates that an agreement was reached on two possible options for increasing EFSF's lending capacity. The statement does not clearly define by how much the lending capacity should be increased. Leveraging may increase the available loan capacity by a maximum factor of four to five. Comments speculate that the fund's lending capacity could thus rise to about 1,000 billion Euros, as some of the current effective lending capacity (440 billion Euros) has already been invested. In official documents, the intended capacity remains unclear. These options can be concurrent.

The two options that are mentioned by the Euro summit <u>and were explained</u> by EFSF at a later stage:

3.1 SPV model

This model strongly resembles the current model, the main difference being that based on the existing guarantees, more money can be attracted from private investors. This allows EFSF to grant support to Euro countries at a larger scale. However, this increased scale also implies possible accelerated and higher losses for the guarantor countries. As the guarantor countries cover the first losses in the event of default, these countries run a higher risk per euro of support granted, which is the case for all leverage options - the value-at-risk increases. If a non-leveraged EFSF lends 100 billion euro's and a loss of 20% materializes, the guarantor countries will have to draw on 20% of their guarantees. If, however, a leveraged EFSF with a leverage of five lends 500 bln euros and loses 20%, the guarantor countries will have to draw on 100% of their guarantees. A leveraged EFSF will therefore run into its financing limits faster. Whether a leveraged EFSF actually *is* more risky depends on its effectiveness. If a larger EFSF is better able at containing market panic and sudden stops, it actually reduces risks relative to a smaller EFSF.

In the SPV model, the investors bear the so-called 'tail risk'. The first losses incurred by EFSF because countries cannot redeem their EFSF loans or because the value of the governments bonds purchased falls are charged to the EMU guarantor countries. For a leverage of 5, this amounts to the first 20% on EFSF's total lending portfolio.⁷ Investors will be paid out all their money until the losses exceed this first loss percentage. In the event of small losses, investors are safe; however, they are affected in the event of major losses, and if these actually occur, this 'tail risk' may be a major problem to the investors. In the event of such an exceptionally bad scenario, chances are that the investors will also get into problems. Furthermore, it follows from the principal-agent theory that EMU-member states should bear at least part of the tail-risk, as this provides them with a strong incentive to demand strong policy implementation in debtor nations.

⁷ Is would also be possible to create an SPV-structure in which each credit instrument (bond, loan) has its 'own' SPV with an ex-ante determined share of the total guarantees. In that case the distribution of risks resembles that of the insurance-model (paragraph 3.2). This would make the figure somewhat more complex, but would not significantly change our analysis.





* Of which 440 billion euro is AAA, while 16 billion euro is committed

For an SPV model with leverage, the amount guaranteed by the EMU governments will be lower than the maximum amount of EFSF bonds outstanding. This implies that not all EFSF bonds can be awarded an AAA rating. Naturally, various tranches of bonds could be created, with AAA ratings for a limited part of each tranche. The Euro summit hinted at a maximum leverage factor of four to five. Subsequently, the question is what guarantees the EFSF will leverage in the SPV-model. This could be either the AAA guarantees (440 billion minus the already committed 16 billion) or the total guarantees for example the previously calculated guaranteed amount of 495 billion Euros (excluding Italy, Spain and the three programme countries and again minus the already committed 16 billion euro). In both cases the total available borrowing capacity will be 2000 billion euro. Market participants trust in the SPV construction ánd in guarantee countries' creditworthiness determines the actual leverage that can be reached. In the current market climate, a leverage factor of 3 or 4 is ambitious. With a smaller leverage the available borrowing capacity will shrink proportinonally.

Whether or not an SPV model would actually increase the EFSF's lending capacity to this extent is also dependent on the speed with which EFSF is able to attract funds from investors. From recent experiences with emerging countries, however, it is apparent that attracting investment money from third parties can be cumbersome and take a large amount of time. In a recent interview, EFSF's CEO (Regling) indicated that securing funds in the current turbulent times was a cumbersome process.⁸ This is a weakness in the SPV model, as particularly in the most uncertain times, the need for EFSF funding could be expected to peak. Since EFSF has trouble finding investors in the market even with the current non-leveraged form, the SPV model will probably become dependent on the official bilateral creditors, for example from countries in the Middle East or Far East.

It will not be an easy task to persuade these countries to invest money in EFSF when European countries are apparently unable to do the same. In essence, investors are requested to invest in EFSF's portfolio – which exclusively includes loans to problem countries – whereas the Euro countries as such are not able or willing to do so. This call on countries outside the Euro-zone could even be seen as a negative signal regarding the

⁸ Financieel Dagblad, 11 November 2011, page 1

strong Euro-countries' willingness to resolve the problems within the single currency union internally and to enforce full repayment of debt by the weak eurozone countries. In terms of credibility, it is therefore important to make clear that the strong Euro-countries, as long as they are capable of doing so, will bear a large part of the risks involved in support operations. The image that external financiers should pay the bill for the salvaging costs should be avoided.

In this respect, the size of the fund is crucial to its credibility. This must be sufficient to protect countries such as Italy and Spain against excessive interest rates, which also gives a positive impression towards the financial markets.

Furthermore, the maturity of the securities issued by the SPV is a key factor. If this concerns short-term bonds, the credibility of the construction is determined in part by the EMU countries' willingness to support the SPV if these loans are expiring and external investors are at that moment not willing to reinvest in EFSF (roll-over risk). They will then have to fulfill the role of lender of last resort for the SPV.

The interest rate that external investors require on their investments depends also on the leverage of the SPV and on other factors, including the willingness of the member states to provide supplementary equity in the event where EFSF incurs losses, and the question if EFSF succeeds in forcing its debtors to implement adequate policies. For bilateral creditors, political considerations will also play a role.

3.2 Insurance model

This model aims to make buying bonds in 'problem countries' more attractive by guaranteeing a pre-defined first percentage of the loss per instrument in the event a country cannot fully comply with its obligations. Buyers of these state bonds will have the option of buying credit insurance from EFSF (comparable to a Credit Default Swap). The insurance can be sold on as a separate item, but will only entitle the holder to payment if the holder is also in the possession of the corresponding quantity of government loans. Although it is as yet unclear up to which percentage the losses are to be guaranteed by the EFSF, EFSF has mentioned a percentage of 20%. The insurance policy is provided by a special purpose vehicle and will pay out at the moment a country is defaulting on its obligations (a so-called credit event). Although the exact legal definition has not yet been finalised, this concerns issues such as delayed interest payments or redemption of the insurance model, investors (including market parties and bilateral creditors) lend money directly to 'problem countries', rather than to EFSF. EFSF facilitates such credit provisions with the guarantee; see also figure 3.

In the context of the insurance model, the guarantee percentage of 20% is often mentioned (EFSF 2011). In order to be able to insure government debts effectively, it is probably necessary to retain the AAA rating for this part of the EFSF, which implies that a 'surplus' guarantee will be required (or only the AAA countries' guarantees will be taken into account), as in in the current structure. In view of the existing commitments amounting to 104.8 billion Euros, enough guaranteed capital will remain for insuring almost 1700 billion Euros of additional government debts. If existing commitments (which have not yet been paid out) are financed through a leveraged SPB (with a leverage of 5), the EFSF will have enough resources to insure a higher amount of government debt of approximately 2000 billion euro.

An insurance model will increase the risk for guarantor countries compared with the current structure, but will limit the risk for guarantor countries compared with an SPV model, because if a country defaults on government bonds issued, the maximum charged to EFSF is the insurance percentage per instrument. If the impairment to a specific government bond should be higher, then that portion is charged to the investors. The difference with the SPV model is that as its investors are called upon only if the total guaranteed capital has been fully used. In contrast, investors incur a loss in the insurance model if the loss on a specific instrument amounts to more than 20% (in the example - but see footnote 7). This retention of risk for investors is a weakness as well as a strength of the model. The strength is that investors (and therefore the

'market') lend directly to the various problem countries and this stimulates them to differentiate between countries with good policy and countries with bad policy. The SPV model only gives the investor a claim on EFSF, whereas the insurance model the investor has a claim on the EFSF and on either Ireland or Portugal (or any other country that makes future use of the EFSF insurance).

Retention of risk to investors is also a disadvantage. The objective of EFSF, certainly in this form, is to reanimate markets at moments when investors are too nervous to buy government bonds from a certain country. If a country, just like Greece, should have to write off part of its debt, it would be more likely that this percentage will rise to around 50% rather than 20%.⁹ Against this background, an insurance percentage of 20% may prove too low to restore the investors' willingness to invest at the moment when a country runs into funding problems. Increasing this percentage to 50% would decrease the maximum amount of the guaranteed loans to over 800 billion Euros (assuming current commitments are financed using the SPV model), thus restricting EFSF's strike force.

One reason why an insurance model may not prove effective is the decreased confidence of market parties in such credit insurance forms (such as CDS's) after the Euro-countries wanted to structure Greece's debt writeoff in such a manner that it constituted a so-called 'voluntary write-off' rather than a credit event. If this indeed will become the manner in which market parties impair their Greek bonds, the existing CDS contracts will not be paid out. Banks that thought they were covered against Greek default will then not be paid out. Against this background, it is not surprising that European credit guarantees are not received with enthusiasm. If the next write-off will have to be on a voluntary basis again, or if it is resolved with another creative construction, it is not so certain if these credit insurance policies will actually pay out.

Another limitation of the insurance model is that this measure cannot be simply reversed when market conditions improve or when the measure should prove ineffective¹⁰, as the guarantees issued will have the same maturity as the newly issued government bonds, which usually is at least a few years.

The positive aspect of the issuance of insurance is that no extra intermediate step is required. Payment is relevant only in the case of an actual credit event. This measure can therefore be directly implemented if a country applies for support. The EFSF insurance model does not face liquidity risks. Debtor countries do, however, as they have to issue their bonds in the market.

If insurance policies are issued by EFSF, market parties will pay a premium. This premium can be used to accrue a guarantee fund from which future payments on these guarantees will be partially funded. However, the amount of the premium will be lower than the market risk premium. At the moment where these are equal, EFSF does not support the market, and the EFSF measure is then superfluous as it has no extra value compared to insurance policies available on the market.

The amount of the insurance premium that market parties pay corresponds with the interest rate they require on government bonds of the relevant problem country. As this premium is lower, the interest rate they require will be lower. For the investors, only the net interest revenue that remains after deducting the insurance policy premium from the interest received. In reality, the insurance premium will therefore mainly depend on the interest that a country applying to EFSF can reasonably pay.

⁹ If a country can become solvent again by writing off no more than 20% of its debt, it should also be possible to restore the government finances in other ways.

¹⁰ This is possible only by attempting to buy back guarantees; however, the market may be less liquid and certainly once it has become clear that EFSF aims to buy back all guarantees, the prices will quickly rise.

Figure 3, an insurance model



Of which 440 billion euro is AAA, while 16 billion euro is committed

* These figures assume existing - but not yet paid out - commitments are financed using the SPV-model with a leverage of 5.

The Sap proposal mentions another two options.

3.3 Bank model

As the bank model is not presented by the Eurogroup and is not detailed in EFSF documentation, there is no formal model that we can base our analysis on.¹¹ We therefore describe a stylised model based on CPB's interpretation. The core of this model is that EFSF will obtain a bank licence, allowing it to gain access to the ECB's credit facilities. As is apparent from figure 4, this is the key difference between the SPV model and the bank model. In theory, EFSF-bank could also attract deposits, although this does not seem likely to us. For convenience, the figure is based on the presumption that the member states' guarantees are accepted as capital for the EFSF bank by the Luxembourg supervisor. If this is not the case, the member states will have to convert their guarantees into cash to invest in EFSF.

The bank model is different from an SPV model in that the bank has access to the ECB if it should encounter liquidity problems. This ECB-access makes it less risky for the EFSF-bank to attract short-term money from the market, in addition to issuing bonds. This in turn would allow for a higher leverage factor. In accordance with the Basel supervisory framework, banks must retain a capital buffer of at least 8%, and on top of that an additional 2.5% buffer in order to cover for any losses. This limits the leverage factor relevant to assets with a 100% risk weighting to approximately 9.5, as it is evident that debt purchased from countries in financial problems should have a full risk weighting, even though a lower weighting currently applies to government debt of industrial countries. The maximum capacity of a bank arises when all guarantees (479 billion Euros,

¹¹ Although apparently the French government proposes such a model. See: <u>http://www.reuters.com/article/2011/11/16/eurozone-france-efsf-idUSP6E7L0ooL20111116</u>

again not including Italy, Spain and the programme countries and also discounting the 16 billion Euro's in guarantees already extended are used and an amount is borrowed in the financial markets up to a leverage factor of 9.5. This would result in a maximum capacity of 4,546 billion Euros. This also apparently (substantially) overestimates the capacity that is feasible in reality. In itself, the leverage factor of 9.5 is not exceptional for an 'ordinary' bank. However, EFSF is not an ordinary bank because it lends money only to countries without market access. Under the current conditions, it is very much the question if the EFSF bank would actually manage to attract very high amounts of funding from the market. However, a bank will clearly be able to have a higher leverage factor than an SPV due to its access to ECB emergency funding.

In both the current SPV model and the bank model, the interest rate that debtor countries must pay to EFSF depends on the interest that EFSF pays on the funds attracted. The EFSF bank, just as other banks, could attempt to attract short-term funding at the associated low interest rates, the interest costs for debtor countries could also be lower¹². This is possible because the liquidity risk can be covered by the ECB (and here the banking model differs from the SPV model).

As the EFSF bank could, in principle, have cash at its disposal under any circumstances (with the ECB acting as *lender of last resort*), EFSF-bank can itself effectively serve as the lender of last resort in times of panic in the markets, or when the markets are frozen. A lender of last resort can prevent 'bank runs' on the EFSF and/or debtor countries (see Diamond and Dybvig, 1984, Rogoff 1999 en Teulings e.a., 2011 for a description of self-enforcing runs on banks and countries).

A higher leverage factor results, in principle, in greater risks to the capital providers. A higher risk can be taken with the same guaranteed amount, which increases the risk of the guarantees having to be converted into cash. The total direct potential costs to the Netherlands and the other guarantor countries are equal to those in the SPV model, i.e. a maximum of the total guaranteed amount. Access to the ECB facilities, however, prevents EFSF from getting into acute liquidity problems, which could arise in the event of a maturity mismatch between money attracted and loans granted by EFSF. A banking model therefore reduces the direct and immediate risks relative to the SPV-model.

In this bank model, it is possible to fully transfer the solvency risks to the guarantor countries. Since its inception, the ECB has only provided loans to banks based on adequate collateral, preventing the ECB from incurring losses. In this context, the ECB valuates the collateral made available against their market value on a daily basis, building in a supplementary safety buffer by applying a haircut on these securities (see ECB 2011). The same regime could apply to the EFSF bank. This implies that if this bank should require liquidity support from ECB, the EFSF-loans to countries with financing problems would be registered as collateral with ECB. In order to prevent ECB from incurring losses on this collateral, the EFSF could issue an additional guarantee that they will redeem any losses on these loans. Possibly, part of the guarantees can be effected to serve as cash collateral. Such 'safety nets' serve to prevent credit risk to be transferred to ECB. These additional guarantees against losses for the ECB, however, will reduce the maximal lending capacity of the EFSF-bank, as part of the EMU-guaranties should be reserved for this purpose. If 25% of these guarantees are set aside, this will reduce the maximum lending capacity to about 3400 billion Euros.

If ECB does not bear any credit risk, instead operating solely as a liquidity provider at times when the European money market is frozen, this does not concern monetary financing. Monetary financing would only apply if the ECB would print money in order to pay government debts or when the ECB helps fund their debts in a different manner. In the model described above, this does not apply, as guarantor countries themselves provide the financing and bear the credit risk. If the ECB only performs the role of 'lender of last

¹² In theory, the current EFSF or the SPV model would also be capable of this. However, EFSF is not doing this for the time being and in the current climate, such a maturity mismatch seems precipitous in the absence of a lender of last resort that could assist in emergencies.

resort' and provides only temporary liquidity to EFSF, this does not permanently inflate the ECB's balance sheet and therefore does not cause inflation risks.

However, there are variations on the bank model in which the ECB is less tightly protected from solvency risks. This could be the case if EFSF loans offered as collateral to the ECB are not guaranteed by the strong EMU governments (which is the case if leverage is applied). In that situation, the ECB could incur losses. Transferring risks to ECB is no free lunch. ECB money is not free cash. If the ECB would accept solvency risks, these are eventually transferred to the ECB shareholders, which are the member states (via their national central banks), as these share in the ECB's profit and loss on the ECB's portfolio via the ECB's profit and loss statement. In this case, another objection to the bank model is that involvement of the ECB could lead to circumventing democratic justification, as the government would not make an explicit decision on losses it is prepared to incur, whereas it would be confronted with losses at a later time due to eroding the ECB's capital.

If the EFSF bank is unable to withdraw structural financing from the market and the ECB then is maneuvered in the position of providing long-term financing to EFSF, the EFSF will in fact become a middleman for ECB funding to problem countries. Under this scenario democratic decision-making on budgetary support is circumvented and risks to the guarantor governments are effectively hidden by parking them on the ECB's balance sheet. This possibly also involves inflatory monetary financing; this depends on the manner in which the ECB would process such transactions. Not sterilising loan provision and thereby increasing the balance sheet total will theoretically result in an inflatory effect. At a leverage factor of 9.5, this potential monetary funding is limited to 8.5 times the capital deposited if EFSF's receivables from problem countries should have to be written off completely. Furthermore, the provision of unconditional and nearly unlimited liquidity by the ECB might cause moral hazard both for debtor and guarantor countries.



Figure 4, the bank model

±3,400 bln max

* Of which 16 bln euro is already committed.

Since the bank model is not being proposed by the Euro group, there is apparently, to date, no political support for this option. Another weakness of this option is that this requires the ECB's collaboration and at

this time, it is very much uncertain if the ECB would be prepared to do this. Financing a bank established to buy government bonds from problem countries is at odds with the current mandate of the ECB.

Notwithstanding these weaknesses, there are sound economic reasons for a central bank to support markets in crisis situations with evaporating liquidity, including the government bond market (see for instance Teulings e.a. 2011, chapter 4). As long as this concerns liquidity support rather than permanently accepting government debt, inflation risk is also limited. In order to be able to carry out this task in an independent manner, however, this should first be clearly embedded within the ECB's mandate. Its current role as the steward of financial stability within the Eurozone does offer some foundation for this interpretation.

3.4 Guarantee model

EFSF's lending capacity can also be increased by raising the current EMU countries' guarantees without leveraging these for attracting supplementary cash from external investors; see also figure 5. This is the current model as described in paragraph 2, but this time with higher guarantees. The advantage relevant to the current model is that EFSF, theoretically, would have more strike power. A potential problem is that if the Euro countries must guarantee larger amounts, the markets may develop concerns regarding their own credit-worthiness.¹³ Increasing the effective remaining lending capacity up to 1,000 billion Euros would require more than doubling the current guarantees (with a factor of 2.5 to be precise). For the Netherlands, this would mean making guarantees of some 110 billion Euros (or nearly 20% of GDP) available.



Figure 5, extension of the guarantee model

* Of which 1105 billion euro is AAA, while 16 billion euro is committed

A strong aspect of the guarantee-model is that EMU-member states have to bear the full burden of possible EFSF-losses. This signals strong commitment and creates a strong incentive for creditor states to make sure

¹³ This might also hold for the other models in which the risks for guarantor countries increases due to the leverage. In the other models the total potential loss is limited, however, to the amounts given in table 1. In the guarantee model, the total potential loss increases.

the EFSF is paid back in full. A weakness is that (as in the SVP model) the guarantee model will imply that EFSF will remain dependent on the willingness of the market to supply financing at critical moments. The liquidity risk stays with the EFSF and this is not solved in the guarantee model. This is where the guarantee model differs importantly from the bank-model, in which the ECB solves the liquidity risk. The liquidity risk in the guarantee model could be reduced if member states provide financing instead of guarantees, or if the model is combined with the bank-model. That could lead to a non-leveraged bank-model, where the ECB bears the liquidity risk. The lending capacity would in that case be equal to that of the 'normal' guarantee-model, as seen in figure 5. These sort of options are not mentioned in the motion-Sap, however.

The maximum capacity of the guarantee can be increased only if countries provide more guarantees. In that case, the AAA rating can be retained if EFSF commits to no more financing than the available amount of AAA guarantees.

4 Solution for the underlying problems

To be effective, it is important the EFSF-financing is subject to strong conditionality, to be laid down in a Memorandum of Understanding, which secures that debtor countries will implement structural reforms aimed at improving the competitiveness of their economy and will strengthen their government finances. These conditions do not depend on the financing model used by the EFSF, but should be tailored to the economic and financial risks faced by the country involved, comparable to the long-standing practice of IMF adjustment programs. In addition, compliance with these conditions should be monitored through on-site program missions, similar to those performed by the IMF, the European Central Bank and the European Commission. Without conditionality and structural improvements to their economy, debtor countries cannot expect to regain access to international capital markets. As imposing conditions (for example to budgetary policy) can be politically sensitive, putting strain on diplomatic relations, chances of imposing them increase when politicians in European creditor countries are directly confronted with any losses due to soft implementation of the adjustment program. An effective solution is to ensure that healthy countries such as the Netherlands and Germany have a strong incentive to monitor program implementation. As ECB financing could (wrongly) be interpreted as 'free money' by national politicians, the bank model might increase the possibility that EU leaders give in to granting major, unconditional financing. In the other models discussed here, conditionality is more likely to be enforced by the EFSF.

The IMF has many years of experience with enforcing conditionality in adjustment programs, aimed at strengthening economy performance in countries without access to international capital markets. In order to effectively attach conditions to EFSF financing, the EFSF could continue its current partnership with the IMF. This would allow the EFSF to benefit from the IMF experience, while both organizations together could perform the role of independent assessor of programme performance by debtor countries. Such a collaboration between the EFSF and the IMF does not depend on the exact financing modalities imposed by the EFSF and fits all the above-mentioned financing options.

5 Impact on government finances

In all financing options discussed, the Netherlands will initially only extend guarantees, not capital. In the bank model, however, this also depends on whether bank supervisors will assess these government guarantees as capital. If not, governments can be required to pledge cash in order to fund the bank model. According to current Eurostat rules, guarantees do not affect the EMU balance of creditor countries and if the

EFSF pays a fee to these guarantors, this would even improve the budget balance according to European accounting principles. However, this should not be a consideration, as risks to the Dutch tax payers would increase accordingly. If EFSF incurs losses and the guarantees are called in, this would naturally affect the budget. For the risks ensuing from the various financing models, please refer to the previous paragraph. Eurostat judged that EFSF loans based on these guarantees must be added, proportionally, to the EMU debt of member states. When making a choice between the SPV model, the insurance model and the bank model, budgetary considerations should not play any role. If the Dutch guarantees should be increased (as will be the case in the guarantee model) the potential direct loss to the government budget would increase. But the budgetary risks of the different financing options should not be the only consideration; another factor is their expected effectiveness in resolving a financial crisis that potentially inflicts much higher damage on government finances.

6 Conclusion

An emergency fund can only be effective in calming financial markets if it has sufficient credibility. Credibility dependents crucially on the commitment of EMU member state leaders. Are they prepared "to do whatever it takes" to come to the rescue of countries in financing need?

A larger emergency fund will help to resolve acute liquidity problems ('lender of last resort'). In that case, it is not practicable if the EFSF itself is largely dependent on financial markets for its funding, both for practical reasons and because the call upon the market does not emanate commitment: why should the market lend money if EMU countries do not want to finance a mayor part of the bill? Of the four models mentioned in the Sap-motion, only the bank model guarantees immediate availability of cash, due to the possibility to call upon the ECB's financing facilities, when in case of emergency the EFSF cannot tap financial markets.

A drawback of both the SPV- and the insurance model is that the tail-risks are borne by investors. It is doubtful whether investors are willing to take on such risks in the current environment. Furthermore, this might undermine the commitment by EMU member states. In addition, creditor countries are in the best position to enforce good behavior by debtor countries. By letting creditor countries bear the tail-risks, they have a strong incentive to demand full payback on EFSF loans.

A disadvantage of the bank model is that ECB-financing can wrongly be seen as "free money", which reduces the incentive to enforce implementation of the economic adjustment program. Such incentives would, by contrast, be the strongest in the guarantee-model, as guarantor countries have to bear the full burden of possible EFSF losses. An alternative model would be one in which the guarantee-model and the bank-model are combined, albeit without leverage. The advantage compared with the leveraged bank model is that it would create a stronger incentive for European leaders to enforce sound policies, thereby securing commitment of the debtor countries. Any losses are then directly felt in their creditors' own government budget. The advantage compared to the other models is that ECB-involvement shields the EFSF from liquidity risk. This alternative model, however, is currently not on the table.

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