Since 2010, the stability and viability of the European Monetary Union (EMU) has proved to be highly vulnerable to the second-round effects of the US sub-prime crisis. The main challenge was not in the first place an attack on the exchange rate of the euro – which proved to be rather stable vis-à-vis the dollar. Instead, the challenge came as an attack on the financial viability of highly indebted countries within the EMU. In early 2010, those countries which had benefitted from the credibility of the euro until then, in particular Greece but also Portugal and Ireland, experienced a dramatic rise in the spreads of government bonds. The market for Greek government bonds dried up totally. As a consequence of the market’s perception of excessive deficits, the euro’s credibility was set at stake. So, European policy coordination was challenged: The European partners, in particular the partners in the euro zone had to assist Greece that could not regain a sustainable budget on its own. This “bilateral” assistance in fact did violate the Treaty’s no-bail-out clause which for the first time would have become effective. Financial markets calmed down but temporarily. The European Council met to an urgent weekend session of May 7-9 to conclude a Financial Stabilisation Facility (EFSF) for assistance of European governments under threat of insolvency. This enormous facility which together with IMF-assistance sums up to €750 bn, about five times
the ordinary EU budget, was born under heavy pressure of international financial markets and rating agencies that had put solvency of Portugal and Spain into question. The package was again intended to be a temporary device to calm down markets and was enriched by some IMF-conditionality. When Ireland had to draw on this facility in order to stabilise its banking sector, the debate continued whether Portugal and Spain would be the next candidates. It became clear that eventually the union would lack the political power to stem such a burden which was an enlarged security net for banks and their investors. By overruling the Treaty’s no-bail-out clause twice the Council had set the substance of the Treaty at stake. Going on with that kind of solidarity would end up in a European transfer union between ‘weak’ and ‘strong’ members.

Against this background, the purpose of this paper is to demonstrate the limits of public debt in a monetary union. Referring to the European Monetary Union (EMU) the Greek over-indebtedness is taken as a case for policy coordination. Within the institutional setting of the EMU there are several policy options to resolve the problem of over-indebtedness. Rather than debating the institutional details, the paper is concerned with the economic rationale of those options. In this perspective, policy coordination seems to be required to avoid a process of deflation in Europe.

Figure 1

![Figure 1: Interest payment on public debt: Greece](source: OECD)
An economic analysis has to distinguish two different aspects of the problem: First, is the Greek deficit unsustainable? And what are the adequate measures of economic policy to regain sustainability? Second, which measures are required to regain the confidence of investors, not only to hold Greek bonds but also to invest in euro. It is this second aspect of the problem that urges the European partners and the EU to engage in measures of cooperation and coordination. This is an urgent task since investors’ confidence may deteriorate in a self-fulfilling process quite independent of the Greek deficit problem.

Is the Greek deficit unsustainable? After the Greek government has abandoned its practice of creative accounting, it disclosed a budget deficit of more than 12 percent of GDP in 2009. The corresponding debt ratio, the total amount of debt in relation to GDP, was calculated above 110 percent. According to the criteria of the Stability and Growth Pact, these figures are clearly excessive. But is the Greek debt unsustainable? The actual size of the deficit is the result of the crisis. Greece had provided a rescue fund for banks, and the economy was hit severely and unemployment rose. Nonetheless, the Greek budget shows a structural deficit of considerable size. So, to calm down the EU Commission and the Council, prime minister Papandreou promised to reduce the budget deficit by four percentage points this year. By this binding commitment he gave up any flexibility to combat the consequences of the crisis in his country.

A short primer on fiscal policy should remind us of the criteria to evaluate the sustainability of a budget. The budget balance,

\[
BB = G - T + iD = \Delta D;
\]

is composed of the primary deficit - that is government expenditure, G, minus tax revenue, T - and interest payments on the existing debt D. How to finance this balance? Excluding monetisation of the debt as well as the option of privatising public assets, a deficit has to be financed on the capital market by issuing bonds. So, each year’s deficit increases the existing stock of the public debt. To receive a sustainable budget, the growth of debt must be restricted. Since each additional euro of debt creates interest payments, the critical question is if future budgets can bear the increase of interest payments. In particular, if additional interest payments would be financed by issuing new bonds, the growth of debt gained momentum (see, for instance, the exponential increase of interest payments on Greek public debt from
1979 to 1995, figure 1). We may take components of the growth of debt as the criteria to evaluate sustainability of the budget.

\[
(2) \quad \Delta \frac{D}{D} = \frac{(G - T + iD)}{D} = \frac{(G - T)}{D} + i = \alpha \left(\frac{Y}{D}\right) + i;
\]

for \( \alpha = \frac{(G - T)}{Y}; \)

The growth rate of debt has as components the primary deficit ratio \( \alpha \), that is the relation of the primary deficit to GDP or income, \( Y \); the debt ratio, \( \frac{D}{Y} \); and the rate of interest, \( i \). Let us now compare the growth of debt to the growth of income. A useful comparison is to ask under what condition the growth of debt equals the growth of income. Taking \( r \) as the growth rate of income, this condition is:

\[
(3) \quad \alpha \left(\frac{Y}{D}\right) + i = r;
\]

or

\[
(3a) \quad \alpha = (r - i) \left(\frac{D}{Y}\right);
\]

So, in a macroeconomic equilibrium, when the rate of interest equals the rate of income growth, the primary budget has to be balanced. We may also conclude that a primary surplus is necessary to compensate for a fall in the growth rate. Otherwise, the burden of debt would increase. The amount of the required surplus depends on the size of the debt ratio. A debt ratio above 100 percent, the case of Greece, works as a multiplier. Suppose, Greece’s GDP will rise by 2 percent in nominal terms in 2010, which means stagnation in real terms, and the long-term interest rate on government bonds will be 6 percent on average. Taking the actual debt ratio of more than 110 percent as basis, the government would have to achieve a primary budget surplus of at least four and a half percent of GDP in order to avoid a further increase in the debt ratio. Although this is not impossible, it is very hard to achieve in a stagnant economy without applying new methods of creative accounting.

Actually, the Greek real GDP fell by 4% in 2010. It should be clear, then, that the Greek government got stuck in a severe dilemma. Long-term sustainability requires a reduction of the budget deficit. So, the government has to reform its tax system, particularly by increasing the fiscal drag on higher incomes and, on the other hand, cut public expenditure. But even if it is successful in undertaking these measures which have already been enacted,
the results will not immediately show up in the budget criteria. The reason is that the immediate income effect of its measures will reduce tax revenues. In addition, if the budget deficit cannot be brought down financial markets may further increase the risk premium on government bonds and thus aggravate the task of consolidation.

The problem is that financial markets’ expectations (as well as the regulations of the Stability and Growth Pact) are fixed on criteria that are not under control of the government in the short run. Under these conditions, as the Greek experience has demonstrated, if the budget is perceived of being unsustainable, an austerity programme of the government cannot turn investors’ expectations.

This leads us to the second aspect of the problem, the lack of confidence in financial markets. Evidently, Greece needed some backing to discourage speculative attacks on Greek bonds, but, on the other hand, the promise of assistance given by the other member states must not weaken incentives for the Greek government to resolve the debt problem on its own. The base line for a solution is a default. Although Greece is member of the euro zone, it is a sovereign debtor. So, the government may well be tempted to achieve a default, renegotiate on its debt, accept a hair cut and start from scratch again. Its main interest is to have further access to financial markets. If Greece stood on its own, that would be a rational solution avoiding an accelerated debt growth and giving the opportunity to revive the economy. After all, insolvency procedures during South American and African debt crises have been designed according to this principle. The lenders would bear the cost of default and would have to depreciate Greek bonds in their portfolios. So, the cost of default would be laid mainly on banks and financial institutions, both inside and outside of Greece. So long as Greek private households have invested in Greek bonds the default would hit them like a tax on their assets and that would have an indirect progressive effect.

But Greece is member of the euro zone. For that reason, Europe cannot stand aside since a Greek default might severely damage the euro’s reputation. This, at least, has been the official saying. Accordingly, it would not even be helpful that the European Council would compensate the banks for their losses – which it might have done instead of direct assistance to Greece to avoid a default. To secure credibility of the euro, new rules of fiscal cooperation seem to be necessary.
The present debate

This was early recognised by Daniel Gros and Thomas Mayer in February 2010 (who updated their paper on 17 May), and it was underlined by a group of renown German economists by 18 June.

The idea is to introduce an orderly-insolvency procedure for European governments and so to avoid a situation like in case of Greece, when a default was considered as being a political taboo out of fear that it would dangerously hit financial markets. The real possibility of a sovereign default would have three basic effects. First, investors would have to realise that in case of insolvency they must take part of their investment risk. Second, fiscal responsibility would predominantly stay with national governments – a substantial element of the Treaty. Third, the clear and transparent assignment of risks would sharpen incentives of risk-taking with borrowers as well as with lenders. There are different proposals of how to institutionalise a procedure of sovereign insolvency (see, for instance, Gros/Mayer, May 2010; Fuest et al., June 2010) but the basics are meanwhile common among economists. To become a credible threat, the Treaty’s no-bailout rule has to be institutionalised by establishing a fund. In case of an upcoming sovereign default, the fund would buy ‘junk bonds’ at market prices in exchange for own bonds. So, investors would have to realise losses, although on a restricted scale, and contagion effects would be avoided. The fund’s capital – which founds its credibility – would have to be collected by EU member states, presumably applying a scheme similar to IMF rules. In addition, it seems attractive to charge countries during a deficit procedure according to the Stability and Growth Pact (the original idea of Gros/Mayer) and so sharpen the Pact’s incentives. But those incentives are not decisive. The real effect on expectations and behaviour should come from the fact that an orderly sovereign default was a real option.

There were other proposals to improve fiscal discipline in the EMU. So, introduction of an exit clause into the Treaty to get rid of unpleasant partners was discussed. Though an exit clause and an exclusion clause exist already in the Lisbon treaty, this option seems to be too general to exert strong incentives on fiscal discipline. The idea to instrumentalise these clauses was meanwhile rejected in the political debate. More recognition deserves the idea to institutionalise economic governance in the EMU and so to achieve fiscal discipline by closer policy coordination among EMU members and, at the same time, reduce macroeconomic imbalances within the union. This proposal has been particularly stressed by the French government that pursues the objective of a European economic government. The topic of
policy coordination concerns again the monetary sphere of the economy – competition policy and structural policies are settled on the European level – and the relationship between the real economy and financial markets. It is nurtured by the critique that the EMU in its present form is not a viable policy regime.

This has to be clarified, taking a more general perspective. So, in what follows I would like to address some basic relationships between a monetary regime and policy coordination in order to analyse and evaluate those proposals.

*The Trilemma of Monetary Integration*

In a globalised world with free trade, market agents and, in their interest, governments are striving for stable exchange rates. To achieve this objective in an integrated monetary regime, there are but two options for the international financial architecture which basically exclude each other. You may have either free movement of capital – which is also in the interest of market agents. Or you may have national autonomy in monetary policy – which is liked by governments to pursue national goals of economic policy.

Graph: The trilemma

\[
\text{Stable Exchange Rates} \quad \begin{array}{cc}
\text{Autonomous Monetary Policy} & \text{Free Movement of Capital}
\end{array}
\]

After World War II, the Bretton-Woods-Regime combined stable exchange rates and some autonomy in monetary policy. In that regime, external disequilibria showed up in current account imbalances which required policy adjustments, in case of a fundamental disequilibrium adjustment of the exchange rate. Policy coordination in that regime followed a simple rule which was to stabilise the exchange rate vis-à-vis the US dollar. There was some asymmetry in the system because surplus countries could stand an external disequilibrium – and, consequently, were not prepared to cooperate – whereas deficit countries could not. So,
“autonomy” was with the surplus countries. It was due to the rise of international capital movements and a dollar “glut” that the system collapsed.

The following regime of flexible exchange rates was dubbed a “regime of no commitments” (Paul de Grauwe). Central banks were freed of the burden of defending exchange rates and the globalisation of capital markets surged. However, in this regime, that we know today, it turned out that flexible exchange rates did not easily stabilise. On the contrary, and unexpectedly, they were not only volatile in the short run but followed long-term trends that did not fit to the “fundamentals”, that is to say trade balances and productivity trends and inflation differences. The reason is that exchange rates are now determined by financial markets and it is the expectations – and even the prejudices (Paul Krugman) – of investors which have become fundamentals. So, we may dub the present regime as well a “regime of currency competition” (Hajo Riese).

Against this background of past and present experience, how should we assess the European Monetary Union? First of all, the predominant objective of stable exchange rates has been (re-)established by irrevocably fixing the rates within the union. At the same time, since the EMU is a regime of low inflation, inflationary expectations have been stabilised on the low end. So, there is much less uncertainty for market agents and investors within the EMU than without it. On the other hand, there is a case for policy coordination since national governments still pursue their independent economic policies. As for fiscal policies, national sovereignty and responsibility is underlined by the no-bail-out rule, and also the Stability-and-Growth Pact until now has not really touched autonomy of the national governments because the final decisions have been taken by the Council. As for national wage policies which have also macroeconomic effects since they determine real exchange rates within the EMU, there is still less coordination, mainly through the “Macroeconomic Dialogue”. So, without coordination, external imbalances may arise also within the EMU – not only as a consequence of market forces but as a consequence of divergent national policies. It is true, such imbalances do not imply immediate solvency problems – like in the Bretton-Woods regime – but they may endure. If they should be tackled for some reason, this again was a task for the Council. The Commission has only limited competence in the field of macroeconomic coordination. Let us have a closer look on the monetary imbalances within a monetary union like the EMU and analyse flows and stocks, respectively.
Flow analysis

Regarding flows, an external disequilibrium is expressed by the fact that real absorption (a) and real income (y) are not in balance. For a country performing a deficit in its current account, like Greece, the condition is

\[ a > y; \]

that is to say, the sum of real investment and real consumption in Greece exceeds real income (the value of production). The monetary implication is that the excess of absorption is externally financed (by capital imports). This market constellation is typical for a country in the stage of catching-up, when investment exceeds internal savings. The use of capital for investment should increase productivity and enable the country to repay the borrowed money. If, on the other hand, the excess of absorption indicates over-consumption (private or public), a return to an external equilibrium requires to reduce the level of real wages.
In such a constellation, policy implications are different within the EMU. As an outsider, Greece would have been required to adjust the exchange rate. Devaluation of its currency would have increased competitiveness of Greece’s internal production and, on the other hand, would have reduced real absorption by the rise of import prices. Within the EMU, this remedy is excluded. If, for some reason, the external imbalance has to be closed, real adjustments are required, either real productivity growth and / or a reduction of real wages by reducing the wage level. So, Greece would have to steer an austerity course of economic policy in order to reduce its external deficit. But there is another condition which has to be fulfilled. Within the EMU, Greece can only be successful in reducing its deficit if its partner countries accept that their surplus is diminished accordingly. In view of the recent criticism of the German export surplus put on the agenda by the French government and the embarrassed response of German politicians to this critique, that option seems to be quite unrealistic. So, accumulation of Greek external deficits will go on, expressing the preferred market constellation within the EMU. Greece seems to be in a situation comparable to Germany’s case after World War I, when German reparation payments were not in the economic interest of the receiver countries because a real transfer would have required for them to accept a deficit in their current accounts (Keynes, The Transfer Problem, 1929).
The catch-up to higher income levels requires public as well as private capital investments. So, one would expect that a country like Greece has a high and growing public debt in relation to national income, corresponding to its external deficit. However, there are tow reasons why the Greek public debt might be overvalued. First, Greece’s high debt ratio is to a large extent the legacy of the past. Before entering the monetary union, Greece experienced waves of high inflation (jointly with devaluations of its currency). With high inflation, the nominal value of public debt does not correctly express its burden since inflationary expectations also blow up the expected value of the government’s revenues. This comes true in a process of (unexpected) disinflation, when the inflation rate is cut but the interest burden on long-term public debt remains. By accessing the EMU, Greece was exposed to such a process of disinflation (figure 4). It is true, by restructuring its debt the Greek government by and by took advantage of the low EMU interest rates. Consequently, the current interest payments were reduced but still the nominal value of debt was too high: the reduction of inflation had increased the real burden of the debt. Since inflation is no more an option to reduce the burden of the debt, its devaluation seems necessary. Second, as I said, the Greek government is a sovereign debtor. The economic rationale for such a debtor is to service its debt so long as the net value of payments is positive (Niehans, 1986). That is to say, the net amount of borrowing should exceed the amount of interest payments. Writing $\delta$ for the growth rate of debt, $\Delta D / D$, the condition in any given period t is

$$c(t) = (\delta - i) D(t);$$

Actually, this condition is evidently violated for Greece. Again, what seems necessary is a depreciation of the nominal value of the debt in order to reduce the amount of interest payments in relation to net borrowing. It should be clear that this remedy is not due to some warm-heartedness but is necessary to restore viable relations within the EMU. Moral hazard problems that might arise concern the future and have to be taken seriously. However, they seem to be more tractable than moral hazard problems induced by bail-out solutions. How much remains of those problems in the end, depends largely on the design of an orderly-insolvency procedure (see above).
Conclusion

The EU constitution does not provide a comprehensive system of fiscal transfers. The EU structural funds and the Cohesion Fund are of minor importance as far as the macroeconomic equilibrium within the union is concerned. The EU may rather be described as a competitive system of fiscal federalism. Accordingly, the member states’ governments are sovereign debtors. On these conditions, the credibility of the no-bail-out rule requires to consider default as a real option. So, to depreciate Greece’s public debt would have strengthened the rules of the system and not weakened them. On the other hand, flow imbalances within the EMU do not indicate solvency problems. Economic policy coordination should rather be concerned with attempts to shift real exchange rates within the EMU. In the case of Greece, a strategy to reduce its external deficit would require to deflate the national wage level (the substitute for an exchange rate adjustment which is no longer possible). Independent of the economic rationale of such a strategy, its success rests on the condition that the partner countries are prepared to accept its consequences. Otherwise, the EMU would end up in a deflationary process. So, like in the Bretton-Woods regime, there is a case for economic policy coordination within the EMU, even though the terms of coordination are different.
References

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