A more effective Eurozone monetary policy - gold-backed sovereign debt*

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Abstract

This paper argues that using gold as collateral for highly distressed bonds would bring great benefits to the euro area in terms of reduced financing costs and bridge-financing. It is mindful of the legal issues that this will raise and that such a suggestion will be highly controversial. However, a necessary condition is that the European System of Central Banks (ESCB) has agreed to the temporary transfer of the national central bank's gold to a debt agency in full independence. This debt agency passes the gold along, in strict compliance with the prohibition of monetary debt financing. The paper also explains that gold has been used as collateral in the past and how a gold-backed bond might work and how it could lower yields in the context of the euro crisis. This move is then compared to the ECB's now terminated Securities Market Programme (SMP) and its recently announced Outright Monetary Transactions (OMTs). Namely, a central bank using its balance sheet to lower yields of highly distressed countries where the monetary policy transmission mechanism is no longer working. Beyond some similarities between the moves, the specific benefits of using gold in this manner vis-a-vis the SMP and the OMTs are highlighted. For instance, there is by and large no transfer of credit risk between high risk/low risk countries, losses are borne by specific countries and not by the largest shareholders of the ECB, it would turn out to be more transparent, it would not be inflationary and would foster reforms.

Keywords: bond pricing, collateral, debt crisis, gold, gold-backed bonds, Outright Monetary Transactions, Securities Market Programme

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*This report has been commissioned by the World Gold Council to evaluate and test its initial work on the concept of a Gold Backed Bond and its potential role in helping distressed Eurozone countries meet some of the challenges of the sovereign debt crisis. This new research is designed to interrogate the concept, compare it with the existing non-conventional monetary policy tools and recommend on further development and required analysis if necessary.

1. Introduction

The European Central Bank opened up its third round of secondary bond market purchases on September 6th, 2012. Whether they deliver a permanent reduction in bond yields in the South is highly uncertain. If the ECB's latest sovereign bond purchase programme consisting of Outright Monetary Operations (OMTs) fails, then Europe's options look grim. Austerity and growth programmes have not met expectations and the outlook is further clouded by the fact that the funds available from the IMF and EFSF/ESM are dwindling as a result of other bailouts. Europe is running out of time and options.

Already the now terminated predecessor of the OMTs, the Securities Market Programme (SMP) has always been a controversial option, riddled with potential dangers. It is seen by many as a de facto fiscal transfer from the North to the South and, moreover, a transfer made without democratic consent. By showing willingness to buy the debt of poorly performing countries, the SMP was seen as reducing incentives for necessary long term reforms. In addition, although the ECB tries to 'sterilise' these transactions, this is far from an exact science, leaving a risk of higher money supply fuelling inflation.

An alternative manner which serves to lower yields might be to issue securitized government debt, for example, with gold reserves. This could achieve the same objectives as the ECB's bond purchases programmes, but without the associated shortcomings. This would clearly raise legal issues but then so too did the ESM, SMP and OMT. This would not work for all countries but would for some of those in most need. In fact, Italy and Portugal have gold reserves of 24 and 30 percent of their two-year funding requirements. Using a portion of those reserves as leveraged collateral would allow those countries to lower their costs of borrowing significantly.

Making use of the national central banks' gold reserves is much more transparent than the SMP, much fairer, and would make it easier to get genuine consent amongst the euro area population and the European Parliament. Nor does it lead to unmanageable fiscal transfers from the North to the South with huge disincentive effects. It does not shift toxic debt instruments onto the ECB. And it does not cause sterilisation problems or increase the difficulty of exiting unconventional monetary policy. Simply speaking, a gold-based solution is much less inflation-prone and does not reduce incentives for the reform of beneficiary countries.

The remainder of the paper proceeds as follows. Section 2 looks at the problems underlying the current escalating crisis which essentially represent the trigger for the active involvement

of the ECB in euro area rescue activities. It is stressed that the breakdown of the monetary transmission mechanism has exacerbated the problem which is mirrored by the ECB's sovereign debt market and LTRO activity. Section 3 introduces into the basic characteristics of the ECB's now terminated Securities Market Programme (SMP) and its follower, the Outright Monetary Transactions Programme (OMT).

Section 4 brings gold into the debate. For this purpose, the value of Europe's gold reserves is outlined. Moreover, it is explained that gold has been used as collateral already in the past. The main focus then is in section 5 on an explanation of how a gold-backed bond might work and how it could lower yields. Section 6 deals with some of the legal issues involved.

In section 7, the move towards a gold-backing of selected euro area sovereign bonds is compared to the SMP and the OMT. Both programmes relate to a central bank using its balance sheet to lower yields of highly distressed countries where the monetary policy transmission mechanism is no longer working. Similarities and differences between the two moves are highlighted. Many benefits of using gold in this manner vis-à-vis the SMP and the OMT are derived from as, for instance, the absence of any transfer of credit risk between high risk/low risk countries, the fact that losses are borne by specific countries and not the largest shareholder of the ECB (i.e. Germany), and, finally, that it would not be inflationary. Section 8, finally, considers the likely spread of political views across the euro area member states and institutions. It especially focuses upon how entrenched those views may be and how one might build a consensus towards such a solution in Europe.

2. The breakdown in the monetary policy transmission mechanism

The sovereign debt crisis is eroding long standing assumptions around sovereign debt risk. In developed markets, the rising burden of public debt combined with low economic growth is raising concerns around the long term ability of some euro area sovereigns to repay.For some countries, the credit spread in their cost of debt financing has increased significantly. This is hampering the so-called monetary policy transmission mechanism. Conversely, changes in long-term sovereign bond yields feed to a certain extent into fluctuations in corporate bond yields and bank lending rates. As a reaction to losses from significant declines in sovereign bond prices, consumers tend to enhance their precautionary savings, which in turn work against the intended stimulus to private consumption from monetary policy easing (Cœuré, 2012, ECB, 2012b, pp. 7-10). What is more, sovereign bonds are these days exposed to severe haircuts and, as a consequence, their refinancing capacity has become smaller. The volume of available collateral in the shape of government bonds has become smaller which has curtailed

the refinancing opportunities of commercial banks. The price corrections of sovereign debt also exerted an immediate negative effect on the assets on the banks' balance sheets and, hence, on the risks markets attach to them. This works against the refinancing necessities of commercial banks. What is more, it has the potential to work out as a significant impediment to the provision of loans to the real sector of the economy (Cœuré, 2012, ECB, 2012b, pp. 7-10). Although the ECB's LTRO facility is helping to address the current liquidity crisis for weaker banks *it does not directly address sovereign solvency issues*. The LTRO facility allows banks to post sovereign debt as collateral to get access to cheap ECB funding (see Figure 1). Banks in Portugal, Ireland, Italy, Greece and Spain had a ~70% share of the first €350 BN LTRO. However, the risk of default remains with the banks (Belke, 2012a). Sovereign debt still remains on the balance sheet of banks. And there is a collateral top-up requirement if the bonds pledged fall in value or default.

This has prompted the ECB to introduce controversial non-conventional monetary policy tools, such as its Outright Monetary Transactions Programme (OMT) and its predecessor, the Securities Market Programme (SMP).

3. The status quo: Securities Market Programme (SMP) and Outright Monetary Transactions Programme (OMT)

Securities Market Programme (SMP)

To address the issue that sovereign debt market activity plays a significant role in monetary transmission, one of the unconventional tools that the ECB has used is the Securities Markets Programme (SMP).

The Securities Market Programme (SMP) was launched in the Governing Council on May 10th 2010. Under the programme the ECB used part of its balance sheet to purchase debt securities of malfunctioning segments of the debt markets. Despite the fact that purchases on the secondary market are not prohibited by the Treaty and the ECB Statutes (as opposed to primary purchases), they were considered by some as circumventing the prohibition to purchase in the primary market. The ECB was challenged in Germany by the Constitutional Court for having violated the Statutes. The ECB was forced to explain its actions and has gone to great lengths to highlight the link between the stability of sovereign debt markets and the smooth functioning of monetary policy. However, with respect to the public in some

Northern euro area countries, especially Germany, this remains largely unsuccessful.[1] With the earlier resistance to the SMP unlikely to have subsided, alternatives which achieve the same outcomes without the controversy should be examined.

Outright Monetary Transactions (OMT)

As announced on 2 August 2012, the Governing Council of the ECB has on September 6, 2012, adopted a couple of decisions on the technical features of the potential future Outright Monetary Transactions to be conducted by the Eurosystem in secondary government bond markets which are targeted towards *stabilizing a functioning monetary policy transmission* and the *singleness of the monetary policy*. These transactions have been labeled Outright Monetary Transactions (OMTs) and will be implemented based on a specific framework to be described below. OMTs are meant to enable the ECB "to address severe distortions in government bond markets which originate from, in particular, unfounded fears on the part of investors of the reversibility of the euro" (Draghi, 2012, ECB, 2012b, pp. 7ff.).

As shown above for the case of the SMP, the ECB has in the past tried several times to dampen the crisis through bond purchases and at the same time to push the countries to undertake more reforms – without success. But "this time it's different" ECB President Draghi promises and points at conditionality as the main and decisive innovation of the new OMT programme.

Strict and effective conditionality which is attached to an appropriate European Financial Stability Facility/European Stability Mechanism (EFSF/ESM) programme represents a necessary condition for OMTs. These programmes can be implemented as a full EFSF/ESM macroeconomic adjustment programme or in the form of a precautionary programme (the so-called Enhanced Conditions Credit Line), as far as they grant the opportunity of EFSF/ESM primary market purchases. The IMF is also called upon by Draghi to take part in the monitoring of such a programme and also in the design of the country-specific conditionality. The ECB Governing Council GC will adhere to OMTs to the extent that programme conditionality is without any reservation respected as long as they appear to be legitimized from a monetary policy perspective. Conditionality thus is regarded as *necessary but not sufficient* for OMT. What is more, it will abandon these operations as soon as their targets will have been reached or when the respective government does not comply with the precautionary

[1] According to recent poll results, nearly half of Germans don't trust Draghi. See http://www.reuters.com/article/2012/09/06/us-ecb-germany-idUSBRE8850BI20120906.

programme or the macroeconomic adjustment programme. In the wake of a tough assessment, the GC will take a decision "on the start, continuation and suspension of OMT in full discretion and acting in accordance with its monetary policy mandate" (ECB, 2012b, pp. 7ff.).

In terms of coverage, OMTs are envisaged for future incidences of EFSF/ESM or precautionary programmes or full macroeconomic adjustment programmes as specified above. They come in question for member states finding themselves currently under a macroeconomic adjustment programme and are in a situation in which they are on their way to regain access to the sovereign bond market as well. Transactions will be targeted at government bonds of a maturity from one to three years. The ECB's focus is thus on the shorter part of the yield curve. What is more, it does not put any a priori quantitative caps on the size of OMTs (ECB, 2012, pp. 10f.).

In terms of creditor treatment, the Eurosystem imposes the same treatment for itself and private or other creditors (i.e. a "pari passu" arrangement) concerning bonds issued by euro area member countries and acquired by the Eurosystem through OMTs, of course in strict accordance with the terms of such sovereign bonds.[2] At least legally, the ECB thus is not senior in the case of country default anymore (Draghi, 2012).

The liquidity created through OMTs shall be fully sterilized, according to the ECB. With respect to transparency, there is some progress compared to the SMP. As was the case also for the latter, the aggregate bond holdings stemming from OMTs and their market values will be published with a weekly frequency. The average duration of OMT holdings, *differentiated by country* will be published on a monthly basis. The latter is necessary simply because the benefitting country is anyway already identified via the conditionality and, thus, at closer inspection is no real progress as compared to the SMP.

Following the decision of the ECB Governing Council on September 6, 2012, on Outright Monetary Transactions, the Securities Markets Programme (SMP) was therewith terminated, leaving its volume standing at EUR 200 bn. The additional base money injected into the system through the SMP is promised to be continuously sterilised, and the SMP portfolio of securities already on the balance sheets of the ECB are said to be held until maturity.[3]

Draghi has also announced *a change in the eligibility for central government assets*. Accordingly, the GC of the ECB has come up with the decision to *suspend the adaptation of the minimum credit rating threshold* in the framework of the "collateral eligibility

[2] The ECB intends to clarify this issue in the legal act concerning OMTs.

[3] The ECB terminated its Covered Bond Purchase program decided upon on May 7th, 2009, in June 2010, bond purchases standing at EUR 60 bn. Its termination did not cause any new market tensions. See Stark (2011).

requirements for the purposes of the Eurosystem's credit operations in the case of marketable debt instruments issued or guaranteed by the central government, and credit claims granted to or guaranteed by the central government, of countries that are eligible for Outright Market Operations" or are under an EU-IMF programme and comply with the attached conditionality as assessed by the Governing Council" (Draghi, 2012). The suspension comprises all outstanding and new assets which can be subsumed under the above category.[4]

4. Securing Europe's debt with gold

It is by now clear that even in the fourth quarter of 2012 the euro area will stay under significant stress.[5] But it is not at all clear whether the ECB or the euro area governments will de facto be able to act properly to choke market fears and bring down (allegedly) overly high government borrowing costs. As unease builds, it may be time to explore new ideas to cut interest rates.

An idea we have been asked to consider by the World Gold Council is the gold backing of new sovereign debt. It is common knowledge that a few countries which are the most affected by the euro crisis, i.e. Portugal and Italy, hold large stocks of gold. In aggregate, the Euro area holds 10,792 tonnes of gold, that is 6.5 per cent of all the yellow metal that has ever been mined, and worth some $590bn (Farchy, 2011).

As expected, this scenario was the trigger for some to propose that not only the financially distressed governments should sell some of their gold (see, for instance, Prodi and Curzio, 2011). Over the last couple of years, the value of gold has soared. And a popular view is, if there were ever a suitable time that euro area member countries are in need of an unanticipated windfall gain – for instance, to pay interest on their sovereign bonds – it would be now (Farchy, 2011, Pleven, 2011).

But this would be a mistake. For quite apart from the fact that a massive dump of gold would dampen its price, the euro area debt woes are now so large such that gold sales would only scratch the surface of the problem (Alcidi et al., 2010). This is because the gold holdings of the financially distressed euro area countries (Greece, Ireland, Italy, Portugal and Spain) would account for only 3.3 per cent of their central governments' total outstanding debt.

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[4] See ECB (2012), p. 11. The decision on the collateral eligibility of bonds issued or guaranteed by the Greek government taken by the Governing Council on 18 July 2012 is still applicable (Decision ECB/2012/14).

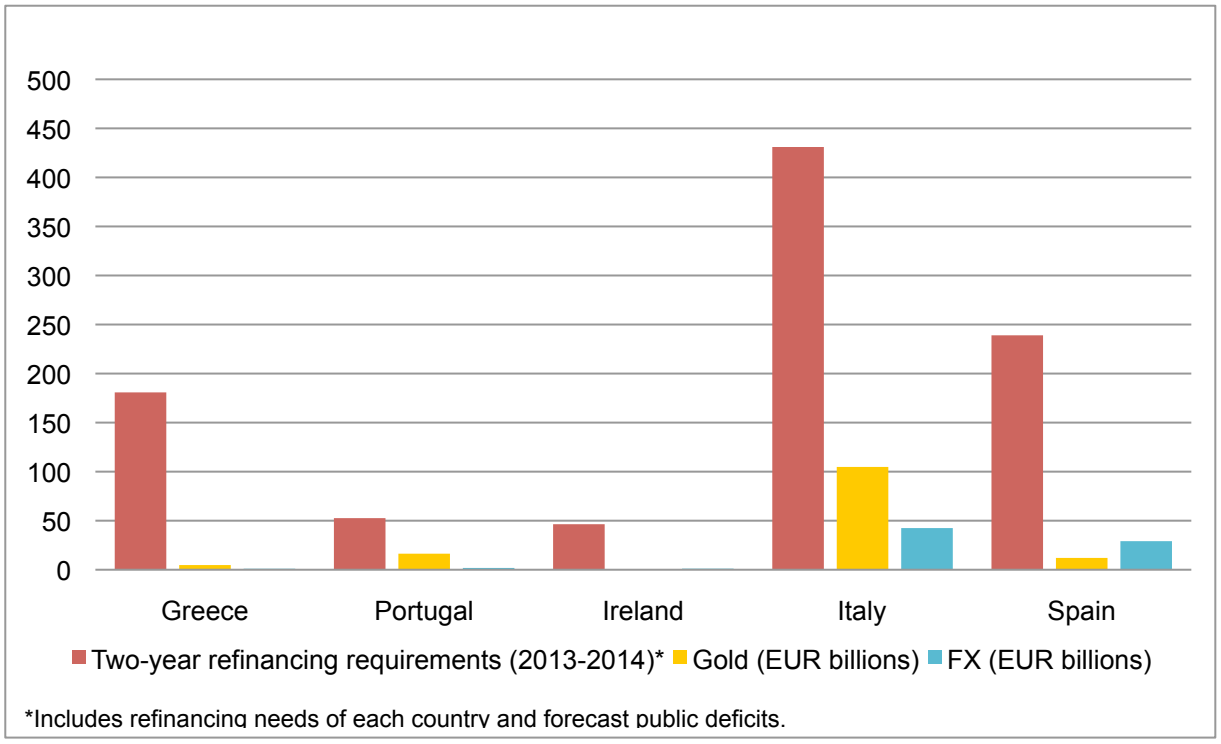
[5] This view is supported by recent DIW analysis; see Fichtner et al. (2012).

Through issuing sovereign bonds *backed by gold*, euro area member countries should *securitise part of that gold* instead. The latter could be enacted in a rather simple way. But one could also structure it to contain tranches of different risks. The main point in both variants is that gold would serve to provide sovereign bonds with further safeness – and thus comfort investors who do not give credence to euro area government balance sheets any more.

Materiality of gold reserves

Using gold as collateral would not work for all countries but would do so for some of those in most need. France and Germany hold significant reserves but enjoy low unsecured borrowing costs. Greece, Ireland and Spain, on the other hand, don't hold enough gold for it to be a viable solution, Italy and Portugal, however, hold gold reserves of 24 and 30 percent of their two-year funding requirements and could have a material impact of their debt servicing costs (Figure 1).

Figure 1 – *Refinancing requirements and reserves*



Source: Bloomberg, WGC as of July 2012

Gold as collateral: historical experience

In history, collateral schemes have been utilized before on quite a few occasions. In the 1970s, for instance, Italy and Portugal employed their gold reserves as collateral to loans (i.e.,

direct loans not bonds) from the Bundesbank, the Bank for International Settlements and other institutions like the Swiss National Bank. Italy, for instance, received a $2bn bail-out from the Bundesbank in 1974 and put up its gold as collateral.[6] More recently, in 1991, India applied its gold as collateral for a loan with the Bank of Japan and others. And in 2008, Sweden's Riksbank used its gold to raise some cash and provide additional liquidity to the Scandinavian banking system (Farchy, 2011, World Gold Council, 2012).

As Paul Mercier (2009), at that time deputy director of market operations at the ECB, expressed it: "In a generalised crisis that leads to the repudiation of foreign debts or even the international isolation of a country […] gold remains the ultimate and global means of payment that is still accepted and it is one of the reasons used by some central banks to justify gold holdings."

According to this statement, countries have in history headed towards their gold reserves only in their toughest situations. What is more, lenders are most probably requiring that this gold is transported to a neutral location. Gold-backed bonds could help in some respects but would not be a full and all-comprising solution. Questions arise, for instance, over the unintended impact on unsecured debt yields. There is scant evidence that the idea has received any significant support from policy makers up to now. Even if euro area political leaders accepted the idea in the end, significant legal obstacles would loom on the horizon most notably connected with the fact that a large share of the gold is held by central banks and not by treasuries (Farchy, 2011, Tett, 2012). Nonetheless, the concept of gold-backed bonds certainly is worth a closer discussion.

Only a decade ago, it appeared rather "old-fashioned to ever suggest that any investor would claim gold as collateral; in the era of cyber finance, securities such as treasury bonds tended to rule" (Tett, 2012). However, over the past few months, groups like LCH.Clearnet, ICE and the Chicago Mercantile Exchange have to an increasing extent begun to accept gold as collateral for margin requirements for derivatives trades (World Gold Council, 2012). In addition, in summer 2012 the Basel Committee on Banking Supervision issued a working paper in which it suggested that gold should be one of six items to be employed as collateral for margin requirements for non-centrally cleared derivatives trades, joint with assets such as treasury bonds (Basel Committee on Banking Supervision, 2012, p. 22).

Finally, Curzio (2012) acknowledges that when Romano Prodi suggested in 2007 that Italy should use its gold reserve to pay the debt, the reaction was negative. The Italian Finance

[6] But the resulting interest rate reductions were not made public in both cases.

Minister in 2009 wanted to tax gold and the European Central Bank opposed the idea. Curzio concludes that Italy at the moment has little resources to invest in growth and should consider asking Germany or any other Asian sovereign fund for a loan with its gold reserve as collateral. Rather, Curzio and Prodi suggest using gold reserves as collateral for a bond.[7]

Much in the same vein, Giuseppe Vegas, Chairman of Consob recently suggested a treasury fund with the rating of 'Triple A' collaterized by the jewels of the state namely the shares of ENI, ENEL, buildings, gold reserves and currency as an instrument to reduce the interest payment on the government debt.[8]

All these moves taken together suggest that a creeping change of attitudes is going on. This evolution takes place less in terms of the desirability of gold per se, but more through the growing riskiness and undesirability of other allegedly "safe" assets like sovereign bonds. This pattern will probably not reverse soon. This is so especially because markets long waited to see what the ECB might really do after September 6 and, after this date, whether Spain would be the first case for outright market operations a couple of weeks later in October 2012 (Rees, 2012, and Tett, 2012).

5. Estimating the yield reduction of gold-backed debt

Gold reserves are not typically considered in sovereign yield analysis during normal conditions (in history, default has often been triggered with reserves intact); so the chosen bond structure would need to offer *very explicit risk reduction* to benefit from lower risk spread. Sovereigns have historically sought to retain their gold to assist recovery, and thus often default on debt obligations rather than sell down reserves. Examples from the past are Argentina and Russia.

It can be shown that gold backing of sovereign debt reduces the annual yield, thus supporting the monetary transmission mechanism. Clearly, the functioning of the monetary policy transmission mechanism could be improved in the short run since the yields on government bonds as a key reference point for other interest rates fall significantly - because of sharply falling risk premia of gold-backed bonds. In the case of Portugal, for instance, this would make up for several percentage points on 5-year bonds. The *hedge* that the gold would provide against a default as an example of an extreme event would surely attract investors

[7] http://www.firstonline.info/a/2012/09/11/alberto-quadrio-curzio-usare-loro-come-collaterale/4097075e-c2ac-4bd4-9567-0d6877d3a1e0

[8] See Corriere della Sera, June 26 2012: http://www.corriere.it/economia/12_giugno_26/fondo-immobili-societa-quotate-bot-vegas_31aeeb20-bfa8-11e1-8089-c2ba404235e2.shtml.

such as emerging market governments and sovereign wealth funds. If a country such as Portugal or even Italy were to default, the price of gold, especially if it is denominated in euros would sky-rocket (Baur and Lucey, 2010, Saidi and Scacciavillani, 2010, and Farchy, 2011).

To show this for the example of Portugal, we take the following approach (see Table 1). A top-down model is developed to quantify the change in yield when sovereign debt is backed by gold. The credit risk characteristics of bonds/debt are driven by three main factors: the *pprobability of default* (PD), the *expected unsecured recovery rate* in the event of default and the *collateral/guarantee recovery* in the event of default. The yield rate is modeled as: *(risk free rate) + (risk premium)* with the risk premium as a proxy for the compensation for the credit risk of the asset and calculated as *PD*(1-total recovery rate)*. Financial stress on a sovereign leads to an increase in its bond yields as the severity of the crisis translates into an increase in risk free rate, an increase in the probability of default and a decrease in expected recovery rate in the event of default. In the following, we give an illustrative analysis of the issues.

Table 1 – *Yield differential of gold-backed sovereign bonds: the case of Portugal*

Parameters	Stress unsecured sovereign bond	Gold backed facility @ 33% collateral	Gold backed facil 50% collatera
a. Gold secured portion	0%	33%	50%
b. Estimated annual yield	10.0%[1]	6.00%	5.00%
c. Risk free rate	2.00%	2.00%	2.00%
d. Risk premium e*(1-f)	8.00%	4.00%	3.00%
e. Annual probability of default	16%[2]	12%[3]	12%[3]
f. Total recovery after collateral (1-a)*g + (a*h)		66.7%	75.0%
g. Expected unsecured recovery	50%[4]	50%	50%
h. Gold collateral recovery (approx)		100%	100%

Assumptions:

1. Standalone unsecured yield as per example from a 5Y Portugal bond yield
2. As per 5Y CDS value
3. Estimate a 25% PD reduction in a gold backed structure
4. Sovereign default recoveries historically 30%-80% (depends on debt size and bargaining power) – 50% conservative average assumed

The logic behind the calculations runs as follows. Starting with the analysis of *unsecured* debt, we begin with the estimated annual yield of unsecured debt. In this example we are looking at a 5 or 6 year bond, so have taken as a starting point a hypothetical distressed yield of 10% (assumption 1). Then look at an equivalent CDS rate to calculate an annual probability of default (assumption 2). Next calculate the recovery in the event of a default. Historically this has been 30 to 80%, so take 50% (assumption 4). Total recovery in the case of unsecured debt is then 50%. A check of the calibration of the calculations delivers the following: the total recovery equals 50%; the annual likelihood of default is 16%, therefore the risk premium amounts to 8% (= (100-50) times 0.16). Adding this to the risk-free rate of 2% equals a 10% yield.

Now consider the case of *secured* debt and compare it to unsecured debt, using a similar calculation logic. Next take the Euro risk free rate, which is conservatively taken as 2% (looking at German 2 year yields for example). The risk of default is assumed to be 25% lower due to the incentive of losing gold collateral and now amounts to 12% (assumption 3). Assume now that total recovery in the event of default is increased due to the partial gold backing. Calculate the overall recovery rate using the assumption of 100% recovery of the gold element and of a 50% recovery of the rest in the partially collateralised structure. Calculate the risk premium by multiplying the probability of default by the recovery rate. Add the risk premium to risk-free rate to obtain the estimated annual yield. So far with our example calculations.

Now consider that Table 1 has a Portuguese example bond which is 33% and 50% collateralised by gold. This obviously implies that it only collateralises part of its two–year needs. If the example should be one whereby all its bonds are collateralized, the percent collateral backing will be needed to be reduced, to something below 30%. If one takes exactly 30%, the total recovery after collateral is 0.35 (i.e. (1-0.3) times 0.5) and the risk premium amounts to 4.2% (i.e. 0.35 times 12%). The estimated annual yield then is 6.2%.

The *calibrated* sovereign bond yield reductions could in principle be compared to the econometrically *estimated* effects of the SMP. Due to the recent character and limited time range of the SMP, empirical investigations of its effectiveness are still rare. Kilponen et al. (2012) investigate the impact of an array of different euro area rescue policies on the sovereign bond yield spreads, but only through dummy variables coded as one on the day of announcing the respective measure. Hence, they do not test for a permanent impact of SMP

measures. They find a significant effect of SMP *announcement*. Steinkamp and Westermann (2012) make use of a SMP variable as a control variable in an estimation equation – however, with an insignificant result.

6. Legal practicalities

It has to be recognised that there are legal and political considerations, as there were with the SMP.

The first critical issue is *reserve ownership*. In most countries, gold reserves are held and managed by central banks rather than governments. Specifically, in the euro area, gold reserves are managed by the Eurosystem which includes all member states' central banks and the ECB (Treaty on the Functioning of the European Union, Article 127, and Protocol on the Statute of the European System of Central Banks (ESCB) and of the ECB, Article 12).

The second issue is *central bank independence*. National central banks must remain independent of governments in pursuit of their primary objective of price stability. The EU treaty expressly prohibits direct financing of governments by central banks. One should be mindful of the legal issues that this will raise and that such a suggestion will be highly controversial. It is specifically likely to raise questions as to whether or not this represents a breach of the prohibition on monetary financing. National central banks must remain independent of governments in pursuit of their primary objective of price stability (EU Treaty, Article 130). What is more, the EU treaty expressly prohibits direct monetary financing of governments by central banks (EU Treaty, Article 123).

The third issue is related to the limited potential of *gold reserve sales*. There are longstanding gold sale limits which are valid until 2014 that could potentially limit collateral transfers and would need to be addressed. The Eurosystem central banks are currently signatories to the 3rd Central Bank Gold Agreement (CBGA) which restricts net sales of gold reserves to 400 tonnes p.a. combined[9]. A number of other major holders - including the US, Japan, Australia and the IMF - have announced at other times that they would abide by the agreement or would not sell gold in the same period. Hence, the CBGA agreement could serve as a constraint on the size of potential gold reserve transfers until 2014, as it commits signatories to collectively sell no more than 400 tonnes of gold p.a. between September 2009 – 2014. Gold collateral could be interpreted as outside the scope of the CBGA or the maturity of the

[9] http://www.ecb.int/press/pr/date/2009/html/pr090807.en.html

bonds could be staggered in order to limit the amount of gold coming onto the market in the event of a default.

There are clearly important legal issues that need to be addressed, but then that was also the case with the ESM, SMP and OMT. European legislation may need to be amended to accommodate a gold pledge for sovereign debt. This could be done by elaborating an amendment to the Treaty which establishes pledged gold as segregated from Euro system central banks and other national banks (for details see Smits, 2012)

7. Gold-backed bonds versus SMP/OMT

We now analyse the SMP more deeply, raise some important caveats, check whether they also apply to the OMT and will finally assess whether gold-backed sovereign bonds would represent a valid alternative to the former.

Since intervention under the SMP has been (for the time being?[10]) limited to the secondary market, the ECB *did not literally violate the Treaty*. However, it offended against its spirit as central bank bail-out of government deficits is prohibited. The actors tried to legitimize their move by the extraordinary market tensions, which unfortunately left the bank with no other alternative - accompanied by dramatic statements by Chancellor Merkel and ECB President Trichet. While the German Chancellor expressed that "the euro is in danger" the ECB President spoke of the "most difficult situation since World War II if not since World War I" and noted that "we live in difficult times". It is true that during the days preceding the largest and most recent rescue package, markets for sovereign bonds of the weakest and most indebted countries of the euro area actually *nearly dried out*. But *markets* in fact *did not appear to be irrational* at all.[11] Their fear not to get their money back was overall realistic. What is more, economic science is not at all clear about whether huge spread increases and drying out markets were really "dysfunctional" or - in view of the fact that Greece's and also Portugal's domestic savings are so small that they are not capable anymore to keep their

[10] For the ECB, there is a theoretical way out to arrive at a result similar to a direct purchase of sovereign bonds: if in the financially weak euro area member countries commercial banks would be forced to buy bonds – and the ECB would at the same time abrogate – as already executed in the case of Greece – all her rules for mortgaging collateral, governments could procure money through a small indirect route.

[11] Although all countries have announced broad-based bank rescue packages, investors have differentiated between countries mainly on the basis of other, more country-specific factors (e.g., fiscal outlook). This has also been valid more recently, after February 2010 when markets have increasingly differentiated among the weak members. In a recent paper, Heinemann, Osterloh and Kalb (2012) find that a euro area member country's stability culture (which may be expressed by the use of gold as collateral) is one of the most significant drivers of euro area sovereign yield spreads since it fosters the inclination to implement fiscal rules which in turn are the significant variables in ordinary regression equations estimating sovereign bond yields.

capital stock constant and to finance their public deficits - "functional". While first empirical evidence conveys the impression that, in the past and also during the crisis, sovereign bond spreads reacted in a systematic but sometimes non-linear fashion to the fiscal policy stance (i.e., the government debt levels and forecasts of future fiscal deficits) of individual countries and, hence, indicates that the above mentioned statements were potentially *overridden* (Gerlach, Schulz and Wolff 2010),more results are to be expected from further intensified research in this area. However, in his justification of the OMT release in September 2012, Draghi heavily relied on one study by the research Department of the Banca d'Italia and on another by J.P.Morgan which ironically state that sovereign bond yields still tend to take steady values "not consistent with fundamentals" in August 2011 (Mac Gorain, 2012, Di Cesare et al. 2012, p. 13).[12] Hence, either this is an empirical corroboration of the fact that the SMP was not successful or that the SMP was set in place without any economic legitimacy.

Lack of transparency

No *official information* has been released about the *composition of these purchases* in relation to whose debt has been purchased or which maturities (intransparency) – although, for instance, the European parliament usually forcefully strives for transparency of ECB Council decisions (one recent example being its interventions with respect to an early publication of the records of the ECB Council meetings).

Not only were we not informed about the composition of the debt securities the ECB has been buying (the suspicion is that the ECB was coy about identifying which debt is being bought because it was at first mostly Greek!), but also the criteria being used to select bonds to purchase, the ECB's bond purchase strategy during periods of primary issuance and how long the programme was going to last and how much would be spent in the end have been left open.[13] The official reason is that otherwise the SMP would not be effective. But one quite obvious reason we do not have an answer to the last item above is that there were *clear internal disagreements* within the ECB Governing Council on this issue – decisions appeared to be slightly more controversial than the OMT decision which only received resistance from the German Governor Jens Weidmann and not from the Governors of other Northern euro area central banks any more. For instance, M. Trichet conceded in an interview with Le

[12] Note that the convertibility risk was derived from Google-omics by checking how often internet Google users inserted a term like "euro area breakup".

[13] Whelan (2010) introduces an insightful thought experiment and supposes that the Fed set up a program to buy municipal bonds but would not announce how much came from California or Florida or other states or cities. He asks how long would this survive before members of Congress demanded a full explanation of the program? But that is where we are right now in the euro zone.

Monde that the ECB decision to run the SMP was not met unanimously.[14] He added that the ECB decision was taken with "an overwhelming majority" – as opposed to the normally "unanimous decision" which taken by itself is an important sign of *internal divisions* and a *re-nationalisation of monetary policy* (Belke, 2010).

Anecdotally, market voices spoke with respect to the first wave of *almost 75% Greek debt purchases*, with Portugal and Ireland being the next biggest beneficiaries, and some smaller Spain and Italy purchases following thereafter. As the next wave of bond purchases has shown, this portfolio alternated as the market perception of which countries are weak changed: it turned towards Spain and Italy. Anyway, the basic principle followed by the ECB seemed to be *to get spreads down* and *wipe out any shorting interest* for a rather long time. The ECB made use of the fact that there is actually *no legal obstacle against targeted bond purchases*. The ECB Council is not at all legally forced to buy bonds, for instance, according to the economic weight of the issuing countries or to the capital shares at the ECB (Belke, 2010).

Elements of subsidy

In addition, targeted bond purchases issued by highly indebted euro area governments contain an *element of subsidy* which tends to severely *weaken their fiscal discipline*: the interest rate premium on bonds of fiscally weaker countries declines and that of stronger countries increases. Fiscally *solid* countries are *punished* and *less solid* ones, in turn, are *rewarded* for their lack of fiscal discipline and excess private *and* public consumption. The credit *risk* is thus just *rolled over* from the bonds of the weaker countries to those of the stronger ones and the ECB is made responsible for their liabilities (Belke, 2010).

Eventually, this programme went along with a resource transfer if (as it seems in some cases) the ECB has paid higher prices than those corresponding to the true default risk. This came to the benefit of the immediate sellers of these bonds. Especially French banks managed to pass their stocks of Greek bonds to the ECB with – if at all – little loss to themselves. In addition, also those investors have profited from the transitory stabilisation of bond prices through the SMP which had acquired the bonds of financially stressed sovereigns from suppliers which had to sell those due to a downgrading of their rating for regulatory reasons.

Financial dependence of the ECB and the ESCB

[14] See http://www.ecb.europa.eu/press/key/date/2010/html/sp100531_1.en.html.

Surprisingly less focus has been put on the at least as equally important aspect of the slowly *vanishing financial independence* of the ECB. Who will actually have to pay the losses of the purchased private and sovereign bonds, if Greece and Portugal - to begin with - will not be able to service their debt in the end? Ultimately, the owners of the ECB would be asked to pay up, while by far the largest part will be imposed on Germany. It cannot be excluded that the toxic bonds in the balance sheets of the ECB might eat up most of the reserves and its equity capital if they were to fall in value by a sufficiently large amount – in the worst case, the amount could make up for up to three digit billion euro. In this case, less central bank profits are transferred to the account of the euro area governments – with a given public deficit and level of spending - taxes and duties will inevitably go up. In the extreme case losses exceed the whole equity capital of the ESCB (Belke 2010). Euro governments will then have to prop up the ECB's capital in order to either strengthen the reserves of the ECB or to even prevent a negative equity capital of the ECB. The latter would definitely not be sellable to the German public and thus not serve the interest of a stable support of the permanent eurozone emergency mechanisms, although, for instance, the example of the Bank of Canada shows that central banks can principally function even if endowed with negative equity capital.

Sterilisation of ECB bond purchases: unknown terrain

The ECB had decided to *sterilise its bond purchases* within the SMP and announced the same for the new OMT programme - compensating those purchases through sales of other bonds or money market instruments to keep the overall money supply unaffected. This is to counter accusations that the ECB is monetizing government debt. Already M. Trichet had been keen to point out *that the SMP could not be regarded as quantitative easing* because there are also some new operations to leave the stock of high powered money in the Euro area constant (Belke, 2010).

Technically, sterilisation works for instance through a tender of *interest-bearing time deposits*, through which banks deposit a certain amount of money for a limited time with the ECB. However, making this option attractive for depositors might necessitate an increase in the deposit rate which in turn may limit the degrees of freedom when setting main refinancing rates and is forcing down bond prices. The ECB actually used this instrument already „in

order to signal the markets its counter-inflationary stance“. Another possibility explicitly mentioned by the ECB itself would be the *issuance of its own debt certificates* by the ECB.[15]

While conducting her new implicit „*minimum price guarantees*“ for sovereign bonds, the ECB did not know exactly how many bonds she would have to buy in order to stabilize the prices of the jeopardized bonds sustainably. To be on the safe side, the ECB probably tended to *buy more than necessary*, which *blew up the stock of base money* to an unnecessarily large extent. In addition, the credibility of future sterilization measures always suffers from the character of being “merely promised”. The tenders of a time deposit can be taken just as an indication that the ECB wanted to put out a few feelers “to see how it will work”; in fact they are not mandatory (Belke, 2010).

What is more, the taking in of deposits under any new programme such as the ESM or the OMT appears to be rather *irrelevant* in the grand scheme of the overall ECB (and Fed) monetary policy stance. The ECB is still *offering loans to an unlimited degree* within the framework of its refinancing programs. Moreover, the OMT bears – as described below – further characteristics beyond the SMP which render it even more “unlimited”. Hence, the ECB’s sterilisation intentions did not appear too relevant for assessing the current determinants of the money supply - among them mainly global excess liquidity which is already vagabonding around the globe but did not unravel due to still small money multipliers (Belke, 2010, and Belke and Gros, 2010, cited by Saidi and Scacciavillani, 2010).

Moreover, the announced measures for sterilising this expansionary monetary policy were *not overall credible*. By issuing its own ECB debt certificates, bonds of sovereigns under financial stress would become even less attractive. These countries would have to offer even higher returns in order to be able to place their issues. But this would clearly counteract the spirit of the most recent rescue package for the euro area (Belke, 2010).

Shifting toxic debt instruments on board of the ECB

Apart from that, even a *successful sterilisation will not smooth things over*. If actually used for sterilisation purposes, the issuance of ECB debt certificates would contribute to another *huge transfer of sovereign risk* towards the ECB balance sheets. Offering time deposits to banks contributes to this kind of transfer.

The ECB’s policies cannot simply be considered to be just the mirror image of the US Federal Reserve Bank’s. This is because credit easing by the ECB is motivated by the fact that

[15] The implementation of exactly this instrument has already been proposed by ECB Board member Bini Smaghi in a different context. For a detailed assessment of the pros and cons of this proposal see Belke (2009).

commercial banks in the peripheral crisis countries in the South of the euro area have de facto been cut off from the interbank market. The ECB has not incurred any maturity risk because it has explicitly declared that the commercial banks will be charged with the average interest rates which will accrue over the next three years. But it is faced with a significant credit risk because it lends to financially stressed banks which are not able to receive loans elsewhere and at the same time steadily lowers its quality requirements on collateral. Insurance against this credit risk consisting of the difference between the deposit and the refi rate appears to be too meager because the ECB does not at all cover potential losses from its engagement in Greece (Gros, 2012). What is more, the quality of the ECB's collateral is determined in a nation-specific way – in the case of the ECB's lending to Greek banks it consists of doubtful private Greek assets and Greek government debt whose value depends on election results (!) as recently observed. Conflicts among Member States cannot be excluded because the ECB acts as a "central counterparty for cross-border lending incurring risks along national lines" (Gros, 2011).

Already by the mere fact of bond purchases, the ECB acts like a fiscal agent by taxing other euro area creditors through higher bond rates in order to support a government which finds itself in a financial emergency situation. This is valid again when the ECB collects the money which was already spent for bond purchases. Other euro area creditors as well as debtors are disadvantaged because the ECB must offer higher interest rates in order to receive the money back which in turn makes credit more expensive (Belke, 2010).

Attracting investors: only temporary effects

The fact that risk premia are increasing again in Southern European bond markets clearly indicated that the (standalone) assessment *of the euro area by large investors has NOT changed significantly since the adoption of the rescue package* and the announcement of biting austerity programmes in Greece, Spain, Italy and Portugal (di Cesare, 2012, and Mac Gorain, 2012). For instance, the saving requirements appear so drastic that their successful implementation appears to be nearly impossible and politically risky in political terms at least in the cases of Greece, Portugal and Spain. Hence, it became clear overall that it is of paramount importance that investors must be put into a position to be able to assess the euro area countries individually according to their country risk and not as a member of a homogenous block ("standalone ratings"). The main escalating problem is *that the ECB is currently curbing real returns on the bond markets through its bond purchases*. Just for comparison: in an earlier debt crisis the real 10-year return of Spanish bonds rose to nearly

10 percent. In spring 2010, however, the real return of Spanish, Portuguese and Italian bonds only amounted to 3 to 3.5 percent. *This is almost certainly not enough to attract the private capital these countries are heavily dependent on*. Seen on the whole, thus, the ECB has been confronted with the delicate issue of fine-tuning bond yields under the SMP and will be so under the OMT - which in turn raises additional doubts about its political independence.

"Sterilizing" monetary policy should target the asset side of the central bank balance sheet

The problem inherent in both sterilization approaches is that they reshuffle only *the liability side* of the ECB's balance sheet. Both approaches are arguably not well-suited to either diminish the bloated ECB balance sheet or to remove the (potentially) toxic covered bonds or sovereign bonds.

Hence, further purchases of sovereign bonds under the OMT following the now terminated SMP are not a sustainable solution at all. This instrument should be de facto limited in time and volume. Unlimited extension of the balance sheet does not appear manageable especially as the equity capital of the ECB is already leveraged by a higher double-digit number.[16]

In addition, the intake of potentially toxic assets as collateral and by outright purchases in the central bank balance sheet artificially keeps the asset prices *up*. A *credible* strategy of sterilization to deal with the consequences of the financial crisis should, thus, deal primarily with the *asset* side of the ECB balance sheet.

Danger of inflation

The lack of a fiscal "back-up" might induce a central bank to go for seignorage revenue by means of additional inflation and hence there is a risk of higher than targeted inflation. In this vein, authors like Sims (2003) have shown that there are clear limits to a government's and a central bank's ability to credibly commit to an inflation target in the absence of a fiscal anchor (or gold). The reason is that, under stress, the expectations of the public as to how the central bank will respond to an extreme deterioration in its financial position will determine the effectiveness of macroeconomic stabilization efforts.[17]

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[16] See http://www.spiegel.de/wirtschaft/soziales/scheidender-chefvolkswirt-stark-waehrungshueter-distanziert-sich-von-ezb-kurs-a-804391.html.

[17] For empirical correlations of financial stress and policy performance of central banks, in particular with regard to inflation, see Klüh and Stella (2008). They find that a negative relationship exists between central bank financial strength and inflation outcomes. It turns out to be robust to the choice of alternative country samples, control variables, estimation strategies, and conceptualizations of central bank financial strength.

A central bank creates inflation dangers by printing additional money designed to avoid bankruptcy. The inherent problem with this solution is that ultimately the citizens have to pay for the risks originally incurred by the central bank and specific countries on their own initiative. This is a topic often brushed under the carpet but has increasingly been taken up by the Bank for International Settlements (see, for instance, White, 2012) and even most recently by the new heads of Deutsche Bank.[18]

The problem is on the one hand technical – there is no historical example of such a huge amount of liquidity to be sterilized after the SMP and the LTROs in the euro area (not to speak of global liquidity). On the other hand, it is system-inherent. As stressed so often by Austrian School economists such as Hayek, to stop inflation is less a technical but in the end more of a political problem (Belke and Polleit, 2009). From this perspective, the ECB may well be endowed with all the instruments to re-collect all the base money put into circulation by its bond purchases but will it really implement them in the necessary strictness in the end even if inflation proves to be the easiest way for politicians to get rid of sovereign debt. According to history, inflationary expectations are not based in first instance on central banker's statements of good intent (White, 2012).

To summarise: beyond the risks of loss there is also the undeniable risk that the extension of the ECB's balance sheet will finally fuel euro area inflation *in the medium run*. The only viable and, hence, most probable solution of the current balance-of-payment crisis consists of lower inflation in the South and higher inflation in the North of the monetary union. However, this does not automatically imply that inflation will level out at the euro area level. With an eye on huge political resistance it is difficult to see that there will be sustainable wage and price deflation in the South (Belke, 2012c).

Admittedly, the majority of members of the ECB Council correctly argue in this context that the change in money in circulation (M3) and not the change in the monetary base determines (future) inflation. Whereas there was significant growth of the monetary base over the recent years (signaling inflation potential for the future, see Belke and Polleit, 2010, for the so-called p-star model), this cannot be established in the case of M3 (Commerzbank, 2012, and BIS, 2011).

But the *litmus test concerning inflationary dangers* contained in the SMP and the OMT combined with the LTROs will consist of the answer to the question: (how) will the ECB be

[18] See http://www.welt.de/wirtschaft/article109240424/Deutsche-Bank-haelt-hohe-Inflation-fuer-unvermeidlich.html.

able to re-collect all the money in the banking sector before it will lead to high inflation in the real economy in the wake of an economic recovery and, thus, a more dynamic loan and M3 development in the euro area (DIW, 2012, and ECB Survey of Professional Forecasters, 2012[19])? There is sufficient money "in the pipeline" alone with an eye on the LTROs: the ECB let EUR 1 trillion which amounts to 10% of M3 pour into the system within not more than 3 months. Since euro area economic growth is forecasted to revive at the end of the year 2012, there is a menace of growing inflation which is already now still higher than 2% due to this enormous and sudden increase in money supply – which actually corresponds to an increase in M3 supply once the loan and credit dynamics will have picked up in the euro area (Belke and Polleit, 2010).

Moreover, the ECB is – as argued further above – *caught in the current situation and taken hostage by its chosen strategy* (for an analogous argument with respect to the Fed see White, 2012). In order to avoid negative consequences of the preceding covered bond and SMP programmes and also the LTROs it comes up with a new even bigger and more far-reaching programme - the OMT. It has thus slipped into a strong symbiosis with politics. Even Bundesbankers such as, for instance, Jens Weidmann or Joachim Nagel re-iterate that unconventional monetary policies will stay in place until the euro area debt crisis will finally be resolved (and to receive evidence for this may take a rather long time). The ECB is probably not able any more to completely refuse the politicians', US portfolio managers' and rating agencies' desire to inflate away public debt (Belke, 2011a). As soon as markets *anticipate* this constellation (note that anticipation is sufficient for this to happen), inflation expectations will rise immediately which in turn will be reflected in market pricing.

Efficiency of the ECB bond purchases and path-dependence

It did not come as a surprise that the bond purchases by the ECB under the SMP turned out to be effective on the markets only on the first days. Only a little bit later, around one week after the announcement of the SMP in May 2010, for instance, the euro plummeted to a four-year low. Also other indicators of the degree of uncertainty traded at the markets convey the impression that investors do not believe in the sustainability of the "newly designed" euro area any more – the latter being characterized by a daunting institutional failure to make sovereign default in EMU possible. Instead, markets assume that "toxic" government bonds would finally be located on the ECB balance sheet, threatening the long-term stability of the

[19] See http://www.ecb.int/stats/prices/indic/forecast/html/table_3_2012q1.en.html.

euro. As a result, the European currency fell against most other currencies – with the main benefit emerging for Germany and less so for the structurally weaker South.

Since the beginning, it appeared doubtful that the instantaneously lower bond spreads really signaled a stepwise increase in confidence in bond markets.[20] Much more likely, the activities of the ECB tend *to bias bond prices of peripheral euro area countries* and fuel skepticism whether at all and for how long the lower risk premia will be sustained. If central banks *intervene against the market*, i.e. in our case against the – at that time - fundamentally not implausible devious insolvency of Greece and Portugal, this will according to all experience not go well in most of the cases. In this respect, bond purchases are *akin to foreign exchange market interventions*: the central bank intervenes in one asset class because price formation does not correspond to her view of what is justified and because this distortion threatens to spillover to other markets.[21] The idea that spreads on certain financial instruments taking values higher than the central bank would like, should prompt an intervention which has not, at least until recently, been a standard monetary policy tool.

Consider two cases. Either the ECB will *hold the bonds to maturity* (as indicated at some occasions and finally concluded in September 2012) or will sell them earlier. In the first case, the ECB will effectively tax the private sector if ECB strives to diminish its balance sheet (if it does not, it risks inflation). It will in turn have to sell sound non-sovereign bonds which will be lowering their prices and increase the premia corporations will offer to pay for their bonds – a true case of negative side-effects.

Imagine the intense political pressures on the ECB at any future point in time when the bonds will have to be *resold* to the markets *before their maturities* (the second case), at which point it will become clear that adjustment will still take some time or that the core issues will not have been tackled at all and, hence, the country-specific risk premia will skyrocket again quasi-automatically (Belke, 2010).

In both cases, it appears rather clear that the ECB will have to capitulate again which, in turn, implies that we have definitely seen the persistent *"exit from the exit" from ultra-loose monetary policies* in the euro area. The danger has risen that the ECB will get caught up in the maelstrom of its role of a lender of last resort (White, 2012). The more bonds the ECB will buy, the more difficult it will be to deny further sovereign financing in the future because

[20] Of course, the SMP action taken by the ECB has initially stabilized trade of Greek, Portuguese and Irish bonds. But markets have not become as stable and liquid as before. Liquidity and the supply and demand prices offered at the markets decisively depend on the ECB being "at the table" as a buyer.

[21] Accordingly, it does not come as a surprise that former defenders of FOREX market interventions by the ECB now belong to the defenders of ECB bond purchases and vice versa. See ECB Observer (2004).

doubts on the markets will prevail until an institutional solution of debt restructuring will be installed in the shape of a fiscal agent to be financed by the governments themselves and not through the creation of money (Belke, 2010).

Overall, the most worrisome aspect is that the euro area has stumbled into a perpetuation of unconventional monetary policies by the execution of the SMP and will do even more so by activating the OMT programme. Of course, the intentions are to bail out banks (and not just banks) and governments (to support issuance) although external communication and justification is heavily focused on the necessary repair of the monetary transmission mechanism. What is *difficult* to see at the moment is *how*, once started, *it can stop*. We have already crashed into near-zero interest rates with no likelihood of escape in the near term (at least not without serious consequence). Hopefully, the ECB has not been *checkmated* by (a) the de facto abandoned Maastricht deficit and debt guidelines (for all euro area countries it would appear) and the emerging illiquidity and insolvency risk, (b) giving in to apparently non-revertible government bond purchases under the pressure of powerful interest groups like European commercial banks and traders associations and (c) the huge degree of available global excess liquidity just waiting to enter the euro area through carry trades as soon as the ECB will venture the exit from its unconventional monetary policies. However, it looks a little bit like that (Belke, 2010).

Lowering the degree of reform – the TINA view

A credible implementation of necessary structural reforms promotes lower funding costs of governments and economic growth. This was recently demonstrated through the examples of Italy and Spain. Their bond yields shot immediately back up, when Italy after a sweeping pension reform did not as ambitiously push through labor market reforms, and as soon as Spain – faced with domestic political resistance – came up with increasingly less ambitious deficit-reduction plans. This pattern of reform intensity was motivated apparently by the massive support of two "Big Berthas", i.e. long-term refinancing operations, and the anticipation of resumed government bond purchases by the ECB which finally materialized as OMTs.

The negative employment effects on highly centralized and inflexible wage bargaining systems (Italy and Spain) and / or irresponsibly slow deleveraging of the housing bubble by too high construction investment figures (Spain) are simply shifted by an accommodating monetary policy through sovereign bond purchases onto third parties.

But the costs of structural rigidities would only become visible in case of a credible announcement of the exit from the ultra-expansionary monetary policy.

More importantly and more democratic: the scope for rent-seeking interest groups - as in the Spanish case the regional bankers and real estate agents - would be diminished and the pressure for action for governments would become much greater. The empirically corroborated TINA ("There-Is-No-Alternative") effect would develop its welfare-enhancing effect, given the still insufficiently mobile population in the South of the euro area, and would increase the market-based adaptability to shocks (Belke, Herz and Vogel, 2006).

This would be deeply democratic, because a passing of reform failure onto third parties like the employed in the North could be prevented. Collateral damage to healthy parts of the euro area economy, such as diminishing returns on investments in sound companies and banks would be avoided.

With the ECB's transition to the OMTs on September 6th, 2012, things have changed slightly. This time and different from the SMP, the ECB tries to take into account the fear of reform fatigue in the crisis countries. On the one hand, ECB assistance shall be provided only to countries that accept the conditions of the bailout fund ESM. On the other hand, the ECB announced that it will only buy bonds with a maturity of less than three years. The rationale behind this is that the affected countries should know that they will have to return to the markets rather soon. This is intended to keep the reform pressure up.

SMP (and OMT) critique – a summary

Recent events have vividly demonstrated that in the absence of a mechanism to manage an orderly sovereign default, adjustment programmes lack credibility and the balance sheet of the ECB is put at risk. *Only sovereign funds* (including gold-backed sovereign bonds) tend to reveal the true opportunity costs to the initiators. However, if one chooses the way through the ECB and the printing press, the opportunity costs of adjustment programmes wrongly appear to be close to zero.[22] This is especially so if (as in the current case of the SMP) these programmes are *not transparent* enough.

It has been shown above that the ECB will thus automatically transform into a *quasi-fiscal agent* of euro area governments in times of crises. If this happens in the context of an ultra-lax monetary policy and low transparency this might damage the reputation and the credibility of

[22] This opportunity cost argument is also a counter-argument against those arguing that the ECB does not risk to suffer in financial terms from holding sovereign bonds because the ECB could agree to get repaid far in the future, say in twenty years or so, if the respective country really goes bankrupt.

the institution which is of overriding importance for the functioning of EMU in the medium run.

As a (maybe inferior) alternative to an immediate installation of a European Monetary Fund[23], the ECB could have contributed to sovereign debt consolidation by *solely accepting* (of course, after a transition period) *bonds* issued by those countries which have introduced *upper bounds to debt levels* as collateral.[24] This proposal á la Martin Feldstein was called by Belke (2010) a welcome departure from the ECB's current practice to support commercial banks by accepting toxic assets as collateral and to purchase Greek and Portuguese bonds. This is especially so because imposing "debt brakes" and the resulting decrease in the interest to be paid should be in the national self-interest of the respective countries. In the same vein, one could argue in favour of a gold-backing of sovereign bonds because the potential loss of gold serves as a disciplining device for fiscal policy behavior of the respective government.

Beyond SMP: some OMT specifics

Many of the caveats raised above with respect to the SMP also apply to the OMT. But the OMT is even more critical and shifts the problem onto a new dimension – due to a couple of reasons. The recent ECB Council meeting on September 6th, 2012, has dealt – according to its own wording - with nothing less than a plan for the rescue of the euro zone: the core issue is how the ECB can prevent, by means of a renewal of its securities market programme (sovereign bond purchases), that Spain's and Italy's financial power is choked by extremely high risk premia. One of the probabilities would be a combined action of the EFSF and the ECB which would have the advantage that conditionality could be imposed on the receiver countries: the EFSF would buy limited amounts of sovereign bonds and at the same time the ECB announces unlimited purchases. Controversial issues are, for instance, an interest rate level or spread (vis-a-vis German "Bunds" threshold for interventions, and the publication or secrecy of such a threshold if it is pursued (as a representative source White, 2012, p. 7).

[23] The idea of a European Monetary Fund (EMF) was provided by Gros and Mayer (2010). They proposed funding the EMF out of levies on countries that breached EU fiscal rules, thus pushing the incentive to comply, and from borrowing in the markets. If an EMF had been launched with the start of the euro, it would have accumulated enough money to rescue a small-to-medium-sized euro area member. In a crisis, a member country could call on funds up to the amount it had paid in, providing its fiscal policies were approved by othereuro area governments. Financial support beyond that amount would entail a supervised "adjustment programme".

[24] That the country could effectively be cut off from the euro area's money market when its government debt is no longer eligible as collateral for the ECB's repo operations again demonstrates the strong enforcement mechanisms the EU disposes of (probably in contrast to the IMF). See Gros and Mayer (2010).

One of the huge difficulties, however hailed as an advantage compared to the SMP by Draghi, implied by this OMT scheme is that the ECB would in this case *make dependent its decisions on political resolutions* adopted by the board of the rescue funds. This is of course working against its political independence. What is more: how will the ECB react if a country breaks its reform promises? Will the ECB then really be able and willing to stop its supporting bond purchases immediately and risk disorderly default of the respective country with dangers for the functioning of the euro area monetary transmission process which it claims to repair through its (announced) sovereign bond purchases? In fact, Mario Draghi clearly stated the ECB would "pull the plug on any country that reneged on reform or fiscal consolidation pledges – even though such a course of action could theoretically trigger market panic and an exit from the euro" (Financial Times, 2012). The Bundesbank, for instance, is still skeptical since it sees these measures as violating the EU treaty, i.e. the prohibition of monetary financing of public debt (Die Welt, 2012).

There is much uncertainty remaining about the operation of the OMTs. As anticipated, the ECB does intentionally not publish the sovereign bond yields that it considers as upward thresholds and triggers for its intervention. Some progress is however foreseen with respect to the (monthly) publication of the countries whose bonds the ECB purchases.

Mario Draghi's self-vindication for getting the ECB into a programme that blends monetary policy with fiscal policy is – as described in detail in section 2 - that both the transmission mechanism, based on which the ECB aims to guide interest rates across the euro area through its main refinancing rate, and the "singleness" of European monetary policy have collapsed since financial markets are just pricing in the so-called convertibility risks for euro area member countries that may quit the euro (Di Cesare et al., 2012, McGorain, 2012). This exclusively monetary policy legitisimation is, as stated above, logically at odds with the tight conditions requested by the ECB before it starts its OMTs.

Mario Draghi addressed the criticism by noting that there was a case for central bank intervention in countries that had found themselves in "a bad equilibrium in which you may have self-fulfilling expectations that feed on themselves". He went on: "But we must remember why these countries found themselves in a bad equilibrium to start with – this is because of policy mistakes." (Financial Times, 2012). The idea behind this is that the larger the firepower of the fund is the lower the bond yield of the countries under distress is and the lower the probability of default of a government is due to lower interest costs. But this kind of argument neglects that there is political uncertainty in between two points in time, for

instance induced by election dates and different inclinations of different political regimes to declare a default. So there is no unique interest rate threshold which triggers ECB intervention (Gros, 2012a).

As said, a necessary condition for Outright Monetary Transactions is "strict and effective conditionality attached to an appropriate European Financial Stability Facility/European Stability Mechanism (EFSF/ESM) programme". Such programmes can take the form of a full adjustment programme or, as a less strict variant, a precautionary programme (the so-called Enhanced Conditions Credit Line). It appears most probable that the ECB will orient itself at the latter because otherwise the respective country must be taken from the market. However, this is not at all intended for Spain and Italy (Rees, 2012, Ruhkamp and Mussler, 2012).

After all its experience, the ECB will act applying "enhanced conditions" as minimum requirements under this credit line (ECB, 2012), i.e. the respective country has to stick to the rules of the deficit procedure and should have a "sustainable" debt level. Moreover, it has to obey the thresholds of the EU procedure with macroeconomic imbalances and should be characterized by a "sustainable" trade balance. Consequently, the ECB has rather *much leeway in defining the conditions* and also in assessing their degree of fulfillment. Since the ECB has the right to go beyond these minimum requirements, there is *ample room for conflicts* between the ECB and the respective country.[25] This might well develop into an "open flank" for the ECB since it can react on a violation of the conditions by a specific country solely by stopping its intervention on the respective sovereign bond market. However, this would immediately drive the country's risk premia and interest rates up which in turn might prevent the ECB from going this tough way even if this would be highly indicated (Ruhkamp and Mussler, 2012).[26]

Disappointing results from bond purchasing programmes – a case for gold-backing

The dependence of Italian, Spanish and French commercial banks on financing through the ECB is now significantly higher than usual. The bigger this share gets, the more demanding it will be for Southern euro area banks to tap other ways of financing, especially with an eye on the fact that the ECB enjoys a de facto preferred creditor status. Finally, emancipating the

[25] Accordingly, the Financial Times (2012) cites Simon Tilford, chief economist at the Centre for European Reform, as follows: "One question is whether the benefits from the bond buying are going to be enough to offset the damage inflicted by the conditionality attached".

[26] Even investors in sovereign bonds with a maturity of up to 3 years of distressed countries will get cold feet then, because they have bought these bonds excepting that they would be able to resell them later on to the ECB. Hence increases in longer maturity bond yields might well drive shorter maturity yields upward if there is any doubt in the reform willingness of the distressed governments.

banks from ECB funding may turn out to be more and more complicated. As in July 2012 alone, deposits of approximately EUR 75 bn left Spain and partly landed in Germany (where the money supply is by now increasing more strongly), it is clear that we have to deal with a huge dimension of capital flight from the South which is funded by the ECB money printing press (Belke, 2012e).

Against this background, it is clear that the bazookas and even ECB government bond purchases cannot be expected to reduce the borrowing cost of its government in a systematic fashion - rather the opposite. If anything, they put downward pressure on the euro and favor the Euro area core and exporting country, Germany. This adds to the steadily increasing lack of structural convergence in the euro area. Persistently high bond yields lead to a divergence and fragmentation of the euro area member states. Going through a continuation of its policy to flood the economy with money, the ECB risks that any specific monetary policy measure will no longer have a uniform effect on all euro area economies. If the impression among outside investors grows that the current stance of monetary policy is easing the pressure for reform in the problem countries too greatly and the euro zone fragments slowly thereby, their departure from the euro zone as a whole would become a true risk (Belke, 2012d).

Sooner rather than later secondary market purchases by the EFSF / ESM might be deemed necessary, in order to substitute foreign investors (which currently flee abroad for structural reasons) in Spanish government debt securities almost at any price.

Accordingly, it might turn out after some weeks that the complementary ECB measures announced on September 6th will not deliver a permanent reduction in bond yields in the South. Then, at the latest, *one should look for a "last resort" solution*, since the supply of alternative options looks to be exhausted because all austerity and growth programmes do not meet the expectations. Additionally, international support from the IMF, the EFSF and other institutions usually granted to troubled economies and preferred over gold-backed issuance is stretched as a result of other bailouts (Bundesbank, 2012).

One obvious *alternative* would be to go for *gold-backed sovereign debt*. Despite all current denials, the point in time may have come to use valuable and fungible assets such as gold to provide the Southern countries with temporary, but crucial in the current crisis of confidence, bridge-financing heading towards a complete long-term solution. To be explicit, such a proposal does not address the gold-backing of euro or stability bonds whose usefulness is

conceded by the EU Commission only in the very long perspective.[27] Nor is it directly related to the recent debt redemption funds proposal by the German Council of Economic Advisors according to which the EFSF and later also the ESM firepower should ultimately be increased by a gold coverage of bonds.[28]

As mentioned before, Gold has been already used in the 1970s by Portugal and Italy to raise loans from the Bundesbank and the Bank for International Settlements (BIS). More recently, India managed to take a gold-backed loan from Japan (see section 1). Gold prices tend to move counter-cyclically, which is likely to reinforce its stabilizing effect in the current situation of financial stress. We do explicitly not propose to simply raise revenue from any short-term selling of the gold reserves.[29] That would only drive down the price of gold (Alcidi et al., 2010, Pleven, 2011, World Gold Council, 2012). Moreover, it would represent a clear breach of the prohibition of monetary financing public debt. Finally, gold sales simply raise additional revenues to finance the public budget which allows new expenditures and would be counter-productive because they would lead to even higher indebtedness. In contrast, gold-backing of sovereign bonds exerts disciplinary effects on the budget since the government does not want to get rid of its gold pledge.

We now compare the move to gold-backed bonds to the ECB's SMP and OMT programmes according to which the central bank uses its balance sheet to lower yields of highly distressed countries where the monetary policy transmission mechanism is no longer working. We also outline similarities between the two moves.

Comparison of gold-backed bonds with the bond purchasing programmes

Gold-backed bonds/using gold as collateral are consistent with the logic underlying the SMP and the OMTs and achieves similar outcomes. It is available to the ESCB on its balance sheet

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[27] The European Commission (2011), p. 9, proposes in its Green Paper "on the feasibility of introducing Stability Bonds that "… Stability Bonds could be partially collateralised (e.g. using cash, gold, shares of public companies etc.). See also Farchy (2011). Prodi and Curzio (2011) argue that further innovation is necessary with a European Financial Fund (EFF) that issues EuroUnionBonds (EuBs). According to their proposal, euro area member States confer capital to the EFF proportionally to th
eir stakes in the ECB. The capital should be constituted by gold reserves of the European System of Central Banks. Gold could be placed as collateral.

[28] German Council of Economic Advisors (2011), p. 79: "To this end, each country participating must guarantee 20 per cent of its loan by pleading currency reserves (gold or foreign exchange holdings)". The Telegraph mentions in this context that Southern Europe's debtor states must pledge their gold reserves and national treasure as collateral under a €2.3 trillion stabilisation plan gaining momentum in Germany. See http://www.telegraph.co.uk/finance/financialcrisis/9298180/Europes-debtors-must-pawn-their-gold-for-Eurobond-Redemption.html.

[29] The gleaming bars in the vaults of the Greek central bank are worth $5.8 billion. If Athens were to sell that gold, the Greek state would theoretically be able to meet at least part of the debt payments due soon without any outside help. See http://www.time.com/time/world/article/0,8599,2080813,00.html#ixzz27U4AE3Uw.

and is under the independent control of the Governing Council. It would significantly lower yields in malfunctioning markets, thus re-opening the monetary transmission mechanism.

But it is superior to the SMP and OMT with respect to a couple of criteria. Admittedly, it could be argued at first glance that the transfer of gold reserves to say a debt issuing agency which in turn will serve investors would be in breach of the prohibition of monetary financing of government debt. But gold is not directly sold to euro area governments and, hence, cannot without further ado be viewed as a fiscal transfer between the central bank and the government. A deeper analysis of this issue has to take into account that our proposal leads to a change of items on the asset side of the ESCB, i.e. an exchange of gold against claims of the debt agency. But whereas gold is a pledge and thus automatically returns onto the ESCB's balance sheet, the purchased sovereign bonds have in the end to be sold actively by the ESCB. (Note also that, for the same reason, a gold-backed bond very much like a covered bond is much more attractive for risk-averse private investors) This makes significant and permanent fiscal transfers under bond purchasing programmes even more likely. However, it would clearly be preferable to a revival of the ECB bond-buying programme SMP in the shape of the OMT, which shares the same inherent flaw.

Making use of the national central banks' gold reserves is much more transparent, being an important argument vis-a-vis the euro area population and also the European Parliament. It does not necessarily lead to unmanageable and disincentivising fiscal transfers from the North to the South. Hence, gold-backed bonds do not imply significant transfers of credit risk between high risk/low risk countries. Potential losses are on closer inspection borne by specific countries and not by the largest shareholder of ECB and main guarantor of the rescue funds (i.e. Germany). This in turn reduces the probability of a downgrading of Germany and its final step-out from the funds and, thus, makes the ESM firewall more sustainable. This adds to the benefit of gold-backed bonds that also Italy and Portugal would become even stronger guarantors of the ESM.

It could be argued theoretically from a general equilibrium point of view that gold constitutes an asset accruing to the economy as a whole. To pledge it, then means to take it away from debt covered by unsecured bonds or even from the debt of the private sector. A "two-tier market" would emerge: consisting of gold-backed bonds and less attractive uncovered bonds. In that way, the effect of gold-backed bonds might net out. What is more, the introduction of gold-backed bonds might have an impact on the balance sheet of the ESCB through exactly

this channel – in combination with a potential impact on the distribution of seigniorage.[30] However, under gold-backed bonds you bring in something new to the equation with an asset that was not previously used. An investor holding unsecured debt should not automatically assume that he has recourse to compensation in the form of gold should there be a default on the unsecured bond.

Additionally, the implementation of gold-backed bonds does not shift toxic debt instruments on board the ECB as is the case with respect to the OMTs for which the Governing Council of the ECB has decided on September 6th, 2012, to suspend the application of the minimum credit rating threshold for central government assets as collateral. On the contrary, gold serves as high-value collateral.

Nor does it lead to any sterilization problem and growing problems of exiting unconventional monetary policy which make the SMP path-dependent and nearly irreversible in the short- to medium run which contradicts any bridge-financing character. Simply speaking, a gold-based solution would be less inflation-prone. Those arguing that the gold-backing solution would decouple the money supply and hard currency potentially leading to hyperinflation neglect the current non-role of gold for backing a currency.[31] But above all, the use of gold as collateral avoids or at least lessens in importance the reduction of incentives for reform in the beneficiary countries under the SMP and the OMT. The reason is that lacking fiscal discipline or reform effort of a eurozone member country puts its gold reserves at risk and gold thus delivers the best incentive structure. What is more, gold-backing of bonds strictly follows the above mentioned principle that only sovereign funds tend to reveal the *true opportunity costs* to the initiators.

Remember that we argued in section 2 that the ESCB can *attach conditions to its gold transfer* such as the implementation of structural reforms. The move would not only fix the monetary policy transmission mechanism but also provide the time to implement the necessary reforms.

The main message boils down to the following. First, a gold-backed bond could be justified in the same manner as the SMP and the OMT. Second, a gold-backed bond would not have the intrinsic disadvantages of the SMP and/or the OMT: there is no immediate fiscal transfer, no

[30] This argument is well-known from the discussion about the net benefits from the introduction of Eurobonds and from the preferred creditor status or seniority in the case of government insolvency (Modigliani-Miller theorem). I owe this insight to Daniel Gros.

[31] Instead, potential costs would admittedly arise, if the gold pledge would get lost in case of government insolvency and would lack as a backing of the new currency in the case of a eurozone exit of the specific country.

risk of an inflation tax and it should increase incentives for structural reform and not reduce those.

8. How to bring up a consensus in favour of the gold-backed sovereign debt solution?

Is the gold variant as a solution politically enforceable at all? As noted above, sovereigns should only consider gold-backed debt in specific and distressed circumstances. Hence, the need for refinancing within the euro area must be overwhelming in order to receive political support from the South for gold-backing. Clearly, financing costs must have become unsustainable as a requirement for public support of a gold-backing of sovereign bonds: a high inflation perspective limits the ability to perform quantitative easing, that unsustainable sovereign yields are offered by the public markets and the debt-to-GDP ratio is untenable. With an eye on the legal issues involved it is, above all, the members of the ESCB which have to be persuaded.

Too bad that the arguments against the use of gold are raised by central bankers such as Banco d'Italia Governor Visco from Italy – a country abundantly equipped with gold reserves – who themselves have favoured a revival of the SMP, now in the form of the OMT, implying even larger legal problems than gold-backed bonds (Visco, 2012). However, as demonstrated above, both variants of unconventional monetary policy collide significantly more with the EU Treaty and the ECB Statute. What is more, "unusual circumstances" were asserted by opponents to the gold solution with respect to the initial purchases of Greek government bonds in May 2010.

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