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Fiscal and Monetary Policy Determinants of the Eurozone Crisis and its Resolution

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Contents

Abstract 4

1. Introduction 5

2. Looking for the right diagnosis: Euro crisis or sovereign debt crisis? 6

2.1. No Euro crisis yet 7

2.2. Fiscal crisis in developed countries and the EU 8

2.3. Other potential diagnoses 11

2.4. Eurozone specific factors 12

2.5. Changes in the attitude of financial markets towards sovereign debt 13

3. Origins and causes of the sovereign debt crisis 14

3.1. Maastricht arithmetic and its internal inconsistencies 15

3.2. Poor enforcement of Maastricht rules before the crisis 17

3.3. Fiscal costs of anti-crisis policies 20

4. Fiscal policy responses 22

4.1. Growing out of the debt? 23

4.2. Fiscal adjustment backed by microeconomic and institutional reforms 24

4.3. Debt restructuring 25

5. Monetary policy responses 25

5.1. General remarks 25

5.2. Inflating out the debt overhang 26

5.3. ECB as the 'lender of last resort' to governments 26

5.4. The increasing scale of ECB's rescue activities 27

5.5. ECB's institutional vulnerabilities and risk of Eurozone breakup 30

6. Changes in EU/EMU integration architecture: what kind of fiscal union? 31

7. Tentative conclusions and policy lessons 33

References 35

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Abstract

Unlike the crisis years of 2007-2009 (when the insolvency of large banks was a major problem), the current round of the global financial crisis has fiscal origins. Almost all developed countries suffer from an excessive public debt burden that has been built up over the last two decades or more. The financial crisis caused a further deterioration of government accounts as a result of ill-tailored countercyclical fiscal response and, in some cases, a costly financial sector rescue. All excessively indebted countries must conduct fiscal adjustment, even if this involves economic and political costs in terms of lower output and higher unemployment. Central banks can reduce these costs through accommodative monetary policies but without compromising their anti-inflationary missions and institutional independence. The ECB is additionally constrained by its institutional status which is based on a delicate cross-country political consensus. Excessive ECB involvement in quasi-fiscal rescue operations can undermine this consensus and lead to a disintegration of the Eurozone. There are also strong arguments in favor of strengthening fiscal and banking integration within the EU, especially the fiscal discipline mechanism at national levels, and building the EU rescue capacity in respect to sovereigns and banks based on strong policy conditionality.

1. Introduction

At the end of 2010, the world economy entered a new phase of macroeconomic and financial turbulences which was caused, this time, by large fiscal imbalances in several developed countries. Unlike in 2007-2008, when the crisis started in the US financial sector,[1] this time around the EU, especially some members of the Economic and Monetary Union (EMU), has become most heavily affected[2]. As a result, since the end of 2011, several EU economies have entered either stagnation or shallow recession. The crisis is far from being resolved and has the potential to deepen and spill over through the entire global economy if the worst-case scenario (i.e., disintegration of the Eurozone) materializes.

Unfortunately, the public discussion on both the causes of the crisis and potential remedies is sometimes misleading and overdramatizes policy choices, which does not help in making the right decisions. It is often driven by the short-term interests of financial market participants who want to minimize their potential loses and are looking for another generous bailout at the expense of taxpayers (see e.g., Soros, 2012b), media hunts for breaking news, and politicians wanting to avoid the political costs of adopting painful corrective measures.

As the crisis is currently centered on the Eurozone, the reforms shall also involve some changes in the EU/EMU institutional design, including the additional transfer of political power from the national to the Union level. This makes things even more complicated as the issue of national sovereignty remains sensitive in several EU member states. On top of this, there is no intellectual consensus on both the origins of the crisis (flaws of the Euro project vs. unsustainable fiscal policies) and the optimal design of fiscal and macroeconomic management within the single currency area.

The purpose of this paper is to address some of the above issues, giving a special emphasis to the fiscal origins of the crisis, policy remedies (including changes in the EU/EMU

[1] For periodization of the recent global financial crisis see Pomfret (2012).

[2] However, at the time of writing this paper (July 2012), two non-EMU EU member states, Hungary and Romania, continue to experience the periodic pressures of financial markets and have to resort to the IMF and EU macro-financial assistance.

integration architecture), and risks to Eurozone sustainability in the case of imprudent policy responses.[3]

The paper is organized as follows: Section 2 tries to diagnose the nature of the current phase of the financial crisis and its origins. This is followed by Section 3, in which a deeper analysis of the causes of fiscal imbalances is conducted. Section 4 discusses fiscal policy responses and Section 5 discusses monetary policy responses to the crisis. Section 6 focuses on changes in the EU/EMU integration architecture required to institutionally strengthen the common currency project in future. Finally, Section 7 offers tentative conclusions and policy lessons.

2. Looking for the right diagnosis: Euro crisis or sovereign debt crisis?

There are a number of diagnoses of the current crisis in both professional and political debate. They can be summarized as follows:

1/ This is a crisis of the Euro and, more generally, evidence of the unsustainability of the common currency project in Europe.

2/ The crisis has predominantly fiscal roots.

3/ The crisis manifests itself predominantly in the fiscal field but its deeper roots are different: banking crisis and competitiveness crisis.

4/ This is predominantly a balance of payments crisis

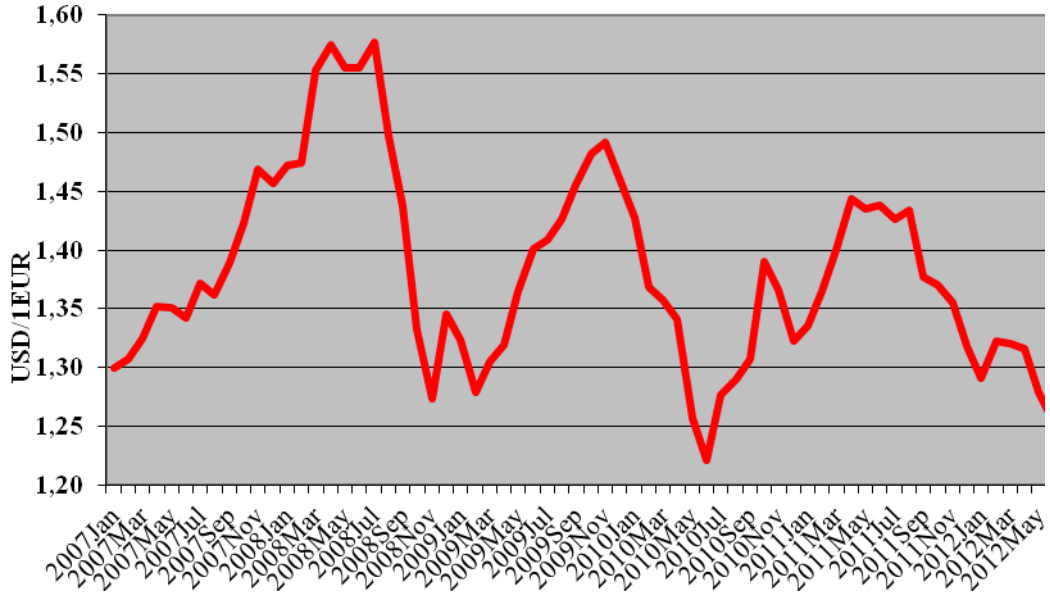
Below we will briefly examine these hypotheses.

[3] This paper is based on Dabrowski (2011 and 2012a). At various stages of work on this topic I had the opportunity to benefit from the comments of Richard Pomfret, Luca Barbone, Jorgen Mortensen, Marianne Schulze-Ghattas, Monika Blaszkiewicz, Ulrich Fritsche, Peter Mihalyi, Val Samonis, Kalman Mizsei and others. These comments were extremely helpful (even in cases when I disagreed with them) in shaping the current version of this paper, and strengthening and streamlining the presented arguments. Nevertheless, I accept sole responsibility for the views, opinions and proposals presented here. They do not necessarily reflect the views of CASE Network.

2.1. No Euro crisis yet

Identifying it as a crisis of the Euro does not seem to be the correct diagnosis, at least not yet. A currency crisis can be defined as a sudden decline in confidence in a given currency, leading to a speculative attack against it and resulting in its substantial depreciation.

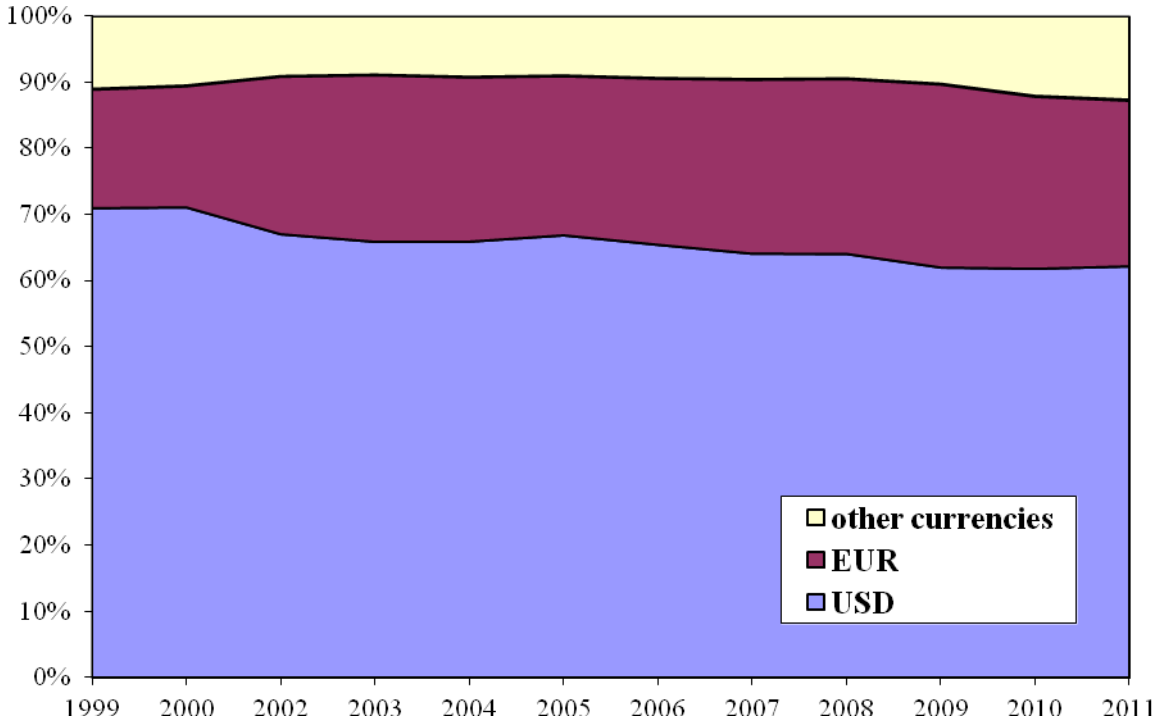
Figure 1. EUR/USD exchange rate, 2007-2012 (monthly data)



Source:
http://sdw.ecb.europa.eu/browseTable.do?periodSortOrder=ASC&vf=&type=&type=&node=2018794&CURRENCY=USD&FREQ=M&sfl1=4&sfl3=4&DATASET=0&trans=N

As one can see from Figures 1 and 2, nothing like this has happened with the Euro so far. Since the global phase of the financial crisis started in September 2008, the EUR/USD exchange rate has fluctuated within the range of 1.20-1.50 USD per 1 EUR, reflecting varied economic and political news and changing financial market sentiments. Indeed, the uncertainties related to the sovereign debt crisis in individual Eurozone member countries and its resolution (see below) influenced this trend but only temporarily. There is also no evidence of flight from the Euro as the second global reserve currency: fluctuations in the share of EUR denominated reserve assets partly reflect fluctuations in the EUR/USD exchange rate and other bilateral exchange rates.

Figure 2. Proportions of global reserve currency holdings (end-of-year data)



Note: The data covers only "allocated" reserves, i.e. those whose currency composition has been identified. At the end of 2011 they represented some 55% of the total official foreign exchange holdings.

Source: http://www.imf.org/external/np/sta/cofer/eng/cofer.pdf and author's calculations

However, one cannot rule out a scenario in which the wrong diagnosis of the crisis and the wrong therapy will, at some point, undermine the credibility of the Euro as a currency and the political consensus behind the common currency project (see Section 5).

Fiscal crisis in developed countries and the EU

Even a superficial analysis of Table 1 provides enough evidence to support the hypothesis of the predominantly fiscal character of the current phase of the financial crisis in the Eurozone and beyond. Furthermore, fiscal challenges are not limited to the Eurozone periphery[4] – Greece, Ireland and Portugal, Italy, Spain and Cyprus. A dramatic increase in public debt to GDP ratio has been recorded in most EU member states and other major developed economies since 2008. Furthermore, several countries already entered the global financial crisis with high debt-to-GDP levels (over 60%), as illustrated by the first column of Table 1. This concerns, among others, the US, Japan and Canada outside Europe, and Greece, Italy,

[4] By peripheral countries we mean those which face the risk of sovereign insolvency and are seen by financial markets as potential candidates for leaving the Eurozone (voluntarily or involuntarily). Core countries, on the other hand, are those perceived by financial markets as having solid macroeconomic and fiscal fundamentals and therefore being in a position to provide assistance to their weaker partners. On differences between peripheral and core members of the Eurozone – see Dabrowski (2012b).

Belgium, Portugal, Hungary, Germany, France, Malta and Austria within the EU. In many cases (such as Greece, Italy, Belgium), the high public debt dates back to the 1990s or even the 1980s (see Section 3).

Table 1: General Government Gross Debt-to-GDP ratio in the EU and other developed countries, 2007-2012

Country	2007	2008	2009	2010	2011	2012
World	62.1	65.2	75.6	79.3	79.6	80.0
EU	59.5	64.0	74.4	79.6	82.4	84.5
EMU members						
Eurozone	66.4	70.2	79.9	85.7	88.1	90.0
Austria	60.2	63.8	69.5	71.8	72.2	73.9
Belgium	84.1	89.3	95.9	96.2	98.5	99.1
Cyprus	58.5	48.6	58.3	61.3	71.8	74.3
Estonia	3.7	4.5	7.2	6.7	6.0	5.7
Finland	35.2	33.9	43.5	48.4	48.6	51.6
France	64.2	68.3	79.0	82.4	86.3	89.0
Germany	65.2	66.7	74.4	83.2	81.5	78.9
Greece	105.4	110.7	127.1	142.8	160.8	153.2
Ireland	24.8	44.2	65.2	92.5	105.0	113.1
Italy	103.1	105.8	116.1	118.7	120.1	123.4
Luxembourg	6.7	13.7	14.8	19.1	20.8	23.8
Malta	62.3	62.3	68.0	69.4	70.9	71.4
Netherlands	45.3	58.5	60.8	62.9	66.2	70.1
Portugal	68.3	71.6	83.1	93.4	106.8	112.4
Slovakia	29.6	27.9	35.6	41.1	44.6	47.1
Slovenia	23.1	21.9	35.3	38.8	47.3	52.5
Spain	36.3	40.2	53.9	61.2	68.5	79.0
Non-EMU EU members						
Bulgaria	18.6	15.5	15.6	16.7	17.0	21.3
Czech Rep.	28.0	28.7	34.3	37.6	41.5	43.9
Denmark	34.1	41.9	41.5	43.4	46.4	51.3
Hungary	67.0	72.9	79.7	81.3	80.4	76.3
Latvia	7.8	17.2	32.9	39.9	37.8	39.1
Lithuania	16.8	15.5	29.4	38.0	39.0	40.9
Poland	45.0	47.1	50.9	54.9	55.4	55.7
Romania	12.7	13.6	23.8	31.2	33.0	34.2
Sweden	40.2	38.8	42.5	39.4	37.4	35.5
UK	43.9	52.5	68.4	75.1	82.5	88.4
Other developed countries						
Canada	66.5	71.1	83.6	85.1	85.0	84.7
Japan	183.0	191.8	210.2	215.3	229.8	235.8
US	67.2	76.1	89.9	98.5	102.9	106.6

Note: fields in yellow indicate IMF estimates/ forecasts

Source: IMF WEO database, April 2011 (September 2011 in case of world's data)

Only in a few cases such as Ireland, the UK, Latvia and Spain, the rapid increase in the debt-to-GDP ratio was a result of the financial crisis itself, mostly due to the high costs of financial sector rescues.

Whatever the reasons for deteriorating fiscal accounts in individual countries, the overall picture of public indebtedness at the end of 2011 appears very dramatic. According to the IMF World Economic Outlook (WEO) statistics, the gross public debt of 12 out of 17 members of the EMU (all but Estonia, Finland, Luxembourg, Slovakia and Slovenia) exceeded the 'Maastricht' limit of 60% of GDP, and the same situation concerned 2 non-EMU members of the EU (Hungary and the UK). The threshold of 80% was exceeded by 9 EU member states: Belgium, France, Germany, Greece, Hungary, Ireland, Italy, Portugal and the UK. Looking at these numbers, the popular perception that the Eurozone is divided between the fiscally prudent 'North' and the imprudent 'South' looks questionable. At the end of 2011, the debt-to-GDP level of Germany and France remained higher than in crisis-affected Spain. As a result of fiscal deterioration in the largest member states, the entire EU debt exceeded 80% of its GDP and the Eurozone reached levels close to 90% of its GDP. Outside the EU, the situation looks even worse, with US gross public debt exceeding 100% of GDP and Japan's being well above 200%.

The debt dynamics have been even more worrying: during the crisis period (2007-2010), the global gross public debt to GDP ratio (including developing countries which perform much better) increased by 17.2 percentage points of GDP. The EU' s ratio recorded an increase of 22.9 p.p. between 2007 and 2011. In the case of the Eurozone, it increased by 21.7 p.p. during the same period.

Only five EU member states – Estonia, Germany, Hungary, Latvia and Sweden – managed to somewhat improve their debt to GDP ratios in 2011, compared to 2010. In all other EU countries they further deteriorated, in some cases quite dramatically, for example in Greece by 18 percentage points of GDP, in Portugal – by 13.4 p.p., in Ireland – by 12.5 p.p., in Cyprus – by 10.5 p.p., in Slovenia – by 8.5 p.p., in UK – by 7.4 p.p., and in Spain – by 7.3 p.p.

The short-term perspective does not look rosy either. According to the IMF's April 2012 forecast (see Table 1), in the entire EU except Estonia, Germany, Greece[5], Hungary and Sweden, the debt to GDP ratio is going to deteriorate even further in 2012.

Summing up, the new round of macroeconomic and financial turmoil has been caused by a widespread fiscal crisis which affected most of the developed world and its largest

[5] An improvement in Greece's debt-to-GDP ratio will be possible due to the debt reduction agreement with private creditors concluded in March 2012 (under the assumption that this agreement will be implemented by all parties, and especially by the new Greek government elected on June 17, 2012).

economies such as Japan, US, Italy, France, Germany, Canada and UK. Contrary to popular perception, this is not a phenomenon limited to the Eurozone periphery and to the Eurozone itself.

Other potential diagnoses

Other diagnoses of the 2010-2012 phase of financial turbulence do not address its primary causes even if they refer to actual economic problems and challenges. For example, peripheral EMU members experience some symptoms of the balance-of-payment crisis, i.e. a reversal of capital flows as illustrated by Table 2 which presents data on net portfolio investment (considered to be the balance-of-payment item most sensitive to changing financial market sentiments).

However, the timing of these reversals suggests that they are the consequences of mounting fiscal problems and financial market fears of sovereign insolvency in individual countries (and speculations about their hypothetical exit from the Eurozone), rather than the primary cause of the crisis. In Ireland and Spain they could also reflect various phases of their banking sector crises caused by bursting real estate bubbles. Nevertheless, since mid-2010, banks in the EMU peripheral countries have been increasingly relying on the liquidity support provided by the ECB which serves as a partial substitute for private capital outflow (see Merler & Pisani-Ferry, 2012).

Table 2: Net portfolio investment flows to EMU peripheral countries, EUR million

Country	2006	2007	2008	2009	2010	2011
Ireland	8,135	-7,283	-45,749	22,626	93,985	28,186
Greece	7,391	17,934	16,894	28,665	-21,230	-16,768
Spain	185,871	89,913	-546	50,761	34,379	-28,678
Italy	44,343	18,106	75,207	28,061	38,469	-34,376
Portugal	3,865	10,042	14,662	15,049	-9,658	-4,769

Source: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=bop_q_c&lang=en

The banking sector problems in the latest (2012) stage of the financial crisis originate mostly from the excessive exposure of banks to the sovereign debt of troubled or potentially troubled countries. The only exception relates to regional saving banks (cajas) in Spain, which were not cleaned up in the first phase of the crisis (2008-2009).

Several EU countries face competitiveness challenges but, in most cases, this may have a negative impact on the future growth perspectives rather than on past growth and the fiscal record. Some countries currently in trouble (Greece, Ireland, Spain, Cyprus) grew at quite impressive rates before the global financial crisis hit them but failed to build sufficient buffers

for a rainy day. Italy and Portugal were two major exceptions: their growth record was close to stagnant already in the first half of the 2000s (along with Germany).

Eurozone specific factors

The debate on the supposed flaws of the EMU project has various dimensions, some of which are discussed in sections 3, 5 and 6 below. Others are beyond the scope of this paper. However, there are two fiscal factors related to the Eurozone specific design worth mentioning here. Both of them might affect building up excessive sovereign debt exposures which would then complicate the crisis resolution mechanism.

The first one concerns the fiscal discipline rules within the single currency area. They were not particularly demanding from the very beginning and their enforcement was even more lax. They were strengthened only very recently (at the end of 2011 and beginning of 2012). We will return to this issue in sections 3 and 5.

The confusion in financial markets with respect to the potential debt resolution mechanism within the Eurozone has become the other important factor influencing fiscal developments in this area both before and after the global financial crisis started. The uncertainty is related to the question of how the burden of debt restructuring will be eventually shared between a troubled country and its single currency partners, which part of this burden will have to be absorbed by private creditors, and what the relations between the bailing out instruments and privately held bonds will be (the question of seniority of various claims).

Interestingly, Article 125 of the Treaty of the Functioning of the European Union is quite clear in this respect: it prohibits any direct bailout of member states. However, in spite of the letter of the Treaty, financial markets seemed to assume some degree of collective Eurozone fiscal responsibility since the beginning of the Euro project as evidenced by very low spreads on sovereign bond yields prior to 2008 (regardless of differences in the fiscal positions of individual countries).

Unfortunately, after the risk of sovereign insolvency on the Eurozone periphery started to be perceived as serious in early 2010 this implicit assumption became validated by ad hoc rescue packages provided to EU member states in trouble (de facto against the Treaty's no-bail out principle) and undertaken under pressure from financial markets to avoid panic and broader contagion effect. Only the second rescue package for Greece from March 2012

included the mechanism of de facto partial sovereign default (dressed up legally as voluntary debt restructuring).

Changes in the attitude of financial markets towards sovereign debt

One may legitimately ask why financial markets changed their attitude so radically towards sovereign debt, especially with respect to the Eurozone periphery? Why were they debt tolerant for so long and only became so nervous recently? The right answer seems to refer to the rapidly changing global macroeconomic and financial environment after 2007.

In the pre-crisis period of relatively high economic growth and abundance of cheap finance which originated from surplus savings in Asia and in oil-producing countries, lending to governments looked relatively safe and attractive. Most countries recorded either a gradual decrease or at least the stabilization of their debt-to-GDP levels.

The rapid deterioration of the global public debt to GDP levels and the perspective of slower GDP growth in the medium term means that financing has become relatively more expensive and difficult to obtain. There is increasing global competition for scarce financial resources both between the private and public sectors (the former being crowded out by the latter) and within the public sector itself. Countries with uncertain macroeconomic and fiscal perspectives are losing to those with a more solid credit reputation (even if the latter's debt-to-GDP level is high, as demonstrated in Table 1).

However even those that were considered safe havens by financial markets not so long ago now have good reasons to fear about their credit ratings and debt sustainability perspective. With low growth or no growth in the next few years, the debt-to-GDP level will continue to grow (see WEO, 2012, Table A8, p. 204), putting their debt solvency perspective in question. As a result, the perception of the 'safe' debt level (or the threshold of debt intolerance – see Reinhart and Rogoff, 2009, pp. 21-33) is changing rapidly, leading to massive sovereign rating downgrades and capital outflows from the public debt market of individual countries.

This also has an impact on the debt sustainability perspective within the EU and Eurozone. In the pre-crisis environment, investors may have expected that in the case of isolated debt service problems faced by countries with the highest debt-to-GDP ratios like Greece, other EU/EMU members would have enough fiscal room to provide them with a rescue package (even if such expectations went against Article 125 of the TFEU). Now when most EU countries, including France, Germany and the UK, face serious fiscal challenges themselves

and there are several candidates for actual or potential rescues, this kind of assumption is not justified anymore.[6]

The additional constraints come from continuous financial deleveraging in many countries (as a result of bubbles bursting in 2007-2008) and from the regulatory reform in the banking sector (especially increasing capital adequacy ratios, liquidity requirements and strengthening risk assessment procedures), which have made lending more scarce and expensive, other things being equal. If the idea of a new banking or financial transactions tax materializes, it will add to lending costs even more and will further slow economic growth.

3. Origins and causes of the sovereign debt crisis

Which factors led to such an unprecedented deterioration of fiscal accounts in most developed countries? The recession of 2008-2009, high costs of financial sector rescue and resulting high budget deficits clearly all played an important role. However, the negative fiscal trends in all major economies started earlier - either at the beginning of the 2000s (in the US) or already in the 1990s (Japan, part of the EU).

In the case of the US these were the costs of the war on terror and generous tax incentives aimed at overcoming the consequences of the dotcom recession in 2001. In the case of Japan this was the effect of a long period of stagnation in the 1990s, subsequent unsuccessful attempts to reactivate the economy through an aggressive fiscal stimulus and the costs of bank restructuring after the 1990 financial crisis. Finally, in the EU this was a combination of the slowdown in the early 2000s (similar to that of US) and relatively lax fiscal policies before and after, despite institutional safeguards introduced by the Maastricht Treaty in 1992 and the Stability and Growth Pact (SGP) in 1998 (watered down in 2005).

As the focus of this paper is on the Eurozone fiscal crisis, we will examine some flaws of the EU/EMU fiscal surveillance rules and resulting laxity of fiscal policies in several EMU economies.

[6] These constraints are largely ignored by those (like Soros, 2012b or Ferguson & Roubini, 2012) who demand even greater involvement by Germany in rescuing other Eurozone economies.

3.1. Maastricht arithmetic and its internal inconsistencies

The Maastricht Treaty of 1992 set two fiscal criteria for EMU membership[7]: an annual general government (GG) deficit not higher than 3% of GDP and a gross GG debt to GDP level not higher than 60% of GDP.

The equation (1) illustrates the dynamic interrelation between both criteria.

$$d\,t+1 = \frac{dt}{1+yn\,t+1} + g\,t+1 \qquad (1)$$

where d_{t+1} denotes gross GG debt-to-GDP ratio in period *t+1*, d_t for the same ratio in period *t*, yn_{t+1} – the rate of growth of nominal GDP in period *t+1*, and g_{t+1} – fiscal deficit to GDP ratio in period *t+1*.

Putting the hypothetical numbers into Equation 1 allows us to find conditions under which these two Maastricht criteria are mutually consistent. For example, a country which has a debt-to-GDP ratio of 60% in year t and does not want to breach this limit in year t+1 can run a fiscal deficit of 3% of GDP in year t+1 only when its nominal GDP grows by at least 5.26% in the same year. Assuming annual inflation of 2%,[8] this means real growth of 3% or more.

If a country's debt in year t amounts to 40% of its GDP, its stabilization on the same level in year t+1 (with fiscal deficit of 3% of GDP) requires a nominal growth of at least 8.1%. However, stabilizing the original debt level of 80% of GDP (exceeding the Maastricht criterion but tolerated in practice – see Section 3.2) with a fiscal deficit of 3% of GDP in year t+1 would require a nominal annual growth of only 3.9%.

Table 3: Real and nominal GDP growth in EMU-12 countries in %, 1998-2007

Country	Real GDP growth											GDP deflator	Nominal GDP
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Annual average	Annual average	Annual average
Austria	3.8	3.5	3.7	0.9	1.7	0.9	2.6	2.4	3.7	3.7	2.7	1.3	4.0
Belgium	1.9	3.5	3.7	0.8	1.4	0.8	3.3	1.7	2.7	2.9	2.3	1.9	4.2
Finland	5.0	3.9	5.3	2.3	1.8	2.0	4.1	2.9	4.4	5.3	3.7	1.5	5.3
France	3.4	3.2	3.9	1.8	0.9	0.9	2.3	1.9	2.7	2.2	2.3	1.7	4.0
Germany	1.7	1.8	3.3	1.6	0.0	-0.4	0.7	0.8	3.9	3.4	1.7	0.7	2.4
Greece	3.4	3.4	4.5	4.2	3.4	5.9	4.4	2.3	4.6	3.0	3.9	3.8	7.8
Ireland	7.8	9.9	9.3	4.8	5.9	4.2	4.5	5.3	5.3	5.2	6.2	4.3	10.8

[7] They are also binding for the non-EMU EU member states but with weaker sanctions for their breaching.

[8] To be precise, inflation measured in CPI terms may differ from the GDP deflator.

Country	Real GDP growth											GDP deflator	Nominal GDP
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Annual average	Annual average	Annual average
Italy	1.4	1.5	3.7	1.9	0.5	0.0	1.7	0.9	2.2	1.7	1.5	2.4	3.9
Luxembourg	6.5	8.4	8.4	2.5	4.1	1.5	4.4	5.4	5.0	6.6	5.3	3.2	8.7
Netherlands	3.9	4.7	3.9	1.9	0.1	0.3	2.2	2.0	3.4	3.9	2.6	2.6	5.3
Portugal	5.1	4.1	3.9	2.0	0.8	-0.9	1.6	0.8	1.4	2.4	2.1	3.1	5.3
Spain	4.5	4.7	5.1	3.6	2.7	3.1	3.3	3.6	4.1	3.5	3.8	3.7	7.6
Eurozone	2.8	2.9	3.8	2.0	0.9	0.7	2.2	1.7	3.3	3.0	2.3	1.9	4.2

Source: IMF WEO database, April 2011 and author's calculation

As seen in Table 3, real growth in the first decade after accepting the list of original 11 EMU members (in the spring of 1998 based on their 1997 macroeconomic results)[9] was lower than the 'model' 3+%. This concerned both the entire Eurozone and its several members: Italy, Germany, Portugal, France, Belgium, Austria and the Netherlands. Only the Netherlands and Portugal managed to fully compensate for the real growth shortfall by a higher GDP deflator. Four countries – Ireland, Luxembourg, Greece, and Spain – recorded both higher real growth and higher inflation.

Table 4: Public debt simulation for EMU-12 based on 'Maastricht arithmetic', 1997-2007, in % of GDP

Country	1997 (actual)	2007 (hypothetical)	2007 (actual)
Austria	64.4	73.3	60.2
Belgium	122.5	110.9	84.1
Finland	52.9	56.9	35.2
France	59.4	69.8	64.2
Germany	59.8	77.1	65.2
Greece	98.7	76.3	105.4
Ireland	63.7	53.0	24.8
Italy	117.3	109.5	103.1
Luxembourg	7.4	33.2	6.7
Netherlands	68.2	70.9	45.3
Portugal	54.3	62.4	68.3
Spain	66.1	61.6	36.3
Eurozone	73.1	78.0	66.4

Source: Author's calculations based on the IMF WEO database, April 2011

Table 4 presents a simulation of what the debt-to-GDP level in 2007 (the last pre-crisis year) would be if each country ran an annual fiscal deficit of 3% of GDP in the decade 1997-2007 as allowed by the Maastricht Treaty, given its actual nominal GDP growth record in this period as reported in Table 3 and its debt-to-GDP level in 1997. Our exercise is justified by the practice of the EU's surveillance in the first decade after launching the Euro: it was focused on monitoring countries' annual fiscal deficits and largely disregarded the level of

[9] Greece was accepted as the 12th member in 2000 with an entry date of January 1, 2001.

public debt. The results of the simulation demonstrate that running a hypothetical deficit of 3% of GDP each year would lead to an increase in the debt-to-GDP levels in the entire Eurozone and in seven out of twelve member states. Only countries with high original debt levels (Belgium, Greece and Italy) and those with high nominal GDP growth (Ireland, Greece and Spain) could count on some decrease in their debt-to-GDP ratios.

Fortunately, all countries but Greece and Portugal ran tighter fiscal policies than allowed by the Maastricht deficit criterion. However, in some cases (France and Germany), these policies were not tight enough to avoid further increases in actual debt-to-GDP levels and, generally, to build sufficient room for fiscal maneuver in the crisis period.

The above analysis leads us to conclude that the Maastricht deficit criterion of 3% of GDP proved too lax to ensure long-term fiscal sustainability. Worse, it was never seriously enforced.

3.2. Poor enforcement of Maastricht rules before the crisis

Table 5 presents the actual deficit level in the period of 1997-2007, i.e. after the Euro project was definitely launched and before the global financial crisis kicked off.

The deficit data in Table 5 and debt data in Table 4 (both for 1997 which was the reference year for admission of the first group of EMU members) make it clear that France, Portugal and Spain did not meet the deficit criterion and that Austria, Belgium, Ireland, Italy, Netherlands and Spain did not meet the debt criterion. France and Germany met the debt criterion by a narrow margin.[10] Only Finland and Luxembourg met both fiscal criteria by a comfortable margin.

Table 5: GG net lending/ borrowing in EMU-12, 1997-2007, in % of GDP

Country	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	-1.9	-2.5	-2.4	-1.8	-0.2	-0.9	-1.7	-4.6	-1.8	-1.7	-1.0
Belgium	-2.0	-0.6	-0.7	-0.1	0.4	-0.2	-0.2	-0.4	-2.8	0.1	-0.3
Finland	-1.6	1.6	1.7	6.9	5.1	4.1	2.4	2.2	2.7	4.0	5.3
France	-3.3	-2.6	-1.8	-1.5	-1.7	-3.3	-4.1	-3.6	-3.0	-2.4	-2.8
Germany	-2.6	-2.2	-1.5	1.3	-2.8	-3.7	-4.1	-3.8	-3.4	-1.6	0.2
Greece	-6.0	-3.9	-3.1	-3.7	-4.4	-4.8	-5.7	-7.4	-5.6	-6.0	-6.7
Ireland	1.4	2.2	2.6	4.7	0.8	-0.5	0.3	1.3	1.7	2.9	0.1
Italy	-2.7	-3.1	-1.8	-0.9	-3.1	-3.0	-3.5	-3.5	-4.4	-3.3	-1.5
Luxembourg	3.7	3.4	3.4	6.0	6.1	2.1	0.5	-1.1	0.0	1.4	3.7
Netherlands	-1.2	-0.9	0.4	2.0	-0.3	-2.1	-3.2	-1.8	-0.3	0.5	0.2
Portugal	-3.4	-3.5	-2.7	-2.9	-4.3	-2.9	-3.1	-3.4	-5.9	-4.1	-3.2

[10] Tables 4 and 5 present the IMF WEO statistics which may differ in some details from the Eurostat fiscal statistics at the time of admission of EMU members.

Country	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Spain	-3.4	-3.2	-1.4	-1.0	-0.7	-0.5	-0.2	-0.3	1.0	2.0	1.9

Source: IMF WEO database, April 2011

Some of the next EMU entries were also accepted despite not meeting the Treaty's fiscal criteria. This was the case with Greece, which became an EMU member at the beginning of 2001 despite breaching both debt and deficit criteria in 1999 (the reference year for Greece's accession). Worse, after entering the Eurozone, Greece always ran a GG deficit well above 3% of GDP and, not surprisingly, became the first victim of the sovereign debt crisis in 2010. The debt criterion was also missed in Malta and Cyprus' EMU accession in 2008.[11]

After being admitted to the EMU, a member country should continue to observe both fiscal criteria, subject to the Excessive Deficit Procedure (EDP) as established by Article 126 of the TFEU and further detailed in the SGP. However, the EDP enforcement proved to be even more problematic in political practice than strict application of the 'entry' Maastricht criteria. While the SGP contained a set of sanctions (including financial ones) against fiscally profligate member states, their implementation was not automatic (until approving the so-called six-pack in the fall of 2011).

Each step in the EDP required a qualified-majority vote in the ECOFIN (Council of Ministers of Finance). This provided enough room for building negative coalitions of actual and potential offenders of fiscal rules, which prevented the adoption of any serious sanctions, especially against the large member states (see Dabrowski, Antczak & Gorzelak, 2006). As seen in Table 5, the three largest EMU members – France, Germany and Italy – systematically breached the deficit criterion during at least four consecutive years (2002-2005). This finally led to a serious watering down of the SGP in 2005.

Since its very beginning, the SGP called on member states to adhere to *the medium term budgetary objective of positions of close to balance or in surplus*" in order to "*…deal with normal cyclical fluctuations while keeping the government deficit within the reference value of 3 % of GDP*" (European Council, 1997). However, as seen in Table 6 only a few members of the EMU-12 group (Finland, Luxembourg and, to a lesser degree, Belgium, Netherlands and Spain) followed the SGP recommendation.

[11] On purely legal grounds, according to Article 126 para. 2b of the Treaty on the Functioning of the European Union (TFEU), a country may be admitted to the EMU even if its debt-to-GDP ratio exceeds the reference value of 60% but "*…is sufficiently diminishing and approaching the reference value at a satisfactory pace*."

Table 6: GG structural balance in the EMU-12, 1997-2007, as a % of potential GDP

Country	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	-1.8	-2.5	-3.1	-3.9	-1.3	-1.3	-1.2	-2.0	-2.0	-2.7	-2.7
Belgium	-2.1	-0.5	-1.0	-0.6	0.3	0.1	3.0	-0.5	0.0	-0.3	-1.1
Finland	-1.3	0.9	1.7	6.4	5.1	4.8	3.4	2.4	2.8	3.3	3.2
France	-2.3	-2.6	-2.3	-2.7	-2.6	-3.4	-3.5	-3.1	-2.8	-2.3	-3.0
Germany	-2.2	-1.9	-1.4	-1.6	-2.8	-3.1	-3.1	-3.3	-2.6	-2.3	-1.1
Greece	-5.0	-2.9	-1.9	-2.7	-3.9	-5.2	-6.8	-8.7	-7.9	-9.2	-10.0
Ireland	n/a	n/a	n/a	1.9	-1.7	-2.4	-1.6	-2.2	-3.2	-4.5	-8.0
Italy	-3.7	-3.3	-1.8	-3.0	-4.8	-4.8	-5.2	-5.0	-5.1	-4.0	-3.2
Luxembourg	4.5	4.1	3.2	4.8	5.8	2.0	1.4	-0.2	0.4	1.2	2.2
Netherlands	-0.9	-1.3	-0.8	0.5	-1.9	-2.2	-2.3	-0.9	0.4	0.1	-1.2
Portugal	-3.2	-3.7	-3.1	-4.1	-5.0	-4.6	-4.8	-5.3	-5.6	-4.0	-3.8
Spain	-1.2	-1.7	-1.0	-1.1	-1.8	-1.1	-1.0	-1.0	-1.6	-1.3	-1.1

Source: IMF WEO database, April 2011

Obviously the GG structural balance estimated by the IMF may not be the ideal measure of cyclically adjusted fiscal performance, as any indicator which is based on the concept of potential output.[12] It is even more difficult to project the cyclically adjusted fiscal position *ex-ante*. Any such projection depends on numerous arbitrary assumptions and forecasting uncertainties. On the other hand, as the SGP procedures require member states to submit regular stability and convergence programs, the *ex-ante* fiscal projections have become the bargaining tool between national governments and the European Commission.

With the benefit of hindsight one can say that during the boom years of 2003-2007 policymakers in many EU member states were overly optimistic about the long-term potential growth of their economies. To some extent, they were also misled by the unexpectedly high revenue elasticity of this particular business cycle. In the boom years, budget revenues in several countries grew much faster than nominal GDP, a trend which was then abruptly reversed after the 2008-2009 recession had started. The nature of these windfall revenues requires a more in-depth analysis which goes beyond the agenda of this paper.

Apart from excessive forecasting optimism, policymakers in several countries forgot about other long-term fiscal challenges, for example, about the negative impact of population aging. They started to be addressed when the financial crisis had already hit and the fiscal room for maneuver had dramatically narrowed.

[12] For the methodological details of this approach, see Fedelino, Ivanova & Horton (2009).

3.3. Fiscal costs of anti-crisis policies

In the wake of the 2007-2009 crisis, two factors contributed to the dramatic deterioration of fiscal balances as illustrated by Table 7. These were the costs of financial sector rescue and countercyclical fiscal policy, both largely underestimated by policymakers.

Ireland saw the most dramatic deterioration of its fiscal position caused by a large-scale banking crisis (see FitzGerald, Kearney & Znuderl, 2012). Most likely, part of these costs could have been avoided with better crisis management. This concerns, in the first instance, the controversial decision of the Government of Ireland on September 30, 2008 to grant a blanket, system-wide, guarantee to most bank liabilities.[13] Few other countries such as the US, UK, Iceland, Spain, Latvia and Lithuania also had to cover extra fiscal expenditures related to bank recapitalization and other forms of financial sector rescue but they were lower than in the case of Ireland.

The negative fiscal consequences of the financial crisis are hardly surprising in light of the available historical experience (see Reinhart and Rogoff, 2009, pp. 162-171). Nevertheless respective policy lessons should be drawn from the recent global financial crisis experience to minimize the fiscal costs of any further financial sector turbulence (see Section 4.2).

Countercyclical fiscal policy has become another powerful factor which caused a dramatic deterioration in fiscal accounts. Conceptually, such a policy includes two components: automatic fiscal stabilizers and a discretionary fiscal stimulus. The first one reflects fiscal developments under policy regimes and institutions established before the crisis: declining tax and other revenues (proportionally or over-proportionally in respect to nominal GDP dynamics) against increasing demand for unemployment benefits and social assistance, more early retirement and other social benefits, and fixed expenditures for various government activities and programs. The discretionary stimulus includes extra measures aimed at stimulating economic activity such as additional expenditure programs or extra tax cuts.

[13] For a comprehensive diagnosis of the banking crisis in Ireland and anti-crisis measures see Honohan et al. (2010).

Table 7: GG net lending/ borrowing in the EU and other developed countries, 2008-2011, in % of GDP

Country	2008	2009	2010	2011
EU	-2.4	-6.7	-6.5	-4.6
Eurozone	-2.1	-6.4	-6.3	-4.1
EMU countries				
Austria	-1.0	-4.1	-4.5	-2.6
Belgium	-1.3	-5.9	-4.2	-4.2
Cyprus	0.9	-6.1	-5.3	-6.5
Estonia	-2.3	-2.1	0.4	1.0
Finland	4.2	-2.7	-2.8	-0.8
France	-3.3	-7.6	-7.1	-5.3
Germany	-0.1	-3.2	-4.3	-1.0
Greece	-9.7	-15.6	-10.6	-9.2
Ireland	-7.3	-14.2	-31.3	-9.9
Italy	-2.7	-5.4	-4.5	-3.9
Luxembourg	3.0	-0.9	-1.1	-0.7
Malta	-4.6	-3.7	-3.6	-3.0
Netherlands	0.4	-5.6	-5.1	-5.0
Portugal	-3.7	-10.2	-9.8	-4.0
Slovakia	-2.1	-8.0	-7.9	-5.5
Slovenia	-0.3	-5.6	-5.4	-5.7
Spain	-4.2	-11.2	-9.3	-8.5
Non-EMU EU countries				
Bulgaria	2.9	-0.9	-3.9	-2.1
Czech Republic	-2.2	-5.8	-4.8	-3.8
Denmark	3.4	-2.8	-2.7	-3.9
Hungary	-3.7	-4.5	-4.3	4.0
Latvia	-7.5	-7.8	-7.2	-3.4
Lithuania	-3.3	-9.2	-7.1	-5.2
Poland	-3.7	-7.3	-7.8	-5.2
Romania	-4.8	-7.3	-6.4	-4.1
Sweden	2.2	-0.9	-0.2	0.1
UK	-4.9	-10.4	-9.9	-8.7
Other developed countries				
Canada	0.1	-4.9	-5.6	-4.5
Japan	-4.1	-10.4	-9.4	-10.1
US	-6.7	-13.0	-10.5	-9.6

Note: yellow fields indicate IMF estimates/ forecasts

Source: IMF WEO database, April 2011

In practice, it is difficult to distinguish between automatic stabilizers and discretionary fiscal measures. Nevertheless the aim of both is to help the economy get out of the recession/ slowdown and reduce its negative social effects. From a fiscal point of view it makes sense only if the benefits coming from the additional growth of GDP (comparing to a scenario with no fiscal stimulus) will exceed stimulus costs, i.e. when a fiscal multiplier is higher than 1. In turn, this may happen when there is a low level of capacity utilization and a high propensity to spend on goods and services produced in a given economy.

Unfortunately, this was not the case during the 2008-2009 recession. In an environment of excessive private and public indebtedness, most economic agents preferred to repair their balance sheets, i.e. increase their net savings rather than spend more. Redundant capacities existed mostly in sectors and industries which were oversized and required structural adjustment such as financial services, housing construction or car production. As a result, the potential spending multipliers have been smaller than in some previous business cycles. This has been correctly summarized by Gros (2012b): "…*benefits from deficit spending were smaller than expected, and possibly smaller than the cost of the austerity needed to bring deficits back under control.*"

In addition, in the globalized economy, a fiscal stimulus on the national level has a tendency to 'leak' outside a given economy.[14] The cross-border coordination of fiscal stimuli, even within the EU, proves problematic for many reasons (see Dabrowski, 2010).

If one analyzes the political economy dimension of the discretionary fiscal policy, its asymmetrical potential becomes very clear. It is politically easy to provide fiscal stimulus but it is much more difficult to withdraw it. The US experience with tax incentives during the Bush era or the 2008-2009 stimulus package, both of which were intended to be only temporary, are very telling here.

4. Fiscal policy responses

As the current stage of the financial crisis has a predominantly fiscal nature the policy responses must aim, in first instance, at reducing fiscal imbalances. While this general recommendation seems to be hardly questionable, the issue of timing and the exact composition of fiscal adjustment packages in individual countries raises a lot of controversies. Generally speaking, one can distinguish between two opposite camps – those who argue in favor of immediate fiscal tightening even if this means a pro-cyclical fiscal policy in the time of downturn and those who advocate for a more cautious approach with either a more gradual fiscal adjustment or even the continuation of anti-cyclical fiscal policy until the economy starts to recover (Krugman and Layard, 2012, Krugman, 2012).

[14] Unless it is accompanied by protectionist measures. Fortunately, protectionist measures during the 2008-2009 recession were limited, especially within the EU.

4.1. Growing out of the debt?

Critics of fiscal austerity (see e.g. Layard, 2012; Soros, 2012a) are afraid that it will bring greater output decline and more unemployment and will lead to a further deterioration of debt-to-GDP ratios, i.e. creating some kind of self-perpetuating downward spiral and, as a result, producing negative political effects (fertile soil for populist forces). Such fears seem to be at least partly justified if one looks at GDP decline/ stagnation in those EU economies which already adopted fiscal austerity packages (the UK, Ireland, Portugal, Greece, Italy and others). There is little hope for the so-called non-Keynesian effects of fiscal tightening, even if such effects could be sometimes observed in the past (see Siwinska & Bujak, 2006).

However, even if one does not want to accept the unpleasant short-term output and employment consequences of fiscal tightening, the question is about the alternative. Such an alternative is rarely presented in terms of operational macroeconomic projection, taking into account debt sustainability constraints. Rather, there is a general belief that the economy can grow out of excessive debt-to-GDP levels without the necessity to radically improve its primary fiscal balance just now. Again, such a belief is based on several, usually implicit, assumptions: that the fiscal multiplier is higher than one, that the level of business activity is below its potential and that the government has enough fiscal room and credibility to borrow on the market to buy additional time before growth returns to its potential.

As mentioned previously, such expectations and assumptions were already negatively verified in 2008-2009. In spite of growth recovery between mid-2009 and mid-2011, fiscal accounts did not return to their pre-crisis levels and most developed countries began an unsustainable fiscal path as demonstrated by Table 1. Looking back, they did not have enough fiscal room for countercyclical fiscal policies already in 2008-2009 (see sections 3.2 and 3.3). And this is an even less realistic perspective in the foreseeable future because of much higher indebtedness, increasing debt intolerance, and poor growth perspectives in the near future.

Even if the current slowdown/recession proves short lived, economic growth will not return to the pace of the 1990s or mid-2000s soon. First, as mentioned before, financial deleveraging and financial sector reform will negatively influence growth potential for quite some time. Second, there are no new substantial growth impulses similar to those which happened in the 1990s (peace dividend after the end of the Cold War, the economic opening of China, India and the former communist countries, global trade liberalization, ICT revolution). Third,

both monetary and fiscal policies which stimulated growth in the mid -2000s will have to be more restrictive now.

Most importantly, several EU countries already face borrowing constraints (peripheral countries of the Eurozone, Hungary, Romania) and a few others may have good reasons to fear that their creditworthiness can be questioned soon by financial markets.

4.2. Fiscal adjustment backed by microeconomic and institutional reforms

Since growing out of debt looks unrealistic, countries should consider two other options: fiscal adjustment backed by microeconomic and institutional reforms and debt restructuring. Both are politically and socially painful and both involve substantial negative side effects (as described in Section 4.1), at least in the short-term. However, only these two options offer durable solutions.

Fiscal adjustment, by its nature, addresses the core roots of the debt crisis, i.e. it allows for improving the primary fiscal balance and decreasing debt service costs. If focused on reducing spending rather than on raising taxes, and if it is backed by well-designed microeconomic and institutional reforms (for example, rationalizing welfare programs, increasing elasticity of labor, product and service markets, financial sector reform), fiscal adjustment may increase a country's growth potential in the medium-to-long term. However, short-term output and employment costs (and therefore additional negative fiscal shock) are hardly avoidable.

Furthermore, as most developed economies must follow the same path one may expect slower global growth in the short-term. No additional demand support can be expected from emerging markets either, because most of them will have to fight against macroeconomic overheating.

Institutional reforms should also aim to diminish the financial sector's contingent fiscal liabilities in the future. One of the key issues here is addressing the 'too big to fail' problem, i.e. decreasing the market share and political bargaining power of the so-called systemically important financial institutions (SIFI). The reform should also decrease the pro-cyclicality of financial sector regulations.

Unfortunately, as a result of rescue operations undertaken during the recent crisis, part of which included emergency mergers and takeovers of the troubled institutions by others, the

dominance of large financial groups and conglomerates further increased (see Suranyi, 2012).

4.3. Debt restructuring

In some cases like Greece the debt burden is so high that fiscal consolidation, although necessary, is not sufficient to return a country's solvency. This is why debt restructuring must also be considered part of the adjustment package. Obviously, this is a costly solution for lenders and it involves other negative side-effects. For example, it may trigger cross-border contagion on the sovereign debt market and in the entire financial sector. However, it is sometimes unavoidable. The sooner it is done (in an orderly manner i.e., through the negotiations of all interested parties like in the case of Greece), the smaller the eventual cost of debt restructuring. Excluding this option up front, as some governments in Europe try to do, is neither realistic nor does it create the right incentives for both creditors and borrowers. And negotiated debt restructuring or even unilaterally declared ('messy') sovereign default of any Eurozone country does not mean the automatic break up of the common currency area. Economic history gives us several examples of sovereign defaults under the gold standard (see Reinhart & Rogoff, 2009) or in individual US states (Gros, 2010) which caused neither monetary nor political disintegration.

5. Monetary policy responses

5.1. General remarks

Central banks also have a role to play in supporting fiscal adjustment, mostly through adopting a more accommodative monetary policy stance to compensate for the negative demand effects of fiscal tightening. However, there are clear limits of monetary accommodation, i.e., it cannot allow inflation to grow above the central bank's target, it must not compromise the central bank's independence, and it should not involve quasi-fiscal operations which blur boundaries between monetary and fiscal policies.

Unfortunately, not all the policy proposals floated in the public debate respect the limits mentioned above. Below we will discuss two of the most controversial proposals and then we will review the actual ECB practices while giving special focus to the ECB's institutional vulnerabilities.

5.2. Inflating out the debt overhang

Real depreciation of the accumulated debt burden through higher inflation is a suggestion which, directly or indirectly, appears in the policy debate especially in the context of skepticism *vis a vis* rapid fiscal adjustment[15]. Indeed, this is a policy option which may work to some extent (until financial markets start to charge an inflation-related risk premium) and only in those countries which do not have substantial debt denominated in a foreign currency.[16] However, the negative side effects of such a policy – higher inflationary expectations, building up inflationary inertia, price/ wage indexation practices and lower central bank credibility – may be serious, long lasting and devastating for both the growth perspective and financial stability.

In the case of the Eurozone, it may involve the additional risk of undermining cross-country political consensus around a common currency. Countries less burdened with public debt and more committed to price stability may consider paying an inflationary price for inflating out others' debts as economically and politically unacceptable.

5.3. ECB as the 'lender of last resort' to governments

The proposal that the ECB should declare the purchase of debt instruments issued by the Eurozone governments in the case of market distress unlimited and unconditional (see e.g. Bofinger & Soros, 2011; Layard, 2012) sounds even more controversial and risky than the 'moderate' inflation scenario discussed in Section 5.2.

The idea that the ECB may serve as the 'lender of last resort' (LOLR) to governments is deeply flawed and based on dubious theoretical foundations. Central banks can play such a role with respect to commercial banks supplying them with temporary liquidity to avoid depositors' panic.[17] In practice, however, it is often difficult to distinguish a bank's illiquidity from its insolvency (see Goodhart, 1987). This is even more true in case of sovereign debt, where the market perception of government solvency is conditional on various ex ante assumptions that are hardly verifiable and subject to multiple equilibria.

[15] The benefits of higher inflation for post-crisis macroeconomic policy were first discussed in a thorough manner by Blanchard, Dell'Ariccia & Mauro (2010).

[16] The depreciation of domestic currency which may result from a pro-inflationary policy will increase the debt service burden in both nominal and real terms.

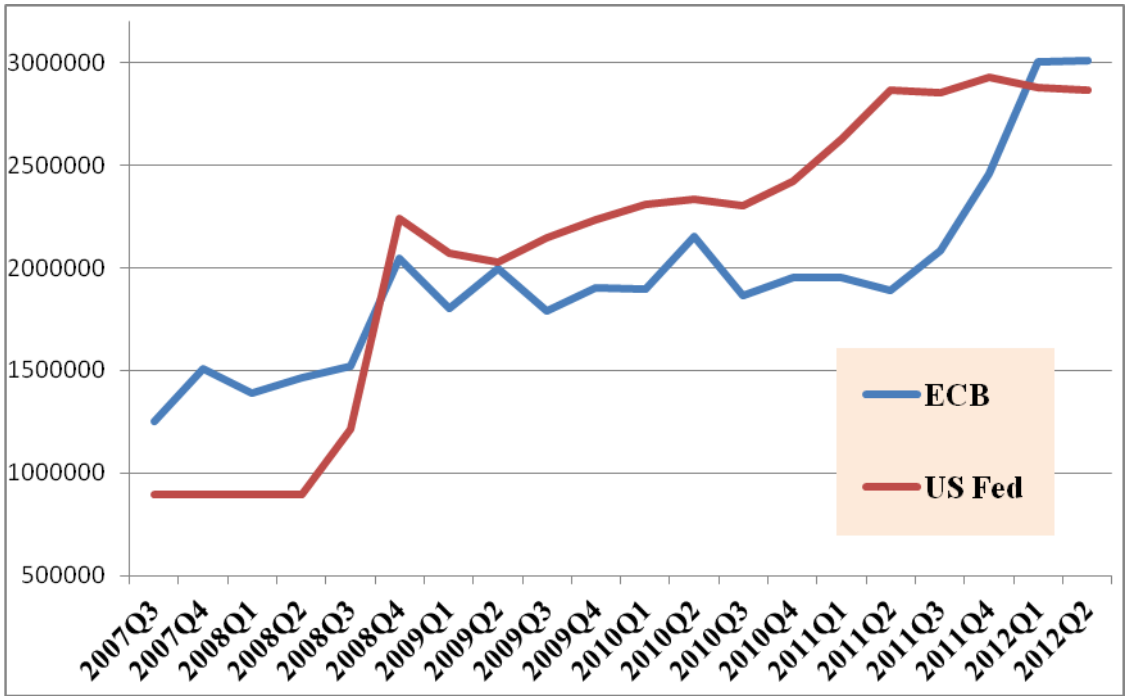
[17] This is the consequence of a fractional reserve banking system with less than 100% reserve requirement and with its imminent mismatch between long-term assets and short-term liabilities.

Thus calling on the ECB to play the role of LOLR on the sovereign debt market means no less than asking this institution to monetize government debt and print money without limits[18]. This may be the shortest path from the sovereign debt crisis which Europe faces now to the genuine Euro crisis and collapse of the common currency project.

5.4. The increasing scale of ECB's rescue activities

While the ECB did not follow the advice of playing the role of LOLR to governments, it became increasingly engaged in providing indirect financial support to countries and governments in trouble. This included, among others, subsequent lowering of quality requirements for lending collateral, opening special refinancing facilities for banks in troubled countries which cannot provide even such lower-quality collateral,[19] and finally – the Long Term Refinancing Operations (LTRO) launched at the end of 2011. Although all these measures have been justified publicly on the grounds of either monetary policy or financial stability, most of them have had, in fact, quasi-fiscal characteristics.

Figure 3: Total assets/liabilities of ECB (in EUR mn) and US Fed (in USD mn), 2007-12



[18] The frequent references to quantitative easing (QE) operations conducted by the US Federal Reserve Board (Fed), the Bank of Japan or the Bank of England are incorrect for at least two reasons. First, the above banks purchase government bonds on the secondary market (apart from other kinds of financial assets) within the quantitative limits set from the point of view of monetary policy goals. These purchases are neither unlimited nor unconditional. Second, the ECB has also conducted QE type operations, increasing its monetary base when it has considered it necessary from the point of view of monetary policy (see Section 5.4 and Figure 3).

[19] The Emergency Liquidity Assistance (ELA) which is provided against the guarantees of a national government that is already insolvent. In monetary policy terms, ELA can be interpreted as the ECB license granted to a national central bank in a troubled country to issue an unlimited amount of money to stop a potential banking panic and cushion financial strains caused by government insolvency. See Gros (2012a) analysis in respect to Greece.

Source: http://www.federalreserve.gov/monetarypolicy/bst_recenttrends.htm, http://sdw.ecb.europa.eu/browseTable.do?periodSortOrder=ASC&node=bbn129&type=&type=&type=&type=&start=01-01-2007&end=01-07-2012&submitOptions.x=68&submitOptions.y=7&trans=MF&vf=&q=&type=

Figure 3 compares the balance sheets of the US Fed and ECB during the recent global financial crisis. The cumulative increase in total assets and liabilities of both the world's largest central banks between 2008 and 2012 looks similar but the time profile of their changes differs. In the case of the Fed it happened mostly in the initial phase of the financial crisis (2008) and then the additional surge came in the second half of 2010 and the beginning of 2011, after launching the QE2. The ECB also increased its total assets and liabilities in the second half of 2008 but to a lesser extent than the Fed. The new level of the ECB balance sheet remained largely stable until mid-2011, when it started to increase again at a rapid pace. This clearly coincided with the timing of increasing the ECB's involvement in the Eurozone rescue operations.

Table 8 provides further insight into ECB activities during the analyzed period. While the size of standard ECB refinancing operations (of a one week maturity) actually decreased during the crisis period, they were substituted by a four-fold increase in the longer term refinancing operations, other kinds of claims on Eurozone residents and much larger securities holdings. On the liabilities side there was a rapid increase in deposits held by commercial banks in the ECB (other than those required by the mandatory reserve requirements).

Both Figure 3 and Table 8 indirectly confirm the increasing involvement of the ECB in various rescue operations, especially since Q4 2011. They also provide evidence of an increasing role of the ECB in substituting for the interbank market and, probably, increasing national segmentation of the Eurozone money market (a necessity to provide liquidity support to banks in peripheral countries and, simultaneously, to absorb excessive liquidity in core countries).

Such developments can be judged from various angles. As in the case of the other forms of bailout, there is a trade-off between short-term policy needs and their long-term consequences. The quasi-fiscal interventions of the ECB can bring yields on treasury bonds down and improve the mood of financial markets for a while. They help avoid an immediate cross-country contagion effect and allow governments countries to buy enough time to adopt corrective measures in other policy areas. However, they can produce several negative side effects.

Table 8: Selected assets and liabilities of the ECB balance sheet (in EUR mn), 2008-2012

Year and quarter	Assets				Liabilities		
	Main refinancing operations	Longer-term refinancing operations	Other claims on euro area credit institutions	Securities of euro area residents	Current accounts (covering the minimum reserves system)	Deposit facility	Fixed-term deposits
2008Q1	215999	270000	34996	108042	225091	964	0
2008Q2	208001	275004	31723	114708	226528	674	0
2008Q3	180001	300516	46408	111284	215393	28059	0
2008Q4	224400	616901	58438	121287	225947	229785	0
2009Q1	229980	430745	32042	290571	218543	45106	0
2009Q2	167902	728598	24478	301585	268244	236235	0
2009Q3	85004	595863	26356	319065	189778	116751	0
2009Q4	79293	669297	26281	328652	233490	162117	0
2010Q1	81062	644314	27156	342936	199900	213935	0
2010Q2	151512	718236	42231	414448	245063	284357	51000
2010Q3	166361	316744	26252	431319	190274	49471	61500
2010Q4	227865	298217	33941	454180	268096	24100	69000
2011Q1	100439	322855	50612	471899	234056	15292	77500
2011Q2	141461	313163	36634	477881	197395	10409	75000
2011Q3	208349	378935	48024	539218	139261	181788	129000
2011Q4	144755	703894	89977	606693	139246	334905	207000
2012Q1	61078	1090891	57880	631122	97943	797953	219500
2012Q2	180378	1079725	189547	605665	87070	788218	212000

Source:
http://sdw.ecb.europa.eu/browseTable.do?periodSortOrder=ASC&node=bbn129&type=&type=&type=&type=&start=01-01-2007&end=01-07-2012&submitOptions.x=68&submitOptions.y=7&trans=MF&vf=&q=&type=

First, they can undermine the ECB's reputation as a truly independent central bank which, in turn, can negatively influence the stability of the Euro. Second, they may have potential inflationary and fiscal consequences and, therefore, undermine cross-country political consensus around the common currency (see Section 5.5). Third, they create the wrong incentives for private investors and encourage moral hazard. The investors who did not hesitate to accept higher risks in exchange for higher yields would receive risk insurance for free. Fourth, the increasing involvement of the ECB in various segments of the financial market crowds out private sector transactions. As a result, the role of interbank lending and interbank settlements decreases in favor of ECB refinancing, ECB deposits, and Target2 payment transactions. Finally, there is a danger that the large-scale market interventions of the ECB, especially the LTRO, lead to reducing cross-country lending in favor of in-country lending (see Merler & Pisani-Ferry, 2012; Soros, 2012a).

5.5. ECB's institutional vulnerabilities and risk of Eurozone breakup

The larger currency areas with stable and credible currencies that are less exposed to external shocks have relatively more room for maneuver in their monetary policy making compared to small open economies. And this is the case of the Eurozone. On the other hand, one must remember that the common currency project in Europe is relatively fresh and subject to delicate political compromise between its founding nations which have historically varied in terms of their attitude to monetary and fiscal stability and central bank independence. This is an important factor which limits the potential of non-orthodox ECB policies (compared to those of the US Fed, for example) and makes it vulnerable to any confidence crisis among EMU member states.

As far as the ECB follows its statutory rules, its reputation and the credibility of the Euro seem to remain unchallenged even in the extreme case of any peripheral country exiting from the common currency area (see below). However, if it departs from these rules and becomes involved in large-scale quasi-fiscal activities, this may lead to both inflationary consequences and a crisis in market confidence (even if financial markets welcome such quasi-fiscal interventions in the short term).

It may also raise the question of the deteriorating quality of its assets and resulting capital losses which will have to be eventually covered by the Eurozone member states. Furthermore, as quasi-fiscal activities are mostly targeted at peripheral countries in trouble, the question of cross-country redistributive effects of ECB interventions may become a hot political issue. The emerging debate on the Target2 imbalances (see Sinn & Wollmershaeuser, 2011; Bijlsma & Lukkezen, 2012) is perhaps a signal that this is not a purely hypothetical threat.

Summing up, the high costs of leaving the common currency area for any single member country makes the EMU project more sustainable than its critics and forecasters of its quick demise would like to see. Nevertheless, there are limits to this sustainability. At some point, the combination of inflation concerns (see above), the undermined credibility of the ECB and Euro and the awareness of fiscal consequences of ECB quasi-fiscal activities can trigger centrifugal tendencies among its core members. They may decide to leave the monetary union even if this involves undermining their export competitiveness (because the new currency/ies of the leaving countries will probably appreciate against the Euro).

The opposite case, in which the peripheral country in trouble would like to leave the Eurozone voluntarily and reintroduce its own (weaker) national currency, looks much more difficult, and therefore, less likely because all of its outstanding private and public liabilities would remain denominated in Euros. Therefore, exiting the Euro would mean an immediate default on both public and most private debt caused by soaring debt-to-GDP ratios. Furthermore, such an exit could not technically happen overnight and the very first steps in this direction would already trigger total financial chaos and loss of market confidence in the exiting country and elsewhere.

Nevertheless the peripheral country in trouble may be forced to reintroduce its national currency as a consequence of either its sovereign default resulting in insufficient revenue cash flow to cover current government expenditures or a banking crisis. Both scenarios assume cutting off external financial support as a result of the country's failure to implement the adjustment program agreed upon with the IMF, the European Commission and the ECB. Both can lead to high inflation or hyperinflation (Dabrowski, 2012b).

6. Changes in EU/EMU integration architecture: what kind of fiscal union?

Part of the discussion concerns the reform of EU institutions to increase the Union's capacity to deal with the current crisis and minimize the danger of it repeating in the future. In this context many speak about the necessity to complement the EMU with a fiscal union. However, it is less clear is what such a fiscal union would mean in practice.

Definitely, the EMU needs more fiscal discipline at the national level[20] to minimize the risk of free riding under the umbrella of a common currency, which has been one of the principal causes of the current crisis. However, fiscal troubles of non-Eurozone EU members will also have negative repercussions for both the Union and the outside world. Hence, fiscal stability and prudence should be considered as an important European public good and apply equally to all EU members regardless of whether they are part of the Eurozone or not.

In this context the effort to strengthen fiscal surveillance rules under the Stability and Growth Pact and reinforce both 'preventive' and 'corrective' arms (including automatic and meaningful sanctions) are going in the right direction. The same can be said about the new

[20] The EU runs a balanced budget so the problem of fiscal discipline at the Union level does not exist.

intergovernmental Treaty on Stability, Coordination and Governance in the Economic and Monetary Union and the EU's secondary legislation which pushes EU member states towards enhancing their national fiscal rules and institutions either through constitutional changes or equivalent legislation.

Another step towards strengthening EU fiscal federalism involves building a permanent debt resolution mechanism at the EU level - the European Stability Mechanism (ESM) which will replace the European Financial Stability Facility (EFSF), a temporary mechanism established in May 2010. The ESM is to start its operations in the second half of 2012.

Ideally, the permanent resolution mechanism should correctly balance punishment for past irresponsible behavior (including the orderly sovereign default/ restructuring mechanism), incentives to correct past mistakes and elements of financial aid to smooth the painful adjustment process. It should also relieve the ECB from its current engagement in assisting countries in trouble. It remains to be seen whether the ESM will meet these expectations.

The experience of both 2008-2009 and the current phase of banking crisis calls for building a truly pan-European system of banking supervision and crisis resolution, including an EU wide system of deposit guarantees and extending the ESM mandate towards a temporary recapitalization of the troubled banks (see Pisani-Ferry, 2012; Schoenmaker & Gros, 2012; Soros, 2012a). This is critically important for avoiding a national bias in the bank rescue programs and it would constitute another form of enhanced fiscal federalism. The decisions of the EU summit of June 28-29, 2012 seem to be heading in the right direction (European Council, 2012).

Regretfully, not all 'federalist' proposals go towards strengthening fiscal discipline and eliminating moral hazard and free riding. This refers to the idea of Eurobonds,[21] which are to be jointly issued/guaranteed by the EMU members. They can lead to weakening fiscal discipline on a national level and creating adverse incentives rather than serving fiscal consolidation and avoiding moral hazard. The practice of fiscal federalism in many countries is evidence of the negative consequences of sharing responsibility for the debt of subnational governments with federal/national authorities.

[21] The first time this idea was presented publically soon after launching the Euro in Giovannini et al. (2000) report. The European Commission (2011) analyzed three potential options of the so-called Stability Bonds in its Green Paper.

Some other 'federalist' ideas are interesting but do not necessarily address the exact challenge created by the sovereign debt crisis. The proposal of harmonizing tax bases and (more controversially) tax rates across the EU should be discussed in the context of the functioning of the Single European Market rather than crisis prevention and resolution. The same relates to the proposal that in the future the EU budget should be higher than the current 1% of the Union's GDP and be based, to a larger extent, on its own revenues rather than member countries' contributions. Perhaps yes but this depends on which additional policy tasks and responsibilities could be transferred from the national to the EU level and whether this would be more efficient in terms of implementation.

7. Tentative conclusions and policy lessons

Although the current phase of the global financial crisis is far from being over there are some conclusions which can be drawn and some tentative lessons to be learned.

First, unlike in 2007-2009 (when the insolvency and illiquidity of large banks in the US and Europe was a major problem), the current round of the global financial crisis has clear fiscal origins and they are more serious and widespread than what is perceived by most policymakers. Almost all developed countries suffer from excessive public debt and, in the context of slow-growth prospects, there is no easy way to get rid of this burden. In one way or another, each country will have to conduct a fiscal adjustment even if this involves economic and political costs in terms of lower output and higher unemployment. Countries with a relatively lower debt-to-GDP ratio and which continue to enjoy a good reputation as sovereign borrowers have more room for maneuver, i.e., they can adopt more graduate adjustment scenarios. Countries already considered bankrupt or close to insolvency must adjust immediately and in a credible way in order to convince both financial markets and other economic agents that they can get out of trouble without further negative spillovers.

Second, central banks can support fiscal adjustment and reduce their economic and social costs by adopting an accommodative monetary policy stance. However, there are obvious limits of central bank involvement determined by both the priority and credibility of their anti-inflationary mission and institutional independence. In the case of the ECB, there are additional risks and vulnerabilities coming from its institutional design which is based on the cross-country consensus enshrined in the Treaty and ECB operational rules. Excessive ECB

involvement in quasi-fiscal rescue operations can easily undermine this consensus and lead to Eurozone disintegration which, fortunately, has been avoided so far.

Third, in both the fiscal and monetary policy spheres there is a constant trade-off between short-term interventions aimed at cushioning market panics and buying time for designing and adopting more complex reform measures and long-term risks in terms of encouraging moral hazard behavior and building an even higher debt exposure. While the risk of far-reaching financial market contagion based on multiple equilibria creates a real challenge for policymakers, in a world of free capital movement they must be able to resist market pressures (often amplified by the media) and give preference to the solutions which address the real causes of the problem.

Fourth, the conceptual and instrumental foundations of a countercyclical fiscal policy require serious reconsideration, in the light of both 2007-2009 and more recent experience. The same concerns such analytical concepts and tools as the potential output and cyclically adjusted fiscal balance (difficult to be estimated ex-ante when the business cycle is irregular), internationally agreed upon definitions of public debt (which do not include the unfunded liabilities of the public pension and healthcare systems, and contingent liabilities in the financial sector) or even such a popular measure as the debt-to-GDP ratio which tells very little about the country's long-term fiscal sustainability, especially in good times.

Fifth, the experience of the global financial crisis in its 2007-2009 banking phase and the current (largely fiscal) phase calls for further fiscal integration at the EU level. However, this does not mean that each proposal going towards greater fiscal federalism is rational from the point of view of solving real challenges and creating the right incentives. While taking steps towards stronger fiscal discipline rules at both the EU and national levels as well as building EU rescue facilities with respect to sovereigns and banks (based on strong policy conditionality) make sense, this is not the case for Eurobonds.

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