Stefan Ederer

European Monetary Union in Crisis

The crisis of the European Monetary Union has worsened noticeably in recent months and is placing a drag on the world economy. So far the attempts of EU governments to solve the crisis have failed. A comprehensive strategy for a solution must start with the following: the establishment, at least in part, of joint liability for government debt, measures to stabilise economic activity in the short run and the stabilisation of public debt in the long run. The alternative would be a break-up of the monetary union with serious consequences for the real economy in the euro area countries.

The authors are thankful to Fritz Breuss for useful and constructive comments. The data were processed and analysed with the assistance of Martha Steiner • E-mail adresses: Stefan.Ederer@wifo.ac.at, Martha.Steiner@wifo.ac.at

The world economy has gone through two years of a mixed but relatively strong recovery. In the European Union, however, the rebound was much less pronounced than in the other regions. The buoyant increase of exports to the fast-growing emerging economies triggered a strong upturn in some countries of the EU (notably in Germany, but also in Austria, in the Netherlands, in the Czech Republic and in Slovakia) and gave the impression in spring 2010 that the financial and economic crisis of 2008-09 had already been overcome. The crisis seemed to continue merely in some "peripheral" countries (mostly in southern Europe) with high budget deficits and/or high government debt.

However, this impression was deceptive. The financial crisis had not been overcome, but had transformed itself into a crisis of confidence in public finances. It dampened growth and prevented a self-sustained upswing in the euro area. The "euro crisis" has its roots in imbalanced economic developments within the euro area, government support for the banking sector and, partly, in high public and private debt levels[1] already before the crisis. It has worsened noticeably in recent months and is now the greatest risk for the world economy. All attempts of EU governments to contain the crisis have failed so far. This article does not elaborate on the causes of the crisis in the monetary union, but describes its most recent developments discussing key mechanisms and earlier solution attempts. In the concluding section approaches to a promising solution strategy are outlined.

The crisis so far

In spring 2010 yields of Greek government bonds surged after the publication of the actual debt level. In May the euro area countries, the European Commission and the IMF decided on a rescue package amounting to a total of € 110 billion (see box "Current bailout packages"). At the same time the establishment of the European Financial Stability Facility (EFSF, see box "Bailout fund") to provide loans of up to € 440 billion to countries in a government debt crisis was agreed. In November 2010 and in May 2011, respectively, Ireland and Portugal called on the EFSF, after government bond yields had also risen dramatically in these countries since the summer 2010 and they were de facto cut off from the capital market. Loans to all three countries were combined with reform programmes, in which spending cuts, tax hikes and a number of structural measures were agreed. The loans are disbursed in several in-

[1] On the causes of the sovereign debt crisis see *Tichy* (2012). A detailed discussion of the imbalanced economic trends in the euro area is provided in *Ederer* (2010).

stalments, each preceded by an assessment of the implementation of the agreed reform programmes (see box "Current bailout packages").

Current bailout packages

Greece: first bailout package

The first bailout package for Greece amounting to € 110 billion was agreed in May 2010. € 80 billion of this amount consist of bilateral loans from the euro area countries, € 30 billion are provided by the IMF. The programme was to extend over three years. The European Commission acts as a "loan broker", but does not contribute any financial means of its own.

From this rescue package loans totalling € 65 billion have been disbursed in five instalments so far. Each disbursement is preceded by an assessment of progress in the implementation of the measures agreed. The disbursement of the next instalment of € 8 billion was authorised at the beginning of December 2011 after repeated postponement and disbursed in mid-December.

Greece: second bailout package

In July 2011 a second bailout package amounting to € 109 billion was agreed. The rescue loans of the first bailout package, which had not yet been disbursed (€ 45 billion), were to be included in the second bailout package. Thus, the total amount of both packages would have been € 174 billion.

Due to a further worsening of the economic and fiscal situation of Greece the package was revised in October 2011: now rescue loans of € 130 billion are to be provided, € 30 billion of which would result from the EU's support of a voluntary debt waiver of 50 percent by private creditors. Private sector involvement is to help reduce Greece's debt ratio to 120 percent of GDP by 2020. Financial support to Greece would thus increase to a total of € 195 billion. The details of the revised second rescue package are still being defined.

Ireland

In November 2010 a rescue package totalling € 85 billion was agreed. Ireland itself had to contribute € 17.5 billion of this amount via the liquidation of assets. Two thirds of the external support are provided by the EU and individual member countries and one third is supplied by the IMF. € 22.5 billion is made available by the EFSM and € 17.7 billion is appropriated by the EFSF (see box "Bailout fund"). The programme extends over three years, loans have an average maturity of 7.5 years. So far the EU and the IMF have disbursed € 34 billion. A further instalment of € 4.2 billion was released at the beginning of December.

Portugal

The rescue package for Portugal amounting to € 78 billion was agreed in May 2011. The EU provides two thirds of the loans, the IMF supplies on third. The EU's portion is contributed in equal shares (€ 26 billion each) by the EFSM and the EFSF. The programme extends over three years. Loans have an average maturity of 7.5 years. So far the EU and the IMF have provided € 30.3 billion.

Table 1: Bailout programmes for Greece, Ireland and Portugal

	Greece[1]		Ireland[2]		Portugal		Greece[1]
	First package						Second package
	Agreed	Disbursed	Agreed	Disbursed	Agreed	Disbursed	Agreed
				Billion €			
Total	110.0	65.0	67.5	34.0	78.0	30.3	130.0
IMF	30.0	17.9	22.5	8.7	26.0	10.4	33.3
EU	80.0	47.1	45.0	25.3	52.0	19.9	96.7
Bilateral loans	80.0	47.1	4.8	4.8	–	–	–
EFSM	–	–	22.5	13.9	26.0	14.1	–
EFSF	–	–	17.7	6.6	26.0	5.8	96.7

Sources: EFSF, European Commission, *German Council of Economic Experts* (2011). Data as of early December 2011. The next instalments for Greece (€ 8 billion) and Ireland (€ 4.2 billion) were released in early December and disbursed later in that month. – [1] € 45 billion of the first package are transferred to the second one. For this reason the total amount is € 195 billion. – [2] Ireland had to contribute an additional € 17,5 billion by liquidating assets. The total bailout programme amounts to € 85 billion.

Bailout fund

In May 2010 the euro area countries decided on the establishment of a "European Stability Mechanism" (ESM) on the basis of article 122(2) TFEU. Its loan volume totals € 500 billion. It consists of two elements[1]: the European Financial Stability Mechanism and the European Financial Stability Facility.

European Financial Stability Mechanism (EFSM, € 60 billion)

The EFSM extends the balance of payments support that previously existed only for non-euro-area members to the euro area countries. Under this programme bonds are issued in the capital market and the proceeds are transferred to the benefitting countries. The EU is liable for the bonds issued and has to compensate any losses from its budget. The maximum amount is € 60 billion. So far € 22.5 billion and € 26 billion have been utilised for Ireland and Portugal, respectively.

European Financial Stability Facility (EFSF, € 440 billion)

On the basis of a multilateral agreement a corporation under private law was established, which is entitled to issue bonds and transfer the proceeds to euro area countries. The individual countries are liable for a share corresponding to their stakes in the ECB equity capital. The EFSF's loan volume amounts to € 440 billion. However, as only 6 euro area countries had a triple-A rating and these countries are liable for a total of 58 percent of the loans, only € 250 billion were available initially. Therefore, in July 2011 a decision was taken to raise the total liability of the EFSF to € 780 billion. However, this was only possible by means of an excess liability of all countries of up to 165 percent of their respective share. As those countries which draw upon a rescue programme are no longer liable for bonds of the EFSF, the effective total volume amounts to € 726 billion. The amount which can be utilised without a loss of the triple-A rating thus increases to about € 450 billion. So far € 17.7 billion and € 26 billion have been mobilised for Ireland and Portugal, respectively. An additional € 130 billion has been approved for Greece under the revised second rescue package.

In July 2011 the EFSF's room for manoeuvre was extended substantially. Until then individual countries were given loans under an agreement, if they applied. Now the EFSF is also entitled to pre-emptively buy bonds in the secondary market and to support the banking system indirectly via the supply of loans to sovereigns. In October 2011 it was agreed to leverage the EFSF's volume four to five-fold to increase its financial scope to about € 1 trillion. The details are still being finalised. Two variants are emerging: the establishment of a co-investment fund and the partial guarantee of new bonds by the EFSF.

European Stability Mechanism (ESM)

The EFSM and the EFSF are temporary with a limit of three years. They were to be replaced by a permanent European Stability Mechanism (ESM) in 2013. The treaty on the ESM was signed by the euro area countries in July 2011. Legally it is based on the new article 136(3) TFEU[2], which however remains to be ratified by the member countries to permit the establishment of the ESM. In contrast to the EFSF, an equity capital of € 80 billion has to be paid into the ESM. An additional € 620 billion can be drawn upon. The total equity capital amounts to € 700 billion. The maximum loan volume has been fixed at € 500 billion (*ECB*, 2011).

[1] In addition, the IMF provides € 250 billion under the European Stability Mechanism. Thus, the total amounts to € 750 billion. – [2] "The Member States whose currency is the euro may establish a stability mechanism to be activated if indispensable to safeguard the stability of the euro area as a whole. The granting of any required financial assistance under the mechanism will be made subject to strict conditionality" (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:091:0001:0002:EN:PDF).

The rescue packages and the establishment of the bailout fund failed to stabilise the confidence of investors to an extent, which would have lowered bond yields again. However, they prevented a further escalation of the crisis in the short run. Nevertheless, the pace and scope of the euro crisis have increased substantially since the summer 2011. In July 2011 yields on Italian and Spanish bonds began to rise sharply. The crisis thus threatened to spread to larger EU member countries. For the first time governments of the euro area countries implicitly acknowledged that the crisis no longer affected merely a few countries in the euro area's periphery. The systemic and European dimensions of the crisis began to be discussed more extensively. The governments decided on an enhancement of the EFSF's potential to intervene in the crisis. The EFSF was to be enabled to pre-emptively buy bonds in the secondary market. Further, the possibility of providing loans to banks was envisaged. The enhanced EFSF came into force in October 2011 after its ratification by the individual member countries.

Table 2: Capital resources of the bailout funds EFSF and ESM

	Share in the equity capital of the ECB[1]	EFSF Total liability	ESM Equity capital		Creditworthiness according to Moody's
			Total	Paid-in equity	
	Percent		Billion €		Rating
Germany	27.06	211.0	190.0	21.7	Aaa
France	20.32	158.5	142.7	16.3	Aaa
Italy	17.86	139.3	125.4	14.3	A2
Spain	11.87	92.5	83.3	9.5	A1
Netherlands	5.70	44.4	40.0	4.6	Aaa
Belgium	3.47	27.0	24.3	2.8	Aa1
Greece[2]	2.81	21.9	19.7	2.3	Ca
Austria	2.78	21.6	19.5	2.2	Aaa
Portugal[2]	2.50	19.5	17.6	2.0	Ba2
Finland	1.79	14.0	12.6	1.4	Aaa
Ireland[2]	1.59	12.4	11.5	1.3	Ba1
Slovakia	0.99	7.7	5.8	0.7	A1
Slovenia	0.47	3.7	3.0	0.3	Aa2
Estonia	0.26	2.0	1.3	0.1	A1
Luxembourg	0.25	1.9	1.8	0.2	Aaa
Cyprus	0.20	1.5	1.4	0.2	Baa1
Malta	0.09	0.7	0.5	0.1	A1
Total	100.0	780	700	80	
Effective[3]	93.1	726			
Triple-A rated countries[4]	57.9	452			

Q: EFSF Framework Agreement; Moody's Investors Service, Inc.; Moody's Analytics, Inc. Data as of early December 2011. Aaa . . . highest quality, with minimal credit risk, Aa . . . high qualitiy, very low credit risk, A . . . upper-medium grade, low credit risk, Baa . . . moderate credit risk, medium grade, may possess certain speculative characteristics, Ba . . . speculative elements, substantial credit risk, B . . . considered speculative, high credit risk, Caa . . . poor standing, very high credit risk, Ca . . . highly speculative; likely in, or ver near, default, with some prospect of recovery. – [1] The ESM shares differ slightly. – [2] Greece, Ireland and Portugal have already received rescue loans and thus do not contribute to the EFSF. – [3] Excluding Greece, Ireland and Portugal. – [4] Germany, France, Luxembourg, Netherlands, Austria, Finland.

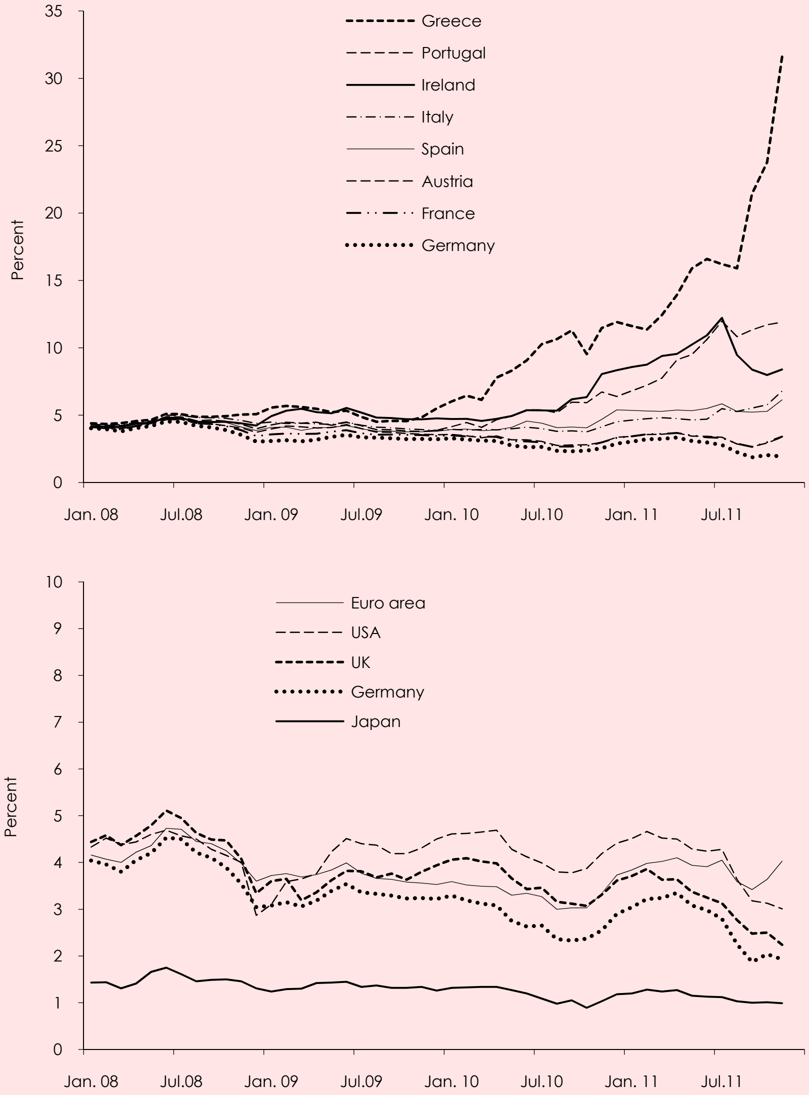
Simultaneously with the reform of the EFSF a new rescue package for Greece amounting to € 109 billion was agreed, because the expectations with respect to economic growth and budget consolidation had proved too optimistic and yields on Greek government bonds had climbed to new record highs in spring. At that time the intention to involve private creditors in a debt reduction implied the necessity of a debt cut for the first time. However, eventually the second bailout package for Greece was not implemented, because the situation worsened further and new measures had to be envisaged.

The situation calmed down only temporarily. After the decisions taken in July yields on Italian and Spanish bonds began to rise again. The ECB acted as lender and large-scale buyer of Italian and Spanish bonds in the secondary market to prevent a further increase. In August and September 2011 the crisis spread to the banking sector. Share prices of several European banks fell dramatically. The continuing discussion of a haircut in Greece and its potential effects on the financial system caused the confidence in the stability of the banks to decline. The interbank market virtually dried out, as banks were no longer willing to lend to each other. As a consequence the crisis had also reached a "systemic dimension" (Jean-Claude Trichet, 11 October) in the public perception.

The measures to enhance the EFSF's capacity, which had been agreed in July, were confirmed by all euro area countries in early October 2011 following lengthy domestic political debates – particularly in Germany and in Slovakia. At the same time, however, it became obvious that the measures were yet again insufficient to stabilise confidence and to end the crisis. Lately, the escalation has increasingly accelerated putting policy makers under pressure to act. When it became increasingly apparent in October that Greece would not meet the budget deficit target for 2011 because of the massive recession and the political discussion of reform efforts intensified in Italy, yields on bonds of these countries continued to increase. Therefore, further measures were announced at several crisis summits at the end of October. They included a target for an increased equity capital ratio of "systemic" banks, the announcement of a voluntary waiver of 50 percent of the face value of their Greek government bonds by private creditors as well as the "leveraging" of the EFSF (see box "Bailout fund"). The second rescue package for Greece was expanded to € 130 billion. However, some details of these measures are still being elaborated to date.

Figure 1: Yields on long-term government bonds

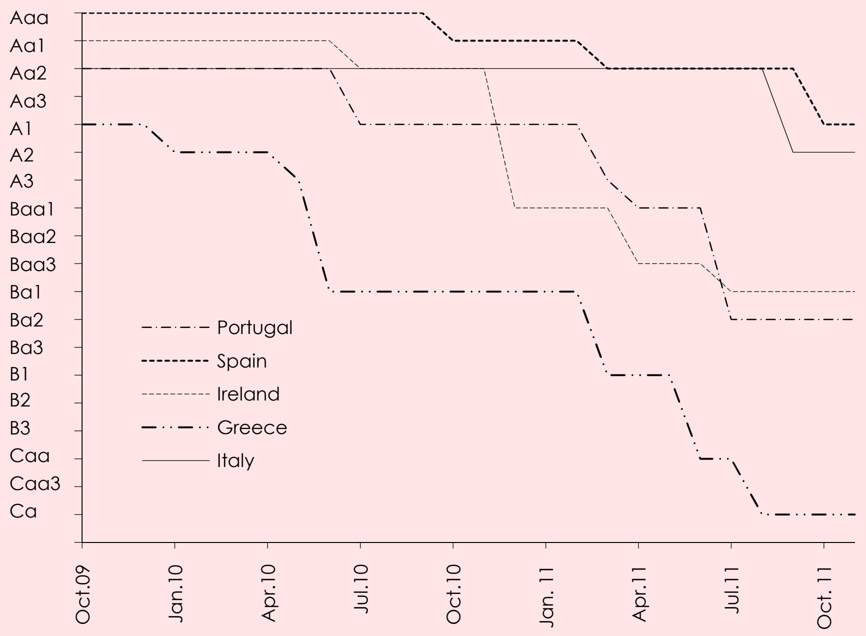
Maturity of 10 years



Sources: OeNB.

However, these decisions also failed to restore confidence in public finances. At the end of November yields on government bonds with a maturity of 10 years remained high in Greece, Portugal and Ireland. Those of Italy and Spain were close to the 7 percent benchmark. In France, Belgium, Slovenia, Austria and other countries yields climbed worryingly fast, albeit from a much lower level. At the end of November the rating agency Moody's threatened to downgrade the ratings of 87 European banks. Standard & Poor's changed the outlook for 15 euro area countries to "negative" in early December and actually downgraded 11 of them, among others Austria and France in January. At the EU summit on 8 and 9 December it was agreed to present a draft treaty of new fiscal pact of the euro area countries in March 2012. This pact is envisaged to tighten rules for budget planning and control further compared to the status quo. Furthermore, the IMF is to be given an additional € 200 billion by the central banks of the EU member countries and other countries. The ESM's entry into force is to be brought forward to July 2012 (see box "Bailout fund"). In the financial markets the investors' immediate reaction to these decisions was muted.

Figure 2: Ratings of the crisis countries' creditworthiness since 2009



Sources: Moody's Investors Service, Inc.; Moody's Analytics, Inc. Aaa . . . highest quality, with minimal credit risk, Aa . . . high qualitiy, very low credit risk, A . . . upper-medium grade, low credit risk, Baa . . . moderate credit risk, medium grade, may possess certain speculative characteristics, Ba . . . speculative elements, substantial credit risk, B . . . considered speculative, high credit risk, Caa . . . poor standing, very high credit risk, Ca . . . highly speculative; likely in, or ver near, default, with some prospect of recovery.

Previous attempts to solve the crisis have failed

As this very brief outline of the evolution of the euro crisis shows, the attempts of the European Union to contain the crisis have failed so far. The measures agreed were either unsuitable or insufficient to stop the mechanisms of the crisis and to contain it to a few small countries in the periphery. The measures discussed most recently are also likely to be insufficient to stabilise the situation.

The euro crisis manifests itself in a combination of weak growth, high private and public debt, a highly vulnerable financial system, growing uncertainty as well as insufficient policy reactions ("too little, too late"). These factors reinforce each other in several feedback loops producing a downward spiral hitting one country after another. In some countries high government debt and a high budget deficit combined with negative growth prospects lead to the loss of investor confidence in the solvency of the government. As a consequence, the bonds of these countries were less demanded in the secondary market leading to a corresponding increase of their yields. If this increase persists over an extended period, the interest burden in the budget increases, as bonds newly issued to refinance existing government debt and to cover additional financing requirements are subject to this higher interest rate. The high interest burden implies a de facto decline of solvency. If this leads to a further increase of debt, investors lose confidence in the service and repayment of the debts. A liquidity crisis – a temporary lack of liquid means to finance the budget – thus turns into a solvency crisis.

To avoid a debt explosion the governments of the affected countries tried to improve the primary balance and enacted drastic austerity programmes. Greece, Ireland and Portugal had to commit to massive austerity and structural reform programmes in return for bailout loans. Italy, Spain, France and other countries of the euro area also decided on extensive consolidation measures. Efforts to cut spending have so far been substantial. In Greece the primary balance of the general government budget improved by 5½ percent of GDP in 2010 compared to the previous year. In Spain and in Portugal the improvements were 2 percent of GDP and ½ percent of GDP, respectively. In Ireland, by contrast, the primary deficit rose sharply due to the bailout packages for the banking sector. Overall, the primary balance is envisaged to improve by 6½ percent in Spain, by 10 percent in Ireland and Portugal and by 12 percent of GDP in Greece in the four years from 2009 until 2013. In the light of the economic developments the austerity measures seem particularly dramatic: aggregate output shrank by 10 percent in Ireland, by 7 percent in Greece, by 3 percent in Spain and by 1 percent in Portugal between 2007 and 2010. The European Commission expects that in 2013 Greek GDP will be 14 percent below the level of 2007. According to this forecast Ireland (–6 percent) and Portugal (–5 percent) are also likely to show a much lower economic activity in 2013 than in 2007.

Table 3: Economic growth and government budgets of the euro area crisis countries since 2007

		2007	2008	2009	2010	2011	2012	2013
Greece								
GDP, in real terms	percentage changes from previous year	+ 3.0	– 0.2	– 3.2	– 3.5	– 5.5	– 2.8	+ 0.7
Government budget balance	as a percentage of GDP	– 6.5	– 9.9	– 15.8	– 10.8	– 8.9	– 7.0	– 6.8
Government primary balance[1]	as a percentage of GDP	– 2.0	– 4.8	– 10.6	– 5.0	– 2.2	+ 0.1	+ 0.9
Gross government debt	as a percentage of GDP	107.4	113.0	129.3	144.9	162.8	198.3	198.5
Ireland								
GDP, in real terms	percentage changes from previous year	+ 5.2	– 3.0	– 7.0	– 0.4	+ 1.1	+ 1.1	+ 2.3
Government budget balance	as a percentage of GDP	+ 0.1	– 7.3	– 14.2	– 31.3	– 10.3	– 8.6	– 7.8
Government primary balance[1]	as a percentage of GDP	+ 1.1	– 6.0	– 12.1	– 28.2	– 6.7	– 4.3	– 2.0
Gross government debt	as a percentage of GDP	24.9	44.3	65.2	94.9	108.1	117.5	121.1
Portugal								
GDP, in real terms	percentage changes from previous year	+ 2.4	+ 0.0	– 2.5	+ 1.4	– 1.9	– 3.0	+ 1.1
Government budget balance	as a percentage of GDP	– 3.1	– 3.7	– 10.2	– 9.8	– 5.8	– 4.5	– 3.2
Government primary balance[1]	as a percentage of GDP	– 0.2	– 0.6	– 7.3	– 6.8	– 1.6	+ 0.8	+ 2.3
Gross government debt	as a percentage of GDP	68.3	71.6	83.0	93.3	101.6	111.0	112.1
Spain								
GDP, in real terms	percentage changes from previous year	+ 3.5	+ 0.9	– 3.7	– 0.1	+ 0.7	+ 0.7	+ 1.4
Government budget balance	as a percentage of GDP	+ 1.9	– 4.5	– 11.2	– 9.3	– 6.6	– 5.9	– 5.3
Government primary balance[1]	as a percentage of GDP	+ 3.5	– 2.9	– 9.4	– 7.4	– 4.5	– 3.5	– 2.7
Gross government debt	as a percentage of GDP	36.2	40.1	53.8	61.0	69.6	73.8	78.0
Italy								
GDP, in real terms	percentage changes from previous year	+ 1.7	– 1.2	– 5.1	+ 1.5	+ 0.5	+ 0.1	+ 0.7
Government budget balance	as a percentage of GDP	– 1.6	– 2.7	– 5.4	– 4.5	– 3.8	– 2.2	– 1.1
Government primary balance[1]	as a percentage of GDP	+ 3.4	+ 2.5	– 0.8	– 0.1	+ 0.9	+ 3.1	+ 4.4
Gross government debt	as a percentage of GDP	103.1	105.8	115.5	118.4	120.5	120.5	118.7
Euro area								
GDP, in real terms	percentage changes from previous year	+ 3.0	+ 0.4	– 4.2	+ 1.9	+ 1.5	+ 0.5	+ 1.3
Government budget balance	as a percentage of GDP	– 0.7	– 2.1	– 6.4	– 6.2	– 4.1	– 3.4	– 2.9
Government primary balance[1]	as a percentage of GDP	+ 2.3	+ 0.9	– 3.5	– 3.4	– 1.2	– 0.3	+ 0.3
Gross government debt	as a percentage of GDP	66.3	70.1	79.8	85.6	88.0	90.4	90.9
USA								
GDP, in real terms	percentage changes from previous year	+ 1.9	– 0.4	– 3.5	+ 3.0	+ 1.6	+ 1.5	+ 1.3
Government budget balance	as a percentage of GDP	– 2.8	– 6.4	– 11.5	– 10.6	– 10.0	– 8.5	– 5.0
Government primary balance[1]	as a percentage of GDP	+ 0.1	– 3.7	– 9.0	– 8.0	– 7.0	– 5.4	– 1.7
Gross government debt	as a percentage of GDP	62.4	71.8	85.8	95.2	101.0	105.6	107.1

Source: European Commission. – [1] Net borrowing/net lending of the government excluding interest payments on government debt. 2011, 2012 and 2013: Autumn forecast of the European Commission.

The measures of the programmes mostly aim at a reduction of expenditures and an increase of revenues in the short term (*European Commission*, 2010, 2011B, 2011C). However, VAT and income tax hikes, wage and job cuts in the public sector as well as pension cuts result in an immediate loss of income of private households and thus dampen consumer spending. As a consequence aggregate demand and economic growth are weakened. Although the measures include structural reforms to spur growth, the latter work only in the long run. No measures to compensate for the short-term loss of demand have been taken. However, slowing growth in turn is equivalent to a loss of tax revenues and an increase of expenditures, so that the consolidation targets are not met and, subsequently, further austerity measures are implemented. Greece reported that it did not meet the deficit target in 2011. Similar developments can be observed in other countries. As a reaction further austerity programmes have already been announced. However, the drastic austerity measures are already stretched to the limits of political feasibility and in most affected countries strikes and protests are the daily fare. In September 2011 the Greek government barely managed to win a majority in parliament for its package of measures. Most recently governments of experts with a wide majority in the parliaments have been installed in Greece and in Italy. It remains to be seen whether they will succeed in implementing further reform packages.

The feedback loops described above result in a downward spiral in which the crisis in the respective country escalates further and further. Due to the continuing crisis uncertainty for companies and private households is also increasing further. Consumption and investment are therefore reduced thus further weakening demand. A pro-cyclical reaction of rating agencies to these developments accelerates the downward spiral. As illustrated in the above description of the evolution of the crisis the bailout loans and the related programmes have so far failed to restore the confidence of investors. The return of Greece, Ireland and Portugal to the capital markets seems unlikely any time soon. Further rescue loans might be necessary to meet financial requirements.

There are additional feedback loops with the financial system which holds a large share of the government bonds. A government default would reduce the assets of the banks and thus diminish their equity capital base. In the extreme case, the affected financial institutions might therefore also be threatened with bankruptcy. The European financial system is closely interwoven via the mutual holding of shares and bonds as well as the extension of short-term credits (*IMF,* 2011). The insolvency of one bank would thus also lead other banks into trouble. The Europe-wide stress tests, which were often considered too "mild", also contributed to the loss of confidence in the banking system. The escalation of the crisis required new and tougher tests. The write-down of all sovereign bonds to their market value was not assumed before the European Banking Authority's "rapid stress test" in mid-October. As a result a capital requirement of € 106 billion was estimated. On 8 December detailed results were presented for 71 large, systemic banks in the EU. The estimated capital requirements now amount to € 115 billion[2]. Already in October the *IMF* (2011) had indicated that the European banks urgently needed a recapitalisation. At the time this was still denied.

The liquidity crisis could be exacerbated further if, due to persistent uncertainty, private households, too, lose their confidence in the security of their savings and begin to turn them into cash ("bank run"). As a consequence, banks might increasingly try to sell part of their assets or to reduce credit ("credit crunch") to raise their equity capital ratio. This would in turn lead to a collapse of the prices of financial assets further weakening the equity capital ratio. The liquidity crisis would thus escalate into a solvency crisis of the banks. To prevent such a scenario the ECB provided the banks with extensive liquidity for up to three years. Therefore, it has been possible to avoid an escalation of the crisis in the banking sector so far.

However, two factors could add to the pressure on the financial system. On the one hand a slow-down of economic growth leads to loan defaults of the private sector. As, in a weak economic environment, it is difficult to sell collateral such as real estate, the lending banks would lose part of their assets and their equity capital base would thus be diminished further. This is problematic particularly in those countries where private debt is high. On the other hand the tightening of capital requirements for large European banks could induce the banks to cut their balance sheets. In the current situation it is probably difficult to raise equity capital in the financial market. Therefore banks might reduce their lending in future.

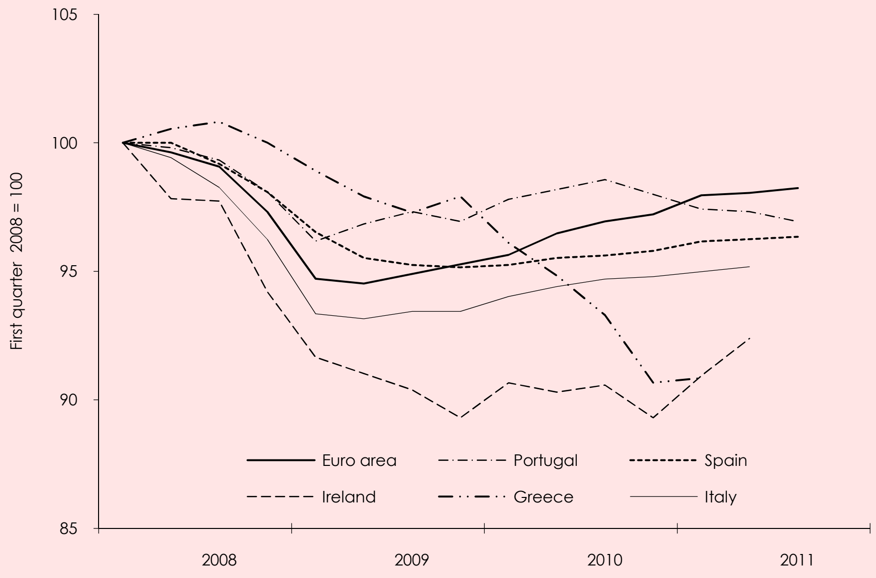
In principle the crisis and its mechanisms described above can spread to any country in the monetary union, the probability of investors losing confidence in the solvency of governments or other institutions being the higher the lower the growth prospects and the higher public and private sector debt or the more vulnerable the financial system. The longer the uncertainty persists and the more the crisis esca-

[2] See http://www.eba.europa.eu.

lates, the higher the risk that additional countries will be affected. This can be observed in the euro area: after Greece, Ireland and Portugal the crisis is now in danger of spreading to other countries, such as Italy and Spain, but also Belgium, France and Slovenia. There is a serious danger of one country after another getting "peeled off" the core of the euro area. Only Germany and a few other countries have benefitted from these developments: yields on German government bonds had been decreasing since the spring 2011 and reached the lowest level since the launch of the monetary union in autumn.

Figure 3: Real GDP

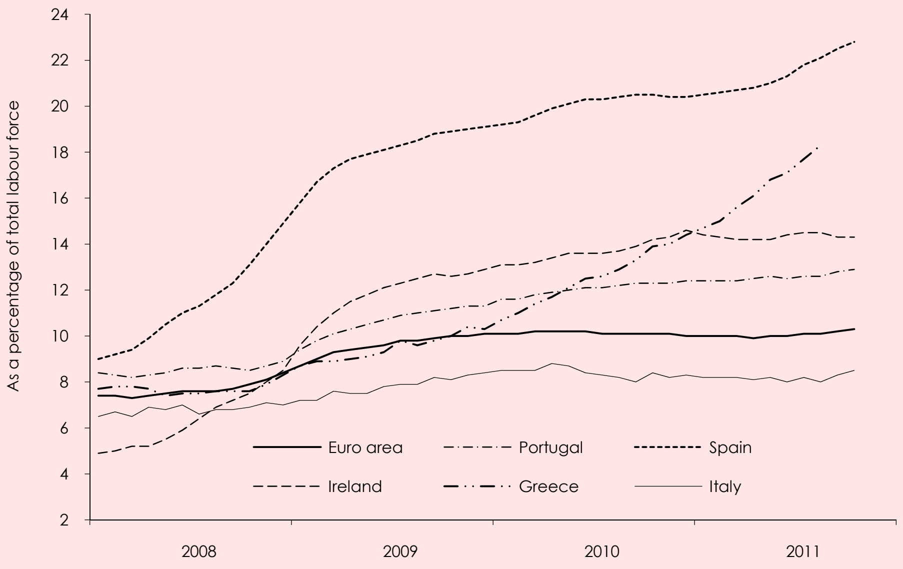
Seasonally and working day adjusted



Sources: Eurostat.

Figure 4: Unemployment trends since 2008

Seasonally adjusted



Sources: Eurostat.

The measures agreed so far have not been sufficient to stabilise the situation. The rescue loans and the EFSF in its original form were designed to extend loans to individual euro area member states, if refinancing the budget becomes increasingly burdensome and an insolvency looms. They were not intended to come into operation before a country is in crisis and applies for bailout loans. Although the EFSF's power to pre-emptively intervene in the crisis was expanded with its reform, the systemic character of the crisis was insufficiently taken into account.

The decisions on present measures were each preceded by a highly public discussion over months. With the spread of the crisis new measures that had been rejected vehemently before (e.g., a debt reduction for Greece) repeatedly came up in the discussion. For this reason the solutions have never been perceived as comprehensive and conclusive by the general public. This is likely to have contributed to the increasing uncertainty felt by businesses and private households. The continuing discussion and the lack of a credible package of measures also resulted in the crisis spreading to more and more countries.

Euro crisis requires a comprehensive solution

A comprehensive solution to the euro crisis has to take account of the crisis mechanisms discussed above and the flaws of the previous solution attempts. In what follows key elements of such a solution are discussed:

A "European" solution

In 2010, public debt in the euro area as a whole amounted to 85 percent of GDP. The debt ratio is thus not higher than in the USA, in the UK or in Japan. Nevertheless, yields on bonds with a maturity of 10 years are lower in the latter countries than in the euro area. One explanation of this paradox is that the USA, the UK and Japan have their own central banks, which can provide sufficient liquidity to the government bond market in an emergency. The countries of the euro area, by contrast, incur debts in a currency they cannot control. On the one hand they do not have a central bank of their own, which could assume the role of a lender of last resort. On the other hand liquidity can move to other countries within a monetary union (*De Grauwe,* 2011A). Joint liability of the members of the monetary union would end the uncertainty with respect to the insolvency of individual countries and prevent a further spread of the crisis.

The EFSF is a first step towards the Europeanisation of debt. Its function consists in issuing bonds in the financial market and transferring the proceeds to the crisis countries via loans. After its enhancement the EFSF has the capacity to intervene in the secondary market or to extend loans to euro area countries to stabilise the financial sector. However, its current design has two flaws:

- Firstly, its capacity is too limited to make the EFSF credible as an anti-crisis instrument. Its total firepower adds up to € 440 billion, € 140 billion of which are already earmarked for Greece, Ireland and Portugal. As an increase of funds the contributing countries is politically difficult, the EU governments are envisaging the "leveraging" of the credit volume. Currently, two different variants are being discussed. In the first a "Co-investment fund" (CIF) would be established, in which other investors besides the EFSF would hold stakes. The second variant would envisage that the EFSF guarantees 20 percent of newly issued bonds ("insurance solution"). Both solutions are to enable the EFSF to increase its lending capacity without raising further capital. However, there are considerable doubts whether these two solutions might actually work. The willingness of private investors or countries outside the euro area to participate in a CIF is likely to remain limited without additional guarantees. Although the insurance solution might reduce the interest rate somewhat, it would be ineffective in case of a large-scale loss of confidence (*Gros,* 2011). The easiest way to leverage the EFSF's firepower would be the award of a banking licence. Thus, the EFSF would be able to borrow from the ECB to buy government bonds (*Gros – Mayer,* 2011). However, this solution is no longer discussed at the moment, because it implies a de facto financing of government bonds by the ECB.

Euro bonds and debt redemption fund

Euro bonds are defined as bonds that are guaranteed jointly by all euro area member countries. The most recent proposal of the European Commission (*European Commission,* 2011A) envisages three different variants of "stability bonds". They differ with respect to the kind of liability (joint or pro rata) and the extent to which national bonds are replaced by EU bonds (complete or partial substitution):

Joint liability, complete substitution of national bonds

This variant implies the most comprehensive "Europeanisation" of government debt. In this variant all national bonds are replaced by joint bonds. The euro area countries are liable jointly for all bonds issued. The risk of a default would thus be spread over the whole of the euro area. Thus all countries would also pay a uniform interest rate on their public debt.

With the issue of such bonds a large and liquid bond market, supported by the euro area's combined economic power, would emerge. This market would probably be very attractive also to international investors and enjoy a similar status as the market for US government bonds. The stability bonds would thus be highly likely to be rated triple A. Current high-yield countries would benefit from significantly lower interest rates. Eventually, the higher liquidity might even cause the interest rates for Germany to decrease.

The biggest problem with the issue of stability bonds is the emergence of moral hazard. If all countries are liable jointly, there is a high incentive for an individual country to incur high debts at the expense of the other countries. For this reason an additional mechanism is necessary to ensure the limitation of debts. Further disadvantages of this scheme consist in the extended lead time and the duration of the transition. To establish this type of stability bonds a change of the EU treaties is probably required. Several years might pass, before all national debts are transformed into joint debts.

Joint liability, partial substitution of national bonds

This variant envisages the issue of stability bonds with joint liability up to a predefined limit. Its main features correspond to the proposal prepared by the Belgian Bruegel Institute: *Delpla – Weizsäcker* (2010, 2011) suggest a ceiling of 60 percent of GDP for the issue of euro bonds ("blue bonds"). For debts beyond this limit countries would continue to issue national bonds, for which they are liable themselves ("red bonds"). In this model blue bonds would be senior to red bonds. The advantages of a large, liquid bond market described above also apply to this variant, albeit only for the joint bonds. For the bonds remaining the responsibility of the national governments the risk of a default and consequently the interest rate would rise. This would result in the additional effect that the marginal interest rate that countries pay on debts exceeding the Maastricht limit would increase. Countries with a high debt ratio would thus continue to face strong market pressure. Nevertheless, this variant would not work without an additional framework to limit debts. This is necessary in particular to strengthen the credibility of the 60 percent limit (*European Commission,* 2011A). This variant, too, would require a change of the EU treaties and imply a transition period of several years.

Pro rata liability, partial substitution of national bonds

In this variant the member countries of the monetary union would not be liable jointly, but according to a predefined quota[1]. The advantages of higher liquidity and lower risk would be much smaller than in the other two variants. The interest rate is likely to be significantly lower for high yield countries. However, for low yield countries such as Germany a higher interest rate would be assumed. Its concrete level is currently debated controversially. The Munich-based ifo Institute (*Berg – Carstensen – Sinn,* 2011) expects that the interest rate of such euro bonds is equivalent to the weighted average interest rate of the individual euro area countries. Thus the interest rate for Germany would be 2 percentage points above the current level. As the total debt of the euro area in relation to its GDP is roughly equal to that of France, such bonds might also be rated correspondingly. This would result in an increase of 0.5 percentage point for Germany.

An advantage of this variant would consist in the fact that it does not require any change in the EU treaties and can thus be implemented rapidly. The problems resulting from the split into joint and national debts also apply to this solution.

The most recent expertise of the *German Council of Economic Experts* (2011) proposed a *debt redemption fund*. This solution envisages both a joint liability for bonds and a mechanism to reduce debts. Those government debts which exceed 60 percent of GDP would be transferred to the redemption fund. For these debts the member countries of the monetary union would be liable jointly. Debts below the 60-percent ceiling would remain under national liability. Each country would pledge to redeem the debts transferred to the fund in line with a predefined consolidation path over a period of 20 to 25 years. The joint liability would give the high yield countries some breathing space. However, this proposal would be temporary measure: as soon as the debts are redeemed, the fund is to be liquidated. The possibility of issuing national bonds beyond the 60-percent ceiling would be limited.

[1] Roughly corresponding to their share in the ECB's equity capital.

- The second flaw of the EFSF consists in the fact that all countries are liable only up to a certain quota. Countries that have received bailout loans are exempted from this liability. In the case of a further spread of the crisis to other countries the capacity of the EFSF would decline. Furthermore, the amount that the EFSF can borrow in the market with the highest credit rating depends on the quota of those countries with such a rating (see box "Bailout fund"). The loss of the triple-A rating by one of these countries would thus result in a reduction of the EFSF's loan volume. Therefore, it would be all the more important to rapidly increase the EFSF's firepower before further countries are sucked into the crisis.

Another option to "Europeanisation" of debt would be the issue of euro bonds. The latter are bonds that are guaranteed jointly by all countries. The European Commission has recently submitted a proposal for the introduction of such joint bonds ("stability bonds", see box "Euro bonds and debt redemption fund"). The issue of euro bonds would stabilise the confidence of investors, lower interest rates and thus ensure the short to medium-term solvency of the countries. Yet the political implementation of such a solution seems difficult and will probably require an amendment of the EU treaties. However, the European Commission's proposal includes a variant which envisages pro rata instead of joint liability and is very similar to the EFSF in its design. A substantially higher firepower of up to 60 percent of euro area GDP would be envisaged. This variant would probably be possible without any change in the EU treaties and could thus be implemented much sooner.

So far the reformed EFSF has not been able to perform its tasks. For this reason the ECB had to intervene with large-scale bond purchases in the summer 2011 to stabilise yields in Italy and Spain. The bond purchasing programme was continued in autumn. However, the ECB is keeping all options open on the duration and scale of this programme. In November it announced to limit the volume of weekly purchases to € 20 billion. Now there are increasing calls for an unlimited ECB guarantee for government bonds in the euro area. As the treaties ban the direct purchase of government bonds in the primary market, the ECB could announce unlimited purchases in the secondary market to cap bond yields. As the ECB has unlimited liquidity such an announcement would be highly credible. It would drastically reduce uncertainty and is likely to reduce the necessity of actual interventions compared to the recent experience (*De Grauwe*, 2011B). However, neither euro bonds nor enhanced ECB interventions were on the agenda of the EU summit of 8 and 9 December.

Measures to stabilise economic activity in the short run

A lasting solution to the debt problem can only be achieved, if the euro area economies return to a growth path. In the light of the global economic slowdown this requires that the automatic stabilisers should not be limited in their effectiveness or weakened further by additional spending cuts. However, this means a de facto abandonment of the deficit targets. The medium-term budget consolidation would have to follow structural expenditure paths generally rising more slowly, i.e., expenditures stabilising economic activity would be made in the near future and the consolidation measures would be postponed. The effects on other economies would also have to be taken into account. This would create room for manoeuvre to strengthen weak economies without the help of fiscal transfers: countries with large room for fiscal manoeuvre could contribute more to a stabilisation than others. However, each country would have to take concrete measures that are most appropriate in the respective national context to stabilise economic activity.

Measures to stabilise debt in the long run

Public and private debt has reached a high level in the euro area making the European economic system more vulnerable to financial and economic crises. For this reason a long-term stabilisation of debt is a sine qua non. Therefore a short-term increase of expenditures to stimulate economic activity should be linked to measures dampening expenditures in the long run. Structural reforms that work in the medium term, such as reforms of the pension and health systems or of public administration are best suited to ease the burden on the budget. Tax reform, e.g., with respect to a stronger role for wealth tax, would equally be conceivable.

The long-term stabilisation of government debt requires measures which reduce further borrowing. Joint liability for government debt of EU countries increases the incentives for individual countries to incur larger debts. To weaken these incentives in improved fiscal policy coordination would be necessary. This could be complemented by an enhanced monitoring of imbalances (with respect to inflation, unit labour cost, asset prices, credit volume, etc.) as envisaged in the reinforced Stability and Growth Pact ("six pack")[3]. In the longer run the creation of a real fiscal union as in the USA might be contemplated.

Conclusions

The financial and economic crisis of 2008 and 2009 has escalated into a crisis of confidence in public finances of the euro area countries and in the ability of their political institutions to cope with the crisis. It has worsened noticeably in recent months and is now the largest risk to global economic activity. The measures taken by EU governments so far have been insufficient and inadequate to solve the crisis. Key elements of a comprehensive solution of the euro crisis could directly address the crisis mechanisms:

Firstly, as the most recent developments show, a joint liability of the euro area countries at least for part of the government debt is the most important prerequisite for a restoration of confidence in public finances. This can be ensured via an expansion of the bailout fund, the issue of euro bonds or the provision of liquidity by the ECB. Secondly, the feedback loops between the confidence crisis and the real economy must be broken. This should be achieved via measures to stabilise economic growth rather than repeated, short-dated austerity efforts. A coordinated Europe-wide approach would enhance the effect of these measures. Thirdly, long-term measures must be taken in an effort to limit future government debt. It is the joint liability for the debts in particular which makes it necessary to decrease the incentive for higher deficits at the expense of other countries. These measures require a decisive change of the present anti-crisis strategy. However, if the euro crisis is not solved in time, a collapse or break-up of the euro area will be imminent. This would cause substantial shockwaves in the financial system, massively impair confidence in the solvency of the euro area countries and dramatically increase uncertainty for private households and companies. Such a shock would hit the real economy of the euro area hard.

References

Berg, T.O., Carstensen, K., Sinn, H.-W., "Was kosten Eurobonds?", ifo Schnelldienst, 2011, 17.

Breuss, F., "EU-Wirtschaftsregierung. Eine notwendige aber nicht hinreichende Bedingung für das Überleben der Eurozone und des Euro", FIW Policy Brief, 2011, (12).

Delpla, J., von Weizsäcker, J., "The Blue Bond Proposal", Bruegel Policy Brief, 2010, (03).

Delpla, J., von Weizsäcker, J., "Eurobonds: The Blue Bond Concept and Its Implications", Bruegel Policy Contribution, 2011, (02).

De Grauwe, P. (2011A), "Governance of a Fragile Eurozone", CEPS Working Document, 2011, (346).

De Grauwe, P. (2011B), "Only a more active ECB can solve the euro crisis", CEPS Policy Brief, 2011, (250).

ECB, Monthly Bulletin July 2011, Frankfurt, 2011.

Ederer, St., "Imbalances in the Euro Area", Austrian Economic Quarterly, 2010, 15(3), pp. 277-290, http://www.wifo.ac.at/wwa/pubid/40570.

European Commission, "The Economic Adjustment Programme for Greece", Occasional Papers, 2010, (61).

European Commission (2011A), Feasibility of Introducing Stability Bonds. Green Paper, 2011, (820).

European Commission (2011B), "The Economic Adjustment Programme for Ireland", Occasional Papers, 2011, (76).

European Commission (2011C), "The Economic Adjustment Programme for Portugal", Occasional Papers, 2011, (79).

German Council of Economic Experts, Verantwortung für Europa wahrnehmen. Jahresgutachten 2011/12, Statistisches Bundesamt, Wiesbaden, 2011.

Gros, D., "The pitfalls of official first-loss bond insurance", CEPS Commentary, 2011.

Gros, D., Mayer, T., "Refinancing the EFSF via the ECB", CEPS Commentary, 2011.

IMF, Global Financial Stability Report, Washington, D.C., 2011.

Tichy, G., "The Sovereign Debt Crisis: Causes and Consequences", Austrian Economic Quarterly, 2012, 17(2), pp. 95-107, http://www. wifo.ac.at/wwa/pubid/44297.

[3] A detailed discussion of the measures of the "six pack" is provided in *Breuss* (2011).

European Monetary Union in Crisis – Summary

The world economy has gone through two years of a mixed but relatively strong recovery. In the European Union, however, the rebound was much less pronounced than in the rest of the world. Strong exports to the fast-growing emerging economies lead to a powerful upswing in some countries of the euro area, notably in Germany, and suggested in spring 2010 that the financial and economic crisis of 2008-09 had been overcome. The crisis seemed to continue merely in some "peripheral" countries, mostly in southern Europe, which were struggling with high budget deficits and/or high government debt. This impression was deceptive. The financial crisis had not been overcome, but, rather, transformed itself into a crisis of confidence in public finances. It dampened growth and prevented a self-sustained upswing in the euro area. The "euro crisis" has intensified noticeably during recent months and is by now the greatest risk for the global economy. So far, all attempts of EU governments to contain the crisis have failed.

A comprehensive solution to the crisis would be based on the following key points: firstly, the most recent developments show that the joint liability of the euro area countries, at least in part, is the most important prerequisite for the restoration of confidence in public finances. It can be ensured via an expansion of the bailout fund, the issue of euro bonds or via the provision of liquidity by the ECB. Secondly, the feedback loops between the confidence crisis and the real economy must be broken. This should happen via measures to stabilise growth rather than repeated short-dated austerity efforts. A coordinated Europe-wide approach would enhance the effects of these measures. Thirdly, long-term measures have to be implemented in an attempt to stabilise government debt in the future. It is precisely the joint liability for debt that implies the necessity to reduce incentives for increased borrowing at the expense of other countries.

These measures require substantial changes in the current anti-crisis strategy. However, if the euro crisis is not solved in time, a collapse or breakup of the euro area will be imminent. Either would cause considerable shock-waves in the financial system, massively impair confidence in the solvency of the euro area countries and dramatically increase uncertainty for private households and businesses. Such a shock would hit the euro area economy hard.