Preliminary draft

What Future for the Eurozone?

Paul De Grauwe
London School of Economics

Yuemei Ji
Brunel University

Abstract:
We argue first that the Eurozone crisis has left a legacy of unsustainable government debt levels. These will continue to exert a deflationary dynamics in the Eurozone except if creditor nations are willing to contemplate a debt restructuring. Second, we argue that the institutional innovations since the start of the debt crisis fall short of what is needed to solve the design failures of the Eurozone. In addition, they are not sustainable, mainly because they have led to a situation where bureaucratic institutions have been vested with more responsibilities without a concomitant increase in the democratic legitimacy of these institutions. We conclude with some thoughts about the future of the Eurozone.

1. Introduction

After years of turbulence in the Eurozone that at some point led to existential fears about the survival of the monetary union, peace and tranquility seem to have returned in 2014. This leads to the question of whether the Euro crisis is over. In official circles the view prevails that this is the case and that the return of tranquility is the result of the institutional changes that have been introduced since the start of the sovereign debt crisis in 2010. Prominent among these institutional changes is the setup of tighter discipline in fiscal policies, the monitoring of macroeconomic imbalances and the banking union.

In this paper we dispute this view. We will first analyze the legacy of the sovereign debt crisis, arguing that this crisis has led to unsustainable debt levels that will continue to haunt the Eurozone. Second, we will argue that although there has been some progress towards institutional reform, this falls short of what is needed to deal with the design failures of the Eurozone.

2. New governance of Eurozone: Creditor nations rule supreme

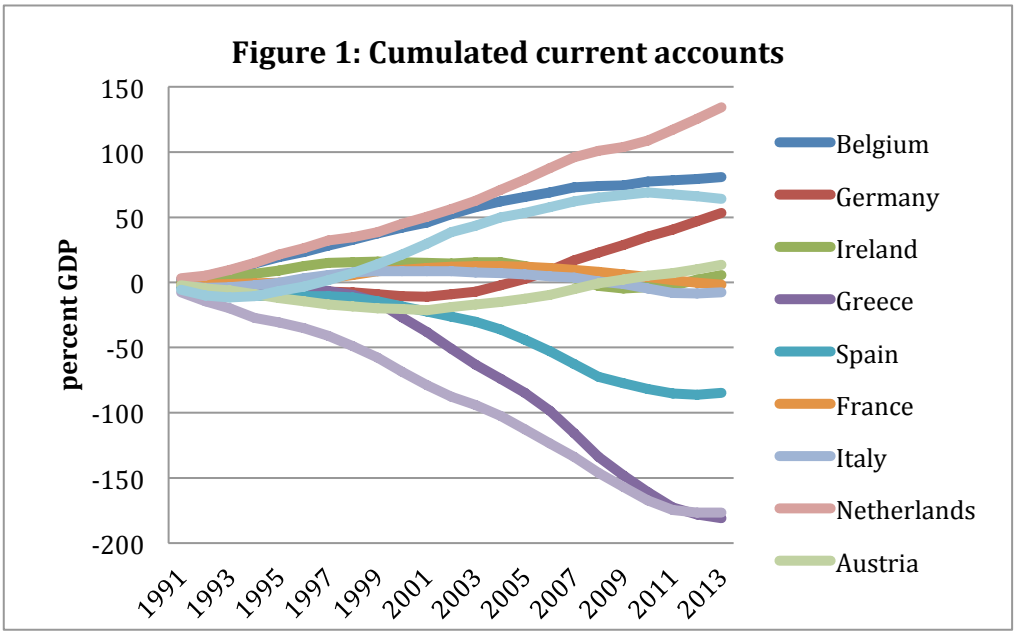
There can be little doubt that the ECB saved the Eurozone, at least for the time being when in 2012 it announced its OMT program. The latter is a commitment to provide unlimited amounts of liquidity in the sovereign bond markets of the Eurozone in times of crisis. The ECB's announcement, however, did not prevent the Eurozone from developing into a governance in which the creditor countries dictate the budgetary and macroeconomic policies for the Eurozone as a whole.

The Southern European countries (including Ireland) are the countries that have accumulated current account deficits in the past, while the Northern Eurozone countries[1] have built up current account surpluses. As a result, the Southern countries have become the debtors and the Northern countries the creditors in the system (see Figure 1). This has forced the Southern countries hit by sudden liquidity stops to beg the Northern ones for financial support. The latter have reluctantly

[1] We define Northern Eurozone countries to be Austria, Belgium, Finland, Germany, and the Netherlands.

done so but only after imposing tough austerity programs pushing these countries into quick and deep spending cuts and intense recessions.

Put differently, the creditor nations have imposed their interests on the whole system. Their interest is that the loans they have extended recklessly to the South in the past should be repaid in full. Austerity is the mechanism to achieve this objective.



Source: European Commission, Ameco

What is surprising is that the European Commission has accepted to become the agent of the creditor nations in the Eurozone, pushing austerity as the instrument to safeguard the interest of these nations. The Commission could have decided otherwise and become the agent of the debtor nations protecting these from the insistence of reckless creditors to be repaid in full. This has been the response of many governments after the banking crisis. In many countries legislation has been introduced to protect consumers and house-owners from the banks' insistence on full repayment. The view in many countries has been that, as the banks (the creditors) are equally responsible for the financial crises, they should face a significant part in the cost of adjustment, mainly by accepting losses on their loan portfolios.

This view has not prevailed in the relations between the creditor and debtor nations of the Eurozone. The former have been viewed as having followed virtuous policies and the latter as having followed foolish ones. As a result, the debtor nations have been forced to bear the full brunt of the adjustment.

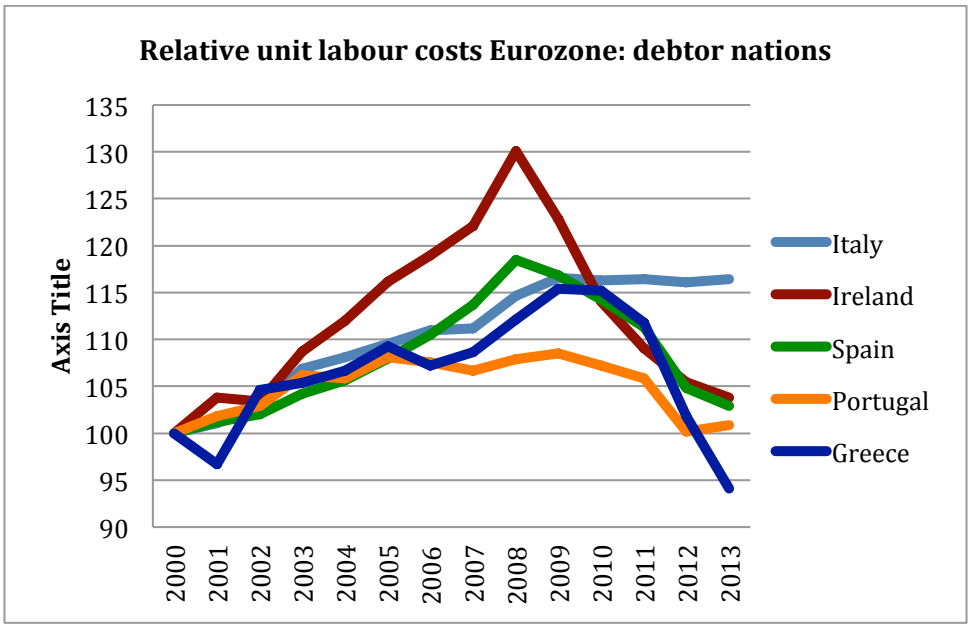
This has led to an asymmetric process where most of the adjustment has been done by the debtor nations. The latter countries have been forced to reduce wages and prices relative to the creditor countries (an "internal devaluation") without compensating wage and price increases in the creditor countries ("internal revaluations"). This has been achieved by intense austerity programs in the South, while in the North no compensating stimulus was imposed.

In Figure 2, we show some evidence about the nature of this asymmetry. The figure shows the evolution of the relative unit labor costs[2] of the debtor countries (where we use the average over the 1970-2010 period as the base period). Two features stand out. First, from 1999 until 2008/09, one observes the strong increase of these countries' relative unit labor costs. Second, since 2008/09 quite dramatic turnarounds of the relative unit labor costs have occurred (internal devaluations) in Ireland, Spain and Greece, and to a lesser extent in Portugal and Italy.

These internal devaluations have come at a great cost in terms of lost output and employment in the debtor countries. As these internal devaluations are not yet completed (except possibly in Ireland), more losses in output and employment are to be expected. Note also that the declines in the relative unit labour costs in the debtor nations observed since 2008 come mostly from declines in public sector wages. Declines in private sector wages have been limited. As a result, the internal devaluations have had limited effects on competitiveness and have mostly worked as expenditure reducing devices.

Figure 2

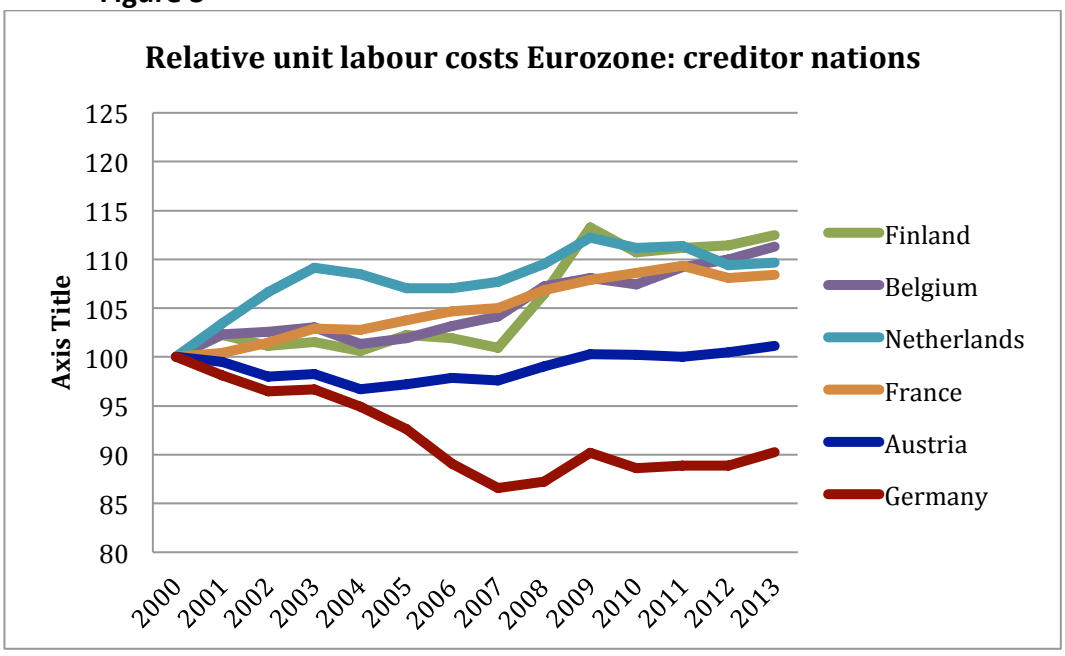
[2] The relative unit labour cost of a country is defined as the ratio of the unit labout costs of that country and the average unit labour costs in the rest of the Eurozone. An increase in this ratio indicates that the country in question has seen its unit labour costs increase faster than in the rest of the Eurozone, and vice versa.



Source: European Commission, Ameco

Is there evidence that such a process of internal revaluations has been going on in the surplus countries? The answer is given in Figure 3 that presents the evolution of the relative unit labour costs in the creditor countries. One observes that since 2008/09 there is very little movement in these relative unit labour costs in these countries.

Figure 3



Source: European Commission, Ameco

Thus, one can conclude that at the insistence of the creditor nations, the burden of the adjustments to the imbalances in the Eurozone has been borne almost exclusively by the debtor countries in the periphery. This has created a deflationary bias that explains why the Eurozone has been pulled into a double-dip recession in 2011-12, and why it continues to be subject to deflationary forces as testified by the sharp decline in inflation, which in the first half of 2014 dropped to less than 1%.

3. The legacy of creditor-dictated governance

The creditor-dictated governance that has arisen since the eruption of the sovereign debt crisis in the Eurozone has led to a legacy that will take a long time to turn around. The most striking feature of this legacy is that despite intense austerity programs that have been triggered since 2010 there is no evidence that these programs have increased the capacity of the governments of the debtor countries to continue to service their debt. In Figure 4 we show the government debt ratios of the debtor countries. It can be seen that while the debt ratios started to increase in 2008 as a result of the banking crisis, the austerity programs that were set in motion after 2010 do not seem to have stopped the explosive growth of the debt ratios. (The possible exception is Ireland).

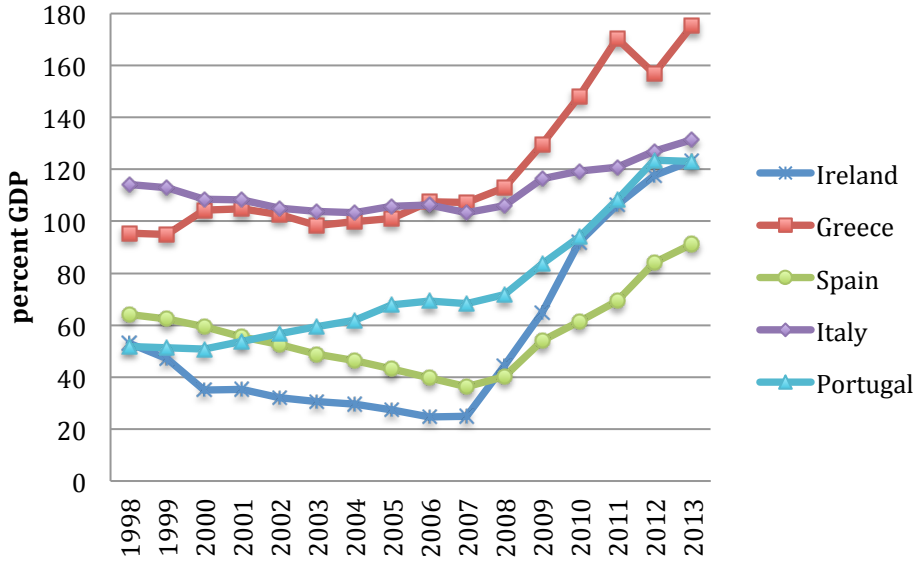
In De Grauwe and Ji(2013) we provide evidence that the austerity programs in fact have been partly responsible for the further dramatic increase of the government debt ratios. The underlying mechanism is well known. The recession that prevailed in the Southern countries was a "balance sheet recession" in which private agents desperately tried to reduce their debt levels. When at the insistence of the European Commission and the creditor nations, the Southern countries' governments also were forced to deleverage, a debt deflation dynamics was set in motion leading to a deep recession. The latter had the effect of dramatically raising the government debt ratios, for two reasons. First the intensity of the recession had as an effect that government revenues declined leading to higher budget deficits. As a result, the debt (the numerator in the debt ratio) continued to increase. Second, the decline in GDP reduced the denominator of the debt ratio. The combined effect is that

austerity led to an increase in the debt to GDP ratios. We show these effects in Figures 5 and 6.

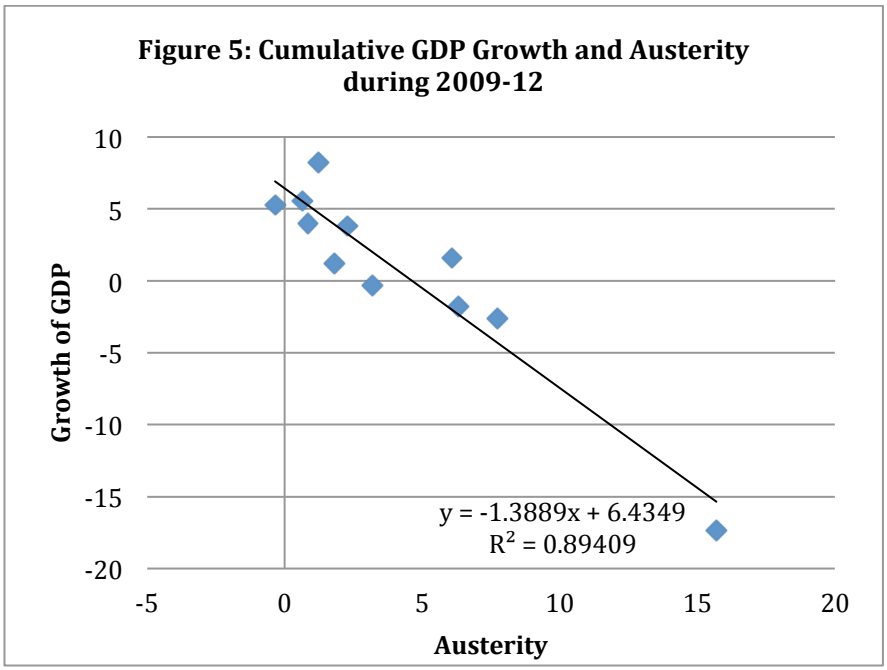
Figure 5 shows how the negative relation between austerity (as measured by the IMF Fiscal Impulse variable, i.e. the change in the structural primary budget balance) and the cumulative growth during 2009-12. The cross-section sample of Eurozone countries suggests that for every percent austerity GDP declined by 1.4%. This multiplier which exceeds 1 is consistent with fiscal multipliers obtained by the IMF.

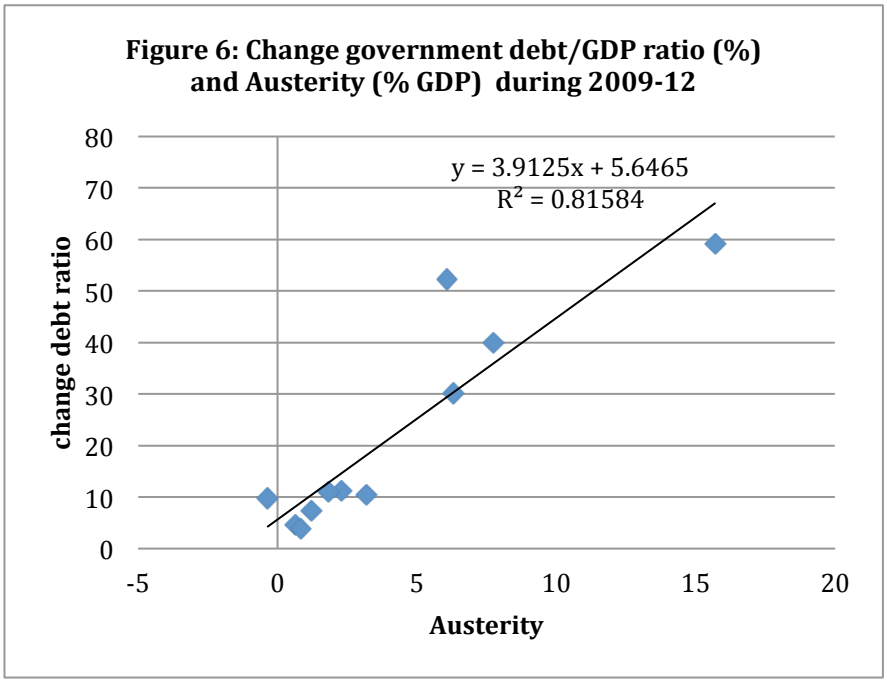
Figure 6 then shows how the government debt ratios have been positively correlated with the degree of austerity. The countries that applied the most intense austerity measures also were the countries where the debt to GDP ratio increased most.

Figure 4: Gross government debt to GDP ratio



Source: European Commission, AMECO database





Source: calculations based on European Commission, Ameco

Many economists argue that the buildup of government debt is temporary. Continuing austerity ultimately will be rewarded by declining debt levels. Be patient, we are told. How patient does one have to be? In order to answer this question we simulated the government debt ratios into the future making a number of favorable assumptions for the indebted countries concerned. First we assume that nominal

growth will pick up and be equal to the nominal interest rate. This is a strongly favourable assumption. It implies that the dynamic instability implicit in a nominal growth that falls short of the nominal interest rate is overcome in the debtor countries. This is certainly not the case today in 2014. In all the debtor nations the nominal interest rate continues to exceed the nominal growth rate creating an explosive debt dynamics.

Second we assume that countries manage to create a primary surplus so that the debt levels start declining. Using these two favourable assumptions we ask the question how many years it will take these countries to half the level of government debt. We show the results in table 1. We assume several scenarios of primary surpluses (none of which is as yet reached in any of these countries). We find that even under these favourable assumptions it will take decades for the indebted nations to half their debt levels and to achieve sustainability. Thus, surely with patience, and with the help of favourable macroeconomic conditions, these countries will be able to achieve sustainability. The issue, however, is whether populations in these countries, which will face decades of the same deflationary medicine will have enough patience to take it. It is more likely that the lack of patience of millions of people subject to this medicine will be a destabilizing political and social force.

	Table 1: Number of years needed to half the debt levels			
		primary surplus		
		2%	3%	4%
	Initial debt			
Spain	100	25	16	12
Ireland and Portugal	120	30	20	15
Italy	130	32	21	16
Greece	180	45	30	22

Source: own calculations

While the sovereign debt crisis and the austerity inspired policies have led to a legacy of unsustainable debt levels, the design failures of the Eurozone have not been addressed sufficiently. As a result, the prospect of future crises has not been diminished. What are these design failures?

In De Grauwe (2011) these were analyzed in detail. Here we summarize them. We also give more empirical evidence concerning one of these design failures. Finally we ask the question whether the institutional reforms that have been undertaken so far will be sufficient to correct for these design failures.

4. Design failures of the Eurozone

The design failures of the Eurozone find their origin in two factors. First the endogenous dynamics of booms and busts that are part of the capitalistic dynamics continued to work at the national level. The monetary union in no way disciplined these into a union-wide dynamics. On the contrary the monetary union probably exacerbated these national booms and busts. Second, the existing stabilizers that existed at the national level prior to the start of the union were stripped away from the member-states without being transposed at the monetary union level. This left the member states "naked" and fragile, unable to deal with the coming national disturbances. Let us expand on these two points.

4.1 Booms and busts dynamics

In the Eurozone money and monetary policy are fully centralized. However, the rest of macroeconomic policies have remained firmly in the hands of national governments, producing idiosynchratic movements unconstrained by the existence of a common currency. As a result, there is very little in the monetary union that can make the booms and busts converge at the Eurozone level. The effect of all this is that booms and busts originate at the national level and have a life of their own at the national level without becoming a common boom-and-bust dynamics at the Eurozone level.

In fact it is even worse. The existence of the monetary union can exacerbate booms and busts at the national level. The reason is that the single interest rate that the ECB imposes on all the member countries is too low for the booming countries and too high for the countries in recession. Thus, when in Spain, Ireland, Greece the economy started to boom, inflation also picked up in these countries. As a result, the single nominal interest rate led to a low real interest rate in he booming countries, thereby aggravating the boom. The opposite occurred in the countries experiencing low growth or a recession.

Thus, the fact that only one interest rate exists for the union exacerbates these differences, i.e. it leads to a stronger boom in the booming countries and a stronger recession in the recession countries than if there had been no monetary union.

The effects of these divergent macroeconomic movements have by now been well documented. These led to divergences in inflation and relative unit labour costs and to current account imbalances. The booming Southern European countries (including Ireland) experienced systematically higher inflation rates and increases in unit labour costs than in the rest of the Eurozone. These booms led to large current account deficits in the South and surpluses in the North. As stressed earlier, the booms in the South allowed the Northern European countries to accumulate large current account surpluses. These were financed by credit that the Northern European countries granted to the South. It is important to recognize this because in the North of Europe the irresponsibility of Southern countries to take on too much debt is often stressed. The truth is that for every foolish debtor there must be a foolish creditor.

It is worth stressing here that the theory of optimal currency areas has focused mostly on exogenous and permanent asymmetric shocks. This theory has then rightly concluded that flexibility in supply conditions (wage flexibility, mobility) are required to deal with such shocks. This view has been influential in policy circles. As a result, following the sovereign debt crisis of 2010, it has led to the policy prescription that countries should apply structural reforms, i.e. change supply conditions. Yet the nature of the shocks that occurred before and after the crisis had nothing to do with the shocks analyzed in the theory of optimal currency areas. They were the result of endogenous movements in aggregate demand that were mostly unrelated to supply

conditions. However, to this day, European policymakers continue to insist that booms and busts in economic activity must be countered by supply side policies. Rarely have economic problems been misdiagnosed so blatantly.

4.2 No stabilizers left in place

When the Eurozone was started a fundamental stabilizing force that existed at the level of the member-states was taken away from these countries. This is the lender of last resort function of the central bank. Suddenly, member countries of the monetary union had to issue debt in a currency they had no control over. As a result, the governments of these countries could no longer guarantee that the cash would always be available to roll over the government debt.

What was not understood when the Eurozone was designed is that this lack of guarantee provided by Eurozone governments in turn could trigger self-fulfilling liquidity crises (a sudden stop) that would degenerate into solvency problems. This is exactly what happened in countries like Ireland, Spain and Portugal[3]. When investors lost confidence in these countries, they massively sold the government bonds of these countries, pushing interest rates to unsustainably high levels. In addition, the euros obtained from these sales were invested in "safe countries" like Germany. As a result, there was a massive outflow of liquidity from the problem countries, making it impossible for the governments of these countries to fund the rollover of their debt at reasonable interest rate.

This liquidity crisis in turn triggered another important phenomenon that we have documented in the previous section. It forced countries to switch-off the automatic stabilizers in the budget. The governments of the problem countries had to scramble for cash and were forced into instantaneous austerity programs, by cutting spending and raising taxes. A deep recession was the result. The recession in turn reduced government revenues even further, forcing these countries to intensify the austerity

[3] Greece does not fit this diagnosis. Greece was clearly insolvent way before the crisis started, but this was hidden to the outside world by a fraudulent policy of the Greek government of hiding the true nature of the Greek economic situation (see De Grauwe(2011)).

programs. Under pressure from the financial markets and the creditor nations, fiscal policies became pro-cyclical pushing countries further into a deflationary cycle. As a result, what started as a liquidity crisis in a self-fulfilling way degenerated into a solvency crisis.

Thus, we found out that financial markets acquire great power in a monetary union: they can force countries into a bad equilibrium characterized by increasing interest rates that trigger excessive austerity measures, which in turn lead to a deflationary spiral that aggravates the fiscal crisis, (see De Grauwe(2011) and De Grauwe and Ji(2013)).

The Eurozone crisis that we now witness is the result of a combination of the two design failures identified here. On the one hand booms and busts continued to occur at the national level. In fact these were probably intensified by the very existence of a monetary union. On the other hand the stripping away of the lender of last resort support of the member state countries allowed liquidity crises to emerge when the booms turned into busts. These liquidity crises then forced countries to eliminate another stabilizing feature that had emerged after the Great Depression, i.e. the automatic stabilizers in the government budgets. As a result, some countries were forced into bad equilibria (Gros(2011)).

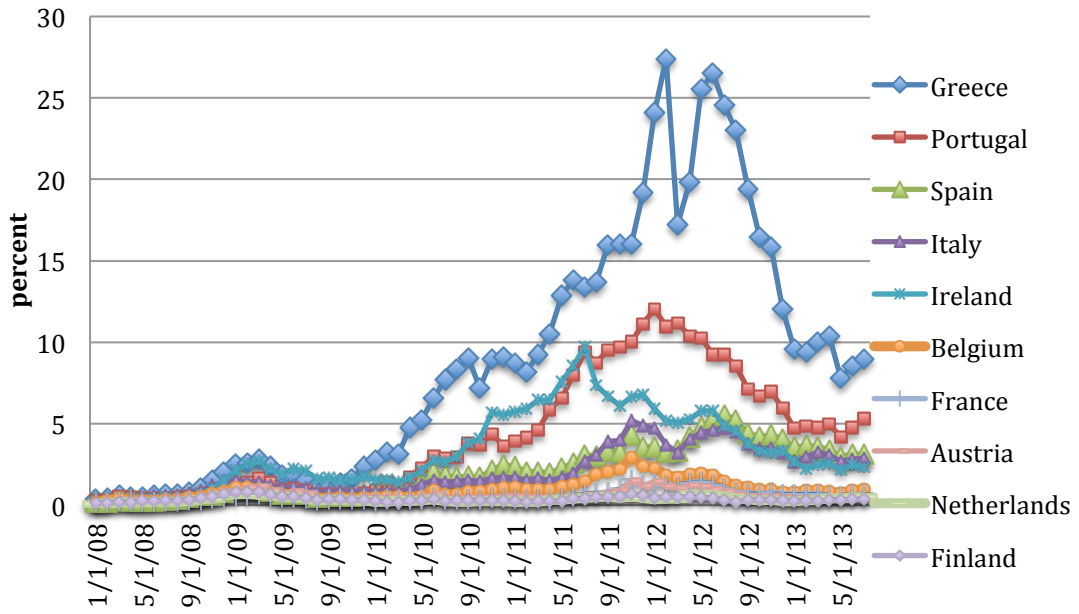
What are the policy implications of these insights? We analyze two of them. The first one relates to the role of the ECB; the second one has to do with the long-run need to move into a fiscal union

5. The ECB as a lender of last resort in the government bond markets

The ECB is the only institution that can prevent market sentiments of fear and panic in the sovereign bond markets from pushing countries into a bad equilibrium. As money creating institution it has an infinite capacity to buy government bonds. The European Stability Mechanism (ESM) that became operational in October 2012 has limited resources and cannot credibly commit to such an outcome. The fact that resources are infinite is key to be able to stabilize bond rates. It is the only way to gain credibility in the market.

On September 6, 2012 the ECB finally recognized this point and announced its "Outright Monetary Transactions" (OMT) program, which promises to buy unlimited amounts of sovereign bonds during crises. The ECB made the right decision to become a lender of last resort, not only for banks but also for sovereigns, thereby re-establishing a stabilizing force needed to protect the system from the booms and bust dynamics. In Figure 7 we show the evolution of the spreads before and after the OMT-announcement of 2012. It can be seen that since that announcement the spreads declined dramatically. By taking away the intense existential fears that the collapse of the Eurozone was imminent the ECB's lender of last resort commitment pacified government bond markets and led to a strong decline in the spreads of the Eurozone countries.

Figure 7: Spreads 10-year government bond rates eurozone



Source: Datasource

However, the credibility of the program suffers because of continuing vehement criticism. This criticism reached its climax in early 2014 when the German Constitutional Court declared OMT illegal and referred the case to the European Court of Justice with the demand that conditions be imposed on the OMT-program

that would make it ineffective and useless. The main argument made by the German judges is that the spreads reflect underlying economic fundamentals. Attempts by the ECB to reduce these spreads are attempts to counter the view of market participants. In doing so, the ECB is in fact pursuing economic policy, which is outside its mandate.

Implicit in this argument is the view that markets are efficient (see De Grauwe(2014), and Winkler(2014)). The surging spreads observed from 2010 to the middle of 2012 were the result of deteriorating fundamentals (e.g. domestic government debt, external debt, competitiveness, etc.). Thus, the market was just a messenger of bad news. Its judgment should then be respected, also by the ECB. The implication of the efficient market theory is that the only way these spreads can go down is by improving the fundamentals, mainly by austerity programs aimed at reducing government budget deficits and debts. With its OMT program the ECB is in fact reducing the need to improve these fundamentals.

Another theory, while accepting that fundamentals matter, recognizes that collective movements of fear and panic can have dramatic effects on spreads. These movements can drive the spreads away from underlying fundamentals, very much like in the stock markets prices can be gripped by a bubble pushing them far away from underlying fundamentals. The implication of that theory is that while fundamentals cannot be ignored, there is a special role for the central bank that has to provide liquidity in times of market panic. This is the view we have defended in the previous sections.

This decision of the ECB provides us with an interesting experiment to test these two theories about how spreads are formed. In De Grauwe and Ji(2013) such a test was performed. The data sample, however, ended just before the OMT-announcement. More data have become available allowing us to also test for the impact of OMT. We do this in the next section.

6. Testing two theories of the spreads

The spreads in the government bond rates (10 year) have been subjected to wild fluctuations since the start of the financial crisis in 2008. While prior to the crisis these spreads had been close to zero, they started to increase spectacularly from 2010 on. In De Grauwe and Ji(2013) we showed that this spectacular increase can only in a very limited extent be associated with deteriorating fundamentals, and that most of the surge is due to strongly negative market sentiments. Since 2012 Q3 the spreads start to decline spectacularly (see Figure 7). Our econometric analysis aims at determining how much of the decline is due to improving fundamentals and how much to positive market sentiments triggered by the announcement of OMT in the third quarter of 2012.

We specify an econometric model of the spreads. We rely on the existing literature to do so[4]. The most common fundamental variables found in this literature are: variables measuring the sustainability of government debt. We will use the debt to GDP ratio as a measure of sustainability. In addition, we use the current account position, the real effective exchange rate and the rate of economic growth as fundamental variables affecting the spreads. The effects of these fundamental variables on the spreads can be described as follows.

- When the *government debt to GDP ratio* increases the burden of the debt service increases leading to an increasing probability of default. This then in turn leads to an increase in the spread, which is a risk premium investors demand to compensate them for the increased default risk[5].
- The accumulated *current account* measures the net foreign debt of the country as a whole (private and official residents). It is computed as the current account

[4] Attinasi, M., et al. (2009), Arghyrou and Kontonikas(2010), Gerlach, et al.(2010), Schuknecht, et al.(2010), Caceres, et al.(2010), Caporale, and Girardi (2011), Gibson, et al. (2011), Aizenman and Hutchinson(2012), Beirne and Fratzscher(2012). There is of course a vast literature on the spreads in the government bond markets in general. See for example the classic Eaton, Gersovitz and Stiglitz(1986) and Eichengreen and Mody(2000). Much of this literature has been influenced by the debt problems of emerging economies. See for example, Edwards(1984), Edwards(1986) and Min(1998).

[5] We also experimented with the government deficit to GDP ratio. But this variable does not have a significant effect in any of the regressions we estimated.

accumulated since 2000Q1 divided by its GDP level. If the increase in net foreign debt arises from the private sector's overspending it will lead to default risk of the private sector. However, the government is likely to be affected because such defaults lead to a negative effect on economic activity, inducing a decline in government revenues and an increase in government budget deficits. If the increase in net foreign indebtedness arises from government overspending, it directly increases the government's debt service, and thus the default risk.

- The *real effective exchange rate* as a measure of competitiveness can be considered as an early warning variable indicating that a country that experiences a real appreciation will run into problems of competitiveness which in turn will lead to future current account deficits, and future debt problems. Investors may then demand an additional risk premium.
- *Economic growth* affects the ease with which a government is capable of servicing its debt. The lower the growth rate the more difficult it is to raise tax revenues. As a result a decline of economic growth will increase the incentive of the government to default, raising the default risk and the spread.

We specify the econometric equation in a non-linear form in the debt ratio. The reason comes from the fact that every decision to default is a discontinuous one, and leads to high potential losses. Thus, as the debt to GDP ratio increases, investors realize that they come closer to the default decision, making them more sensitive to a given increase in the debt to GDP ratio (Giavazzi and Pagano(1996)).

$$I_{it} = \alpha + z * CA_{it} + \gamma_1 * Debt_{it} + \mu * REE_{it} + \delta * Growth_{it} + \gamma_2 * (Debt_{it})^2 + \alpha_i + \beta_t + \varepsilon_{it} \quad (1)$$

where

- I_{it} is the interest rate spread of country i in period t,
- CA_{it} is the accumulated current account to GDP ratio of country i in period t,
- $Debt_{it}$ is either the government debt to GDP ratio or the fiscal space of country i in period t,
- REE_{it} is the real effective exchange rate,

- $Growth_{it}$ is GDP growth rate,
- α is the constant term
- α_i is country i's fixed effect. This variable measures the idiosyncrasies of a country that affect its spread and that are not time dependent. For example, the efficiency of the tax system, the quality of the governance, and many other variables that are country-specific are captured by the fixed effect.
- β_t is the time dummy variable. This measures the time effects that are unrelated to the fundamentals of the model or (by definition) to the fixed effects. If significant, it shows that the spreads move in time unrelated to the fundamentals forces driving the yields. We interpret this time dummy as reflecting market sentiments that exist at a point in time.

The results of estimating this equation are shown in table 2. We observe that the debt to GDP ratio has the expected sign and is significant. The same can be said about growth. The accumulated current account and the real effective exchange rate have the expected sign but are not significant. The time dummies have a jointly significant effect on the spreads.

We plot the time effects obtained from the estimated equation (1) in Figure 8. We have split the countries into the core and periphery. We find very strong time dummies for the countries in the periphery. This suggests that especially in the periphery "departures" occurred in the spreads, i.e. during 2010-12 an increase in the spreads that cannot be accounted for by fundamental developments, in particular by the changes in the debt to GDP ratios. Similarly from 2012 (Q3) the spreads declined significantly. This decline cannot be associated with changes in fundamentals. They are again due to changing market sentiments, this time positive sentiments. This change in market sentiments coincides exactly with the announcement of OMT by the ECB.

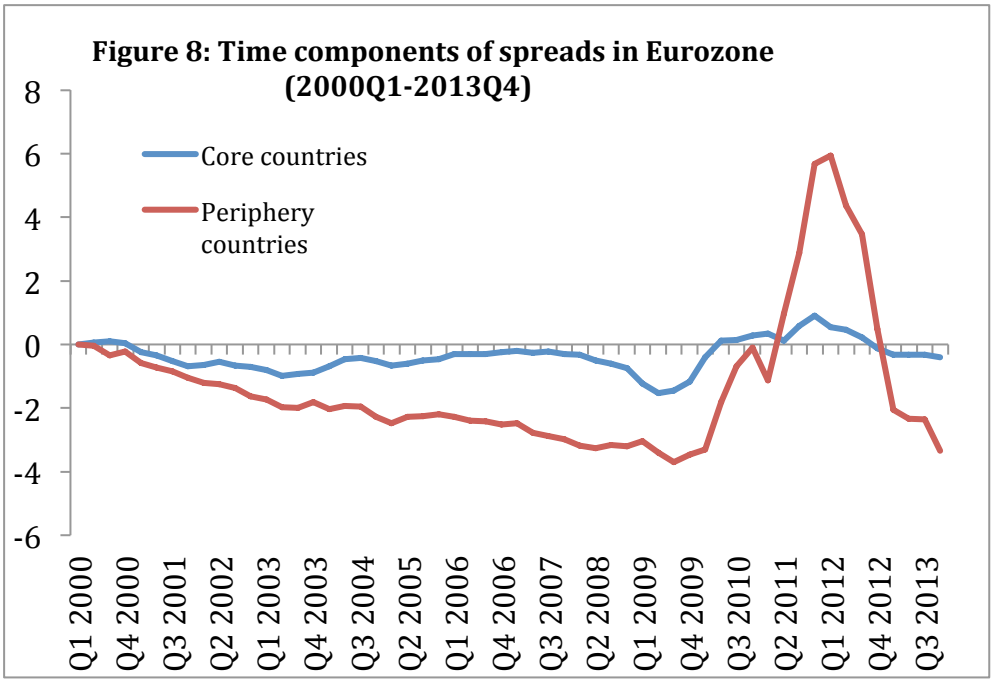
These results suggest that since 2010 the markets were first gripped by negative sentiments and tended to exaggerate the default risks of individual countries, i.e. they pushed the spreads way above the fundamental risks. Since the announcement of OMT the reverse has happened. The spreads went down spectacularly mostly

driven by positive market sentiments unrelated to the improvements (if any) in the fundamentals.

Table 2: Estimation results equation (1)

Debt/GDP ratio (%)	-0.1202 *** (0.0304)
Debt/GDP ratio squared	0.0009 *** (0.0002)
Accumulated current account/GDP ratio (%)	-0.0048 (0.0034)
Real effective exchange rate	0.0554 (0.0332)
Growth rate (%)	-0.1851 ** (0.0659)
Country fixed effects	Controlled
Time fixed effects (quarterly)	Controlled
Number of observations	560
Number of countries	10
R-squared	0.8601

Cluster at country level and robust standard error is shown in brackets. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Sample period: (2000Q1-2013Q4)



Source: Calculations based on regression equation (1)

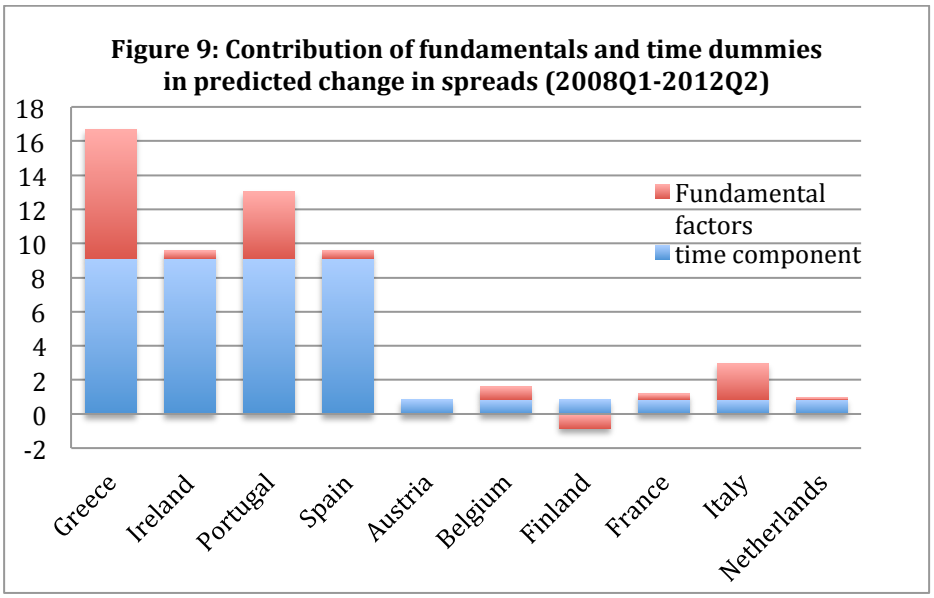
In order to find out the relative importance of the fundamental variables and the market sentiments (as measured by the time dummies) in influencing the spreads

we computed the quantitative importance of these two factors in explaining the predicted spreads in the model. We analyze two periods. The first one goes from 2008Q1 to 2012Q2. This is the period of the buildup of the sovereign debt crisis. The second period goes from 2012III to 2013IV. It is the period following the OMT announcement that triggered the decline in the spreads. We show the results in Figures 9 (first period) and 10 (second period).

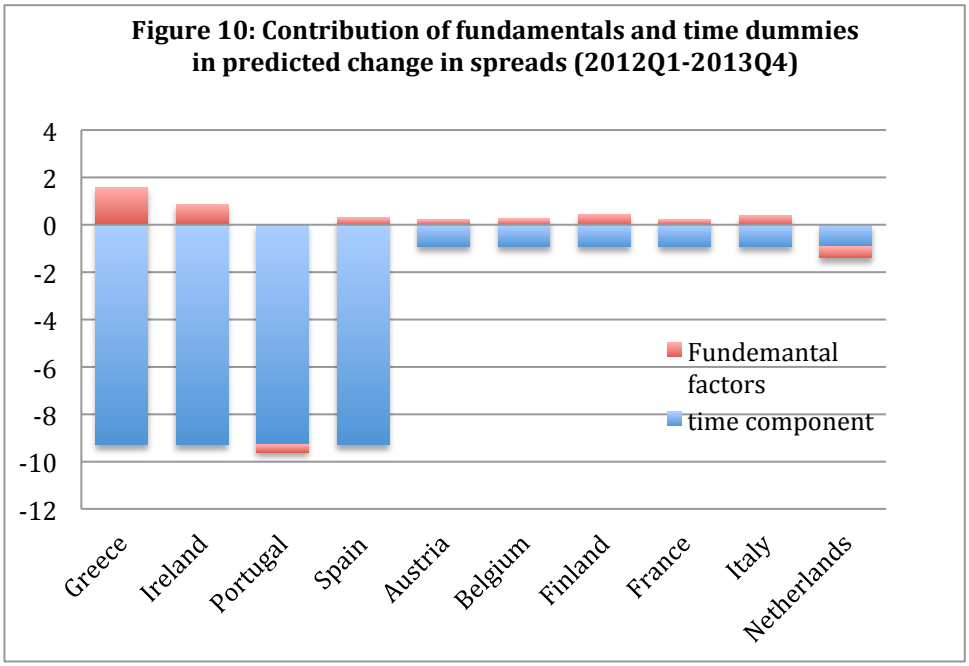
Concentrating on Figure 9 we find that the largest part of the surge in the spreads during 2008-12 is due to negative market sentiments that were unrelated to the fundamentals (the time dummies). Nevertheless, the fundamentals play some role in explaining the surge in the spreads in the case of Greece and to a lesser extent in Portugal.

Things are very different during the second, post-OMT period (Figure 10). We find that the sharp decline of the spreads since OMT is totally dissociated from changes in fundamentals. The latter play no role at all in explaining this decline in the spreads. This result strongly suggests that the ECB's OMT announcement was quite effective in turning around market sentiments. These became very positive and corrected for the excessive pessimism that existed before the announcement[6]. These results also suggest that the view that countries can be pushed into bad equilibria in a self-fulfilling way is the right one. This view provides the major justification for a role of the central bank as lender of last resort. It is particularly worrisome that this role is being questioned by the German Constitutional Court's ruling of February 2014, and that this ruling is based on a theory that is rejected by the data.

[6] Given the fact that the time dummies have reached negative territory in 2013 one may raise the question of whether the market has become too optimistic about the periphery, in a similar way as it was prior to the start of the crisis. During that period the time dummies were negative suggesting that the according to the fundamentals the spreads of the periphery countries should have been higher. Optimism (euphoria), however, prevailed then and prevented the markets from seeing the risks. Our results suggest that the same may be happening since 2013.



Source: Calculations based on regression equation (1)



Source: Calculations based on regression equation (1)

7. Completing the monetary union with political union

Even if the OMT program set up by he ECB can be salvaged from the onslaught of the German Constitutional Court, the institutional setup that has been created in the Eurozone is not sustainable and will have to be completed with steps towards a fiscal

union. The latter implies a degree of political union that goes much farther than what has been achieved so far. Let us develop these points further.

The present institutional setup of the Eurozone is characterized by the fact that a number of bureaucratic institutions have acquired significant responsibilities without political accountability. Thus there has been a transfer of sovereignty without a concomitant democratic legitimacy.

7.1 The ECB and political union

The European Central Bank's power has increased significantly as a result of the sovereign debt crisis. With the announcement of the OMT program and given the success of this program it has become clear (at least outside Germany) that the ECB is the ultimate guarantor of the sovereign debt in the Eurozone. In this sense the ECB has become a central bank like the Federal Reserve and the Bank of England. There is one important difference though. In the US and the UK there is a primacy of the government over the central bank, i.e. in times of crisis it is the government that will force the central bank to provide liquidity. When the sovereign in these countries is threatened it will prevail over the central bank. This is not the case in the Eurozone. In the latter, the governments depend on the goodwill of the ECB to provide liquidity. They have no power over the ECB and cannot force that institution, even in times of crisis, to provide liquidity. Thus, in the Eurozone today there is a primacy of the central bank over the sovereigns.

The rationale for making a central bank independent from the government is a good one. Independence is based in the idea that central bankers, freed from the short-term political pressure, can better guarantee monetary stability than a government that has incentives to achieve short-term objectives. But the idea of independence is also based on a principal-agent model. The principal is the government that delegates the responsibility to conduct monetary policy to the agent, the central bank. Ultimately, it is the government that sets the terms of the contract and therefore should prevail. This principal-agent model has been put in reverse, i.e. the agent prevails over the principal.

This is a model that cannot be sustained in democratic societies. The ECB consists of unelected officials, while governments are populated by elected officials. It is inconceivable that these governments (especially if they are large) will accept to be pushed into insolvency while unelected officials in Frankfurt have the power to prevent this but refuse to use this power. When tested such a model of the governance of the Eurozone will collapse and rightly so.

Thus we arrive at the following conundrum. The role of the ECB as a lender of last resort is essential to keep the Eurozone afloat. Yet at the same time the present governance of this crucial lender of last resort function is unsustainable because its use depends on the goodwill of the ECB, thereby making democratically legitimate governments' fate depend on the judgment of unelected officials. In order to sustain this role of the central bank as a lender of last resort it has to be made subordinate to the political power of elected officials, as it is in modern democracies such as the US, Sweden, the UK, etc. This can only be achieved by creating a Eurozone government that is backed by a European parliament and that has primacy over the central bank. Such a government can then set the terms of the principal-agent contract with the ECB.

7.2 The European Commission and political union

We face a similar problem with the European Commission. The latter has seen its responsibilities increase. This has been motivated by the desire of the creditor nations to impose budgetary and macroeconomic discipline on the debtor nations. As a result, the Stability and Growth Pact has been strengthened, and the European Commission has been entrusted with the responsibility of monitoring macroeconomic imbalances and to force debtor nations to change their macroeconomic policies[7].

[7] In principle the macroeconomic imbalance procedure should work symmetrically. It is, however, very unlikely to work that way. In fact we see already today that the European Commission exerts more pressure on deficit countries than on surplus countries that are handled with a lot of care.

The idea that macroeconomic imbalances should be monitored and controlled is a good one. As we have argued the emergence of such imbalances is at the heart of the emergence of the euro-crisis. Yet the way this idea has been implemented is unsustainable in the long run. The new responsibilities of the European Commission create a similar problem of democratic legitimacy as the one observed with the ECB. The European Commission can now force countries to raise taxes and reduce spending without, however, having to bear the political cost of these decisions. These costs are borne by national governments. This is a model that cannot work. Governments that face the political costs of spending and taxation will not continue to accept the decisions of unelected officials who do not face the cost of the decisions they try to impose on these governments. Sooner or later governments will go on strike, like the German and French governments did in 2003-04. Only the small countries (Portugal, Belgium, Ireland, etc.) will have to live with this governance. Large countries will not.

7.3 Bureaucratic versus political integration

Increasingly, European integration has taken the form of bureaucratic integration as a substitute for political integration. This process has started as soon as the European political elite became aware that further political integration would be very difficult. This process has become even stronger since the start of the sovereign debt crisis in the Eurozone. The outcome of this crisis has been that the European Commission and the European Central Bank have seen their powers increase significantly, without any increase in their accountability. More and more these two institutions impose decisions that affect millions of people's welfare, but the people who are affected by these decisions do not have the democratic means to express their disagreements.

Political scientists make a distinction between output and input legitimacy. Output legitimacy means that a particular decision is seen to be legitimate if it leads to an increase in general welfare ("government for the people"). In this view a government that is technocratic can still be legitimate if it is perceived to improve welfare. This view is very much influenced by the Platonic view of the perfect State.

This is a State that is run by benevolent philosophers who know better than the population what is good for them and act to increase the country's welfare.

Input legitimacy means that political decisions, whatever their outcome, must be based on a process that involves the population, through elections that allow people to sack those who have made bad decisions ("government with the people").

Much of the integration process in Europe has been based on the idea of output legitimacy. The weak part of that kind of legitimacy becomes visible when the population is not convinced that what the philosophers at the top have decided, has improved welfare. That is the situation today in Europe. In many countries there is a perception that the decisions taken in Brussels and Frankfurt have harmed their welfare.

7.4 Towards a fiscal union?

The only governance that can be sustained in the Eurozone is one where a Eurozone government backed by a European parliament acquires the power to tax and to spend. This will then also be a government that will prevail over the central bank in times of crisis and not the other way around. Put differently, the Eurozone can only be sustained if it is embedded in a fiscal and political union.

A fiscal union involves two dimensions. First, it involves a (partial) consolidation of national government debts. Such a consolidation creates a common fiscal authority that can issue debt in a currency under the control of that authority. This protects the member states from being forced into default by financial markets. In addition, by creating a common fiscal authority (a government) a governance structure is established in which the (European) sovereign prevails over the central bank rather than the other way around. It is the only governance structure that is capable of establishing a principal-agent relationship that makes the central bank independent yet ultimately subordinate to the government.

Second, by (partially) centralizing national government budgets into one central budget a mechanism of automatic transfers can be organized. Such a mechanism works as an insurance transferring resources to the country hit by a negative

economic shock. Although there are limits to such an insurance that arise from moral hazard risk, it remains true that such a mechanism is essential for the survival of a monetary union, like it is for the survival of a nation state. Without a minimum of solidarity (that's what insurance is) no union can survive.

While all this is well known, it is equally clear that the willingness today to move in the direction of a fiscal union in Europe today is non-existent. This fact will continue to make the Eurozone a fragile institution, the future of which remains in doubt. The euro crisis is not over.

The unwillingness to create a political union has also led to a continuing temptation to resort to technical solutions to the Eurozone's design failures. Thus there has been a proliferation of technical schemes to introduce Eurobonds (see Delpla and von Weizsäcker(2010), De Grauwe and Moesen(2009) and insurance mechanisms against asymmetric shocks (Von Hagen and Diamond((1998), Drèze(2012), Enderlein, et al.(2013)). These are interesting intellectual exercises to which one of the present authors has also contributed. They do not solve the essential problem, however, which is that there is no future for the euro except in a political union. In fact they generate a fiction that technical solutions (and therefore also bureaucratic integration) can be a substitute for political unification. As a result, they comfort policymakers in their decision to set aside further attempts towards a political union.

References

Aizenman, J., Hutchison, M., 2012. What is the risk of European sovereign debt defaults? Fiscal space, CDS spreads and market pricing of risk, Paper Presented at the Conference on "The European Sovereign Debt Crisis: Background and Perspectives", Organized by the Danmarks Nationalbank/JIMF, April 13–14, 2012.

Arghyrou, M. and Kontonikas, A., (2010), The EMU sovereign-debt crisis: Fundamentals, expectations and contagion, Cardiff Economics Working Papers, E2010/9

Attinasi, M., Checherita, C., Nickel, C., 2009. What Explains the Surge in Euro Area Sovereign Spreads During the Financial Crisis of 2007–09? ECB Working Paper, No 1131, December.

Beirne, J., Fratzscher, M., 2012. Pricing and mispricing of sovereign debt in the Euro area during the crisis. Paper Presented at the Conference on "The European Sovereign Debt Crisis: Background and Perspectives", Organized by the Danmarks Nationalbank/JIMF, April 13–14, 2012.

Caceres, C., Guzzo, V., and Segoviano, M., (2010), Sovereign Spreads: Global Risk Aversion, Contagion or Fundamentals?, IMF working paper, May

Calvo, Guillermo (1988): Servicing the Public Debt: The Role of Expectations, *American Economic Review*, Vol. 78, No. 4, pp. 647-661

Cohen, Daniel, 1991, *Private Lending to Sovereign States: A Theoretical Autopsy* (Cambridge, Massachusetts: MIT Press).

Corsetti, G.C., and Dedola, L., (2011), Fiscal Crises, Confidence and Default. A Bare-bones Model with Lessons for the Euro Area, unpublished, Cambridge.

De Grauwe, P., The Governance of a Fragile Eurozone, CEPS Working Documents, Economic Policy, May 2011 http://www.ceps.eu/book/governance-fragile-eurozone

De Grauwe, P., and Moesen, W., (2009), Gains for All: A Proposal for a Common Eurobond, *Intereconomics*, May/June

De Grauwe, P. and Ji, Y., (2013), Self-fulfilling Crises in the Eurozone: An Empirical Test, *Journal of International Money and Finance*, 34, 15–36

De Grauwe, P. and Ji, Y., (2013), Panic-driven austerity and its implication for the Eurozone, VoxEU, 21 February, http://www.voxeu.org/article/panic-driven-austerity-eurozone-and-its-implications

De Grauwe, P., (2014), Economic theories that influenced the judges of Karlsruhe, VoxEU, http://www.voxeu.org/article/economic-flaws-german-court-decision

Delpla, J., and von Weizsäcker, J. (2010) 'The Blue Bond Proposal', *Bruegel Policy Brief*, May.

Eaton, J. and M. Gersovitz, 1981, "Debt with Potential Repudiation: Theoretical and Empirical Analysis," *Review of Economic Studies* 48, 289-309.

Eaton, J., M. Gersovitz, and J. E. Stiglitz, 1986, " The Pure Theory of Country Risk," *European Economic Review*, 30, June, 481-513.

Edwards, S., 1984, "LDC Foreign Borrowing and Default Risk:An Empirical Investigation,:1976-1980," *American Economic Review*, 74, September, 726-734.
Gros, D., (2011), A simple model of multiple equilibria and default, mimeo, CEPS

Enderlein, H., L. Guttenberg, and J. Spiess (2013): *Making one size fit all – Designing a cyclical adjustment insurance fund for the Eurozone*. Notre Europe Policy Paper No. 61.

Gerner-Beuerle C, E Kücük and E Schuster, (2014), Law meets economics in the German Federal Constitutional Court, London School of Economics, unpublished

Ghosh, A., and Ostry, J., *"Fiscal Responsibility and Public Debt Limits in a Currency Union*, Paper presented at the Conference on "The European Sovereign Debt Crisis: Background and Perspectives", organized by the Danmarks Nationalbank/JIMF, April 13-14, 2012

Krugman, P., (2010), Debt Deleveraging and the Liquidity Trap, VoxEU, http://www.voxeu.org/article/debt-deleveraging-and-liquidity-trap-new-model

Min, H., (1999), Determinants of Emerging Market Bond Spread: Do Economic Fundamentals Matter?, World Bank, http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-1899

Obstfeld, M., (1986), 'Rational and self-fulfilling balance-of-payments crises'. *American Economic Review* 76 (1), pp. 72-81.

Schuknecht, L., von Hagen, J., and Wolswijk, G., (2010), Government Bond Risk Premiums in the EU Revisited the impact of the financial crisis, ECB working paper No 1152, 2010 February

Von Hagen, J. (2007): 'Achieving Economic Stabilization by Sharing Risk within Countries.' In R. Boadway and A. Shah (eds.): *Intergovernmental Fiscal Transfers*. Washington, DC: World Bank.

Von Hagen, J. and G. Hammond (1998): 'Regional Insurance against Asymmetric Shocks: An Empirical Study for the European Community.' *The Manchester School*, 66 (3), pp. 331-353.

Winkler, A., (2014), The Federal German Constitutional Court Decides WhichTheory of Finance is Correct, mimeo.

Wyplosz, C., The ECB's trillion Euro bet, VoxEU, February 2012, http://www.voxeu.org/article/ecb-s-trillion-euro-bet