EUROPEAN PARLIAMENT

EUROBONDS: THE FINANCIAL EQUIVALENT OF THE SINGLE CURRENCY

Briefing Note

Abstract

The euro area needs deep and fully-integrated financial markets in order to return to sustained economic growth and high levels of employment. Today's fractioned markets are dominated by Germany and discriminate against small peripheral Member States. Eurobonds could help to overcome these difficulties by creating a large integrated bond market, but not by serving to weaken the budget constraint in highly indebted Member States.

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LINGUISTIC VERSIONS

Original: EN
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INTRODUCTION

The euro crisis in 2010 has painfully demonstrated that, despite the single currency, the European Union does not have fully integrated financial markets. The ECB found in its January 2011 bank lending survey for the euro area that due to 'renewed financial market tensions stemming from concerns about sovereign risk, banks have reported deterioration in their access to short-term money markets and the markets for debt securities issuance'.[1] These difficulties hamper the return to sustained economic growth and high levels of employment. In this paper I will look how the creation of Eurobonds could contribute to the integration of financial markets. I will first present some evidence for Europe's fractured debt markets, then discuss the link between public investment and the issue of Eurobonds and conclude on the integration of financial markets by means of Union Bonds.

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[1] ECB, Monthly Bulletin February 2011, p. 26.

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1. EUROPE'S FRACTURED DEBT MARKETS

Nowhere is the fractured nature of financial markets more evident than in Europe's bond markets. The years of minimal yield spreads for government bonds have masked the fact that European government bonds represent very different economic, political and juridical realities. From the beginning of European Monetary Union in 1999 until the Lehman bankruptcy in 2008, the variance of yields was minimal and the ECB's Euro Bond Market Study[2] concluded:

> *'The euro bond market developed quite well since 2001. The growing importance of the euro as an international investment currency has made the market for euro-denominated issues more attractive for both investors and issuers. A key element behind these developments of the European bond market in this period was the impetus for a better integrated and more liquid market and the increasing diversity of innovative products, such as index-linked bonds, real-time bond indices, fixed income exchange traded funds, credit derivatives and structured products.'*

This optimistic view has now crashed. During the global Financial Crisis and then due to the Greek sovereign debt crisis, spreads and their variance have increased dramatically in the euro area (see figure 1). In Greece government bond yields are now 800 to 900 basepoints above Germany, in Ireland over 500 points. By all accounts, these spreads are exceptional and incompatible with a sustainable monetary economy.

Nevertheless, some observers have rejoiced in this new financial pluralism, arguing that it reflects more correctly the different fiscal policy stances between Member States. They expect that by assessing sovereign debt separately for each country, markets force governments to consolidate their finances more rapidly. The convergence of bond yields before 2008 had taken this pressure off Member States and encouraged unsustainable policies. Yield differentiation is therefore a welcomed step leading to the restoration of fiscal discipline.

On the opposite side, it is argued the that high costs of borrowing in mainly Southern Member States make fiscal adjustment even more difficult and restrain economic growth. The rising burden of debt service requires primary surpluses, which are imposing painful social policies and are often politically unacceptable. Government bond yields also spill over into private bond markets and slow down investment and growth. While there is truth to both these arguments, it is also true that the variance of yields has attained now levels, which are truly exceptional and it is not imaginable that they can be sustained (see the lower panel of the Figure 1). The question is whether the return to order will require the restructuring of public debt and a partial default in some Member States or whether providing sufficient liquidity will make the bond market operate more smoothly again. The answer to this question is also dependent on the performance of economic growth in the euro area and especially in Member States with high yields.

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[2] 2004, p. 5.

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Figure 1

Weekly 10-year Government Bond Yields
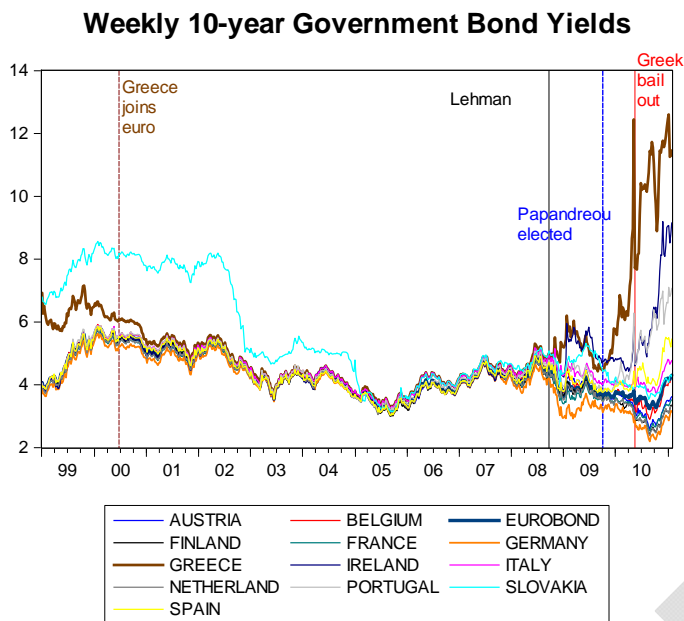
Variance of Government Bond Yields across Euro Area
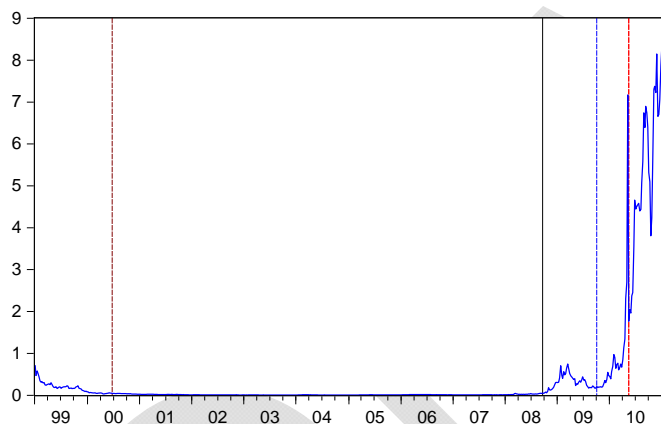
However, over and above these short term considerations, the fragmentation of Europe's bond markets I a major obstacle for a vibrant economy. Figure 2 shows the outstanding volumes of domestic debt securities in the world. If it were fully integrated, the aggregate of the euro area would be similar to the Japanese market and amount to about one half of the US market. However, national debt markets are much smaller.

While outstanding securities in Italy and France actually exceed Germany's, only the German Bund is recognised as a benchmark security.

The share of government debt titles is clearly lower in Europe, than in the two other industrialised economies. In Japan, the UK and India, domestic debt is mainly issued by governments (more than 80%) while in the US and in the euro area, government debt is less than half of the total stock of outstanding securities.

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Figure 2

Source: BIS Quarterly Review: December 2010
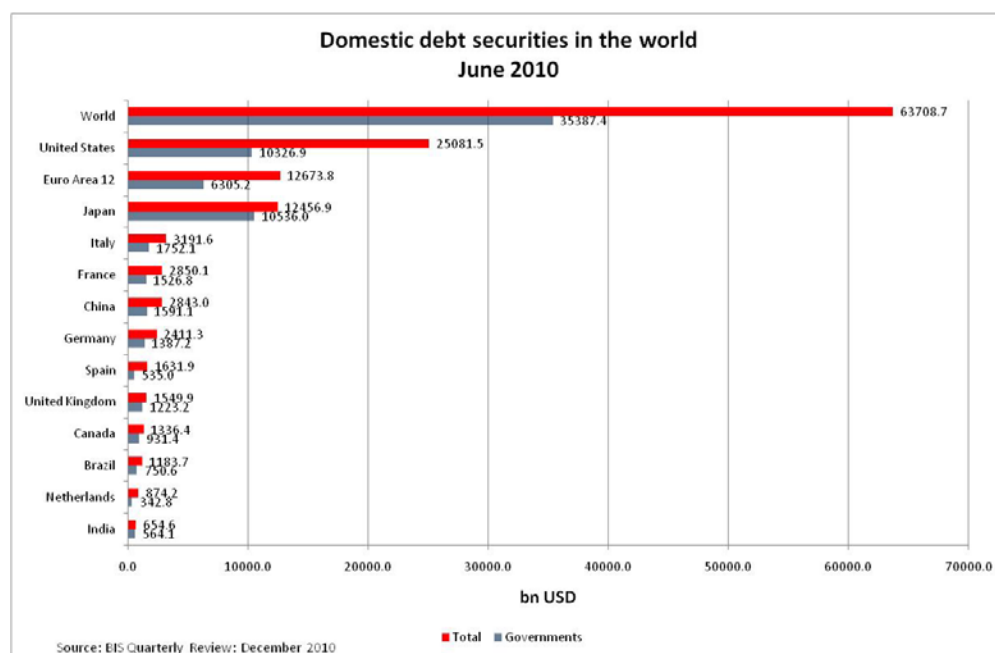
Table 1

Member State Share in Euro Area Security Markets		
Jun.2010	Euro Area 12	Government debt in %
Italy	25.2	27.8
France	22.5	24.2
Germany	19.0	22.0
Spain	12.9	8.5
Netherlands	6.9	5.4
Belgium	3.9	4.0
Ireland	2.8	1.8
Austria	2.5	1.8
Greece	1.8	2.2
Portugal	1.7	1.4
Finland	0.7	0.4
Slovakia	0.2	0.4

The fractured nature of European debt markets impede long term investment, economic growth, job creation and international competitiveness. It makes it more difficult to raise funds, because European markets are less liquid than US and Japanese markets, leading to structurally higher interest rates. Long term investors, like pension funds, cannot find instruments to match their long term needs and debt issued in peripheral markets is not easily absorbed. Large foreign investors, like sovereign wealth funds, are not attracted by small-size issuances (Monti, 2010).

These disadvantages are unequally distributed. In the present crisis, the German Bund is perceived as a liquid and safe asset, but from a global point of view, German government bonds represent a small asset market that has no European significance other than that it serves as a benchmark. Only the German government can borrow at these terms; the fiction of state sovereignty makes it impossible for other Member States to obtain benefits from the higher liquidity of the German Bund market. Furthermore, because of the holistic

nature of European intergovernmentalism, private debtors are affected by the performance of governments in Member States where they operate. Thus, banks and non-financial corporations are confronted with deteriorating abilities to finance their operations, while German companies benefit from cheap capital.

Some argue that if other Member States only followed German restrictive fiscal policies, they would enjoy similar borrowing conditions. However, this is not true. Figure 3 shows that in small Member States, where debt ratios have remained below German levels, such as in Austria, the Netherlands or Finland, governments had to pay a premium over German bonds during most of the first euro-decade. These yield differentials are the premium for small illiquid markets. Clearly, there is a price to pay for non-Europe in the bond market.

Figure 3

Yield Spreads for Small Northern Member States
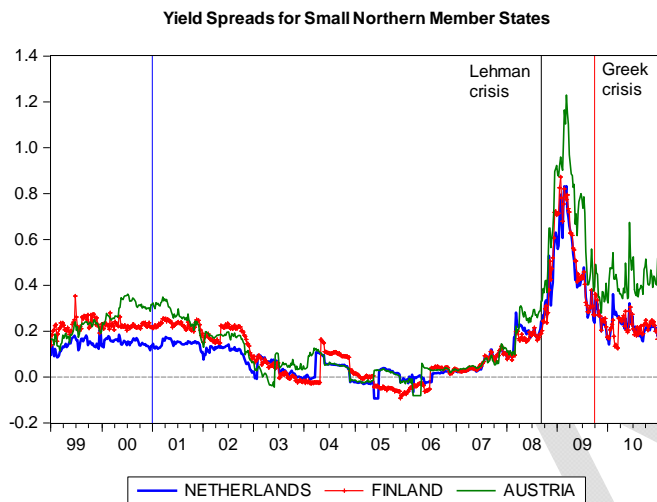
The fractured nature of financial markets signals that European Monetary Union is still incomplete. In fact, financial markets are now a replay of money markets of the 1990s. At that time, German monetary policy and the Deutschmark dominated most European currencies and other Member States in the European Monetary System had to pay unreasonably high interest rates for maintaining monetary stability. Today, Greek and Irish governments pay three to four times higher prices for borrowing money than Germany. The European Financial Stability Facility (EFSF)[3] was needed to prevent the drying up of peripheral financial markets and a collapse of the euro area's financial system.

The German government has used its financial power to impose fiscal policies on other Member States in this situation. These policies may or may not be right, but the problem is that they do not have the backing of European-wide debates and are, therefore, lacking consensus among European citizens.

The sometimes grotesque remarks[4] about Germany's role in Europe may be unjustified, but they clearly indicate the tensions resulting from the unequal the distribution of power in the

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[3] The European Financial Stability Facility (EFSF) is a Luxembourg-registered company owned by euro area Member States which was created following the decisions taken on 9 May 2010 within the framework of the Ecofin Council. As part of the overall rescue package of EUR 750 billion, the EFSF is able to issue bonds guaranteed by euro area Member States for up to EUR 440 billion for on-lending to euro area Member States in difficulty, subject to conditions negotiated with the European Commission in liaison with the ECB and the IMF and to be approved by the Eurogroup. The EFSF has been assigned the best possible credit rating, see: http://www.efsf.europa.eu/about/index.htm.

[4] The Irish Times asked on 18 November 2010 under the Headline: *Was It For This*?: 'IT MAY seem strange to some that *The Irish Times* would ask whether this is what the men of 1916 died for: a bailout from the German chancellor with a few shillings of sympathy from the British chancellor on the side. There is the shame of it all. Having obtained our political independence from Britain to be the masters of our own affairs, we have now

euro area. This situation is not sustainable and hardly compatible with the idea of Europe as a peace Union.

In this context, the idea of issuing Eurobonds gains a new political dimension. Today, Eurobonds are the financial equivalent of a single currency. The euro became a political and economic necessity because a single market is unsustainable without a single currency[5] and the asymmetric dominance of German monetary policy in the European Monetary System between the 1980s and 90s was incompatible with the fundamental principles of European integration. Member States therefore had to give up monetary sovereignty and create a single currency. Today, Germany's neochauvinistic[6] attitudes towards the EU, where some have even demanded that Member States should be expelled from the euro if they do not conform, create a political problem with serious long-term consequences that could threaten the cohesion and survival of the euro area. Economically, the high yield spreads prevent Southern Member States from recuperating their economic dynamism after the crisis. Creating a fully integrated financial market by pooling sovereign debt could overcome these dangers, and implicit solidarity of the Eurobond would consolidate the acquis of monetary union.

For this purpose one needs to rebuild trust. The core principle of financial markets is trust, and political trust is required to foster political will. Those who oppose the integration of a European bond market only show that they do not trust their partners in the European Union. But then, why should their partners trust them? The creation of Eurobonds could be an important step in restoring trust in the Union: between Member States, within financial markets and between citizens. However, the practical ways of creating Eurobonds are not obvious.

Proposals on Eurobonds circulating among policy experts are of very different qualities.[7] Some hardly go beyond a few sentences in the statements made by political leaders; some are intended for very different audiences and very different purposes; some differentiate between who issues them and what guaranties are given. But one of the most important distinctions is whether they should finance public investment or serve the integration of financial markets. Let us begin the discussion by these two purposes Eurobonds can fulfill.

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surrendered our sovereignty to the European Commission, the European Central Bank, and the International Monetary Fund.', http://www.irishtimes.com/newspaper/opinion/2010/1118/1224283626246.html.

[5] See Collignon and Schwarzer, 2003. Some exceptions and derogations are tolerable as long as they cover a relatively small part or the single market.

[6] Ravenscroft (2005, p. 58) has described chauvinism as 'a bias in favour of the familiar'.

[7] See http://www.astrid-online.it/Dossier--d1/EUROBONDS/02_Sintesi-proposte-E-bond.pdf.

2. EUROBONDS AND PUBLIC INVESTMENT

The idea of Eurobonds issued to finance public goods has the longest intellectual tradition in Europe. The idea can be traced back to the Haferkamp loans (1975) and Ortoli facilities (1978-80) and to the Spinelli Report, adopted by the European Parliament in 1981. However, nowadays the proposal often refers to an idea advanced by Jacques Delors. In 1993, the Delors Commission's *White Paper on Growth, Competitiveness, and Employment - The Challenges and Ways Forward into the 21st Century*[8] proposed the issuance of 'Union Bonds' for financing infrastructure investment in transport, energy and telecommunication in addition to European Investment Bank (EIB) loans. The repayment of these loans was to be guaranteed by the Community budget. This idea is still stimulating the fantasy of many, even if it has never been realised. Its purpose was the stimulation of real investment and economic growth. Its weakness was asking the large net contributors to the EU budget to pay for other Member States. Doubts were also expressed, whether the Union budget could fund the debt service for Union Bonds, given that the EU budget must always be balanced.[9]

In his 2010 State of the Union Address to the European Parliament,[10] Commission President Barroso has revived Delors' idea by calling for '*EU project bonds*'. What this meant was subsequently explained by a Commission communication.[11] These bonds are to mobilise private investment in support of the objectives formulated in the Europe 2020 strategy by bridging the gaps in private financing and leveraging the EU budget. European bonds would be used in partnership with the banking and private sectors through the EIB or become the norm for projects with long-term commercial potential. 'Project bonds' would be issued by the private sector and the European budget would be used to improve their rating in order to attract funding through the EIB, from other financial institutions and private investors. In this case, the European budget gives an off balance sheet guarantee and this could be seen as not violating Article 310 TFEU.

The idea seems attractive, although the experience in Member States with private-public-partnerships has not always been convincing. Furthermore, the contribution of public investment for economic growth is not without ambiguity in Europe, while private investment is clearly a driver of growth. No doubt, public investment can be an economic stimulus during a crisis, when private investment and demand collapse. Indeed, public spending has prevented a deep depression after the Financial Crisis in 2008. Figure 4 shows that the privat investment ratio moves pro-cyclically in the three major industrialised economies, because it rose in the low growth years of the early 1990s, after 2000, but not in the financial crisis in 2008. The public investment ratio moves anti-cyclically - at least after the 2008 crisis. This is in line with macroeconomic textbooks. However, the long term impact of public investment on growth is less clear.

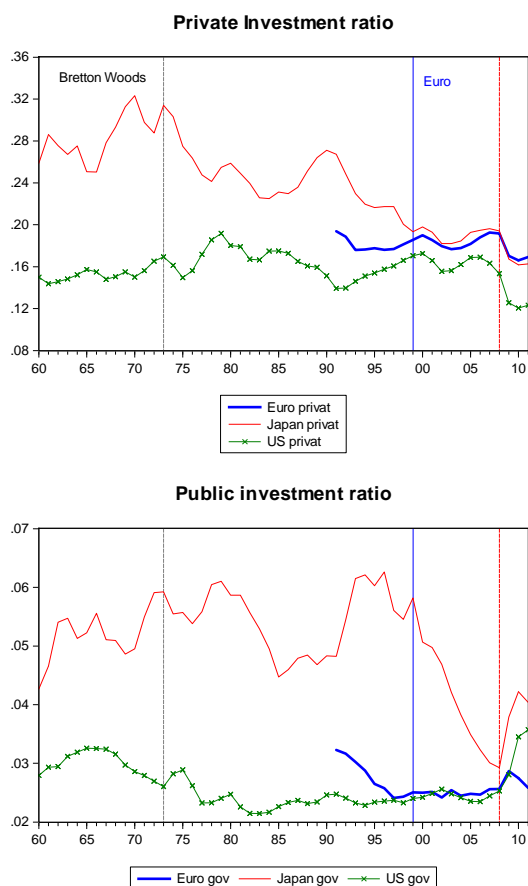[8] COM (93), 700 final 5.12.1993.
[9] See TFEU (Lisbon Treaty), Article 310(1).
[10] 7 September 2010, see: http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/10/411.
[11] http://register.consilium.europa.eu/pdf/en/10/st13/st13977-re01.en10.pdf.

Figure 4

Private Investment ratio

Public investment ratio

Over the long run, investment ratios have been more stable than private investment in the United States and Europe. In Japan private investment collapsed with the financial bubble in 1991 and public investment first sought to compensate for this, but then fell from 6% to 3% after 1998. Japan's economy has stagnated ever since. In the euro area, private investment has not changed significantly between the 1990s and 2000s, but it was cut by a third after the signing of the Maastricht Treaty. This noticeable reduction in public investment raises an intriguing question: was investment cut by governments because this was the most convenient way for lowering budget deficits to below 3% and reaching the Maastricht criteria?

Figure 5 shows a clear negative relation between Member States' average public investment,[12] although the public investment ratio did only *fall* when the debt ratio exceeded 80%.[13] Thus, high public debt is bad for public investment into infrastructure. This justifies the emphasis on reducing public debt in Europe.

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[12] The average covers the period 1999-2011, after European monetary Union has started and the Stability and Growth Pact became operational.

[13] I have also checked for the deficit position, but this was not statistically significant. The econometric evidence for Figure 3 is given in Annex 1.

Figure 5
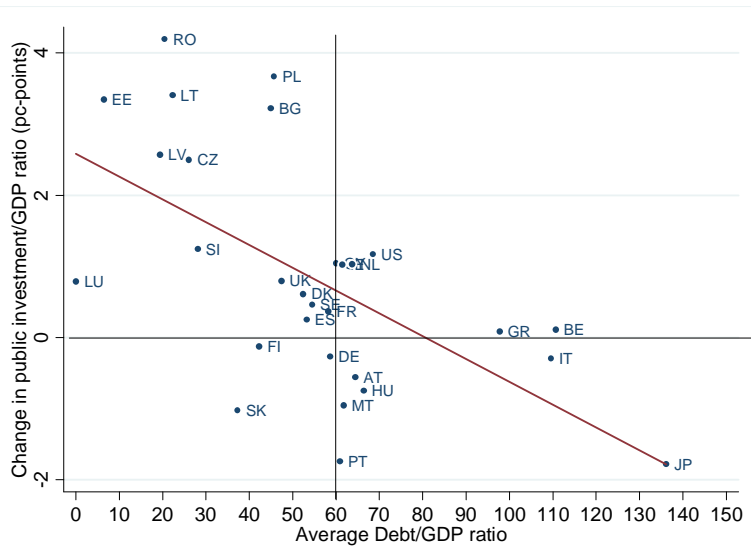
One may be tempted to conclude that Eurobonds will be good for growth, if they could help deeply indebted Member States to finance public investment. However, it is not certain that public investment is more productive than private and that it has a positive permanent effect on growth in Europe. If public investment had a stronger effect on growth than private investment, it would be recommendable to use Eurobonds for financing European investment, but if such leverage effects does not exist, one should improve the conditions for banks and companies to access credit markets and one must privilege the financial market function of Eurobonds.

Table 2: Economic growth and Government and Private Investment[14]

Dependent Variable: GDP growth rate

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(E_GOV)	-0.041650	0.031229	-1.333685	0.2010
DLOG(E_PRIV)	0.286814	0.035032	8.187221	0.0000
AR(1)	0.914462	0.073281	12.47879	0.0000

Table 2 shows that that there is no evidence for higher leverage from public investment. Private investment raises the economic growth rate. If the going growth rate is 2.5% in the euro area and private investment increases by 10%, GDP will grow by an extra 0.286 percentage points, hence nerly 2.8%. However, public investment and economic growth are negatively correlated, because the coefficient for government investment is -0.041.

Nevertheless, it would be wrong to read the negative coefficient on public investment as a sign of negative causality that goes from public investment to economic growth. First of all, the coefficient is not statistically significant. There is a 20% chance that the impact of government investment is zero. Secondly, correlations do not imply causality. It is possible that governments cut investment to reduce deficits in order to keep in line with the Maastricht criteria and the prospect of macroeconomic stability may have stimulated economic growth. The estimated coefficient would then be negative. One can check for this indirect effect by running Granger Causality tests (see annex 3). The result is that private

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[14] For the full econometric output, see Annex 2.

investment (Granger-)causes GDP growth and inversely, and private investment also causes public investment, but not the reverse, while public investment has no causality effects. Hence, we must conclude that, in the present institutional environment, issuing EU Project Bonds to finance public investment, as suggested by President Barroso, is not likely to stimulate growth in the European economy[15].

This does not mean that public investment is not warranted. In fact, it should be undertaken precisely when it has merit in itself. Public spending must create European public goods, for which citizens are willing to pay. For example super fast trains from Krakow to Edinburgh or from Stockholm to Palermo may improve the living standards of European citizens. Investing into the development of natural and ecological energy resources and the efficient transport of this energy to consumers is in the interest of humanity.

Such projects are justified when citizens want them, and not just because they may accelerate long term growth. They are the result of political choices and not a technocratic device. Yet, allowing citizens to make such choices would require more democracy in Europe, notably by giving the European Parliament the power to determine the European budget and to fund it by taxes.

There is, however, also an argument to oppose Eurobonds related to problems of public choice. Fiscal conservatives tend to reject Eurobonds because such bonds are frequently promoted by politicians in highly indebted Member States which need to consolidate their public finances. For example, Tremonti proposed the issue of Union Bonds in 2003 to avoid additional fiscal consolidation.[16] Eurobonds are then sought as a device for softening the budget constraint for governments. Not surprisingly, net contributors to the EU budget resist the idea because they would have to shoulder the burden of other Member States' debt.

In this context, a suggestion by Bonnevay (2010) is interesting. He proposed to start with a Franco-German agreement on tight fiscal policy coordination and subsequently to enlarge it to cover the whole euro area. Under this agreement, the two governments would issue a joint Eurobond with the purpose of combining financial market discipline with political cooperation: *'The recourse to a common debt instrument and the collateralizing of a newly-issued security on the tax revenues of the participants, by forcing the States to respect their commitments, would reinforce the credibility of public action and would stimulate a form of fiscal coordination essential to the effectiveness of the single currency and the construction of the European economic edifice'.* Thus, the danger of relaxing fiscal discipline would be reduced by a strong cooperative policy commitment.

Although Bonnevay's proposal deals with the free-rider problem, it has not found much political support. In Member States where fiscal conservatism is policy consensus, the joint issue of Eurobonds continues to be feared as an invitation to free ride on other Member States' consolidation efforts.

Not surprisingly, proposals for financing European investment by European bonds are vetoed by them, even if the project would have merit on its own. It seems unlikely that this

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[15] This is different in the United States, where public investment has a higher impact on growth than private investment, even if it is statistically less significant:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
US_PRIVAT	1.236997	0.445458	2.776911	0.0124
US_GOV	3.574852	1.944065	1.838854	0.0825
C	-0.256116	0.105672	-2.423691	0.0261
AR(1)	0.548735	0.231086	2.374591	0.0289

[16] See http://it.wikipedia.org/wiki/Giulio_Tremonti.

situation will be easily unblocked unless a totally different consideration is brought into the game. The full integration of the Eurobond market may be such an additional variable.

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3. INTEGRATING THE EUROPEAN BOND MARKET

Most recent proposals for Eurobonds were motivated by the debt crisis in Southern European Member States. Confronted with the danger of sovereign default, many investors have pulled out of peripheral bond markets. And the resultant lack of liquidity has pushed their yields far beyond the German benchmark (see Figure 1). Many observers argue that Greece and possibly some other governments will not be able to service their debt in the future.[17] Whether this is true, we do not know. It remains an open question, whether European governments in financial distress are really insolvent. If they were, it would be best to restructure the debt and reduce their debt service now, although this could have dramatic consequences for European banks. Table 3 shows the exposure of banks to debt in Greece, Ireland and Portugal. Cumulated claims are substantial. For German banks they amount to nearly half of their total capital. Even assuming a 50% recovery rate, banks would be severely hit by a default. It is nowadays fashionable to demand that banks should 'assume responsibility' for governments' distress, because they have lent 'excessively'. But banks have already shouldered an important share of the cost of the financial crisis in 2008-2010 by writing off bad debt during the Financial Crisis (see Table 3). Adding to this burden by expropriating bond holders (which is what a 'haircut' means) could seriously damage banks' capital and therefore block economic recovery.

Table 3

European bank balance sheets: country risk exposure					
(% of total capital)					
	Euro Area	France	Germany	Italy	UK
Claims vs Greece	*5.4*	9.8	8.0	1.2	1.2
Claims vs Ireland	*11.3*	7.5	30.2	3.3	12.9
Claims vs Portugal	*7.6*	7.1	8.1	1.0	2.2
Cumulated claims(GR+IR+PT)	*24.3*	24.4	46.3	5.4	16.3
Assuming a recovery rate 50%	*12.2*	*12.2*	*23.2*	*2.7*	*8.1*
Effective losses during the crisis due to write-offs since 2008	***11.3***	**10.4**	**22.1**	**2.5**	**19.6**
Sources: Bis, Bce, Bloomberg.					

However, it is also possible that governments are fundamentally solvent and that the crisis is largely caused by the aftershocks of the Financial crisis and insufficient liquidity. Solvency means that in the long run, governments be able to generate primary surpluses of an amount that would allow repaying the debt. It can be shown that the Excessive Deficit

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[17] See for examples, Citibank, 2011.

Procedure in the Treaty would guarantee the sustainability of public debt, although the long-run steady-state debt levels will rise substantially due to the important reduction in growth rates (see Collignon, 2010).

Hence, increasing growth must be a policy priority, although large additional financial means will be needed to sustain public finances as long as economic growth remains weak. This justifies enlarging the EFSF and later the ESM to help financially fragile Member States to overcome their difficulties. Furthermore, in order to resume investment and economic growth, the private sector must find attractive conditions to borrow money. Such conditions are not only dependent on monetary policy or banks' capital, but also on the depth and liquidity of European bond markets. Many proposals for Eurobonds seek to increase liquidity in Europe's markets, and at the same time they wish to lower the cost of borrowing for highly indebted Member State governments. The most widely discussed proposals came from Delpla and von Weizsäcker (2010) and Junker and Tremonti (2010), who argued that Eurobonds would end the crisis. My own proposal (Collignon 2010a) sought to increase liquidity by a market-driven approach independently of government policies. We will now look at these ideas more closely.

Blue and Red Bonds

Delpla and von Weizsäcker (2010), in a proposal marketed by the Bruegel Think tank, wish to reduce the average cost of borrowing, while maintaining the pressure for fiscal consolidation on overly indebted governments.[18] They divide Member States' public debt in *blue* and *red* tranches: the first covers public debt below the 60% debt/GDP ratio; the second relates to all debt in excess of this. In case of a partial default, the red tranche will be hit first and the blue tranche will only be affected by that part of the default that is not absorbed by the junior tranche. In other words, government funds, which are used to service and repay government debt, will first satisfy the claims of the Blue Bond holders. As a result, the blue tranche will become less risky, and the red tranche will be more risky, leading to a differentiation in interest rates. Because the marginal cost for red debt would reflect the higher default risk, governments would be under pressure to reduce their red debt and conform to the reference values in the Treaty on the European Union.

Participating countries would pool and merge their blue tranches, creating a government bond market similar in size, liquidity and quality to the US Treasury debt market. According to the authors, the Euro-Area Blue Bond market could amount to 60% of euro area GDP (about EUR 5,600 billion), which is about five times the current market for the German Bund and almost as large as the US Treasury debt market (about USD 8,300 billion).

Due to this gain in liquidity, the cost of borrowing would be reduced on the blue tranche. By contrast, the red tranche would remain national and liquidity here would be less than in the homogeneous national bond markets today. This reduced liquidity further increases borrowing costs on red debt and maintains the pressure on Member States to bring their debt ratios down below 60%. Delpla and von Weizsäcker calculate that the gain from lower interests on blue debt could amount to an average net present value of six percent of the GDP of participating countries. This would be a substantial contribution to making public debt more sustainable.

The proposal is elegant and politically astute. Small Member States would benefit from extra liquidity, highly indebted countries have an incentive to consolidate, and Germany should feel reassured by the strengthened discipline in Europe's fiscal policy. Foreign

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[18] One should be aware that the debt problems discussed here are related to governments and not to countries or states. In many Member States with high public debt, there are perfectly credible private debtors who should not be affected by their government's problems. This is one reason why ideas of a temporary or permanent withdrawal from the euro area are totally absurd: they would damage private firms who are not affected by public misdemeanors.

investors would find it attractive having an alternative asset to US government bonds. However, the proposal does not explain precisely how the pooling of blue debt is to be put into practice.

Bonds issued by a European Debt Agency (Juncker and Tremonti)

In December 2010, the President of the Eurogroup Jean Claude Junker and the Italian Finance minister Giulio Tremonti called for Eurobonds that 'would end the crisis'.[19] They conceived them as European Sovereign Bonds, issued by a European Debt Agency (EDA), presumably a successor to the EFSF. They expected that the amount of outstanding paper could gradually reach 40% of GDP of the EU. This would be equivalent to EUR 3,700 billion, less than half of the US market. The EDA could finance up to 50% (in exceptional cases 100%) of new debt issues by EU members, but never more than 40% of GDP. They remain therefore well within the Maastricht limits. Hence, the EDA is a primary market instrument, although it would also stabilise the secondary market by an inbuilt default mechanism: The EDA would offer countries in trouble the possibility to switch outstanding national bonds for Eurobonds at a discount, whose size depends on the degree of market stress. Highly indebted states could thereby reduce their outstanding debt.

Eurobonds, would enjoy a higher status than national debt and would qualify as collateral for the ECB. This takes pressure off the ECB's outright open market purchases of risky government debt. Eurobond interest rates would therefore be lower than national rates. If Member State debt up to 40% of GDP were financed by Eurobonds, a large chunk of the existing debt of the troubled economies would be refinanced at lower interest rates, which improves the solvency of the weakest members, not just their liquidity.[20]

Two objections have been raised. First, the idea of repurchasing debt (or switching it) at discounted rates is contrary to market logic: if investors know that governments will remain solvent, bonds will trade at par and the discount option would instantaneously disappear. Little would be gained. Second, and this goes to the core, it is not clear who would be liable for the new euro area debt. The German government has resisted the Junker/Tremonti proposal because it does not want to be committed to paying the debt of other Member States. But would Eurobonds have to be assumed jointly by all Member States? If that were the case, the Eurobond proposal would require a change in the EU Treaty. An alternative is that Member States would give 'proportionate' guarantees for the Eurobonds; each Member State would simply stand behind a fraction of the bond issue in proportion to GDP. Under this form of guarantee, Germany would not have to bail out other countries if they defaulted. Instead, the private sector bond purchaser would stand to take the loss. This is basically the guarantee which was offered on the EFSF bond issues, although the AAA rating for such bonds required high cash deposits by Member States, which makes issuing such bonds more expensive. A third possibility would be that the EDA is an independent institution, in which case it has to be clarified how it raises the funds necessary to service the interest and repayment of the Eurobonds. An independent institution would find it hard to issue Eurobonds without government support. My own proposal of Union Bonds tries to overcome these problems.

Union Bonds as a collateralised security

In early 2010, I proposed Union Bonds, which were to be created by an independent fund without backing from governments.[21] At that time, the EFSF had not yet been set up, and

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[19]   http://www.ft.com/cms/s/0/540d41c2-009f-11e0-aa29-00144feab49a,dwp_uuid=bd2f85d2-8e90-11db-a7b2-0000779e2340.html#axzz17JJTBvsQ.

[20] See Gavin Davis: http://blogs.ft.com/gavyndavies/2010/12/12/how-the-e-bond-plan-would-work/.

[21] See CER Rapporto Europa 2010 (http://www.stefancollignon.de/PDF/CerRepport_2010.pdf) and my chapter in: Eurobank, 2011. *From the international to the European and Greek crisis: What will the future bring?*, Livanis Editions, Athens (forthcoming).

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neither the Delpla/von Weizsäcker nor the Junker/Tremonti papers had been published. Nor had the ECB started to buy government debt in the secondary market. The idea was inspired by the private creation of the ECU prior to European Monetary Union. I still believe that the Union Bond idea could contribute to more liquid and integrated financial markets in the euro area, even if in today's context it is no longer appropriate to imagine the creation of Union Bonds as a purely private initiative taken by banks on their own. A public initiative is needed, although private institutes could certainly contribute to it.

Union Bonds could help to overcome some of the shortcomings in the proposals discussed above. They would solve the question of how government debt could be pooled _without creating a European sovereign debtor_. They also could help to reduce the risk exposure for a specified class of investors, similar to the Blue and Red Debt proposal. By reducing the risk of contagion of the European banking system from a sovereign default, the proposal would strengthen the integration of Europe's financial markets. It would thereby not only help bridging the liquidity needs for highly indebted Member States, but it would also create well-functioning debt markets and stimulate economic growth.

Under the proposal, Union Bonds are issued by a specially designed Trust, which buys government securities in the secondary market and issues against them a securitised asset called 'Union Bond'. Thus, Union Bonds represent a portfolio of government bonds. The portfolio shares reflect the paid-up share capital in the ECB, although one may consider some deviations from that rule.
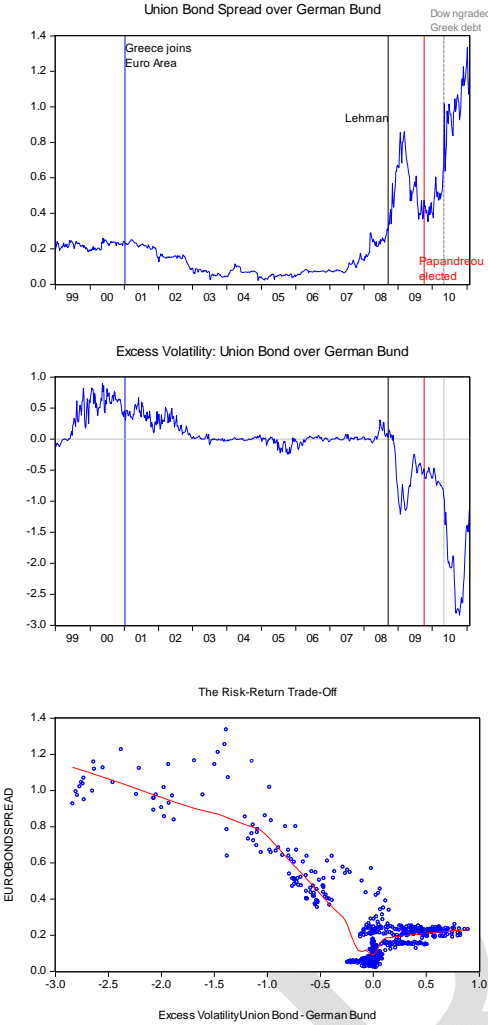
The Trust is owned by private and public investors. Theoretically, the Trust could be set up by private financial institutions alone, but public institutions would add political credibility to the Union Bonds. Candidates are quite naturally the EFSF or its future successor, the European Stabilisation Mechanism (ESM), but also the EIB or the Kreditanstalt für Wiederaufbau in Germany, the Caisse des dépôts et consignations in France or the Cassa depositi e prestiti in Italy.

Union Bonds are tradable in capital markets, where the overall quality and credit-worthiness of the euro area's public debt is constantly evaluated. They thereby contribute to the integration of the euro bond market. Shareholders earn a fee for handling the Trust, but the main purpose of Union Bonds is that they pool national debt and transform it into a European asset. Investors who purchase Union Bonds earn income paid out of the interest received from the national bonds in the portfolio.

The advantage of Union Bonds, conceived as securitised public debt certificates, is that that they yield higher returns for less risk, see Figure 6. The first panel shows that the yield on the Union Bond portfolio has shot up during the Financial Crisis and again when the Papandreou government discovered the fiscal position of its predecessor government. However, in the second panel we find that the volatility of Union Bonds was lower than for German Bunds, which is what one would expect from a diversified portfolio.[22] Finally, the third panel plots excess returns against excess volatility and we find that Union Bonds yield higher returns for lower risk (volatility).

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[22]Volatility is here measured by the conditional standard deviation of an integrated Garch (1,1) process. For the estimate see Annex 3.

Figure 6

Union Bond Spread over German Bund

Dow ngraded
Greek debt

Greece joins
Euro Area

Lehman

Papandreou
elected

Excess Volatility: Union Bond over German Bund

The Risk-Return Trade-Off

EUROBONDSPREAD

Excess VolatilityUnion Bond - German Bund

By swapping national debt against Union Bonds, banks and other financial institutions can strengthen their balance sheet because they are lowering their exposure to potentially non-performing assets while at the same time they increase their profitability. Thus, Union Bonds would reduce the risk of banking crises and should improve lending conditions and raise private and public investment.

So far, our discussion has assumed that investors buy Union Bonds which reflect the full euro area portfolio. This makes sense if the purpose is to reduce volatility and increase the liquidity of the bond market. The fixed portfolio shares ensure that the revenue reflects a distribution similar to seignorage and profits of the ECB. This makes Union Bonds particularly interesting for monetary policy operation, either as collateral or for outright open market purchases.

However, some questions remain. What are the micro incentives for private investors to buy and hold such bonds? For long term investors, there is merit in having a diversified note with higher yields at lower volatility, but in times of deep stress some risk loving bullish investors may want to buy direct, while bears would not touch the risky element. To increase the incentives for investors to hold Union Bonds, their earning potential can be improved by waterfalls of risk tranches. One could distinguish two separate risk classes of Union Bonds. A 'Blue Debt tranche' is senior debt over the 'Red Debt tranche'. Blue Union Bonds represent 60% of the total Union Bond portfolio, Red Union Bonds the other 40%.

Blue Bonds would receive returns equal to the three lowest individual Member State yields, but they are guaranteed priority treatment in case one or several of the component sovereign debtors would default. The 'Red Debt tranche' would go to investors who are willing to assume the higher default risk and in exchange they receive a larger portion of the portfolio's income. Figure 7 shows the yields on our fictitious Blue and Red Union Bonds, based on historic data. The Greek risk of insolvency has clearly raised the yields on the Red Tranche.

Figure 7

Yields on Blue and Red Union Bond Tranches
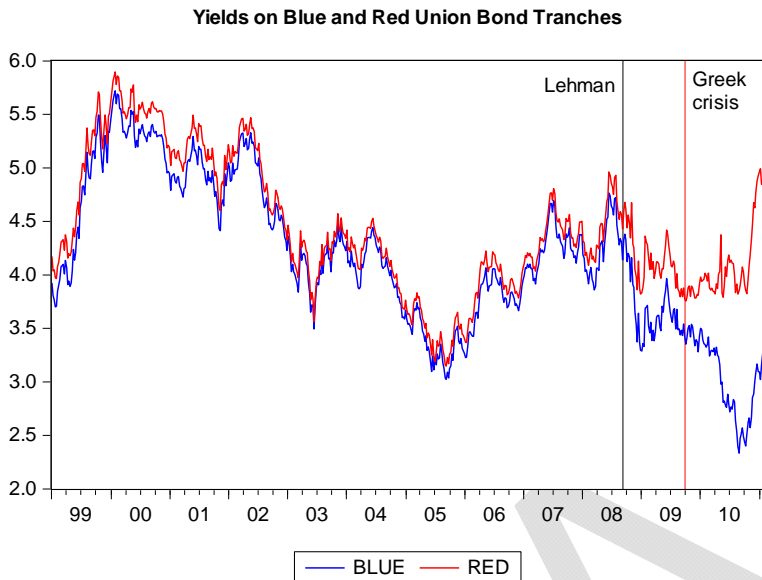
The issuance of private Union Bonds could contribute to the denouement of Europe's sovereign debt crisis in a number of ways.

- First, Union Bonds would generate a large and deep European bond market. For if the Trust buys newly issued debt in the primary market, thereby helping to overcome funding bottlenecks for Member States, it would have to bundle the newly issued debt with outstanding debt by other Member States. This leads to the gradual absorption and substitution of national debt into Union Bonds. However, this substitution does not require Union Bonds to have the status of sovereign debt.

- Second, Union Bonds would reduce the risks of a banking crisis following a sovereign default, because it reduces the concentrated exposure on some risky assets. Banks could sell Southern European debt to the Trust and in exchange buy Union Bonds. Thus the liquidity in European bond markets is improved overall.

- Third, governments which can borrow at low interest do not loose this advantage; nor do they have to bail out or pay for high-interest debt of their partners. All Member States still need to issue debt in primary markets on their own merits. This fact will minimise moral hazard problems, because vigilant markets will asses default risks and ensure market transparency. Fiscally conservative Member States, like Germany, could still issue at low rates in the primary market.

- Forth, because the Trust can intervene in primary markets, Union Bonds can reduce the cost of borrowing for highly indebted governments.

- Fifth, the Trust can thereby replace the market stabilisation function of the ECB's direct bond purchases in the secondary market. Moreover, the ECB could swap its portfolio of risky sovereign debt against less risky Union Bonds.

- Sixth, by 'Europeanising' public debt, Union Bonds would also stabilise private bond markets. Because banks would not have to fear liquidity bottlenecks, they would continue to fund profitable investment opportunities and thereby support economic growth and the sustainability of debt.

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CONCLUSION

Eurobonds are often intended to relax the hard budget constraint of Europe's fiscal policy rules and to finance public investment at the European scale in order to stimulate the European economy in the context of fiscal austerity. However, the evidence for such desired effects from public investment is weak. By contrast, private investment is the main driver of growth in Europe. The fragmented nature of European debt markets is an obstacle for investment particularly in smaller Member States. The benchmark character of the German Bund allows German borrowers to raise credit at low cost, while peripheral debt markets are handicapped. This disadvantage does not only apply to countries with high public debt.

The benchmark function of the German Bund generates a competitive advantage for the German economy that seems to justify German policy makers in imposing their policies on the rest of Europe. However, in fractured credit markets, peripheral borrowers will never be able to access capital at the same conditions as German borrowers. This is of particular importance for sovereign borrowers, who need to cut services in order to be able to service the high cost of debt. A political backlash against this system, including against European integration as such, is then increasingly possible. The solution is to fully integrate Europe's financial markets and abolish their fractured nature.

Problems with the liquidity and sustainability of public debt are not unique to Europe. They are inherently linked to the process of monetary integration. An early historical example is the United States. In 1790, Alexander Hamilton, the first Secretary of the Treasury of the United States, managed to make a famous deal, whereby the federal government would assume state debts incurred during the Revolution. The initiative placed the country's most serious financial obligation in the hands of the federal, rather than the state governments. Hamilton encountered a lot of resistance, but he established a clear and discernable reimbursement policy that inspired investors' trust and laid the foundations for the United States' economic future (Ellis, 2000). Europe has its Hamiltonian moment now.

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ANNEX 1: CHANGE IN PUBLIC INVESTMENT RATIO RELATIVE TO DEBT LEVELS (EU12)

Dependent Variable: DGOV
Method: Least Squares

Sample (adjusted): 4 33
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AVG_DEBT	**-0.032227**	0.007946	-4.055603	0.0004
C	2.583628	0.496406	5.204666	0.0000

R-squared	0.370049	Mean dependent var	0.813325
Adjusted R-squared	0.347551	S.D. dependent var	1.602932
S.E. of regression	1.294757	Akaike info criterion	3.418864
Sum squared resid	46.93910	Schwarz criterion	3.512277
Log likelihood	-49.28296	Hannan-Quinn criter.	3.448748
F-statistic	16.44791	Durbin-Watson stat	2.258394
Prob(F-statistic)	0.000362		

ANNEX 2: ECONOMIC GROWTH AND GOVERNMENT AND PRIVATE INVESTMENT

Dependent Variable: DLOG(GDP_R)
Method: Two-Stage Least Squares
Date: 02/28/11   Time: 09:07
Sample (adjusted): 1993 2011
Included observations: 19 after adjustments
Instrument specification: DLOG(E_GOV(-1)) DLOG(E_PRIV(-1))
Constant added to instrument list
Lagged dependent variable & regressors added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(E_GOV)	-0.041650	0.031229	-1.333685	0.2010
DLOG(E_PRIV)	0.286814	0.035032	8.187221	0.0000
AR(1)	0.914462	0.073281	12.47879	0.0000

R-squared	0.940022	Mean dependent var	0.015335
Adjusted R-squared	0.932525	S.D. dependent var	0.017260
S.E. of regression	0.004483	Sum squared resid	0.000322
Durbin-Watson stat	2.243365	J-statistic	2.315929
Instrument rank	4	Prob(J-statistic)	0.128055

Inverted AR Roots	.91

ANNEX 3: GRANGER CAUSALITY TEST FOR PRIVATE AND PUBLIC INVESTMENT AND GROWTH

Pairwise Granger Causality Tests
Date: 02/18/11 Time: 17:31
Sample: 1990 2011
Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
LOG(EURO_GOV) does not Granger Cause DLOG(GDP_R)	19	0.14977	0.7039
DLOG(GDP_R) does not Granger Cause LOG(EURO_GOV)		0.22224	0.6437
LOG(EURO_PRIVAT) does not Granger Cause DLOG(GDP_R)	19	9.41682	**0.0073**
DLOG(GDP_R) does not Granger Cause LOG(EURO_PRIVAT)		10.2927	**0.0055**
LOG(EURO_PRIVAT) does not Granger Cause LOG(EURO_GOV)	20	9.23253	**0.0074**
LOG(EURO_GOV) does not Granger Cause LOG(EURO_PRIVAT)		2.79085	0.1131

ANNEX 4: GARCH ESTIMATES

Dependent Variable: GERMANY
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 02/28/11   Time: 18:14
Sample: 1/01/1999 1/28/2011
Included observations: 631
Convergence achieved after 9 iterations
Presample variance: backcast (parameter = 0.7)
GARCH = C(3)*RESID(-1)^2 + (1 - C(3))*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
LOG(GARCH)	0.025021	0.003674	6.809776	0.0000
C	4.138974	0.021305	194.2710	0.0000
Variance Equation				
RESID(-1)^2	0.489200	0.026451	18.49452	0.0000
GARCH(-1)	0.510800	0.026451	19.31112	0.0000

R-squared	-0.009200	Mean dependent var	4.074372
Adjusted R-squared	-0.010805	S.D. dependent var	0.742082
S.E. of regression	0.746081	Akaike info criterion	1.303724
Sum squared resid	350.1242	Schwarz criterion	1.324868
Log likelihood	-408.3250	Hannan-Quinn criter.	1.311937
Durbin-Watson stat	0.017757		

Dependent Variable: EUROBOND
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 02/28/11   Time: 18:17
Sample: 1/01/1999 1/28/2011
Included observations: 631
Convergence achieved after 34 iterations
Presample variance: backcast (parameter = 0.7)
GARCH = C(3)*RESID(-1)^2 + C(4)*RESID(-2)^2 + (1 - C(3) - C(4))
 *GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
LOG(GARCH)	-0.012769	0.004603	-2.774357	0.0055
C	4.116084	0.023174	177.6137	0.0000
Variance Equation				
RESID(-1)^2	0.900789	0.025925	34.74589	0.0000
RESID(-2)^2	-0.829082	0.047928	-17.29854	0.0000
GARCH(-1)	0.928292	0.025141	36.92289	0.0000

R-squared	-0.105824	Mean dependent var	4.317457
Adjusted R-squared	-0.107582	S.D. dependent var	0.649153
S.E. of regression	0.683180	Akaike info criterion	1.016666
Sum squared resid	293.5762	Schwarz criterion	1.044858
Log likelihood	-316.7582	Hannan-Quinn criter.	1.027616
Durbin-Watson stat	0.019469		