Economic and Monetary Union: The Reset Option[1]

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31 January 2012

[1] This version of this essay has been prepared for the Wolfson Economics Prize and draws on conversations and work undertaken by the authors over the course of December 2011 to January 2012. The paper has not been discussed or disseminated and thus benefitted from comments by colleagues and therefore must be considered a draft. The opinions expressed in this paper are those of the authors and not necessarily those of the institutions to which they may be affiliated.

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Executive Summary

The emergent crisis in the Eurozone is existential and reflects three separate pressures on the system: (i) escalating levels of intra-union claims, which are to a significant degree held by highly leveraged financial institutions; (ii) an absence of a fiscal mechanism that forces the re-cycling of those claims from creditors back to debtors and (iii) a lack of sufficient internal price and wage flexibility in a significant rump of countries. This has led to a 'debt overhang' in a number of EMU member countries, in particular Greece. A single central bank standing at the centre of this system cannot set policy to offset a structural imbalance in payments. Monetary policy can essentially only facilitate adjustment.

We therefore suggest a new option for EMU member states, which we call the Reset Option. Under the Reset Option a member state with a significant payments problem can temporarily leave the monetary union but remain a member of the EU. Rather than the Opt Out exercised by the UK and by Denmark, the Reset Option allows a country to leave temporarily with the on-going objective to return at some future point. Rather than simply facing the option of continuing with a debt overhang or being ejected from EMU with an uncertain monetary future, the Reset Option will comprise:

- Once assessed as having a debt overhang by a newly created Fiscal Council, a country such as Greece will have the option to seek via a newly established Sovereign Bankruptcy Court a Reset Option;
- Leave the Eurozone and the jurisdiction of the ECB and create a new domestic currency which will allow an external devaluation versus the Euro that will allow competitiveness to be restored;
- Create a nominal anchor by a crawling peg with wide bands against the Euro;
- Fund the Balance of Payments with a sequence of IMF programmes;
- Accept heightened monitoring of fiscal policy by a new EMU Fiscal Council;
- Negotiate a haircut of sovereign debt through a new Sovereign Bankruptcy Court;
- Set high reserve and capital requirements for the operations of the domestic banking system, to be reduced to EMU-levels on the expiry of the option;
- Pass annual Acts of Parliament that commit the nation to a return to the Euro at some point in the future, at an exchange rate to be agreed.

As well as the Reset Option, the remaining members of the monetary union will have to undergo reforms such that the system is strengthened, these include:

- The development of an independent Fiscal Council to monitor and report on all members states fiscal plans both in terms of their national solvency but also with respect to the union's payments position;
- The creation of ESM with multilateral funding from within the EU and key trading partners with more capital funding by highly-rated EU nations;
- The clear commitment by the ECB to acting as a lender of last resort (in the Bagehot sense) for all members of stage 3 of EMU and to stand at the centre of the TARGET 2 with sufficient capital with no monetary financing of deficits.

The costs of utilising the Reset Option militate against any great moral hazard issues arising from its exercise and we believe that carrying these reforms in parallel to developing the Reset Option will provide the best way of ensuring the growth and prosperity of the current membership of EMU.

1. Introduction

1.1 Basic Assumptions

The whole issue of the European sovereign crisis to be discussed is a matter of political economy, so that although economics can describe the ideal as a framework, a *practical* solution to the crisis must take account of *political* realities – specifically that complete monetary and fiscal union of the EMU along the lines of the US federal union will not happen soon, or *at all ever*, without strong leadership. *A fortiori* the current reluctance of EMU nations, jointly or severally, to embody interstate fiscal transfers and pooled sovereign debt in their recently ratified 9th December 2011 agreement and 20th January 2012 Summit is taken as given in this essay. Setting up Eurobonds is fraught with so many well documented difficulties that these bonds, backed jointly by EMU states, must await *full* fiscal union. This means that the prescription of minimal requirements for a functioning currency union – a fully functioning central bank, fiscal transfers and labour mobility – of Robert Mundell (1961), who some take to be the father of EMU, still lie in the future for the EMU.

Therefore currently practical recommendations to address the crisis should be *minimal* in the sense of being as close to politically feasible as possible, i.e. requiring only feasible negotiations to achieve. To this end

- EMU sovereigns should attempt to retain the supremacy over global financial markets which they have enjoyed over domestic financial markets, but this will require participation in international agreements, including within the EU.
- Sovereigns within EMU should retain responsibility for their own debts, as in Maastricht and Lisbon, which may however need to be restructured as circumstances demand.

It may be easier to negotiate changes to the ECB directive with the 17 states of the EMU or to the structure of the European Court of Justice with the 27 states of the EU, than changes to the fiscal disciplines of states as currently proposed agreement. In particular, nearly balanced national budgeting, as currently proposed by France and Germany and incorporated in the EMU December 9th 2011 agreement and 30th January 2012 EU Summit, is totally impractical without a permanent interstate fiscal transfer mechanism, as occurred in the formation of the early US (Sheets and Sockin, 2012a). Fiscal positions of EMU states will *always* vary relatively and over time.

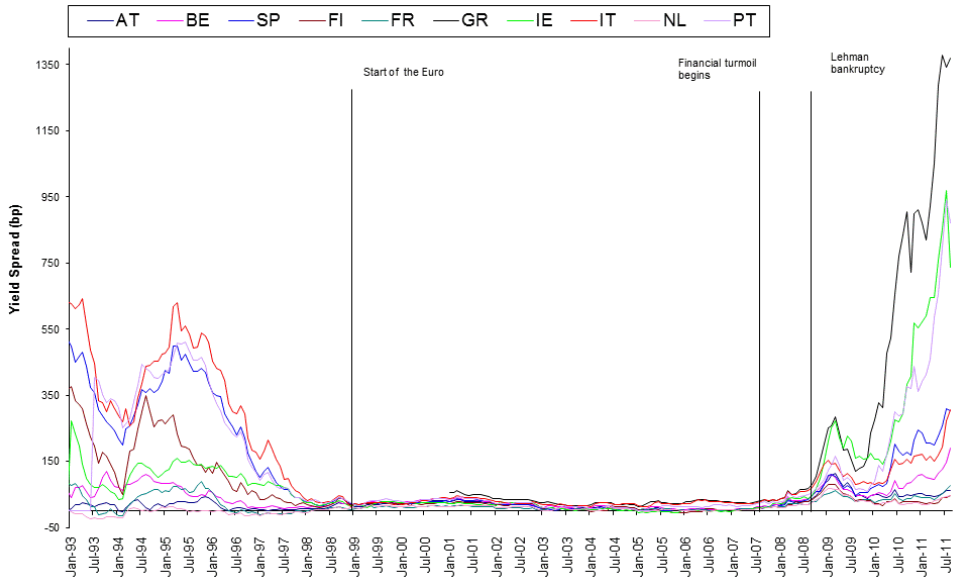
In this essay we assume that Greece is a country which may exit the Euro in an on-going messy default and may even then consider continuing to use the Euro as currency as an interim measure to the possible establishment of a new drachma. In making recommendations for setting up new EU institutions to address the resulting EMU difficulties and suppress "contagion", we apply the principle that every opportunity should be taken to improve the accountability and democratic nature of new European institutions over the

status quo. We therefore consider that it is preferable to develop a Reset Option for such a country. Such an option was available under the Gold Standard and the UK itself exercised this option with a great degree of success over 1797 to 1819. By developing a Reset Option, financial markets will recognise the existence of a safety valve and also allow EMU countries to reform their monetary and payment systems. The Reset Option will be costly for any country to exercise as it will have heightened monitoring of its fiscal plans, operate monetary policy within a peg with the Euro and suffer greater regulatory controls on its financial services. And so the costs of temporary exit will not make this an "easy option" but we consider that it would be preferable to the slow death of the current policy deadlock and the possibility of complete monetary fiasco that a disorderly exit might bring about.

1.2 Growing Crisis

Over the past year, growing tensions within the Economic and Monetary Union (EMU) have threatened the existence not only of the European Union but also the continuation of the integrated system of world trade and payments. It has become increasingly clear that the EMU embarked upon in 1999 by 11 countries and then extended in five staggered steps to 17 by 1st January 2011 with the accession of Estonia was premature, as not only did the set of countries not constitute an optimal currency area (OCA), there had been insufficient analysis of the problems of running monetary and fiscal policies in a large multi-state monetary union. An OCA is, of course, a set of regions over which there are a sufficiently similar aggregate demand shocks in each region such that a single interest rate operating across the regions, subject to individual regions arrangement over fiscal transfers, is sufficient to allow adjustment to shocks. The absence of an optimal currency area has meant shocks, particularly the extreme ones associated with the financial crisis of 2007 onwards, has led to sharply divergent prospects for stable adjustment paths across the Eurozone. Although it may be possible to solve the problem of this premature monetary union without one or more countries leaving, possibly on a temporary basis, in this paper in order to answer the question put, we outline one way in which a country or group of countries could leave the monetary union and yet secure reasonable prospects for the whole.

Figure 1 – Selected Eurozone members 10 year benchmark spreads over Bunds

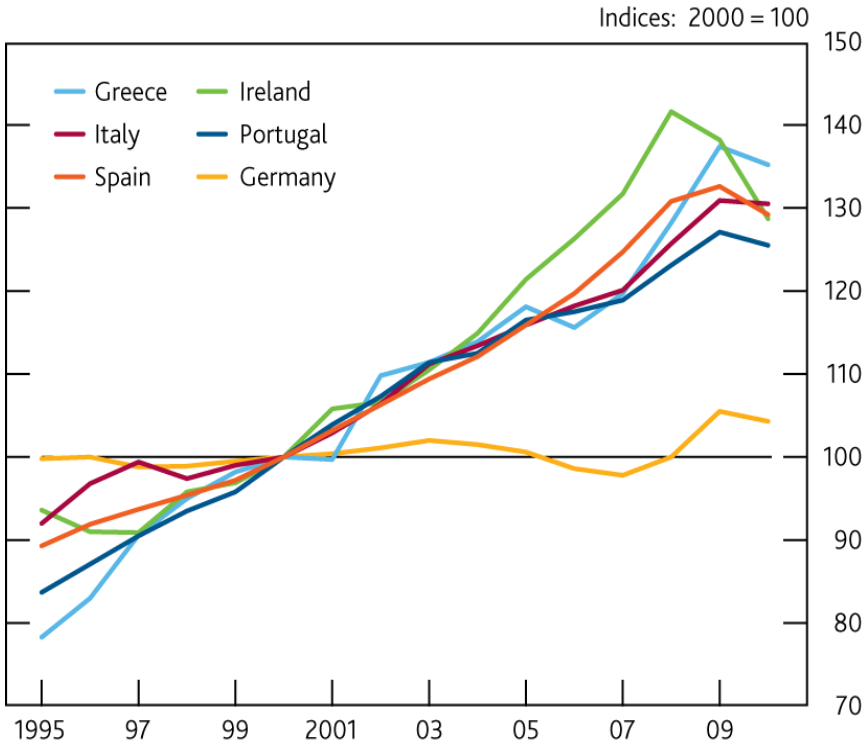


Source: Jagjit Chadha's Macro-Blog

http://calibrecon.blogspot.com/2011/10/spot-asymmetric-shock.html

The absence of synchronised shocks and dissimilar economic structures mean that a unified monetary policy will over time and successive business cycles impose large welfare losses on many households in a monetary union, in the absence of sufficiently flexible wages and prices. In the early stages of EMU, this problem was glossed over leading to the chimera of convergence in long term interest rates across member countries that were typically treated as indicating the extent to which for market participants attached credibility to the monetary union (see Figure 1). In fact, these convergent long term rates reflected other strong forces acting on bond yields at this time: the falling market price of risk during an economic boom and also a prevailing market view that sovereign states within the monetary union would not be allowed to default, an implicit guarantee. Although a monetary union implies a single short term interest rate for central bank money, it does necessary imply convergence of all market rates across the union as borrowers can still have idiosyncratic risk, for example dues to differing labour costs, see Figure 2. But these two factors acted to mask the differences in the required rate of return for such risk and so acted to encourage the creation of intra- and extra-union claims, see Figure 3.

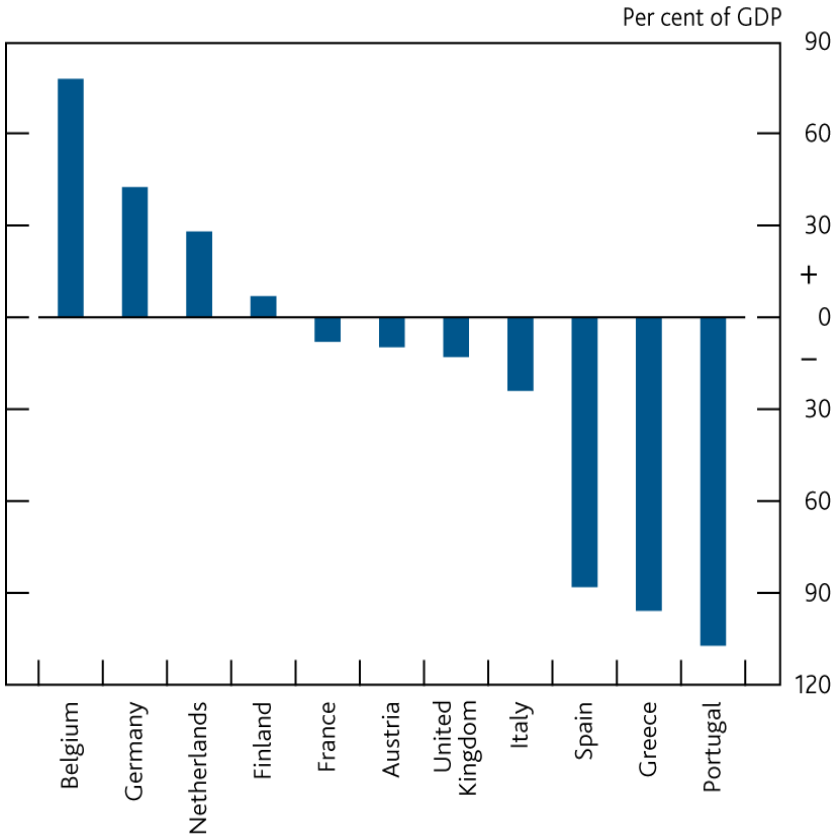
Figure 2. Trend in unit labour costs of Germany and peripheral Eurozone countries



Source: FSR, December 2012

The problem that is now faced can also be expressed in the following way. Countries within the monetary union have become increasingly indebted to others in the union. In many cases, the overall level of gross debt is high relative to individual country's nominal GNP, which threatens sustainability of the debt position, and adjustment thus requires either or both of increased saving at the national level or higher growth in nominal GNP. If debtor countries all try to save at the same time there is a danger, because of a lack of co-ordination, of excessively tight fiscal policy in aggregate that may make exacerbate the debt burden and because these countries are part of a monetary union there is no easy way for a peripheral group to generate higher nominal GNP growth whilst remaining part of the monetary union. The resulting debt overhang cannot easily be solved by a simple exit from the monetary union as it would imply, following any devaluation, an increase in foreign currency debt and in all likelihood non-performing assets held by the creditor nations.

Figure 3. The international investment position of various EU states.



Source: FSR, December 2012

In this paper we shall consider: (i) the best way to restructure the EMU so that some of the peripheral states can obtain an option to leave on a temporary basis; (ii) how to allow the strong Euro states to remain within a monetary union; (iii) the best way to restructure Euro public and private debt contracts; (iv) the way to recapitalise banks following a sovereign default or restructuring ; (v) the appropriate form of fiscal union; (vi) the set of policies that should be followed by the ECB; (vii) the conditions under which countries will be allowed to re-join EMU and the appropriate role of the hard currency and soft currency areas in the new arrangement.

We propose the creation of a Reset Option for all members of EMU. This will mean that the current monetary union, comprising a 'hard' currency union that will retain the Euro as the means of payment, unit of account and medium of exchange and a 'soft' currency zone in which individual sovereign currencies will be re-issued and pegged to the Euro in a muddy float supervised under IMF surveillance and under the supervision of two new EU institutions, a Fiscal Council and a Sovereign Bankruptcy Court. The 'hard' currency union

will still operate largely as the current wider EMU but will require explicit adoption of lender of last resort functions for European Central Bank, adoption of more transparent and forward-looking monetary policy making, clear fiscal rules on debt levels and counterparty for monetary operations for the national central banks in the currency zone. The hard currency union will be aspirational and it is expected that over time members of the soft currency zone will migrate (back) to EMU at an exchange rate to be determined. In effect we favour the creation of a Stage 3a and 3b, corresponding to the hard and soft currency zones respectively for which Treaty Reform will be required: Denmark and the UK will retain their opt-outs.

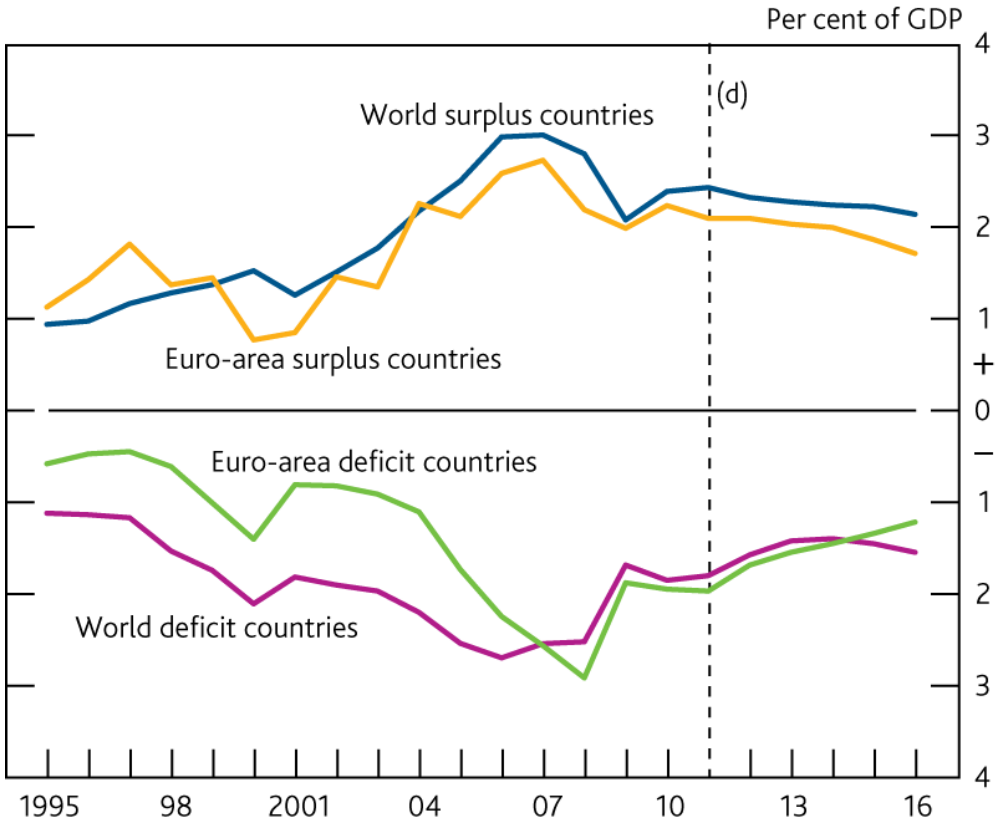
The member countries with significant payment problems have a third option to add to the current configuration. The current two options are to stay in the current EMU set-up without the ability to correct a significant appreciation or payments problem or alternatively to leave once and for all EMU and EU and face severe credibility problems in the development of monetary and fiscal policies. The Reset Option will involve leaving the 'hard currency zone' temporarily over a Bank Holiday Weekend. They will adopt an agreed haircut on the principal of their Euro-denominated debt and these debts will be transferred into a new Euro-denominated bond of various maturities with its principal collateralised by the purchase of appropriate triple A-rated 'hard' Euro bonds. A debt advisory committee will advise on the scale of the haircut but also the appropriate issuance of bonds. The countries that choose to enter the holding pen will issue their own domestic currency but it will be pegged to the Euro. The country will have access to IMF funding and be subject to rigorous surveillance on both monetary issuance and fiscal plans. Some form of capital controls will be required for counties using the Reset Option, which will involve higher capital and liquidity requirements. Conditions for re-entry to the hard Eurozone will include stricter conditions for entry in terms of economic convergence but also the aim of returning at the exchange rate at which EMU was originally fixed. This solution will maintain the overall momentum of EMU but also allow some breathing space for some countries to reconfigure their economic institutions.

2. Economic and Monetary Union: A Pyrrhic Victory

2.1 Problems, Problems

The establishment of EMU was a victory of politics over economics. Stage 3 of Economic and Monetary Union was established in 1999 with 11 and a formal opt-out from monetary union for the UK.

Figure 4. Surplus and deficit countries in the Euro-area and the world.

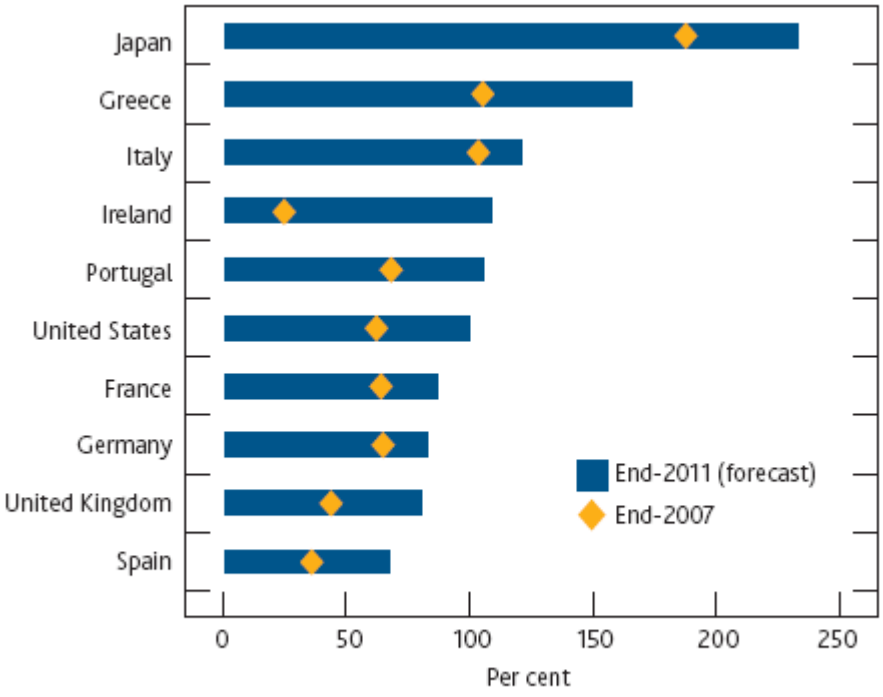


Source: FSR, December 2012.

An extended number of summits to try and solve the Eurocrisis led to the statement by the Euro Heads of States on 9th December, which was an attempt to build a more credible fiscal and stabilisation framework for members and prospective members of the Eurozone but in many respects it represents a sparse prescription with insufficient detail on how assessment and sanctions would be performed. The growing sovereign debt crisis in the Eurozone is the result of the build-up of intra-union claims between debtor and creditor nations within the Eurozone and the growing perception that public debt levels in many Eurozone economies are near unsustainable. And so the Eurozone, as a microcosm of the world economy, is split between surplus economics that are growing, or have reasonable prospects to do so, and deficit economies that are nearly stalling.

Adjustment would normally involve a lower exchange rate for the deficit nations so that they could share in the potential growth of the surplus nations. Within the Eurozone, intra-union nominal exchange rate adjustment is not possible and real exchange rate adjustment will require a considerable period of lower inflation than that experienced in surplus nations. And with limited price and wage flexibility, such adjustment will require extended periods of lower growth in order to create the required negative output gap. It is not entirely clear that surplus nations will tolerate the implied reduction in their competitiveness. The duration and severity of the economic downturn associated with the financial crisis of 2007-8 has led to precipitous falls in GDP in many Eurozone economies and thus to strains on already vulnerable fiscal positions, which had been trying to stabilise the falls in GDP. With little or no immediate prospect of growth in nominal GDP, public debt levels in many Eurozone economies have started to look increasingly unsustainable.

Figure 5. The change in public indebtedness since the start of the crisis



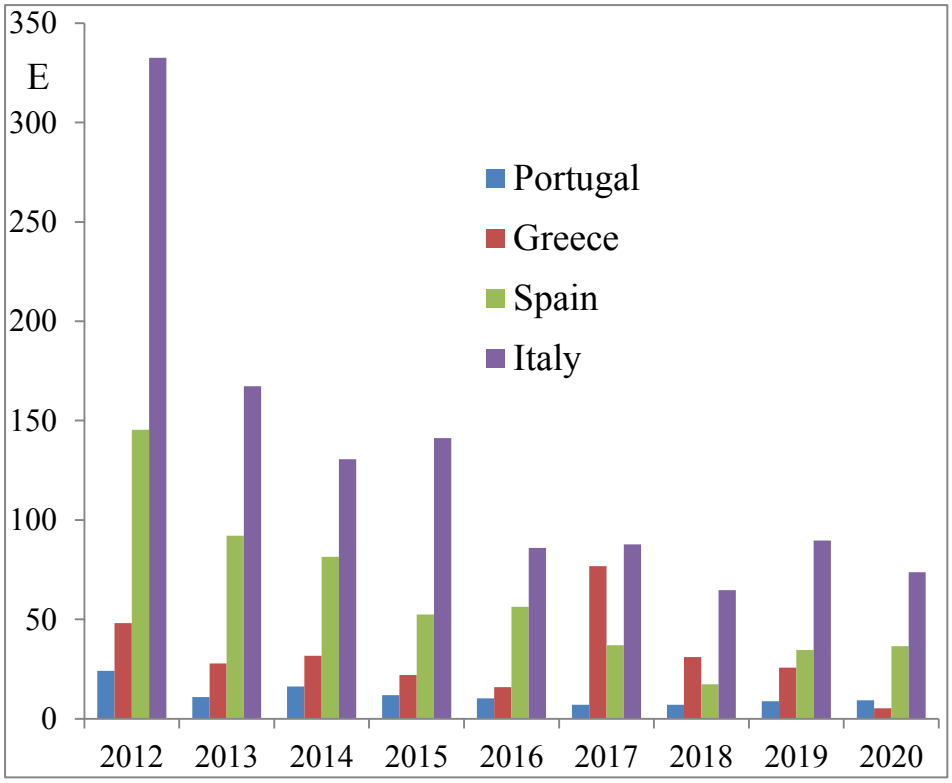
Source: IMF *Fiscal Monitor* (September 2011).

To this real economy payments problem we can also add a banking problem. Highly leveraged financial institutions are holding considerable quantities of national public debt issued by Eurozone member nations. In the early life of the Eurozone, the sovereign debt of member states was eligible collateral in the liquidity operations of the European Central Bank against which no capital provisions had to be made. But as the crisis has deepened the debt of more peripheral countries has had more restrictions placed on their eligibility at the ECB. This change in the criteria has opened up the on-going possibility that eligible debt may

become ineligible for liquidity operations and reflects the increasingly high possibility of default by a number of Eurozone sovereign nations.

A default on sovereign debt by a Eurozone nation has a number of corollaries. First, the defaulting nation will be unable to access capital markets for some time in order to re-finance existing debt or create new debt obligations. Figure 6 shows the extent of sovereign redemptions over the next nine years for the Portugal, Greece, Italy and Spain and with over €2 Tn to re-finance over this period, the shock of any one default will echo for some years to come. Secondly, any one default will heighten the likelihood of further defaults and thus may lead to some cessation of capital market access for other Eurozone economies. A default will also trigger some calls for capital by banks, or other financial institutions, that hold the underlying principal. Such calls for capital are then likely to involve claims on the fiscal purse of the country in which the financial institution is regulated and so ultimately underwritten. Note also that payments for any holders of credit default swaps written on the underlying Sovereign debt will become due in the event of a default.

Figure 6. Sovereign Redemptions of Peripheral EMU countries over 2012-2020



Source: Bloomberg and Authors.

The policy response to date has involved the injection of large quantities of liquidity for commercial banks by the ECB, most recently at term, and the creation of stability fund (the EFSF and EFSM to be succeeded by the ESM) to help with the rescue packages for troubled Eurozone economies. The ECB now operates practically as a lender of last resort for the Eurozone banking system. But liquidity provision, *per se*, cannot be a solution to a structural

payments problem within a monetary union: temporary flows of liquidity cannot clear the stocks of debt. The ECB has also been unable to operate extensive non-conventional monetary policies that involve the purchase of longer term government bonds in return for reserves, effect swaps of short term bills for longer term bonds or indeed, provide consistent signals about the likely duration of low interest rates in this uncertain economic environment. These policy constraints have probably exacerbated the problems faced by more slowly growing and more indebted Eurozone economies.

The overall macroeconomic and financial picture is thus rather complicated. But to sum up: (i) a significant number of countries in the Eurozone have the wrong real exchange rate at present; (ii) have been accumulating losses in the net foreign asset position since the inception of EMU; (iii) are running up against their sustainable public debt limits as judged against likely nominal GDP growth; (iv) have significant contingent calls on the public purse from the capital losses likely to be sustained by the country-level financial institutions in the event of a default or debt haircut; (v) are facing increasing problems in financing the primary issuance and re-financing of public debt and, as a consequence, are paying escalating risk premia and (vi) operate within the framework of a central bank that is somewhat hampered with the limited tools and transparency at its availability.

2.2 Failures of the 2011/12 Reforms to date

The Euro Heads of States' statement of 9th December 2011 and the 30th January 2012 summit is thus deficient in a number of respects.

The enhanced successor to the Growth and Stability Pact which includes both the European Semester and the Euro Plus Pact and the new `fiscal compact' does not really address the problems of the Growth and Stability Pact. It is most important to adopt policies that stabilise the *level of public debt* in expectation so that forward-looking agents continue to price debt in a such a manner as to allow access to capital markets at reasonable spreads but a relatively simple *fiscal rule for the deficit* may not be particularly helpful as countries display considerable heterogeneity in both initial conditions and likely response to fiscal adjustment.

In fact, a monetary union that does not constitute an optimum currency area will imply *more* rather than less variance in fiscal deficits and surpluses over the business cycle. And although the `fiscal compact' calls for a upper bound in the structural deficit of 0.5% of nominal GDP, it is in practice very hard to measure the structural deficit in real time. And so we may find that the target is not enforceable because performance cannot easily be measured.

Meeting a fiscal deficit target even an upper bound, could easily end up being procyclical as the deficit may not get corrected or become a sufficiently large surplus in a boom. How exactly does this fiscal rule enforce sufficient surpluses in the *good times*? If it does not, the rule may well trap economies in a world of permanent deficits. It is of great concern that the fiscal rule would be judged by the Commission, Council and ultimately by the Court of

Justice. There is a danger that the rule might become one of a number of measures bargained over at the EU level of 17 or 27 rather than an objective in its own right. And also I am concerned as to whether Courts or political institutions can move quickly enough to satisfy the concerns of market participants. Some form of *Fiscal Council* staffed by economists, some of whom may be drawn from the Commission and national Ministries of Finance may make considerably more sense.

Simple numerical targets for overall deficits of 3% of nominal GDP or debt levels of 60% of nominal GDP are rather attractive long term targets, as they were for the original Growth and Stability Pact, but the fiscal compact cannot really be credible unless it specifically deals with the current problem of fiscal consolidation for a large number of Eurozone states and then separately spells out how fiscal deficits and debt levels should be run and monitored in a monetary union under more normal times. If the current `debt overhang' is not addressed the fiscal compact is unlikely ever to gain credibility.

Table 1: Losses from Sovereign Bond Haircuts

Tier 1 Capital ratio	**7% Capital Ratio**		**10% Capital Ratio**	
	50% Greece only	**50% PIIGS**	**50% Greece only**	**50% PIIGS**
Number of Bank Failures	45	63	76	80
Capital shortfall (Bn Euro)	-73.86	-278.78	-348.09	-605.68
Total GDP cost	-0.58	-2.19	-2.73	-4.76
of which:				
EMU states (Bn Euro)	-68.45	-270.93	-272.74	-525.53
Non-EMU states (Bn Euro)	-5.31	-7.62	-75.35	-80.16
As % of EU output				
EMU states	-0.54	-2.13	-2.14	-4.13
Non-EMU states	-0.04	-0.06	-0.59	-0.63

Note: Authors' Calculations and Reuters. PIIGS referes to Portugal, Ireland, Italy, Greece and Spain. The results use market data from the final quarter of 2011 and calculate the resulting losses to Banks that hold sovereign debt and the implied cost in terms of Euro and relative to GDP.

The development of a permanent successor to the EFSF and EFSM, the ESM, may be helpful and the Summit agreement to bring the permanent support mechanism forward by one year to mid-2012 is reasonable. But it is a concern there may be limited funding available and the fund may not be sufficiently highly rated by credit agencies so as to allow it to fund bail-outs or fiscal consolidation across several countries at the same time. In this respect, it is worth recalling that such mechanisms rely too much on debt quality of stronger countries (through state guarantees) as highlighted by the recent downgrading of the EFSF. Such funds ought to address the appropriate construction of bail-outs that help countries finance future fiscal plans that have been formulated with the explicit help and conditionality of the IMF. This will imply helping a country fund itself after a bail-out and ensuring that the correct monetary-fiscal mix is adopted. There is no case for the direct purchase of existing sovereign debt from countries with fiscal problems by such funds. As far as it can be seen, the issue of debt re-

structuring is completely missing in the report of 9th December and 30th January 2012 Summit.

It is also rather problematic to have a single ESM for the whole of the Eurozone. Let us suppose that there is a 50% haircut for Greek debt only. The capital shortfall for the EU banking system would then be some €74 Bn at an assumed target core Tier 1 capital ratio of 7%. These losses would rise to nearly €350 Bn at a target core Tier 1 capital ratio of 10%. If we factored in a much widespread haircut over time to include Portugal, Ireland, Italy and Spain, as well as Greece the capital shortfall would be €280 Bn and over €600 Bn in the case of a target core Tier 1 capital ratio of 7% and 10%, respectively. In other words, the fund could very easily, as currently envisaged be exhausted. And so would simply not be credible to financial market participants unless the firepower was increased with some limited contributions from EU nations that had exercised and Opt-Out from EMU.

The ECB's monetary policy framework has shown insufficient flexibility following the crisis in terms of flexible inflation targeting, using open market operations to influence longer term interest rates, providing longer term guidance on the path of short term interest rates and also in terms of influencing the Euro exchange rate with respect to the rest of the world. Part of this inflexibility reflects the institutional constraints that are to some extent enshrined in the ECB Statutes.

Finally, it seems likely that the whole macroeconomic management of the individual nations in the Eurozone is not sufficiently well co-ordinated. For example, it is likely that looser fiscal policy in creditor nations and tighter fiscal policy in debtor nations would have helped adjustment in the debtor nations. It is also the case that the increased supply of bonds issued by countries not facing debt constraints would have changed the composition of debt issued by Eurozone member states towards less risky and more liquid rather than the converse, which would not only have been preferable during the crisis but also more generally.

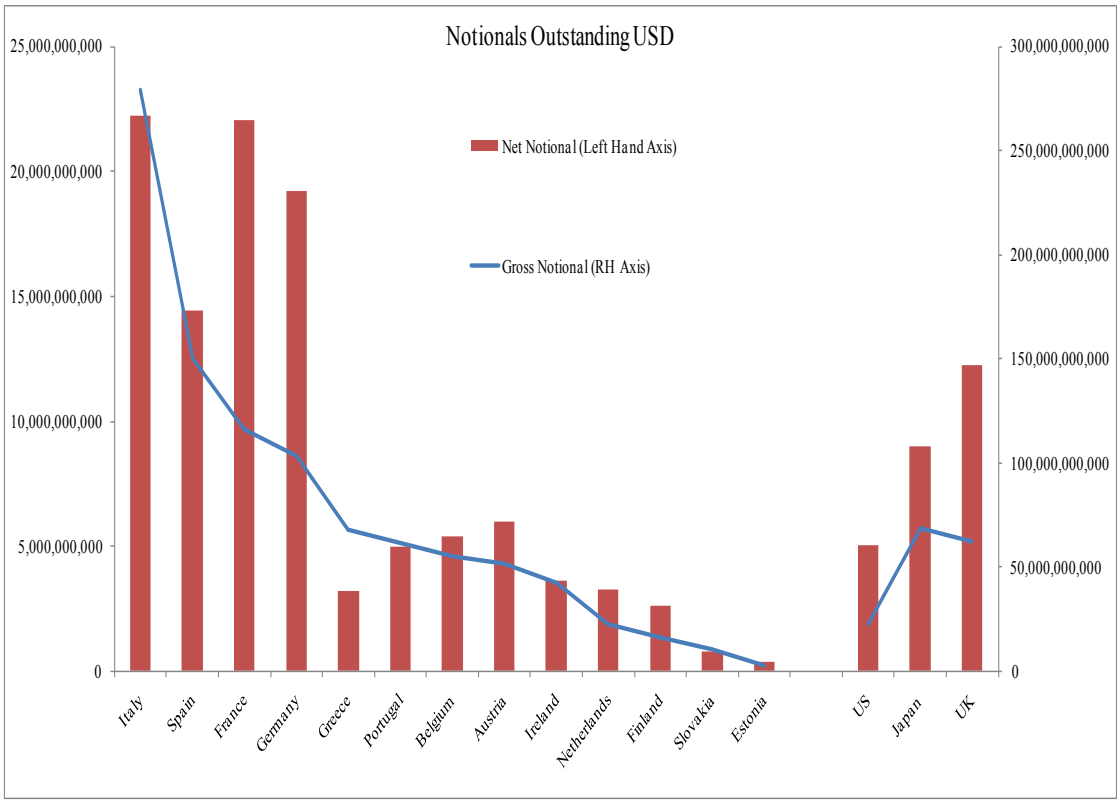
Any solution to the EMU problem must therefore adopt a two stage reform. First there needs to be a wholesale examination of the current monetary and fiscal settlement in EMU, what we term Institution Building. And in parallel the development of a Reset Option for the poorly performing economies. In all cases, the levels of sovereign debt have escalated for nearly all economies and some form of extended fiscal consolidation will be required even for those economies that do not utilise the Reset Option.

3. Institution Building

3.1 Sovereign CDS legislation

Figure 7 shows global EMU national credit default swap (CDS) positions as of 20th January 2012 – expressed in both total outstanding notional and net positions. While some of these net positions are substantial, e.g. for France, Germany and the UK, as well as for Italy and Spain, that of Greece, while nontrivial is *not*.

Figure 7. Global outstanding notional and net CDS positions on European sovereign debt



Source: Bloomberg

US banks are only minimally exposed to European government debt, but they have been buying and selling default protection on these bonds in the form of off-balance sheet CDS. Therefore, while figures are hard to obtain, it has recently been estimated that for 6 bulge bracket US institutions, CDS exposure on Italian debt alone may be about $200 Bn (*cf.* Figure (1)) and that all US banks account for about two thirds of the total, some $144 Bn

CDS outstanding on euro-debt (Wallace, 2012). Many troubled European banks have sold significant amounts of CDS protection on their *own* national government's debt – a troubling fact. For example, BNP Paribas has sold $ 4 B protection on French government debt (12% of the total outstanding) and Banca Monte dei Paschi di Sienna has sold $ 3 B in Italian government debt (14% of the total outstanding). It has been observed that selling these CDS deals is lucrative and that if either government defaults the corresponding national banking system will collapse in any event.

We believe *in principle* that naked CDS selling (i.e. with the buyer not holding the underlying bonds "insured") should be banned by EU legislation for *all* banks operating in the EU. (To us this makes more sense than the Tobin tax.) Hopefully this would be enough to establish the principle globally. The principle is that the role of sovereigns, albeit under economic pressure to consolidate over time (China, UK, US, Canada, Germany, Australia, EU, etc) like corporations, are *not* corporations (Graeber, 2011). Therefore, the EU generally should at the earliest opportunity also attempt to obtain G20 agreement to ban naked CDS selling on sovereign bonds by all financial institutions. Such legislation, if adopted globally, would maintain the principle that sovereigns, unlike corporations, are *not* a legitimate object of global financial speculation, while still allowing investors in sovereign bonds to hedge their risks.

3.2 European Central Bank Reforms

The ECB is already effectively acting as the lender of last resort to the EMU financial system (and beyond) in the traditional sense. This should be made *explicit* by appropriate changes to the ECB Constitution through EMU negotiation and agreement as soon as possible.

In our opinion the ECB should *never* lend to EMU governments by buying their bonds *directly* – this is a step in the wrong direction for a fully functioning central bank! Direct governmental purchase of sovereign debt is a matter for other EMU mechanisms begun – but by no means completed – at Lisbon. Currently the measures proposed for the European Stability Facility are the effective merging of EFSB and ESF funds with a total capital of about €750B – at below 10% of EMU GDP not nearly enough – to make loans to sovereigns against government bond collateral and undertake other fiscal measures.

On the other hand, we believe that EMU nations should agree to amend the Constitution of the ECB to modify the TARGET2 payments system structure so that transfers do not simply *pass through* the ECB. This would eliminate bilateral national central bank deficits and surpluses such as those currently between Ireland and Greece with Germany (Scott, 1998).

In more detail, the TARGET2 (Trans-European Automated Real-time Gross settlement Express Transfer) system is the gross interbank clearing settlement system which, after its introduction in November 2007, has been used by all the national central banks (NCBs) in the European System of Central Banks (Eurosystem), except Sweden and the UK, since May

2008. The ECB requires that the TARGET system is used for all payments between Eurosystem institutions. The Bundesbank, Banque de France and Banc d'Italia built, own, and run the system for and on behalf of the European System of Central Banks (ESCB), which includes all central banks in the EU. It is used both by NCBs and individual banks to clear and settle euro transactions between each other. Each NCB in the Eurosystem, as well as the ECB itself, operates a national component system. Under the terms of a Eurosystem agreement, the outstanding claims and liabilities of all the national central banks participating in TARGET2 are transferred to the ECB at the end of a business day and netted out.

NCBs are responsible for providing liquidity to their national banking systems. When an Irish bank repos securities it does so with the Central Bank of Ireland (CBI). The liquidity that the CBI generates for the bank doesn't necessarily remain in the Irish banking system, e.g. it might be used to pay an import bill from Germany, buy a fund in Luxembourg, or be moved to create a deposit in the Netherlands. Having automatic balances within the TARGET system means that NCBs automatically have access to *all* the funds they need.

If the CBI had to settle all its TARGET2 balances then it would have to borrow the funds. The ECB could in theory lend the CBI the money (in which case the system would be similar to the US Federal Reserve System) or it would have to negotiate borrowing the money from the NCBs with surpluses. The latter solution would be impractical, and would risk settlement failure if the required funds could not be obtained. The former arrangement would mean that the ECB would have a much bigger balance sheet, but it is consistent with the role of the central bank of a currency union.

The original TARGET system was built by linking together the different real time gross system (RTGS) structures that existed at the national level and meant that the NCBs would have gross claims against each other through correspondent accounts. TARGET2 has evolved so that claims are netted off against each other daily and become claims and liabilities to the system itself.

Market economists often refer to the "ECB's balance sheet". In practice they are usually referring to the *consolidated* balance sheet of the Eurosystem. The consolidated balance sheet will by definition not have *any* TARGET2 balances since the surpluses of some NCBs will be perfectly offset by the deficits of other NCBs.[5] The consolidated balance sheet therefore fails to show the growing complexity and dynamics underlying the Eurosystem's balance sheet.

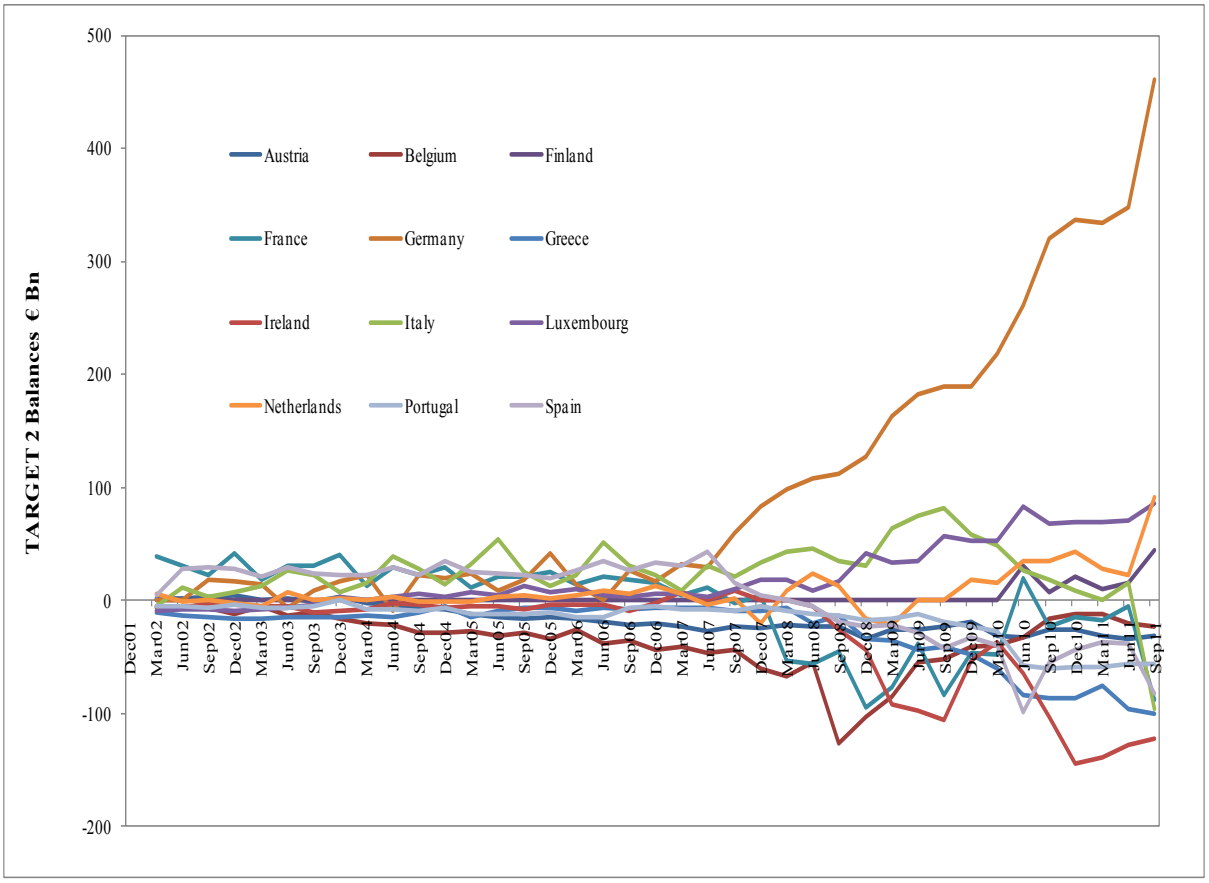
As Sinn and Wollmershauser (2011) point out, TARGET2 balances will reflect the *accumulated* deficits and surpluses in each Eurozone country's balance of payments with the rest of the Eurozone, see Figure 8. Following the financial crisis of 2007-2008, the ability of financial markets to re-circulate current account balances via inter-bank lending and portfolio investment has been seriously weakened.

The corollary of a current account *deficit* is that investment in that country is greater than its savings. If the additional investment is financed by bank loans which are then repo-ed with its central bank, then the central bank will find that liquidity has left the banking system and it

[5] Non-EMU Target2 members will have small balances within the TARGET system.

will have a shortage of funds which it must then obtain through TARGET2. At the same time as private capital market intermediation broke down, the ECB introduced a range of alternative of policy tools such as long-term repos which increased the ability of NCBs to finance their domestic financial systems. This in turn has led to a large increase in the size of the consolidated balance sheet of the Eurosystem.

Figure 8. Cumulated EMU national TARGET2 balances



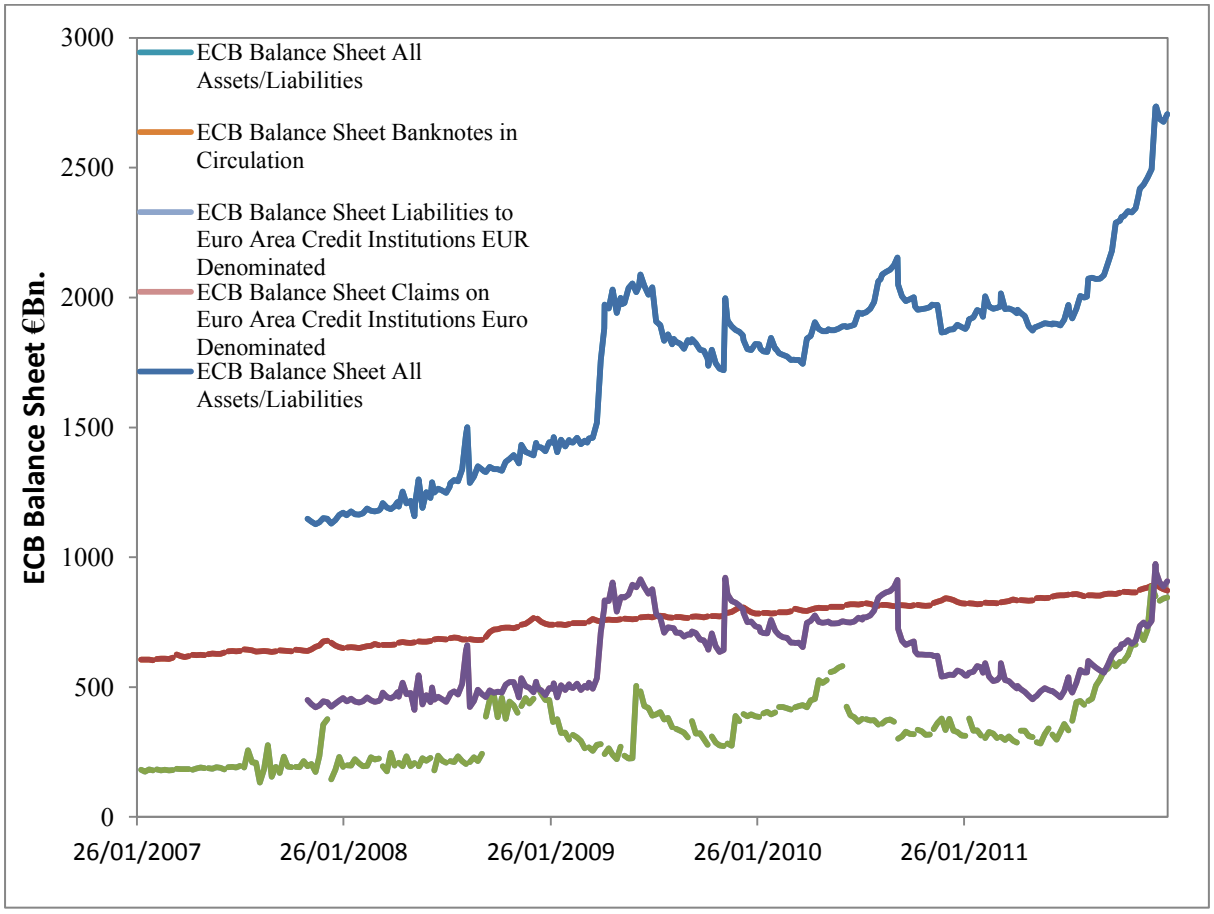
Source: Bloomberg and Author's Calculations.

This growth in the Eurosystem's balance sheet has had important implications for TARGET2 balances, see Figure 8. The other assets item of the Eurosystem balance sheet, which is essentially the balance the Bundesbank has with the TARGET2 system, reached €494.3 Bn at the end of December 2011. [6] Since then the ECB had its first 3 year Long-Term Refinancing

[6] Other assets include: claims due to the difference between monetary income to be pooled and redistributed. This is only relevant for the period between booking of monetary income as part of the year-end procedures, and its settlement on the last working day in January each year. Other intra-Eurosystem claims denominated in euro may arise, including the interim distribution of ECB income.

Operation (LTRO) of €489 Bn. When the sum of the ECB's main and long-term refinancing operations jumped by a net €75 Bn in September 2011, the Bundesbank's TARGET2 balance increased by €60 Bn. An exact ratio between these two levels is unlikely to hold, since following a repo by a non-German bank it will not necessarily wish to use all the funds immediately and cash balances with its NCB will grow temporarily. However, as these funds are drawn down by the bank, ECB deposits will fall, increasing the national central bank's liabilities with the Bundesbank. If this takes place for the second round of LTRO next month, it could imply at least a further €390 Bn increase in the Bundesbank's positive balance in TARGET2, taking it to, perhaps well, over €800 Bn. Current estimates of this second LTRO tranche are of the order of €1 Tn for a total of € 1.5, which approaches at last the $2 Tn the Federal Reserve pumped into the US financial system in 2008-9, some of which was, of course, used at the time by European banks.

Figure 9. The consolidated financial statement of the Eurosystem: Break-down of assets



Source: Bloomberg and Authors.

On the other hand, what happens if a national central bank goes bankrupt, or if the Euro ceases to exist, is not well specified in the Maastricht treaty. This lending is not collateralised

and is far from riskless. Article 32 of the Constitution of the ECB allows for losses to be shared by NCBs:

The Governing Council may decide that national central banks shall be indemnified against costs incurred in connection with the issue of banknotes or, in exceptional circumstances, for specific losses arising from monetary policy operations undertaken for the ESCB. Indemnification shall be in a form deemed appropriate in the judgment of the Governing Council; but these amounts may be offset against the national central banks' monetary income.

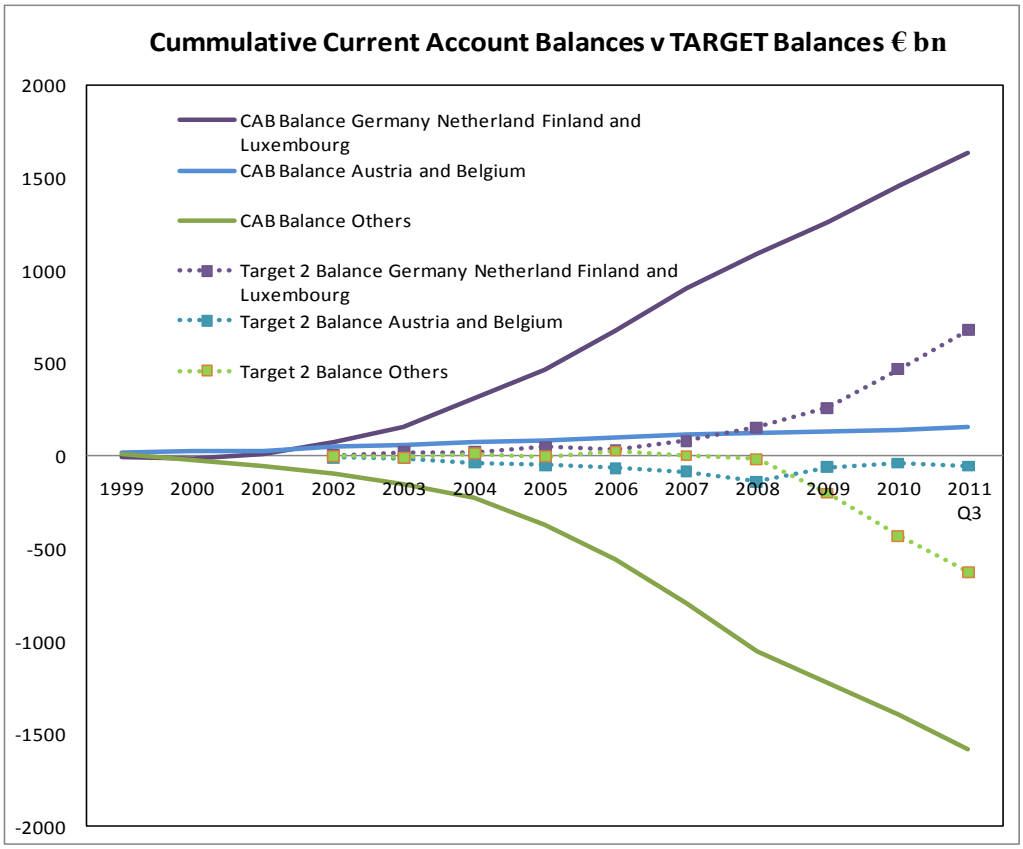
The Bundesbank therefore currently argue that an actual loss will be incurred only if and when a Eurosystem counterparty defaults and the collateral it has posted, despite the risk control measures applied by the Eurosystem, does not realise the full value of the collateralised refinancing operations. Any actual loss would however always be borne by the Eurosystem as a *whole*, regardless of which national bank records it. The cost of such a loss would be shared among the national banks in line with their capital keys. In other words, the Bundesbank‘s risk position would be just the same if the positive settlement balance from TARGET2 were accrued, not by the Bundesbank, but instead by another Eurosystem national bank. However, in a situation where the Eurosystem ceases to exist, it is not clear how the guarantees would be enforced.

The IFO (Sinn *et al.*, 2011) argue that the Bundesbank’s credit in TARGET2 is causing a credit crunch in Germany and that Germany is essentially funding the deficits of other Eurozone countries for free. They argue that:

Aggregated over the period 2008-2010, the current account deficits of Greece and Portugal were financed practically in their entirety by the printing press... from 2008-2010 Germany accumulated a current account surplus of 264 billion euros vis-a-vis other Eurozone countries, but in net terms this did not translate into it acquiring titles abroad, such as factories, real estate or securities. Instead fully 255 billion euros...was “settled” with Target claims of the Bundesbank on the ECB.

However, by concentrating on the *net* figures the IFO ignore some other important flows. Since the end of Q4 2007, German Federal bonds and notes have increased by over € 340 B. With German Treasury bills having negative yields and the 2 year note now at 13.4 basis points, the German public sector including the Bundesbank is no worse on a *flow* basis. At a time when there has been significant balance sheet contraction in international banking, German Monetary Financial Institutions (MFIs, essentially banks) have seen an increase in their liabilities. We believe that this has been driven by “safe haven” demand from investors, and hence has been on beneficial terms for German banks. Of course if the Bundesbank was to make capital losses on these exposures, then these would be far greater than the differences in rates on the flows.

Figure 10. Current accounts and target Balances



Source: Bloomberg and Authors.

Losses on Target 2 balances could be substantial. Econometric evidence suggests that cumulative current account balances show not only a good relationship with Target 2 balance but also with 10-year benchmark spreads over Bund. If we look at the National Bank of Greece's balance sheet for example we see that its main assets are "deposits" and lending to Greek banks, which if Greece was to leave the Euro would likely be redenominated and Greek Government bonds, which will have to be written down significantly. Only 13% of its assets are foreign or gold. Exit from EMU would likely require exit from TARGET2 forcing a write down on exposures to Greece. Losses in excess of the ECB's capital and reserves were never really envisaged and the mechanisms to transfer losses are not well specified. An exact estimate of the losses is dependent on lots of unknowables: the size of TARGET2 balances at the point of break-up, the number of countries leaving EMU, the size of depreciations following their exit, and the financial position of the NCBs, which will in turn be dependent on haircuts on sovereign and financial exposure. Each such leaver will require stopgap measures to significantly the balance sheet of the ECB.

We therefore believe for the future that an important reform to the modification of the articles governing the ECB is a modification of the TARGET2 structure so that each national central bank in the system would trade directly with the ECB through a pooled ECB account, thereby

eliminating bilateral central bank deficits and surpluses, such as those currently between Ireland and Greece with Germany, and allowing the ECB to monitor the decline of individual sovereign creditworthiness directly (Scott, 1998). The concomitant expansion of the ECB's balance sheet is consistent with its functioning as the central bank of a currency union along the lines of the UK Bank of England and the US Federal Reserve.

3.3 European Sovereign Fiscal Council Establishment

In the next section of this essay we shall outline our recommendations for handling the current Greek difficulties to the benefit of other EMU nations. Here we stress that we are recommending a new fiscal oversight institution whose role regarding *all* EMU nations, large and small, we see as critical to the future of EMU.

First we note that it is now widely accepted that virtually all EMU nations, including France and Germany, breached the 3% of GDP government deficit rule soon after the Maastricht treaty was signed. Further, in this regard much creative accounting has been employed to date by most nations, that by Greece, aided by Wall Street at EMU entry in 2001 and subsequently, being the most extreme case. Banning the practice of using swaps with off-market interest rates or exchange rates without explicit recognition of any fees as a form of debt, so-called 'Tobashi swaps' may also need to be considered.[7] This does not bode well for the proposed 0.5% deficit rule of the new EMU agreement.

This situation cries out for a stand-alone European Sovereign Fiscal Council, along the lines of the new UK counterpart, the Office for Budget Responsibility (OBR), which will be staffed by appropriate competent professional staff and, in conjunction with the European and national statistical offices, will regularly, e.g. monthly and quarterly publish *independent* reports on the fiscal positions of *all* EMU nations. Unlike current propositions, no individual nation will be singled out, but of course those in crisis would be focussed on. Council reports will of course always have to account for trends in national wage levels and competitiveness, which are always subsequently reflected in government fiscal positions (Sheets and Sockin, 2012b). These regular independent Council reports will be a counterweight to the inherent inertial tendency of governments and bureaucracies to employ rules of thumb to entrench explosive incremental behaviour until a breaking point is reached (see Dempster and Wildavsky, 1982, and the references therein).

To ensure minimal political interference with the new Council, a tall order with the current heterogeneous composition of EMU, the Council should be independent of the EU Commission and report formally to the democratically elected Council of Finance Ministers.

[7] Normally a swap involves the exchange of two sets of cashflows with equivalent NPVs. A Tobashi swap (Japanese for "fly away") involves one or both sets off market and hence the NPV of the two flows not the same. An upfront "fee" is then paid (eg by Goldman to Greece and Italy) but is really a loan. It is often not recognised as a loan and hence is used to fudge debt figures.

It should also set-up a quarterly reporting schedule with press conferences so that there is transparency in its monitoring of EMU nations' fiscal positions. As with the OBR it can produce its own economic forecasts and may develop its own methodologies for judging fiscal stance of nation-states. A EMU incarnation of the UK's OBR may in the first instance have the assistance of the OECD in setting up monitoring responsibilities, seconding staff and in developing appropriate modelling methodologies.

3.4 European Sovereign Bankruptcy Court establishment

The principle of independence applied to the European Fiscal Council is required a fortiori to our recommendation of setting up and an EU wide European Sovereign Bankruptcy Court to preside in future over the negotiated fiscal resolution of nations in fiscal difficulty. This court should be set up as a subsidiary of the European Court of Justice, as an arm of the EU judiciary, independent of the EU Commission, Parliament and Council of Ministers. However, unlike its appeals superior which would remain as is, i.e. with equal national justice representation, the new court would have *population proportional* national justice representation to maximize expertise and minimize corruption. The experience of the new Dutch government-sponsored International Financial Court in the Hague may be relevant in setting up the new court. We envision a panel of judges for each case, say three for each case, one each from a large, medium and small country, but with the decision of the Chairman to be definitive. All private, EMU and IMF representations would be considered by the panel in coming to deliberation, which would be final and announced over a weekend when global financial markets are closed.

The new court could be applied to by Greece, the postulated (likely temporary) leaver of EMU. It is complementary to the proposed European Fiscal Council, whose role would be to help the Court establish and monitor the on-going fiscal components of its agreements. In the EU legislative process setting up this court the principal point is to enact a sovereign version of the US Chapter 11, which would allow each sovereign in difficulty time to work out an appropriate solution, using intergovernmental (EMU and IMF), and if possible global market, sources of funding and debt haircuts as appropriate. In the long run this court would have many of the effects that the Germans currently seek, without the dire short term consequences. In this regard it is interesting to note that basic bankruptcy law was enshrined from the beginning in the US constitution. Current EU bankruptcy law at all levels is in a disarray which also requires EU and EU state attention.

3.4 Recommendation Summary

The three recommendations above: banning *naked* CDS on sovereign debt and establishing a European Sovereign Bankruptcy Court and a European Fiscal Council should be implemented as soon as possible. Beginning on this path is likely to be approved by the global capital markets and have a calming effect upon them.

4. The Monetary Arrangements

4.1 Late 20th Century Solutions to Credible Commitment

In order to provide a credible commitment the Euro was established with no exit routes. This element of policy design was influenced by (i) the incomplete internal adjustment that characterised the Exchange Rate Mechanism of European Monetary System and a host of fixed but adjustable pegs during the postwar Bretton Woods period and (ii) the regular need for devaluations and speculative attacks that characterised exchange rate regimes in which the requirements of the external nominal was in conflict with the requirements of internal stability. The commitment to the Euro involved the irrevocable locking of exchange rates and abandonment of national currencies and in principle would not necessarily be problematic for adjustment to shocks if there was sufficient wage and price flexibility, labour mobility and a system of fiscal transfers from creditor to debtor nations. The ECB would then offer an institutional device, free of political influence, which could pursue aggregate price stability. Ultimately the credibility that comes from being a locked up member of monetary union is limited to a judgement about whether the gains from exit actually outweigh the gains from remaining with the monetary union – if a widespread belief develops that the former gain dominates the credibility of the union will be threatened and so some kind of option to exit will be valued by all participants. A decade or so in, it would appear that this monetary union, as so many previously, does actually require an escape route.

4.2 Escape Routes and Exit Clauses

Chadha and Hudson (1997) catalogue the experience of several monetary unions. And not that "The Gold Standard was one monetary union which permitted substantial membership flexibility. Bordo and Schwartz (1994) catalogue the almost revolving door nature of the gold standard for 21 core and periphery countries. One explanation for the flexibility, put forward by Bordo and Kydland (1990) and others, lies with the credibility of the commitment technology. A country's commitment to the Gold Standard was contingent: a country suffering from an asymmetric shock could leave the system and, having pursued corrective policy, could return at its old parity or face higher borrowing costs by seeking a devaluation. The usual problem with such flexibility, for example under Bretton Woods, is that other nations would also tend to seek a competitive devaluation. But here the fact that a country had to leave the system first and could only re-access international capital on return would increase the costs of any use of the contingent mechanism and hence the credibility of the system. Some Latin American countries, for example, were "off" as often as they were "on".

Yet other countries - France, Germany, the USA and the UK - seem to have operated the Gold Standard almost without break.

So if it was so flexible, why did the Gold Standard break down? The Standard ultimately failed as a result of a complex set of economic (and political) factors: the ending of Britain's clear commitment to the standard undermined a key determinant of other countries adherence; and in the 1920s and 1930s countries began to believe that persistent real benefits that could accrue from devaluation and declining cooperation coincided with the growing difficulties of operating the fixed exchange rate system; different experiences of adjustment in the 1920s and the development of wage and price rigidities made the use of independent monetary policy more attractive; and greater political instability and consequently budgetary difficulties."

A key early exit from the gold standard was the Bank of England itself, which during the French Revolutionary Wars, suspended payment in cash (gold) of Bank of England notes. This measure was adopted temporarily with the approval of the King, Privy Council, City of London merchants and the Prime Minister. The commitment to return to cash payments was renewed under a sequence of Acts of Parliament that tied the Government's hands once an enduring peace accord had been reached. Following exit in 1797, the Bank of England re-adopted payments in gold of its note issuance *de facto* in 1819 and returned to cash payment at the previous rate of exchange between Sterling and Gold. A wide range of factors explain the success of this temporary suspension of the gold standard but maintaining a transparent approach to the question of return through numerous Parliamentary Committees and re-enforcement of the intention with legislation played key role.[8]

4.3 Particular Issues with regard to Eurozone break-up

Break-ups of Monetary Unions or Currency Boards historically have either meant a junior partner breaking away from a central bank or a relatively minor currency splitting often following a break-up of a sovereign state. A break-up of the Euro-zone would represent a unique set of issues. Firstly, the Euro is the second most important currency in world financial markets and extensively referenced by contracts or used by non-Eurozone residents. Secondly, the sovereignty of a country is best not considered as being binary, but lying on a spectrum of degrees of sovereignty (Nagan and Hammer, 2003). Members of the EU, in particular, have given up varying degrees of sovereignty to the institutions that make up the EU and, to a lesser extent, the ECHR. "Lex Monetae", the principle that sovereign countries are able to determine the legal tender used to settle transactions which are governed by that

[8] See Chadha and Newby (2010) for more details on this exit policy.

domestic law, is complicated if it is not clear whether a contract is governed by a particular national law or European law (Scott, 1998). From a European law perspective exit would therefore require treaty change and might mean EU exit. But there are a range of legal scenarios whereby a country can leave the EMU under Article 50 or under a solidarity principle, whereby a country that imposed significant costs on the others and could be 'asked to leave'. Under our Reset Option we would consider that some form of Article 50 could be invoked to induce a temporary exit.

- **Remaining in EU but leaving EMU**

It is by no means clear whether a country could do this unilaterally, since it would involve denunciation of some but not all treaties. However, attempts to do so would certainly lead to legal challenges to attempts to re-denominate contracts and likely lead to a huge rise in transaction costs. Even if not theoretically impossible we believe that the legal uncertainty that this would create makes its practically impossible. A negotiated withdrawal from EMU but not the EU is the only practical way of achieving this outcome. Treaty amendment can either be by a "simplified" or "ordinary procedure". Under the ordinary procedure the European council organises either convention of parliaments or a conference of member states to negotiate treaty amendments. These than have to be ratified by all member states in accordance with their constitutions. Treaties relating to the provisions on the Euro can be amended by the "simplified revision procedure", which simply requires the Council of Ministers to adopt amendments by unanimity after consulting the EU Parliament and the Commission.

- **Leaving both the EU and EMU**

Article 50 of the Lisbon Treaty specifically provides for negotiated exit of the EU. However, even prior to the Lisbon Treaty unilateral exit was generally acknowledged possible. Leaving the EU without at least being able to negotiate remaining in the broader customs union (EFTA) is likely to be a pareto inefficient outcome. However, it does represent an important option and bargaining chip for countries seeking to exit.

- **Examples of currency break-up**

In many respects the contrasts between Germany and Greece today are extreme versions of the contrasts between Slovakia and the Czech Republic in 1993. Both the Czech Republic in 1993 and Germany in 2009 had a revealed comparative advantage in high value added industries which typically have SITC7 codes.

Table 2. Greece's SITC Export Break-down 2010

(Value in million US$, growth and shares in percentage)

SITC	2010	Avg. Growth rates (%) 2006-2010	Avg. Growth rates (%) 2009-2010	2010 share
Total	21559.7	0.7	7.5	100.0
0+1	4765.6	7.5	3.3	22.1
2+4	1639.3	-4.1	18.0	7.6
3	2377.1	-3.4	25.3	11.0
5	3132.1	3.4	7.5	14.5
6	4319.4	0.2	9.7	20.0
7	2578.8	-0.5	-5.2	12.0
8	2143.6	-3.5	-2.3	9.9
9	603.7	1.5	57.8	2.8

Source: UN Comtrade (2011)

Table 3. Germany's SITC Break-down 2010

(Value in million US$, growth and shares in percentage)

SITC	2010	Avg. Growth rates (%) 2006-2010	Avg. Growth rates (%) 2009-2010	2010 share
Total	1271096.3	3.2	12.7	100.0
0+1	62919.7	7.5	3.6	5.0
2+4	25908.6	5.0	33.5	2.0
3	23907.1	-4.2	3.3	1.9
5	187399.5	4.5	8.9	14.7
6	165286.0	0.6	14.4	13.0
7	584810.1	1.5	16.5	46.0
8	128974.5	4.1	8.4	10.1
9	91890.8	18.6	5.6	7.2

Source: UN Comtrade (2011)

As within the European today there were significant barriers to labour mobility. Unemployment in the Czech republic was 2.6% and 10.4% in Slovakia. Similarly in Germany today the unemployment rate 6.9% versus 17.5% in Greece.

Table 4. Commodity Structure of Czech and Slovak Foreign Trade

	Czech Republic		Slovakia	
Category	Exports	Imports	Exports	Imports
SITC0 Food & animals	6.5%	6.3%	5.5%	7.3%
SITC1 Beverages & Tabacco	1.2%	1.1%	0.9%	1.5%
SITC2 Crude Materials excl. Fuels	6.1%	5.0%	4.9%	5.2%
SITC3 Mineral Fuels & Related	6.2%	11.1%	4.9%	20.9%
SITC4 Animal & Vegetable Oils	0.2%	0.4%	0.1%	0.2%
SITC5 Chemicals	9.5%	12.1%	12.0%	11.4%
SITC6 Mfgd. Goods	29.9%	15.9%	38.8%	15.1%
SITC7 Machinery & Transport Equip.	27.6%	36.1%	19.4%	29.3%
SITC8 Misc. Mfgd. Articles	12.7%	11.7%	13.4%	9.0%
SITC9 Others	0.0%	0.4%	0.1%	0.2%

Source: Fidrmuc and Horvath (1998)

Following elections in June 1992 the Czech and Slovak republics decides to dismantle the federation from the 1st of January 1993. It was agreed to maintain a common currency, customs union, and allow free movement of labour between the two countries. (Rupnik and Zielonka, 2003). The differences in unemployment rates suggested that there were already high barriers to labour mobility prior to break-up. From late 1992 Slovak households and firms transferred deposits into Czech commercial banks. The central bank of Czechoslovakia had to increasingly fund Slovak banks (see, Prokop 1994) raising additional questions about the stability of the monetary union once the central bank was to break into its two constituent banks.

Almost as soon as the monetary union between the two sovereign states started, negotiations took place to separate the currency. On February 2nd a formal announcement was made with all payments between the two ceasing on February 3rd. Border controls were stepped up to prevent transfers of cash. Stamping of bank notes was used to distinguish the two currencies with a limit of CSK 4000 in cash being allowed to be stamped per adult. From February 8th the old currency became valueless in order to incentivise the exchange.

Fidrmuc and Horvath (1998) argue that the overall economic impact was limited. GDP declined by 1% in the Czech Republic and 4% in Slovakia. With both countries rebounding in 1994. Continuous exchange rate data immediately after the break-up is not available. Dedek (1996) and Fidrmuc and Horvath (1998) both put the depreciation at 10%. An implied exchange rate using the crosses against the USD can be derived from Bloomberg data from late 1993. Prices used are mid- close prices and given the lack of liquidity in the Slovak quote in particular introduce a degree of negative serial correlation in the innovations to the cross rate. Ignoring the shorter terms fluctuations it is clear that the Czech-Slovak cross exhibited a remarkable degree of stability.

Within the UK, the break-up of the Irish-Sterling Monetary Union offers another example. Ireland operated an exchange rate peg against sterling until 30th March 1979. Ireland then decided to enter the ERM which the UK had opted out of. The anticipated depreciation of the IEP did not lead to large scale capital outflows as Ireland had already imposed tight exchange rate controls prior to the shift in regime. Ireland was also fortunate in that the move occurred before Sterling rapid appreciation in the early 1980s as a result of the discovery of North Sea oil. The rapid depreciation against Sterling over 1981 undoubtedly contributed to an acceleration of inflation to an average of 20.2% in 1981. However, growth remained robust at 2.9% in 1980 and 2.5% in 1981.

4.4 The Reset Gambit

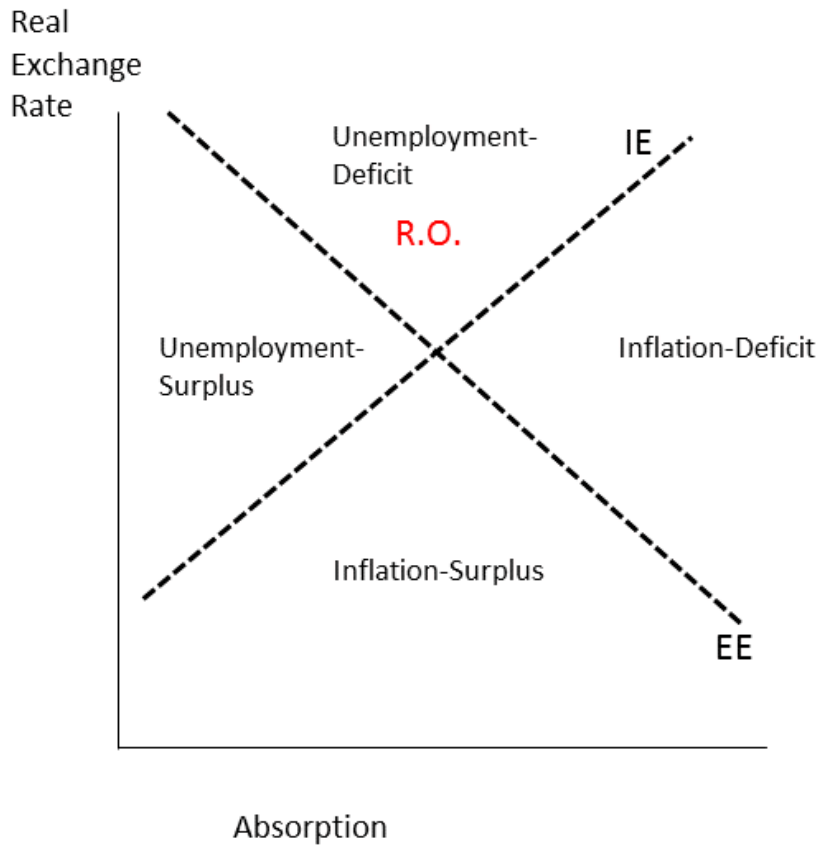
The Reset Option could be designed in one of two ways – internal wages and prices adjustment or exchange rate devaluation. Debt forgiveness and heightened fiscal surveillance would operate in both cases. But in one case, a country could leave EMU for a short limited period only, perhaps a week or a month, during which time it would reduce domestic wages and prices sufficiently to engineer an internal reset of the price level in order to regain competitiveness within the Eurozone. At the end of this rapid and time limited adjustment period, the country would re-join the Eurozone. There are two problems with such an option. How to set the appropriate internal devaluation of all wages and prices to deal not only with the historic degree of misalignment in the real exchange rate but also to leave the domestic economy that has used the option with a real exchange rate that was closest to establishing internal and external equilibrium? In our view there is not only a considerable degree of uncertainty over any point estimate of the appropriate real exchange rate but also how it should adjust to the new monetary-fiscal settlement. The second problem is that it is simply not clear that weak governments will be able to deliver the required domestic price adjustments in a rapid time, as these will require considerable political will and co-operation across many elements of society. It is simply much easier, quicker to change an externally overvalued real exchange rate through devaluation against trading partners rather than setting domestic wage and price adjustment.

In the other case, like the UK under the gold standard, a country would leave the Eurozone with the explicit intention of returning and the extended exit would allow an external adjustment of the competitive position with the re-introduction of its domestic currency. The first step would be to develop the Reset Option with a postulated single leaver of EMU, e.g Greece, is only in the process of leaving**,** so that given speedy legislation and proper policy its situation is reversible. It would be much cheaper and much less disruptive to maintain EMU as it currently exists, assuming that these recommended developments are in place. Compared to even recent history – past 20 years – things are not as dire as they are currently made out to be (Childs, *Herald Tribune*, 25.1.12, p. 12). The Reset Option gives a country a breathing space.

The problem otherwise is one of different levels and dynamics of sovereign debt, for most nations that are members of EMU. They also entered at optimistic fixed foreign exchange rate and subsequent enjoyed heterogeneously diverse productivity rates. Recently, these debt levels have altered drastically, relative to each nation's notional sustainable level of debt, as a result of the policy measures taken to prop up national and domestic global banks – many in worse shape than has been apparent to the market – to avoid national financial system collapse.

Thus to minimize the effects of a euro crisis leading to the collapse of the euro, three areas must be addressed: sovereign debt, effective exchange rates (leading to more convergence over the very long run) and financial sector soundness. Assuming that the latter can be adequately addressed over time by national governments with appropriate debt levels and EMU, likely with IMF support, this leaves only two areas to address. If all nations are to remain within EMU, including the leaver who will return, we argue that debt levels must be addressed initially and periodically through the proposed new EMU institutions and the concomitant result will be effective exchange rate adjustment to enhance national productivity and employment levels.

Figure 11. Salter-Swan, EMU and the R.O.



The Salter-Swan analysis of fixed exchange rate zones plots external equilibrium (EE) with required real exchange rate as a negative function of domestic demand, or absorption and

internal equilibrium (IE) with the required real exchange rate a positive function of absorption. Countries thus with excessive levels of absorption relative to their capacity, or productivity levels are likely to suffer from external payments deficits and if their real exchange rate is too high, also unemployment. It is these nations, with Greece first that we judge might benefit from the development of the Reset Option, RO. Obviously the creditor nations in EMU lie to the left of the EE curve. Overall the deficits are balanced by the debtors but when the scale of one country's overhang is sufficiently large to prevent adjustment then some form of debt restructuring will be required.

We propose that the sovereign debt level can be judged by the Fiscal Council and if judged to be excessive, the country can use to apply for the Reset Option via the Sovereign Bankruptcy Court. The extent of the debt adjustment and external exchange rate adjustment can be implemented under the recommendation of the new EMU institutions with the market, EMU and the IMF. When an appropriate haircut of the current sovereign debt level of a nation has been negotiated through these institutions, the nation exits EMU at the old level and undergoes and extended period of adjustment and heightened monitoring under immediately re-enters at the new, say over a weekend while the markets are closed. All domestic and foreign obligations remain in place, but at the new national government debt levels the government is in a position to ease the pain of all investors by appropriate fiscal policy specific to the situation at hand.

4.5 Introducing New Currency

The introduction of a new currency raises significant issues with regard to the practicality of speedy implementation and sequencing of reforms. Even in successful currency break-ups a degree of capital flight, in particular deposit flight, is unavoidable. Some of the most "unsticky" money is likely to have already left so we should not over-state the problem. Effective exchange rate and capital controls would need to be put into place as quickly as possible. In practicality transactions outside the departing country would need to be suspended on announcement as would large cash withdrawals from banks, and movement of cash outside the country. An extended bank holiday would need to be introduced during this interim period. Given the extensive use of ATMs and a greater degree of electronic payment mechanisms a pure currency stamping operation would not be practical. There would therefore need to be a period of around a month for ATM, bank system, and payment and settlement system reprogramming.

5. Conclusion

We think that any suggested solution to the EMU crisis ought to meet the following necessary criteria: (i) allows the remaining rump of EMU to continue as a hard currency zone; (ii) allows the problematic economies to be nursed back to health and (iii) gives these peripheral countries an option to return at some future point. Solving the problems of EMU has proved very difficult and as Palmerston said on another European problem on which traction was rather hard: "Only three people...have ever really understood the Schleswig-Holstein business—the Prince Consort, who is dead—a German professor, who has gone mad—and I, who have forgotten all about it." The EMU problem offers a similar puzzle: of how to manage a cessation that keeps the rest of the monetary union intact. In our view we think that developing a Reset Option will maintain the stability of the core union, peripheral union and the overall financial system and payment mechanism.

Any suggested solution to the problems of EMU is potentially second best. It must deal with an unfortunate starting point after the crisis and a dozen years of incomplete monetary integration. There are a number of possible gambits. One is to attempt reform of the whole system without developing any option for reset, as we have called it in this paper. The argument runs that by showing no willingness to tamper with the structure of EMU membership then the highest degree of internal adjustment can be imposed on peripheral members of the currency union. Furthermore, absenting a reset option may be the best way to keep EMU in existence. There are two arguments against that position, which we find compelling. First, the development of an option may be valuable as it provides peripheral countries with a further alternative, to one of the status quo and also a complete abandonment, which may be exercised. Secondly, it will allow policy reformers also to work on the necessary reform of the extant monetary union as a parallel project.

Our solution is clear. Reform the core monetary union and offer the periphery an option of a reset. The advantage to the core members is that their current system of currency and payments can continue unabated but also necessary reform of the core can be carried out without altering fundamental rules for a monetary union e.g. there should be no purchases monetary financing of fiscal deficits and to promote appropriate fiscal stances across the extant union. In this way, the Reset Option offers the best way to guarantee the future prosperity of the EU and that of members of EMU.

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