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How not to do it

*Karl Betz**

Introduction

After the election in autumn 2009 the new Greek government revised the previous conservative government's budget outlook. Published debt estimates ballooned. And in their wake the interest rates on Greek government bonds went through the roof.

Furthermore, the prospect of a possible Greek default led to a surge in bond yields of other European countries.¹ Driven by the same news the Euro tumbled, losing about 17 per cent against the Dollar within five months.

The European governments perceived this development as an attack on the Euro and – finally – intervened by setting up first a line of credit for Greece and then the European Financial Stability Fund (EFSF), entitled to issue debt and to provide emergency lending to EU-Countries in cooperation with the IMF.

Furthermore, on May 7 the European Central Bank declared its intention, not only to accept non-investment grade sovereign bonds as collateral for its lending but to intervene in sovereign bond markets and to purchase government debt outright.

Saving the Euro?

On October 11, 2008 Lehman defaulted on a debt of about 800 billion Dollars. No one talked about an impending dollar crisis at that time.² Instead, the Dollar continued its surge against the Euro, gaining about 7 per cent until December 2008. Rumours about an impending Greek default – with obligations about half that size – however started a crisis of the Euro.

What explains this striking difference?

In monetary-Keynesian theory the rate of interest basically is determined by two considerations:

- by the perceived default risk of the asset itself – call this ρ and
- by the preference for the currency, in which the asset is denominated – call this λ ³

1 In fact, spreads relative to German government bonds had already widened for the Eurozone countries after the Lehman bankruptcy because of perceived banking sector risks. They had started to narrow again, but in 2010 these spreads exploded (Blundell-Wignall/Slovik 2010: 10).

2 Of course, during the further months the Dollar lost ground against the Euro and there was the Chinese initiative to find a replacement for the Dollar as key currency. But this was a consequence of quantitative easing and not motivated by bankruptcies of individual debtors.

3 See Riese (1986) for the concept of liquidity preference for a currency.

* FH Südwestfalen. I would like to thank Neil Davie and Martin Ehret for helpful comments. All remaining errors are of course my own.

This analysis can easily be extended to allow for different maturities, differences in market liquidity and roll over risk (see Betz 2001). But there is no need to go into these details here. Here we can confine ourselves to:

$$r = \rho + \lambda$$

In standard portfolio theory the portfolio-share of any asset is linked to its rate of return, so that, if preferences change, either the rate of interest has to increase or its price (and thereby its market share) has to decrease or some combination of both will happen.

That the crisis was a crisis of the bonds of some governments only was demonstrated when, complementary to the surging rates of return of the bonds of Greece, Portugal, Ireland and Spain, the rates of return on German government bonds shrank, as investors shifted their holdings of Euro bonds towards German bonds. Obviously assets denominated in Euro were still in demand. Only ρ , not λ , had changed.

So, at least at the outset, the crisis was a crisis of Greek government bonds, not of the Euro. The debt crisis of an individual borrower can affect ρ and/or the exchange rate only, if market participants can expect that the debt problems will affect future monetary policy. In this case the change in expectations about monetary policy feeds through to exchange rate expectations.⁴

In the case of the Central Bank of a single state the connection between default risk and monetary policy is obvious: No matter how independent the bank may be by statute, it after all is owned by the state and its legal status, and therefore its statute, can be altered by a sufficient majority in parliament. This does not hold true for a single big company, a single U.S. state – or, in the case of the Euro – for one of its member states. So, for the Euro, there was no necessary connection between country risk and currency risk.

The EU governments however made sure to establish this link. Far from breaking any expectations that might lead to a run on the Euro by confirming the independence of the ECB, they actually evoked them by forcing Greek bonds on to the balance sheet of the ECB, thereby simultaneously undermining its independence and reducing the quality of the ECB's assets.

This is not to say, that nothing should have been done about the Greek debt crisis. The only point I wish to make so far is that to tackle debt issues you need funds, not money. And therefore they have to be dealt with by fiscal policy, not by monetary policy.

So, were fiscal measures any better?

Saving Greece?

The idea of the 110 billion joint IMF/EU bail out program was to shield Greece for three years from the capital markets by allowing it to borrow at an interest rate of 5 per cent from the rescue package. Thereby it would be given a breathing space, allowing it to sort out its

4 In standard portfolio theory the portfolio-share of any asset is linked to its rate of return, so that, if ρ changes, either r has to rise to defend the portfolio-share of Euro assets, or their share is reduced by a decrease in their market price.

public finance mess so that it would be able to return to the markets in 2013. At that point its public debt is expected to amount to 150 per cent of GDP with an external debt of more than 100 per cent of GDP.⁵

Assuming (at the moment along with the IMF projection [IMF 2010], I will return to this point soon) a debt to GDP ratio of about 150 per cent in 2014, a growth rate of nominal GDP of about 3 per cent and a rate of interest of about 5.5 per cent, this requires a surplus of the primary balance of either 4–5 per cent if the aim is to stabilize the debt to GDP ratio at 150 per cent or of 5–6 per cent if the 3 per cent target of the EU is to be reached.

Given that the primary deficit was in the region of 1 per cent before the crises and a whopping 8.7 per cent in 2010, the primary deficit will have to be reduced by about 6 per cent of GDP relative to the pre-crisis area or by nearly 15 per cent compared to 2009.⁶ At that point 15 per cent of all tax-receipts would have to be earmarked for interest payments.

Let me put these measures in the context of the Swan-diagram.

Swan, a refresher

As the Swan-diagram is not a staple of textbook economics,⁷ it may be helpful to restate it in a few words. The diagram plots the relative cost (the terms of trade / real effective exchange rate [REER]) against the budget deficit.

As the current account balance depends on relative cost and on income (as import demand rises if income rises) any increase in the terms of trade (which would deteriorate the current account) has to be met by a fall in income – which could be effectuated by a reduction in government spending (via the multiplier effect) in order to keep the external balance unchanged. So the curve of external equilibrium (EE, drawn in grey) has to be downward sloping. To the left the economy will be in surplus, while to the right it is running too high an external deficit.

The locus of internal equilibrium (YY, drawn in black) on the other hand has to be upward sloping, as a real appreciation reduces employment (by reducing net exports), while an increase in government spending will increase it.⁸

The intersection of both curves describes both an internal and an external equilibrium.

5 Given the ongoing series of revisions, I don't see the point in trying to be precise to the last decimal place ...

6 This may be too optimistic, as the »residual« change in public sector debt, i.e. the change not explained by interest payments or other identified debt creating flows, is in the region of 2 per cent of GDP for both 2008 and 2009. If this entry can't be expected to vanish completely from 2010 onwards, the burden of adjustment would be even higher.

7 Although unearthed by Krugman it for instance is not featured in his textbook on international economics.

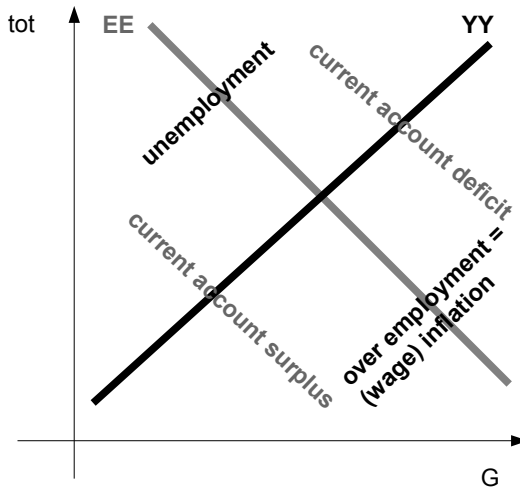
8 As both deficit and tax financed spending have an expansionary effect, there is no need to put the deficit on the horizontal axis as Swan does. The only point to keep in mind is that the YY-curve will be steeper when G is financed by taxes than when deficit financed, as the Haavelmo Effect is smaller than the ordinary multiplier effect.

In consequence the diagram shows four zones of discomfort of which the northern one exhibits a (higher than desired) current account deficit together with (higher than desired) unemployment. The eastern one pairs a current account deficit with inflation, while in the south inflationary pressure and a current account surplus coincide. Finally, in the western zone unemployment and an external surplus coincide.

Greece, with its current account deficit of 12–15 per cent of GDP in the years leading up to the crisis and its unemployment rate of 8–10 per cent in the naughties, i.e. the 2000s, obviously comes out due north of the equilibrium point.

In this situation the proposed fiscal contraction will drag Greece to the west, denting into its GDP and increasing unemployment further, while helping a bit to reduce the current account deficit.

Graph 1: Swan-diagram



To reach internal equilibrium or at least not to increase unemployment any further the REER would have to depreciate – and quite a lot:

By some estimates Greece is overvalued by 25 to 30 per cent.⁹ Judging by the EU competitiveness report (European Commission 2010: 68–72) exports should be quite price inelastic, as the shares of low and medium to low technology goods in exports are both 1.6 times the world average. One might even doubt whether for the current account as a whole the Marshall-Lerner-condition is met, keeping in mind that external debt service is

9 »Greece's currency appears to be overvalued throughout the sample period by 20–30 per cent, with an increase to about 40 per cent in 2009.« (Babecký et al. 2010: 13). Please note that this estimate relates to a sustainable current account deficit. A real devaluation even of that magnitude might not be sufficient to balance the current account.

price inelastic. Given this background, a substantial real devaluation would be needed, to compensate for the adjustment in government spending.

The program

As already motivated, the joint IMF/EU program (see table 1 below) expects Greece to build up a primary surplus of 6 per cent until 2015. In spite of the continuing fiscal contraction output is expected to grow by more than 2 per cent per year in 2013–2015 and by more than 3 per cent afterwards. Prices are expected to rise by about 1 per cent per year.

Obviously the IMF staff started from a growth estimate of long term potential output and added the assumption of a slowly closing output gap to reach the estimate for real GDP. Given the necessary adjustment path of government spending, investment, consumption, and net exports would have to adjust accordingly. In addition the pace of adjustment of net exports presumably was calculated under the constraint of a continuous development towards external debt sustainability.

It is quite conceivable for net exports to compensate for a fiscal consolidation: Because of the income elasticity of import demand the multiplier for an open economy is by several dimensions smaller than the multiplier of a closed economy (see Ilzetzki et al. [2009] for empirical estimates). As that effect is already included in net exports, a change in net exports has to be multiplied by the closed economy multiplier, while the effect of a change in government spending on income is reflected in the open economy multiplier. Therefore a smaller rise in net exports might even overcompensate a fiscal contraction. However, to predict this, one should have arguments to expect an improvement in the external balance to come about. And here the program falls short: The projected growth rate of real GDP from 2013 onwards is in the region of (actually: a bit higher than) the WEO projections for the EU (WEO-Outlook database) and, given the inflation target of less than but not too far off 2 per cent, the projected Greek inflation rate of about 1 per cent does not imply a substantial real depreciation.

What happens here is a joint production of Alexander's absorption approach and Barro's Ricardian equivalence theorem: supply side considerations determine output and private demand mops up what ever the government chooses not to use. Thus, in the IMF projection, the invisible hand of neoclassical macroeconomic model building grabs the EE curve and drags it to the north east.¹⁰

As this is not going to happen, the first prediction would be that the growth rate which the program assumes for real GDP is way too optimistic.

10 It is instructive to see that the projection of the current account deficit in the First Review (IMF 2010) differs substantially from the WEO estimate. For 2010 the deficit in per cent of GDP exceeds the WEO estimate by about 1 per cent, and then shrinks from 10.8 per cent in 2010 to 4.0 per cent in 2015, whereas in the WEO estimate it stubbornly hovers around 7.5 per cent.

Table 1: IMF program for Greece

	program		projected					
	2009	2010	2010	2011	2012	2013	2014	2015
Real GDP	-2	-4	-4	-2,6	1,1	2,1	2,1	2,7
Output gap (% of pot. output)	4	-1,1	-1,1	-4,7	-4,7	-4	-3,7	-3,1
GDP deflator	1,4	1,2	3,5	1,3	0,4	0,7	1	1,1
Current account	-11,2	-8,4	-10,8	-7,8	-6,9	-6	-5,1	-4
Public finances (general government)								
Overall balance	-13,6	-8,1	-7,9	-7,3	-6,2	-4,7	-2,5	-2
Primary balance	-8,6	-2,4	-2,2	-0,8	1	3	5,7	5,9
Gross debt	115	133	130	139	144	144	139	134
Net international investment position	-86	-95	-96	-104	-108	-110	-111	-110

Source: IMF 2010: 26

Even less convincing is the estimate for the average rate of interest on Greek government debt. The program expects the interest rates on German bonds to stay at their lower bound for the naughties (3,5 per cent) for the foreseeable future and the spread for Greece to narrow down to 1 per cent as soon as it returns to the market in 2014 (IMF 2010: 26).

With both the growth estimate too high and the interest estimate too low, the debt to GDP ratio will not be stabilized in the region of 150 per cent and Greece will eventually have to default.

The default option

Taking the perspective of Greece, the most promising option would have been (and still is) a default on a part of its debt together with a complementary action of the EU which would have to shield Greek bond issues from penalty rates, by offering Greece a line of refinance at, say, a 2 per cent spread relative to bunds for new bond issues, as long as Greece follows a prescribed consolidation path.¹¹

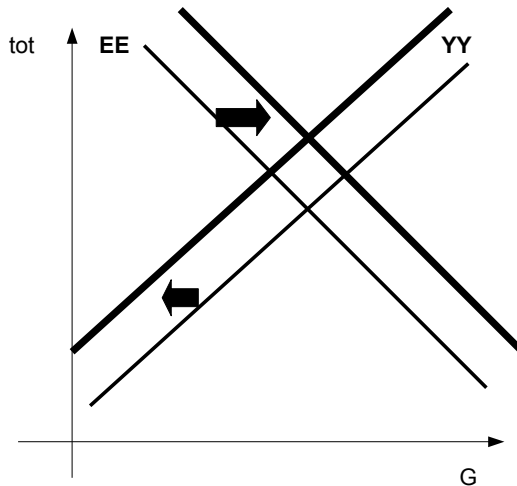
In the Swan-diagram a Greek default would shift the EE-curve to the north east and the YY-curve to the north west:

YY: Interest payments to a large extent go to foreigners with near zero effect on domestic demand. In consequence with lower interest payments on a reduced debt the same overall budget balance implies higher primary spending and therefore sustains higher output and employment.

¹¹ Or a bit more radically: The prospect of losing access to international capital markets is not that threatening, if you have to run a primary surplus anyhow (see Reinhard/Rogoff 2009: Chapter 4).

EE: As the better part of the net external position consists of government debt, the improvement in the balance of factor income implies that external equilibrium can be reached at higher relative cost as interest payments are reduced. So the required amount of real devaluation would be reduced.

Graph 2: Consequence of a debt restructuring in the Swan-diagram



Both effects together would allow either a lower level of unemployment given the REER and the fiscal stance or reduce the necessary adjustment efforts, given the level of unemployment. However, although reducing the burden of adjustment, debt restructuring will not be sufficient to reach a sustainable equilibrium. Assuming a default rate of about 50 per cent leading to an eventual indebtedness of 80 per cent of GDP and assuming that EU guarantees to stabilize the rate of interest on public debt at an average of 6 per cent (the average rate stands at about 5 per cent at the moment) the primary balance still would have to be improved by about 5 per cent of GDP. To reduce the impact on demand the focus should lie on taxes (and reduction of tax fraud) and not on spending cuts.

At the same time the necessity of a real devaluation, albeit reduced in size by the default, will have to be addressed too. While it is true that the current account deficits within Euroland to a large part reflect the surplus of Germany, it is neither realistic nor would it be a good idea to suggest correcting them by a real appreciation of Germany alone. It is not realistic, as the German REER is not a policy tool for Greece. And it would not be a good idea either: The current account of the Eurozone as a whole already shows a small deficit. If one tried to reduce the imbalances within Euroland by real appreciations of the surplus countries only, the current account of the whole group would turn into a structural deficit. So, while the surplus countries, first and foremost Germany, indeed should allow higher wage increases, the deficit countries still need some amount of internal devaluation.

Any real devaluation implies that factor costs relative to abroad have to be reduced. So it has to be accepted that any form of real depreciation will involve a reduction in real wages.¹² The program addresses this issue by a deregulation of the labour market and a cut in public employment. The idea is that rising unemployment and a reduced bargaining power of unions will drive nominal wages down and thus improve international competitiveness. However, for this to work unemployment has to increase (which in turn will hamper fiscal consolidation). Even then it is a muddy and protracted process. And in addition to that it will increase income inequality (and thereby again lower aggregate demand) as the weakest groups of the labour market will be hit hardest.

The superior alternative would be an overall wage cut (say in the region of 25 per cent). The advantage of such a measure would be that the real devaluation could be reached by one shock instead of relying on a prolonged period of contraction depressing wages, while its effect on real wages could be dampened by an administered cut in rents and prices of locally produced goods and services by the same ratio. The one silver lining here is that the debt burden of Greek households stands below 50 per cent of GDP, so that such a move would be far less devastating than in economies with higher household leverage.¹³

Saving the banks!

If it has not been in the best interest of Greece to avoid (or rather: delay) default, in whose interest might it be?

One argument of course is contagion. A Greek default could send the interest rates of other government debt, especially of Ireland and Portugal through the roof and make the whole mess even less manageable for the EU.

While this argument is true, it would be more convincing, if the EU/IMF-program would be able to avoid the eventual default – which, as has been argued, it is not. So it is more likely that the aim of the program is not to save Greece but to bail out the banks (again).

To give an example: At the time of the 2010 stress test the combined exposure of German banks to Greece, Ireland, Portugal, and Spain stood at about 48 per cent of their tier 1 capital (trading and banking book combined) (Blundell-Wignall/Slovik 2010: 8).¹⁴ The exposure of the Hypo Real Estate Bank amounted to 104 per cent of its tier 1 capital (Blundell-Wignall/Slovik 2010: 9).

12 Even if the imbalances were to be solved by a higher inflation rate in Germany real wages in Greece would fall, as imported goods become more expensive.

13 According to Blundell-Wignall/Slovik (2010) the exposure of Greek banks to Greek sovereign debt amounts to well over 200 per cent of their capital, so that any restructuring would hit these banks (and their unsecured creditors). So a debt restructuring would have to involve some scheme for dealing with the banking sector.

14 Please note that these exposures were calculated for the stress test in July, 2010 so that banks already had time to unload some of their exposure to Greece.

So the European Financial Stability Fund indeed does save time – but for the banks, not for the Euro. These now have the opportunity to let their exposures of shorter duration roll off their banking book and to sell off longer term paper (for instance to the ECB).

In the most straight forward case the EFSF finances the repayment of the countries' maturing debt and issues bonds in order to do so. The banks use the proceeds of these maturing bonds in order to buy the bonds issued by the SPV of the fund, thus exchanging risky against secure assets (Blundell-Wignall/Slovik 2010: 11). As the loans of the EFSF (in contrast to IMF loans) are not preferred debt, the scheme will succeed in transferring any losses of a Greek default from big finance to the taxpayer.

Postscript: Mission accomplished

Meanwhile the default has occurred. With the decisions of July 21, 2011 the EU has succeeded in shifting the bulk of the cost to the taxpayer. If in the future any further debt relief should be necessary, the bill will have to be footed by taxpayers alone. So the aim of saving the banks is achieved. Whether this is of much help for Greece is doubtful: Reducing the average interest rate on its debt from about 5 per cent to 3,5 per cent and increasing the duration of the debt is equivalent to a default on about 30 per cent of the debt, whereas the required adjustment was placed in the region of 50 to 60 per cent by most commentators (and anticipated in spreads). So it is quite possible that for Greece this is another instance of too little, too late.

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