

Darvas, Zsolt

Working Paper

Fiscal Federalism in Crisis: Lessons for Europe from the US

IEHAS Discussion Papers, No. MT-DP - 2010/21

Provided in Cooperation with:

Institute of Economics, Centre for Economic and Regional Studies, Hungarian Academy of Sciences

Suggested Citation: Darvas, Zsolt (2010) : Fiscal Federalism in Crisis: Lessons for Europe from the US, IEHAS Discussion Papers, No. MT-DP - 2010/21, ISBN 978-615-5024-12-2, Hungarian Academy of Sciences, Institute of Economics, Budapest

This Version is available at:

<https://hdl.handle.net/10419/108198>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

MŰHELYTANULMÁNYOK

DISCUSSION PAPERS

MT-DP – 2010/21

**Fiscal Federalism in Crisis:
Lessons for Europe from the US**

ZSOLT DARVAS

Discussion papers
MT-DP – 2010/21
Institute of Economics, Hungarian Academy of Sciences

KTI/IE Discussion Papers are circulated to promote discussion and provoke comments.
Any references to discussion papers should clearly state that the paper is preliminary.
Materials published in this series may subject to further publication.

Fiscal Federalism in Crisis: Lessons for Europe from the US

Author:

Zsolt Darvas
senior research fellow
Institute of Economics
Hungarian Academy of Sciences,
Bruegel, Brussels
Corvinus University of Budapest
E-mail: darvas@econ.core.hu

September 2010

ISBN 978-615-5024-12-2
ISSN 1785 377X

Fiscal Federalism in Crisis: Lessons for Europe from the US

Zsolt Darvas

Abstract

The euro area is facing crisis, while the US is not, though the overall fiscal situation and outlook is better in the euro area than in the US, and though the US faces serious state-level fiscal crises. A higher level of fiscal federalism would strengthen the euro area, but is not inevitable. Current fiscal reform proposals (strengthening of current rules, more policy coordination and an emergency financing mechanism) will if implemented result in some improvements. But implementation might be deficient or lack credibility, and could lead to disputes and carry a significant political risk. Introduction of a Eurobond covering up to 60 percent of member states' GDP would bring about much greater levels of fiscal discipline than any other proposal, would create an attractive Eurobond market, and would deliver a strong message about the irreversible nature of European integration.

Keywords: federalism; redistribution; stabilisation; risk-sharing; crisis; euro-area governance reform; Eurobond

JEL: E62; H12; H60; H77

Acknowledgement:

The author would like to thank Juan Ignacio Aldasoro for excellent research assistance, Stephen Gardner for editorial advice, and colleagues at Bruegel for valuable comments and suggestions.

Fiskális föderalizmus válságban: Tanulságok az USA tapasztalataiból Európa számára

Darvas Zsolt

Összefoglaló

Az euróövezet súlyos válsággal szembesül, míg az USA nem, bár jelenlegi fiskális helyzete és kilátásai egyaránt számottevően kedvezőtlenebbek, mint az euróövezeté. Bár egy szorosabb fiskális föderalizmus erősítené az euróövezetet, de nem nélkülözhetetlen. Amennyiben az euróövezet fiskális reformtervei (a jelenlegi szabályok erősítése, az intenzívebb koordináció, és a szükséghelyzeti finanszírozási mechanizmus) megfelelően megvalósulnak, akkor javíthatják bizonyos mértékben az euróövezet működését. Azonban nem biztos, hogy a megvalósítás megfelelő és kellően hiteles lesz. Emellett a finanszírozási mechanizmusnak nagy a politikai kockázata is. Helyesebb lenne egy közös eurókötvény bevezetése a tagállami GDP maximálisan 60 százalékáig, amely sokkal erősebb kényszert jelentene fenntartható költségvetési politikák folytatására, mint bármilyen új szabály vagy büntetési rendszer. Ez létrehozna egy nagy volumenű eurókötvény piacot, és határozott üzenetet közvetítené az európai integráció megfordíthatatlanságáról.

Tárgyszavak: föderalizmus, újraelosztás, stabilizáció, kockázatmegosztás, válság, euróövezeti reform, eurókötvény

JEL: E62; H12; H60; H77

1. INTRODUCTION

European fiscal integration is at crossroads. The fiscal crisis that has swept through Europe in the past couple of months has tested European monetary union and made it apparent that the current institutional setup – and its implementation – is insufficient. A major overhaul is needed.

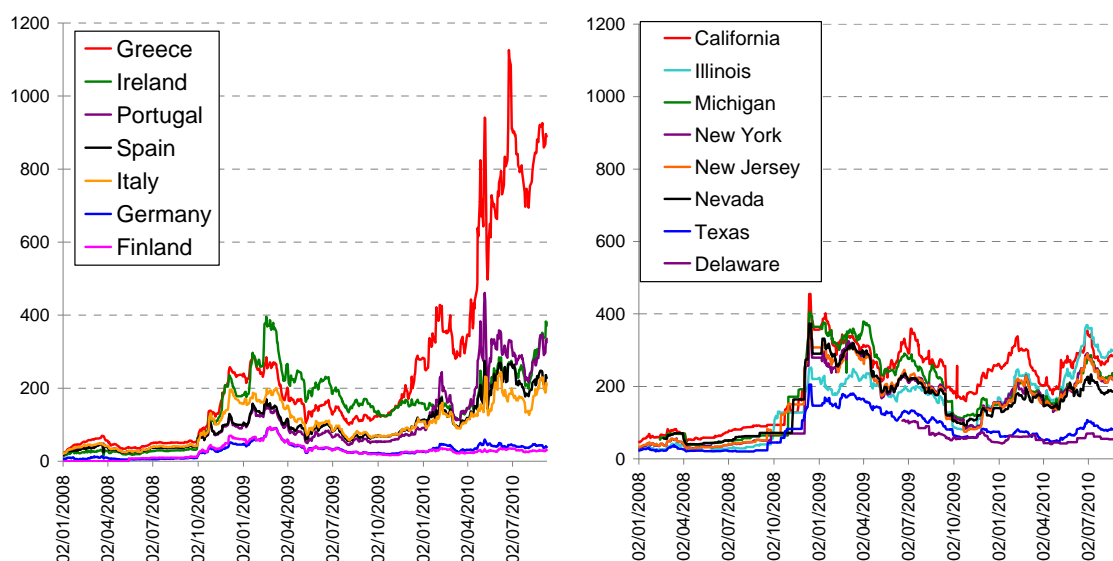
Meanwhile, on the other side of the Atlantic, serious concerns have been expressed about US state and local government defaults (Gelinias, 2010). The spectre of 'the mother of all financial crises' has even been raised should the state of California default (Watkins, 2009). In late February 2010, Jamie Dimon, chairman of JP Morgan Chase, warned American investors that they should be more worried about the risk of a Californian default than about Greece's current debt woes¹. But the US's state-level fiscal crisis has received much less attention than the difficulties in the euro area.

In fact both the US and the euro area face significant state-level fiscal crises, which are reflected by credit default swap (CDS) developments – a measure of the cost of insurance against government default (*Figure 1*). But neither the euro area as a whole, nor the US as a whole is going through a fiscal crisis. Paradoxically, while anxiety about the euro area has reached a very high level, both public debt and deficit are noticeably smaller in the euro area than in the US (*Table 1*).

¹ <http://www.telegraph.co.uk/finance/financetopics/financialcrisis/7326772/California-is-a-greater-risk-than-Greece-warns-JP-Morgan-chief.html>

Figure 1

Credit default swap on five-year government bonds in selected EU countries and US states, 2 January 2008 - 9 September 2010



Source: Datastream.

It is against this background that this paper aims to answer three questions:

- Why has the euro area been hit so hard?
- How would a more federal European fiscal union closer to the US model have helped?
- How do the euro area's fiscal architecture reform plans stand up in the light of the US example?

Section 2 briefly compares some general features of the EU and US fiscal systems. This is followed by a more detailed comparison of fiscal-crisis prevention and management tools in Section 3. The lessons are drawn out in Section 4, and some concluding remarks are offered in Section 5.

Table 1

The euro area versus the US: some key indicators, 2009-2011

	Euro area			US		
	2009	2010	2011	2009	2010	2011
General government budget balance (% GDP)	-6.3	-6.6	-6.1	-11.0	-10.0	-9.9
General government gross debt (% GDP)*	78.7	84.7	88.5	103.6	116.0	122.0
GDP growth (% change)	-4.1	0.9	1.5	-2.4	2.8	2.5
Inflation (% change)	0.3	1.5	1.7	-0.4	1.7	0.3
Employment growth (% change)	-2.1	-1.0	0.1	-3.8	-0.4	0.6
Unemployment rate (% labour force)	9.4	10.3	10.4	9.3	9.7	9.8
Current account balance (% GDP)**	-0.8	-0.6	-0.5	-3.0	-3.7	-3.7

* US government debt data is the sum of federal, state and local government debt – the concept better corresponds to the ‘general government debt’ statistics of the EU. US federal government debt is 83.3, 94.3, and 99.0 percent of GDP in 2009, 2010, and 2011 respectively. It is notable that the US data is published by the IMF as ‘General government gross debt’ and by the European Commission as ‘General government consolidated gross debt’, and this is almost identical to what the US Census Bureau calls ‘Gross federal debt’, ie not including state and local government debt.

** The values reported for the euro area are estimates correcting for reporting errors.

Source: European Commission (2010) for all data except US government debt, which is from http://www.usgovernmentspending.com/federal_state_local_debt_chart.html

2. CENTRALISATION, REDISTRIBUTION, AUTONOMY AND COMPETITION

It is useful to start with a brief comparison of the EU and US fiscal systems. *Table 2* shows the distribution of tax revenues in the US: the federal government collects two-thirds, the states one-fifth, and local government the rest. As state budgets receive some direct funding from the federal government, the state and local government share of total spending is somewhat higher than 40 percent. States have a high level of autonomy, there is a great deal of variation in tax rates and structures, and tax competition between states is high (Gichiru et al, 2009; Bloechliger and Rabesona, 2009).

In the EU sovereign countries provide the bulk of the EU budget in the form of contributions largely related to their gross national income and value added tax revenues. EU countries have full autonomy in setting their budgets² and tax competition is pervasive, much like US states.

² Within the weak limits of the EU-wide Stability and Growth Pact and other EU regulations, such as state aid rules.

Figures 2 and 3 compare the centralisation of revenues and the distribution of expenditures by the US federal government and the EU budget³. There is indeed a huge difference between the EU and the US. In the US, federal taxes collected from states range from 12 to 20 percent of state GDP, and federal monies received by states range from nine to 31 percent of state GDP (not considering the District of Columbia). In the EU, most member states contribute to the common budget by amounts equivalent to about 0.8-0.9 percent of their GDP, and receive EU funds in the range of 0.5-3.5 percent of their GDP. As a consequence, fiscal redistribution is much higher in the US than in the EU⁴. Also, while in both areas redistribution is related to the level of development as measured by GDP per capita, the relationship is much steeper in the US (as shown by *Figure 4*).

Table 2.

Distribution of revenue by tax type collected by all federal, state, and municipal governments in the US, 2006 (%)

	Federal	State	Local
Property tax	0	3	97
General sales tax	0	80	20
Selective sales/excise taxes	36	52	12
Individual income tax	80	19	2
Corporate income tax	87	12	1
Motor vehicle license	0	93	7
Social insurance/retirement	100	0	0
Other taxes	54	30	16
Total taxes	67	20	13

Source: Gichiru et al (2009), Table 3, page 12.

³ For the US, it is not straightforward to calculate a proper balance of payments between the federal government and the states. To our knowledge, Leonard and Walder (2000) is the most recent study to perform such a calculation, which relates to the 1999 fiscal year and we therefore use their data.

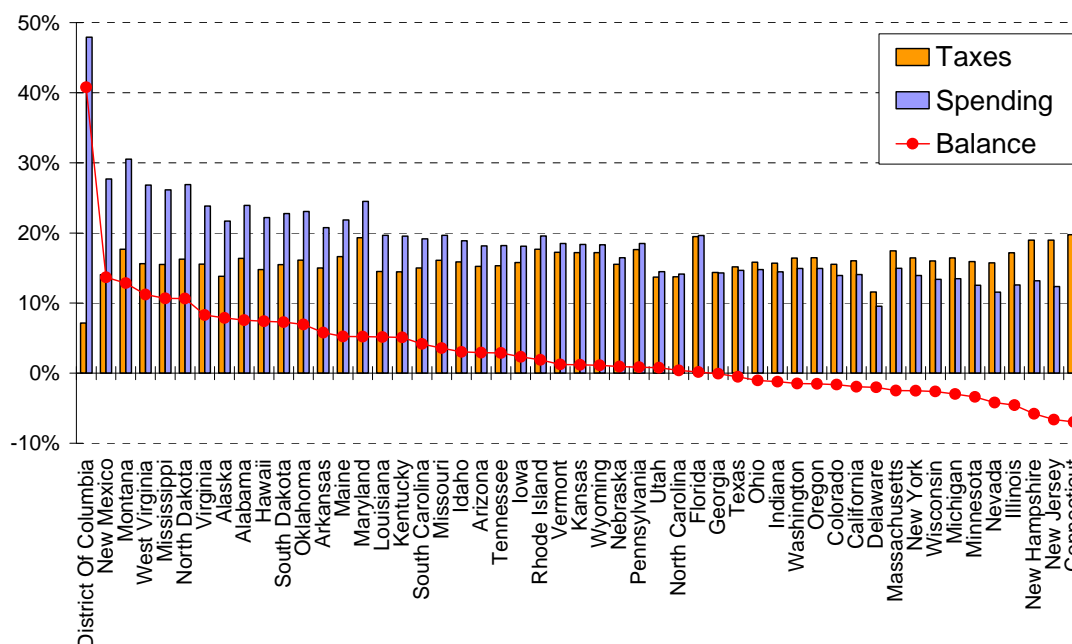
⁴ Cohesion fund disbursement for the countries that joined the EU in 2004 and 2007 is set to increase from about 0.7 percent of the combined GDP of these countries in 2008, to above two percent by 2012. Hence redistribution will increase somewhat, but will continue to remain well below US levels.

FISCAL FEDERALISM

“The traditional theory of fiscal federalism lays out a general normative framework for the assignment of functions to different levels of government and the appropriate fiscal instruments for carrying out these functions (e.g., Richard Musgrave 1959; Oates 1972).” (Oates, 1999, p. 1121). Through fiscal operations at federal government and regional level, and through direct fiscal transfers across regions, a federal fiscal system typically provides redistribution (permanent transfers mostly from richer to poorer regions), stabilisation (counter-cyclical federal government fiscal policy when all regions are hit by a common shock) and risk-sharing (temporary transfers when only one region or some regions are hit by a region-specific shock). In practice, there are various forms of fiscal federation (see eg von Hagen and Eichengreen, 1996; Gichiru et al, 2009; or Bloechliger et al, 2010), even though the US has always been the main point of reference. Europe’s supranational formation, the EU, can also be regarded as a form of fiscal federalism, since certain functions, such as the common agricultural policy or cohesion policy, are largely centralised. The literature on fiscal federalism is voluminous; see for example the recent handbook edited by Ahmad and Brosio (2006) and its extensive reference list. Our paper deals with a single issue: the prevention and management of state fiscal crises in the EU and the US.

Figure 2

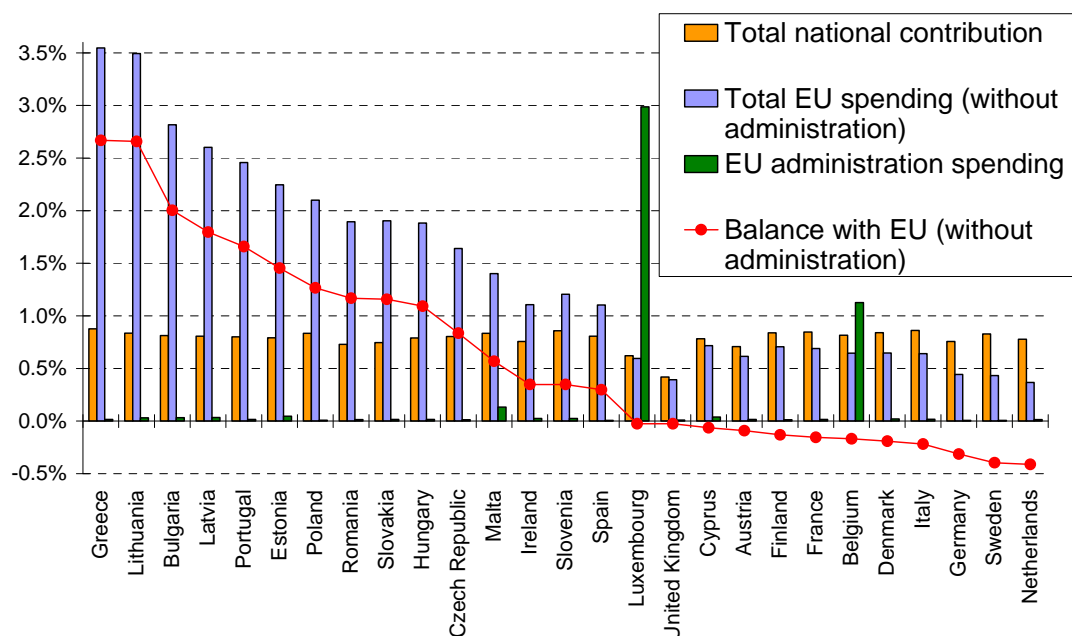
US federal budget: taxes from, spending in, and balance with states, 1999, % state GDP



Source: Author's calculations using data from <http://www.hks.harvard.edu/taubmancenter/publications/fisc/> (fiscal data) and OECD regional database (GDP).

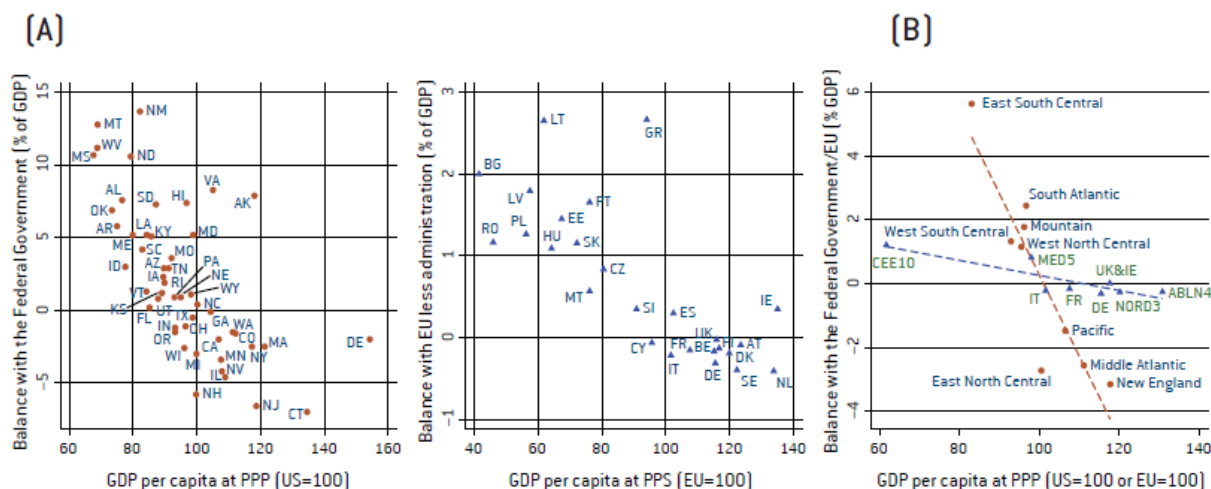
Figure 3

EU budget: contribution from, spending in, and balance* with member states, 2008, % member state GDP



* EU administrative spending is excluded from the balance. Source: Author's calculations using data from http://ec.europa.eu/budget/documents/2008_en.htm?go=t3_3#table-3_2 (fiscal data) and Eurostat (GDP).

**Fiscal redistribution within the US and EU vs GDP per capita,
(A) individual US states and EU member states and (B) major regions**



Note: data relates to 2008 for EU and 1999 for US. US: federal expenditure in the given state minus federal taxes from the given state, percent of state GDP. In panel A, District of Columbia (300, 40.8%) is not shown for better readability. EU: total EU expenditure (less administration) in the given country minus total country contribution to the EU budget, percent of country GDP. In panel A Luxembourg (276.1, -0.03%) is not shown for better readability. See the explanation of the two-digit regional codes in the appendix. Group values are weighted averages; weights were derived from nominal GDP. For the US we used the divisions defined by the Census Bureau (District of Columbia is not included in the South Atlantic average). For the EU the groups are the following: CEE10: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia; MED5: Cyprus, Greece, Malta, Portugal and Spain; UK&IE: Ireland and the United Kingdom; NORD3: Denmark, Finland, and Sweden; ABLN4: Austria, Belgium, Luxembourg, and the Netherlands; France (FR), Germany (DE) and Italy (IT) are shown separately.
Source: See *Figures 2* and *3*.

3. CRISIS PREVENTION AND MANAGEMENT

The huge differences in centralisation and redistribution, however, do not tell us much about the potential role of the EU and US fiscal systems in preventing and managing state-level fiscal crises, which, as noted in the introduction, is a problem both for the EU and the US.

We compare the euro area with the US in eight ways. Firstly, there are three main areas that, in principle, can help to prevent or alleviate state-level crises in a federal system:

1. Fiscal rules: fiscal rules in a federal system, such as the US, tend to be much more stringent than in the EU/euro area. Thus there is less potential for irresponsible behaviour. Most US states have balanced budget rules in their constitutions: a study concluded that 36 states have rigorous balanced-budget requirements, four have weak requirements, and the other 10 fall in between those categories (National Conference of State Legislatures, 1999; Snell, 2004). Yet, as *Figure 1* shows, CDS on bonds from some US states⁵ increased to higher values than any euro-area country after the collapse of Lehman Brothers in September 2008, and current US state CDSs are similar to those of Ireland, Italy, Portugal and Spain, though none have reached current Greek values. California, whose fiscal rules belong to the 'most stringent' category noted above, is perhaps in the deepest trouble among US states. Its cash constraints even led to the issuance of vouchers to the value of \$2.6 billion between July and September 2009, which may in fact be considered to be an event very similar to a default⁶.

2. Less scope for state/local debt: because a high share of revenues and expenditures are centralised in a federal system, and state-level fiscal rules are in general strict, state spending, even if irresponsible, does not have the potential to lead to massive debt/GDP ratios. Indeed, the combined debt of US states and local governments amounted to about 16 percent of US GDP in 2006. This ratio is expected to rise somewhat by 2010 to 22 percent on average (*Figure 5*)⁷ with reasonably small cross-state differences: the range is from 9.3 percent in Wyoming to 33.0 percent in Rhode Island (source: www.usgovernmentpending.com). In the euro area the debt/GDP ratio in 2010 ranges from 19.0 percent in Luxembourg to 124.9 percent in Greece (European Commission, 2010). However, the lower US state and local government debt/GDP ratios can be serviced from lower revenues, as a substantial fraction of revenues must be transferred to the fiscal centre.

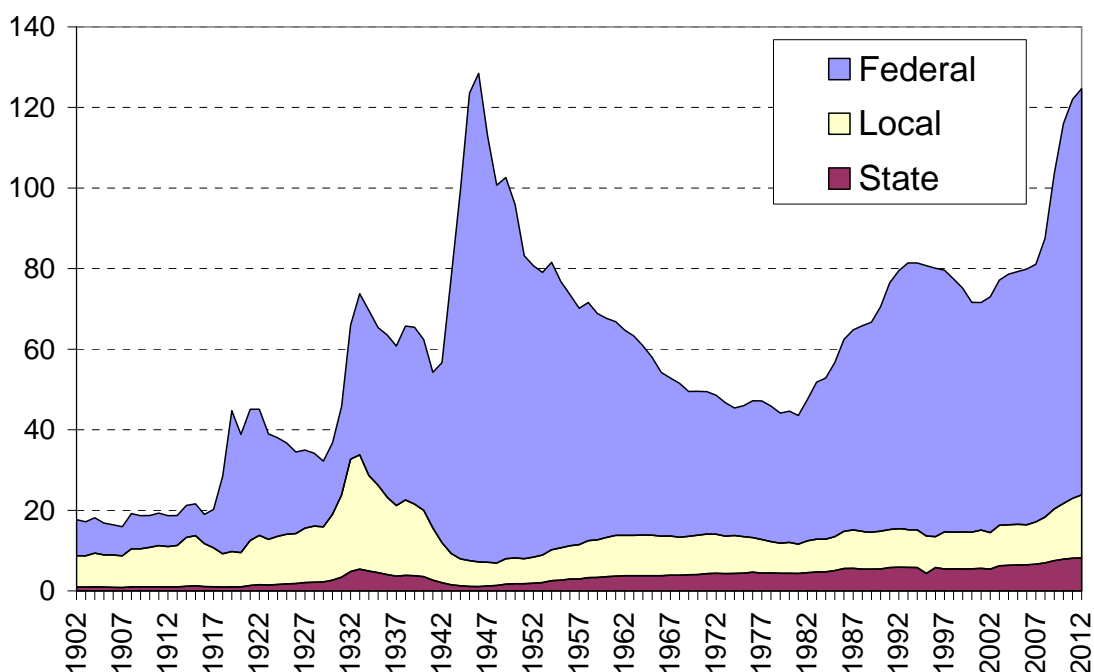
⁵ CDS is available only for 15 of the 50 US states and hence we can not assess the other 35 states.

⁶ Barro (2010) argues that California has been in a state of budget crisis for at least the last seven years, stemming from institutional failures.

⁷ During the same years, federal government debt has increased from 63 percent to 94 percent of US GDP. The small increase in state and local debt is largely due to fiscal consolidation required by fiscal rules.

Figure 5

US gross public debt: federal, state, and local, 1902-2012 (percent of US GDP)



Note. 2010-2012 values (plus 2009 value for states and 2008-2009 values for local governments) are estimates (partly based on budgets) by usgovernmentspending.com. Source: http://www.usgovernmentspending.com/federal_state_local_debt_chart.html.

3. Federal stabilisation policy may help to avoid pro-cyclicality: There are good reasons to delegate counter-cyclical fiscal policy to the centre (IMF, 2009; Martin, 1998): it allows better or easier policy coordination, exploits economies of scale by relying on a large tax base and better borrowing conditions, and also provides risk-sharing opportunities. During the current crisis, the US federal government indeed allowed automatic stabilisers to run and adopted a major discretionary stimulus including direct help to state budgets. In the EU, such counter-cyclical policies were left to each member state with some attempt made at coordination. But have fiscal outcomes been different in the EU and the US?

In the US counter-cyclical fiscal policy directed from the centre was counter-balanced by fiscal consolidation at state level. McNichol and Johnson (2010) calculate a measure of state budget shortfall (the difference between projected revenues for each year and a ‘current services’ baseline) that reflects state fiscal conditions before deficit-closing actions are taken. States use a combination of measures to close the deficits, including deployment of federal stimulus funds, budget cuts, tax increases and reserves⁸. *Table 3* shows that, while state

⁸ Following the recession of the early 1980s, the number of US states with rainy-day funds rose from 12 in 1982 to 38 in 1989, and to 45 in 1995. The aim of these funds is to smooth public spending during recessions and, possibly, increase public savings over the business cycle. See Box 1 in Ter-Minassian (2007).

budgets have indeed received direct federal support through the American Recovery and Reinvestment Act (ARRA), and states could rely to some extent the reserves accumulated in their rainy-day funds, but spending cuts and tax increases could not be avoided.

Table 3

**Estimated US state budget shortfall
in each fiscal year, US\$ billion**

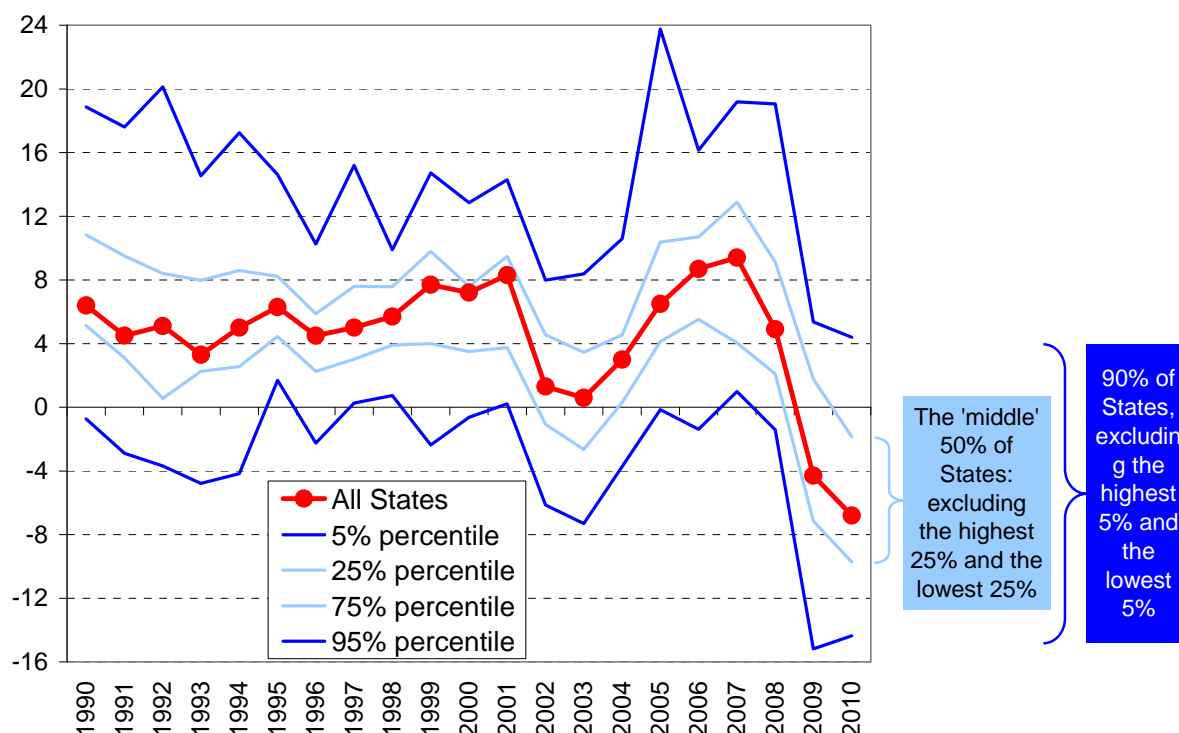
	2009	2010	2011	2012
State budget shortfall (total of all states)	110	200	180	120
Covered by				
American Recovery and Reinvestment Act	39	63	36	1
Spending cuts		74		
Tax and fee increases		34		
Other/Use of reserves		29		

Sources: Total and ARRA contribution:
Figure 3 on page 5 of McNichol and Johnson (2010);
others: CBPP preliminary unpublished estimates
based on a sample of states.

Similarly, Bloechliger et al (2010, p 19) note that among OECD countries “the USA is probably the most notable case of pro-cyclical reactions from sub-central governments”. They also report a contemporaneous correlation between net lending and output gaps, which is 0.36 for the federal government (implying counter-cyclical), but -0.38 for US states (implying pro-cyclical). Using lags, the correlation coefficient for states is around -0.66 implying even stronger pro-cyclical. In a more formal study, Aizenman and Pasricha (2010) assessed the aggregate impact of federal and state spending during 2008/2009. They concluded that the big federal stimulus broadly compensated for the contraction of state level spending. In net terms, stimulus was close to zero in the US in 2008/2009. And by studying seven fiscal federations (including the US) and about two decades of data mostly from the 1980s and 1990s, Rodden and Wibbels (2010) conclude that pro-cyclical fiscal policy among provincial governments can easily overwhelm the stabilising policies of central governments. These results are for the average of the US states: in more distressed states, the combined effect of federal and state spending may have led to procyclical fiscal policy. *Figure 6* shows that states' own spending was cut on average by about four percent in the fiscal year 2009 and about an additional seven percent in the fiscal year 2010, but there were some states with much higher cuts, eg 12 states cut own spending by more than 10 percent (and four others between 9 and 10 percent) in the fiscal year 2010.

Figure 6

General fund state spending in the US, fiscal years 1990-2010 (annual % change)



Note. General Fund: the predominant fund for financing a state’s operations; revenues are received from broad-based state taxes. All data refers to the fiscal year (which ends in most states in June of each year). The time series for ‘all states’ is taken from the Spring 2010 Survey. Data for each state and for each year was taken from the Fall Surveys (except in 2010) and correspond to changes of expenditure in current fiscal year compared to the previous year, where previous fiscal year data is ‘actual’ and the current fiscal year data is ‘preliminary actual’. The 2010 fiscal year data is the estimate published in June 2010. Source: The Fiscal Survey of States, Fall Surveys and Spring 2010 Survey, National Governors’ Association and the National Association of State Budget Officers, <http://nasbo.org/Publications/FiscalSurvey/FiscalSurveyArchives/tabid/106/Default.aspx>

In the EU, during the first phase of the crisis in 2008/09, almost all euro-area members adopted discretionary fiscal measures. The exceptions were Cyprus, Greece, Italy and Slovakia (according to the European Commission(2009)). But primary balances also worsened between 2008 and 2009 in these countries, implying that, at the very least, automatic stabilisers were allowed to work^{9,10}. In 2010, Greece adopted several fiscal austerity programmes, and Portugal

⁹ The change in primary balances between 2008 and 2009 were the following: in Greece from - 3.1 percent to -8.5 percent, in Italy from +2.5 percent to -0.6 percent, in Cyprus from +3.7 percent to -3.6 percent, and in Slovakia from -1.1 percent to -5.3 percent (all values are expressed in percent of GDP; source: European Commission, 2010). In Greece, the 2009 recession was reasonably mild, GDP fell by 2 percent only, suggesting that the ballooning primary deficit may have also represented discretionary countercyclical fiscal policy (perhaps partly as a consequence of a loose budget ahead of the late 2009 parliamentary elections).

and Spain also speeded-up fiscal consolidation, while Italy announced plans for 2011. More recently France and Germany set out plans for 2011 and beyond. In our view France and Germany should not rush to fiscal consolidation at a time when European recovery is still fragile and private sector deleveraging is still expected. Nevertheless, in 2010, the fiscal stance is still expansionary in most euro-area countries, including Germany and France.

While final fiscal numbers for 2010 are not yet available, it is fair to say that there are states both in the euro area and the US that had to deal with pro-cyclical fiscal policy at some point during the crisis, and there are states that could benefit from counter-cyclical fiscal policy. Therefore, from the point of view of actual outcomes, the superiority of federal stabilisation policy cannot be established when we compare the euro area to the US¹⁰.

The next three areas in which the EU and the US can be compared indicate significant similarities in the context of the resolution of fiscal crises:

4. No orderly default mechanism: neither the EU nor the US has a default mechanism for, in the EU case member states, and in the US case states (although the US has a default mechanism for lower levels of government, though under stricter rules than for private corporations; see Gelinas, 2010).

5. No bail-out from the centre: at least prior to the crisis, there were no bail-out or short-term financing mechanisms in the US for states, or in the EU for euro-area governments. President Gerald Ford at first refused New York city a bailout in 1975, and President Barack Obama said no to California in 2009. In the former case, ultimately both the US federal government and New York state provided loans to the city, but they imposed a financial control board that required deep cuts to services, a new, more transparent budget process and several years of budgetary oversight (Malanga, 2009). But it was in Europe, not the US, where a formal emergency lending facility was put together, and it was the European Central Bank that started to buy the government bonds of distressed member states.

6. No option to devalue the currency and to inflate the debt: neither euro-area countries nor US states have the devaluation option, though it could boost growth and thereby help fiscal sustainability, or to generate inflation in order to reduce the real value of debt.

¹⁰ Dolls, Fuest, and Peichl (2010) find that automatic stabilizers work better in the EU than in the US. They find that automatic stabilizers absorb 38 per cent of a proportional income shock in the EU, compared to 32 per cent in the US. In the case of an unemployment shock 47 per cent of the shock are absorbed in the EU, compared to 34 per cent in the US. This cushioning of disposable income leads to a demand stabilization of up to 30 per cent in the EU and up to 20 per cent in the US. Yet they also find large heterogeneity within the EU.

¹¹ Fatás (1998) compared the EU and the US in terms of fiscal stabilization and risk-sharing using, of course, data from the pre-EMU period. He concluded that the differences between the federal US system and the decentralised EU system are not as great as previously thought. He argued that the potential to provide interregional insurance by creating a European fiscal federation is too small to compensate for the many problems associated with its design and implementation. See Pacheco (2000) for an overview of several other papers written on this issue in the pre-EMU.

But there are also two fundamental differences between the EU and the US that have a bearing on fiscal sustainability:

7. Banking system strength: the US is regarded as having implemented effective measures to improve its banking system, while Europe has not (Véron, 2010). In a federal fiscal system, where banking regulation and supervision are also centralised and therefore cross-border banking issues are not relevant, fixing the financial system is certainly easier.

8. Labour and product market flexibility: the US is closer to an optimum currency area than the EU in these respects. In fact, in the context of this paper, Mankiw (2010) reminded us that “the United States in the nineteenth century had a common currency, but it did not have a large, centralised fiscal authority. The federal government was much smaller than it is today. In some ways, the US then looks like Europe today. Yet the common currency among the states worked out fine.” His key point is that the common currency worked well even when there were severe recessions, because labour markets were much more flexible than in Europe today.

4. LESSONS FOR EUROPE

Although both the euro area and the US have many similarities in terms of the state-level fiscal crisis, only the euro area's viability has been questioned, though the overall fiscal situation is better in the euro area than in the US.

4.1 WHY HAS THE EURO AREA BEEN JUDGED SO HARSHLY?

A simple, but in our view insufficient, answer is that the Greek fiscal problems are much more serious than fiscal problems in any US state. Greece has a real solvency problem: high debt, high deficit, weak tax-collection capability, social unrest and a loss of confidence. No US state is in a similar situation. Even if the current IMF/euroarea financing programme goes ahead as planned, the Greek debt/GDP ratio would stabilise at around 150 percent of GDP in a country with very weak fiscal institutions. Should any other negative shock arrive, or should the programme not go ahead as planned, Greece will not be able to avoid default or debt rescheduling.

A second reason for the more serious fiscal crisis in the euro area is that a Greek default may have more severe contagious effects within the euro area than would the default of a state in the US. Debt levels in euro-area member states are much higher (both relative to GDP and in absolute terms) than in US states, and a significant share of euro-area sovereign debt is held

by European banks, while in the US residents hold a large part of state debt. Little is known in Europe about the resistance of individual banking groups to eventual sovereign defaults (Gros and Mayer, 2010), though for the banking system as a whole there seems to be a sufficient buffer (OECD, 2010).

A third factor is the ambiguous policy response. When the Greek crisis began to intensify in February 2010, the Greek government was hesitant about adopting further consolidation measures, and European partners dithered over making a loan to Greece and agreeing to IMF involvement (which, by the way, is not prohibited by any EU regulation). As the crisis intensified, policymakers started to blame ‘speculation’¹², or suggest ad hoc measures, such as banning certain financial products and setting up a European credit rating agency. When policymakers are busy with these kinds of redundant activities and provide conflicting signals about their intentions, markets are likely to draw the conclusion that policymakers do not have the means to resolve the crisis.

Last but not least, the euro-area institutional setup may have also played a role, with the lack of a strong federal government, which ultimately would have had ample resources to bail-out big banking groups or even perhaps states. Gros and Mayer (2010) also rightly point out that the US Treasury and the Federal Reserve stand shoulder-to-shoulder, each one providing a guarantee for the other, which is not the case in the euro-area. Also, while the euro is much more than a simple economic endeavour, the commitment of the US to the US dollar is certainly stronger than the commitment of euro-area nations to the euro, even if the eventual exit of a member state or a full break-up of the euro-area would lead to an economic chaos (Eichengreen, 2007).

4.2 HOW WOULD A MORE FEDERALIST EUROPEAN FISCAL UNION HAVE HELPED?

A more federalist EU/euro area would have helped to prevent and resolve the current state-level fiscal crisis in various ways.

1. It would have increased the political coherence of the euro area. Since a major factor behind the euro-area fiscal crisis is low confidence related to governance deficiencies and the inability of European authorities to strengthen the euroarea banking system, a higher level of fiscal federation, and also political federation, would have boosted confidence. Furthermore, it would have meant fewer opportunities for policymakers in member states and

¹² While theoretical models make the case for pure self-fulfilling crises, the current euro-area fiscal crisis is not one. It was not accidental that Greece was attacked and not, for example, Finland, and it was also not accidental that Portugal was threatened most by contagion and not, for example, Slovakia. The perceived fragility of the European banking industry was a key contributor to the fear of contagion.

European institutions to express conflicting views. While being an important argument for a more federalist Europe, these political aspects should not necessarily be a problem if other items on the list are fixed, resulting in the minimising of the potential for an area-wide crisis on one hand, and clear procedures on how to resolve an area-wide crisis on the other.

2. It would have given scope for greater redistribution, risk sharing, and a federal counter-cyclical fiscal policy that may have dampened the effect of consolidation in those few member states that started to consolidate in 2010.

We have already argued that the superiority of the US fiscal stabilisation policy over to Europe's cannot be established. Even in the US the moral hazard involved in federal counter-cyclical fiscal policy is a major consideration (Aizenman and Pasricha, 2010). This would not be different for Europe. However, it is important to emphasise that the lack of a European federal stabilisation policy is only consistent with counter-cyclical country-level fiscal rules and therefore this feature should be incorporated in country-specific rules and be maintained or even strengthened in the SGP¹³.

We intentionally do not discuss here the broader issue related to the level of redistribution, because it is, as eg Oates (1999) argues, a contentious and a very complex economic and political issue. We only note that Greece, the main culprit of the current euro-area crisis, was the highest net beneficiary (as a percent of GDP) of intra-EU redistribution (*Figure 2*), and it has received much more than what the relationship between net balance with the EU and GDP per capita would suggest (*Figure 3A*). It was not the low level of intra-EU redistribution that caused the crisis. Similarly, public risk sharing is also a contentious issue. Its desirability depends on, among other things, private risk sharing. But financial integration advanced to very high levels within the euro area, which can substitute public risk sharing.

3. It would have reduced the scope for state-level crises through stricter pre-crisis state-level fiscal rules. It is inevitable that measures will be taken to implement fiscal rules more effectively than has been done under the SGP. But this does not necessarily require a fiscal federation. Most US states have constitutional fiscal rules – the approach adopted recently by Germany. Other euro-area members may also choose this approach, preferably augmented with the introduction of independent fiscal councils (Calmfors et al, 2010), thereby increasing their credibility and fiscal sustainability. While these improvements would be beneficial, there is an even better way to enforce fiscal discipline: the introduction of a common Eurobond up to a limit of 60 percent of member states' GDP, as we shall discuss in the next section.

¹³ While the SGP required EU countries to have budget positions close to balance or in surplus in the medium term, the actual interpretation and implementation relied instead on the three percent deficit ceiling. During the crisis, however, the Commission has – rightly – invited all EU countries to break the three percent deficit ceiling.

4. It would have helped to strengthen the euroarea banking industry and to introduce euroarea-wide banking-resolution schemes. Resolving European cross-border banking-sector crises seems to be a tough job and, indeed, looking at our list, this is the best argument for a more federal approach. As discussed in the previous section, the perceived fragility of the euro-area banking industry was a major reason why the Greek crisis has caused so many problems. But, in principle at least, banking crisis resolution can be done through a burden-sharing mechanism without creating a US-style federal fiscal system. The implementation of EU/euro-area-wide banking supervision and regulation is not impossible within the current institutional setup.

4.3 HOW DO THE EURO AREA'S FISCAL ARCHITECTURE REFORM PLANS STAND UP IN THE LIGHT OF THE US EXAMPLE?

Numerous solutions to the euro area's fiscal crisis have been put forward. Current discussions suggest that reform of the euro-area governance framework will mostly comprise:

1. Better enforcement of fiscal discipline, which in turn will likely have two key components:

- Stricter enforcement of current rules, partly through fines;
- More fiscal coordination.

2. The €440 billion three-year European Financial Stability Facility (EFSF) may be turned to a permanent emergency financing mechanism for euro-area member states funded (or guaranteed) primarily from national contributions; the Commission's €60 billion European Stabilisation Mechanism (ESM) may also be made permanent;

3. Active involvement of the ECB in state-level crisis management, and

4. Surveillance of private-sector imbalances and better harmonisation of economic policies.

These proposals would introduce institutions that do not exist for the US states, though they certainly would imply higher levels of integration. Since the EU has a completely different political set-up to the US, and since the level of government debt in euro-area member states is very diverse, European solutions need not follow the US model.

Nevertheless, both the EFSF and the ECB's active involvement are, to some extent, substitutes for the lack of a substantial federal European budget. US federal spending in US states is of course not to be repaid by the states. In Europe, loans, not transfers, were provided to Greece, and the EFSF and ESM will also provide, if needed, loans conditional on the implementation of a programme. In this way, these European institutions help member states

when they face difficulties in obtaining market financing¹⁴. But since we have argued that it was not the lack of higher redistribution across European countries that caused the crisis, and also that greater redistribution is not the solution, the EFSF indeed substitutes to some extent the lack of a higher EU budget.

Also, the move of the ECB to give special treatment to Greece via its collateral policy, and to purchase the government bonds of just a few euro-area countries breaches the barrier between monetary and fiscal authorities, because these actions reduce the cost of borrowing for euro-area governments. Both conditional lending and the ECB's purchase of government securities may give rise to public risk sharing, as we shall argue below.

While progress with the current European reform proposals would certainly improve the euro-area policy framework compared to before the crisis, we doubt that points one, two and three in the list at the start of this section really represent the best path towards reform of the euro-area fiscal architecture. There are two main reasons for our doubts: credibility (which primarily relates to fiscal discipline enforcement tools) and political risk (which primarily relates to the EFSF and the ECB's involvement).

Credibility of the new instruments: much will of course depend on the details of the new framework. So far, the credibility of any European instrument has been damaged by a series of U-turns. We can give four major examples. First, until February 2010 the euro-area had a framework in which no support was to be provided to fiscally profligate countries: this principle was dropped very quickly to help out a country that has flouted the rules extensively¹⁵. Second, during the crisis, the European Central Bank has substantially reduced the quality requirements for collaterals eligible for refinancing operations, but planned to return to pre-crisis standards by January 2011. Until early 2010, the ECB very explicitly denied that it would switch its planned return of collateral policy back to pre-crisis standards. Since the credit rating of Greek government bonds has been downgraded, a return to pre-crisis collateral policy has raised the risk of exclusion of Greek government bonds. But the ECB first postponed the return and later even abolished any credit rating requirement for Greek government bonds (and just for Greek bonds). Third, many European policymakers strongly opposed IMF involvement in the rescue of a euro-area country, but there was a U-turn in this respect as well. Fourth, the ECB long denied the need for, and its willingness to, purchase government bonds of distressed member states, but it has since done exactly this. These U-

¹⁴ The US government also helped US states and local governments to borrow through the Build America Bond (BAB) programme (Ang et al, 2010). This programme is designed to help state and local governments pursue various capital projects. Therefore, BAB is very much different from the European lending facilities, which provide general funding for budget deficits.

¹⁵ Article 122 of Treaty, which allows the provision of financial assistance to a Member State when "*exceptional occurrences beyond its control*" occur, was certainly not applicable for the bail-out of Greece.

turns in many cases were reactions to events, but if it is believed there will be similar changes to the new instruments in the future, their credibility will be undermined from the outset.

Political risk: the emergency financing mechanism for euro-area member states carries a significant political risk¹⁶. If donor countries must pay too much to help out others, especially if some of those others have been irresponsible in the past and they eventually default, then the citizens and politicians of donor countries will be deterred from risking future losses. The IMF and EU loans have seniority over previous market-financed debt and therefore an eventual default may not necessarily imply direct losses for donor countries. But when emergency lending amounts to a significant fraction of the GDP of the recipient country, losses even of senior loans cannot be excluded in the event of default. Furthermore, since the ECB has purchased government debt securities that now have junior status, direct losses can arise there. Also, an eventual default, the possibility of which has previously been strenuously denied, may bring into question the reliability of similar financing programmes and could also raise the risk perception of donors. The eventual consequences of the denial of future funding by some donor countries could be disastrous, especially if it happens after the current three year temporary EFSF is transferred into a permanent facility.

Given the above risks, what would then be a proper way to reform the euro-area's fiscal architecture? It is clear that more fiscal discipline is needed and it is also clear that a simple elimination of the EFSF after its expiry without any bold action to put something new in place would risk a wave of uncertainty. A clear, credible and simple solution is needed. Such a solution could be the introduction of a common Eurobond as suggested by Delpla and von Weizsäcker (2010). Member states would be entitled to issue jointly guaranteed Eurobonds, but only up to 60 percent of GDP ('blue bond'). They would issue any additional bond with their own guarantee ('red bond'). The blue bond would be senior to the red bond and an orderly sovereign default mechanism could be put in place for the red bonds. By construction, this would mean a credible commitment by euro-area partners to not bail-out the red part of sovereign debt. Thereby, this mechanism would provide an extremely strong incentive for countries to convince markets that their red debt is safe, promoting fiscal discipline much more powerfully than any other fiscal coordination proposal currently on the table. Being both sensible and bold, the introduction of blue and red bonds would carry a strong political message that Europe's integration cannot be reversed.

¹⁶ There are many other well founded arguments against a formal emergency financing mechanism and even for allowing member states to default sometimes, see eg Wyplosz (2009), Enderlein (2010), Méritz (2010), or Cochrane (2010).

5. SOME CONCLUDING REMARKS

The euro area faces a deep crisis while the US does not, although the overall fiscal situation and outlook is better in the euro area than in the US, and although the US also faces serious state-level fiscal crises. Pre-1999 critics of the euro project, who stressed its fragility because of the low level of labour mobility and the lack of fiscal and political union, now feel that their concerns have been vindicated.

But is there proof that the euro is not viable without a federalist fiscal architecture? Our answer is no, even though there is no doubt that such an architecture would have helped to prevent out-of-control state-level debts and allow smoother resolution of banking-system problems, as the US example clearly demonstrates. Also, a more federalist set-up would be a signal of the political coherence of the euro area and would offer less scope to European policymakers to alarm markets with conflicting commentaries.

Indeed, the euro area's current fiscal woes primarily originate from the risk that a single country will default and from the fear of contagion to other countries and the banking system, which is perceived to be fragile. These fears were amplified by the ambiguous policy response and the institutional deficiencies of euro-area governance. But the origin of the euro-area fiscal crisis is not the lack of a federal fiscal institution with higher redistribution, stabilisation and risk-sharing roles, which are the typical activities of a fiscal union. The case for a federal stabilisation instrument can only be made if new reforms will constrain member states in carrying out counter-cyclical policy in bad times, while not forcing it on them in good times.

There is a large number of proposals on the table about the redesign of the euro-area policy framework, and the most likely outcomes will not make Europe's fiscal framework more similar to that of the US. Considering various aspects of crisis prevention and management this is not necessarily a problem, if Europe can find effective solutions to the challenges of its institutional set-up and cross-border banking issues.

It still needs to be seen if Europe will be able to implement proper reforms. Among the most likely outcomes, the expected scrutiny of private sector imbalances is to be welcomed enthusiastically, but we are doubtful about the other likely elements of the new framework, namely the strengthening of current rules possibly through fines, more fiscal policy coordination, an emergency financing mechanism and the ECB's active involvement in the management of sovereign debt crises. While these would be improvements compared to the current set-up, they may not be effective and could lead to even more disputes among member states and European institutions, and they may simply require further change should new circumstances emerge. Therefore, these new instruments may not be seen as sufficiently credible. Lack of credibility of new instruments may translate into continued concerns about

the viability of the euro project, which could deter investment and negatively impact economic activity, even in fiscally sound countries. The permanent emergency-financing mechanism could create moral hazard and carries a serious political risk: donor countries may decline to provide further funding after an eventual sovereign default.

Instead of requesting huge sums of money from euro-area partners to bail-out actual or perceived profligate countries, designing new fines with a potential of future overlooking, and creating more platforms for fiscal coordination with the potential of even more unsettled disputes, it would be much more reasonable to introduce a common Eurobond along the lines of Delpa and von Weizsäcker (2010). That would bring about much more fiscal discipline than any other fiscal coordination and enforcement proposal currently on the table, would create a large, liquid, and therefore attractive Eurobond market, and would carry a strong message about the irreversible nature of European integration. The three-year period during which the current EFSF will be in place is sufficient to properly design the Eurobond. This period should also be used to fix the fragility of the euro area's banking system.

Yet the euro area has a more entrenched problem than the fiscal sustainability of some of its member states: the inability of some Mediterranean economies to address their competitiveness problems within the euro area (European Commission, 2008; Darvas, 2010; Marzinotto, Pisani-Ferry and Sapir, 2010), which has already led to disappointing growth performance in Italy and Portugal during the first decade of the euro, and unfortunately Greece and Spain may join this club. This problem is more difficult to solve than the fiscal crisis, because fostering private sector adjustment is very hard and depends not just on government decisions. Also, since Europe is culturally diverse, solutions that work in one country may not work in another. Helping member states with serious competitiveness problems to design and accept necessary structural reforms is of utmost importance, as are measures to move the whole euro area, including its labour market, towards an optimum currency area.

REFERENCES

- Ahmad, Ehtisham, and Giorgio Brosio, eds, (2006), 'Handbook of Fiscal Federalism', Edward Elgar Publishing Limited, Cheltenham, UK. http://www.elgar.co.uk/bookentry_main.lasso?id=3584
- Aizenman, Joshua and Gurnain Kaur Pasricha (2010), 'On the ease of overstating the fiscal stimulus in the US, 2008-9', NBER Working Paper 15748, <http://www.nber.org/papers/w15784>
- Ang, Andrew, Vineer Bhansali, and Yuhang Xing (2010) 'Build America Bonds', NBER Working Paper No. 16008, <http://www.nber.org/papers/w16008>
- Barro, Josh (2010), 'California: Mediterranean Climate, Mediterranean Budget', 11 May 2010, http://www.realclearmarkets.com/articles/2010/05/11/california_mediterranean_climate_mediterranean_budget_98458.html
- Blöchliger, Hansjörg, and Josette Rabesona (2009), 'The Fiscal Autonomy of Sub-Central Governments: An Update', OECD Network on Fiscal Relations Across Levels of Government, COM/CTPA/ECO/GOV/WP(2009)9, <http://www.oecd.org/dataoecd/60/11/42982242.pdf>
- Bloechliger, Hansjörg, Monica Brezzi, Claire Charbit, Mauro Migotto, José María Pinero Campos, and Camila Vammalle, (2010), 'Fiscal policy across levels of government in times of crisis', OECD Working Paper No 12 <http://www.oecd.org/dataoecd/21/4/44729769.pdf>
- Calmfors, Lars, George Kopits, and Coen Teulings (2010), 'A new breed of fiscal watchdogs', 13 May 2010, [http://www.euointelligence.com/index.php?id=581&tx_ttnews\[tt_news\]=2791&tx_tnews\[backPid\]=1038&cHash=6f6e5f30bf](http://www.euointelligence.com/index.php?id=581&tx_ttnews[tt_news]=2791&tx_tnews[backPid]=1038&cHash=6f6e5f30bf)
- Cochrane, John H. (2010), 'Greek Myths and the Euro Tragedy', 18 May 2010, <http://online.wsj.com/article/SB10001424052748703745904575248661121721980.html>
- Darvas, Zsolt (2010), 'Euro area divergences: facts and lessons for enlargement', in: Ewald Nowotny, Peter Mooslechner and Doris Ritzberger-Grünwald (eds) 'Euro and Economic Stability: Focus on Central, Eastern and South-eastern Europe', Edward Elgar.
- Delpla, Jacques and Jakob von Weizsäcker (2010), 'The Blue Bond proposal', Bruegel Policy Brief, 6 May 2010, <http://www.bruegel.org/publications/show/publication/the-blue-bond-proposal.html>
- Dolls, Mathias, Clemens Fuest, and Andreas Peichl (2010), 'Automatic Stabilizers and Economic Crisis: US vs. Europe', NBER Working Paper No. 16275, August, <http://www.nber.org/papers/w16275>
- Eichengreen, Barry (2007), 'The Breakup of the Euro Area', NBER Working Paper No. 13393, September, <http://www.nber.org/papers/w13393>
- Enderlein, Henrik (2010), 'Europe in Dire Straits – don't be Brothers in Arms', 2 March 2010, [http://www.euointelligence.com/index.php?id=581&tx_ttnews\[tt_news\]=2715&tx_tnews\[backPid\]=901&cHash=e5b1a2c28c](http://www.euointelligence.com/index.php?id=581&tx_ttnews[tt_news]=2715&tx_tnews[backPid]=901&cHash=e5b1a2c28c)
- European Commission (2008), 'EMU@10: Successes and Challenges After 10 Years of Economic and Monetary Union', European Economy No 2, Directorate-General Economic and Financial Affairs of the European Commission http://ec.europa.eu/economy_finance/emu10/emu10report_en.pdf

- European Commission (2009), 'Public Finances in EMU', European Economy 5/2009 (Provisional Version), Directorate-General Economic and Financial Affairs of the European Commission
http://ec.europa.eu/economy_finance/publications/publication15390_en.pdf
- European Commission (2010), 'European Economic Forecast - Spring 2010', European Economy 2/2010 (released on 5 May 2010), Directorate-General Economic and Financial Affairs of the European Commission
http://ec.europa.eu/economy_finance/publications/european_economy/2010/pdf/ee-2010-2_en.pdf
- Fatás, Antonio (1998), 'Does Europe Need a Fiscal Federation?', Economic Policy 13(26), p. 165-203. <http://onlinelibrary.wiley.com/doi/10.1111/1468-0327.00031/abstract>
- Gelinas, Nicole (2010), 'Beware the Muni-Bond Bubble. Investors are kidding themselves if they think that states and cities can't fail', City Journal, vol 20, No 2., http://www.city-journal.org/2010/20_2_municipal-bonds.html
- Gichiru, Wangari, Jennifer Hassemer, Corina Maxim, Riamsalio Phetchareun, and Dong Ah Won (2009), 'Sub-Central Tax Competition in Canada, the United States, Japan, and South Korea', paper prepared for the Fiscal Federalism Network, Organisation for Economic Co-operation and Development (OECD)
<http://www.lafollette.wisc.edu/publications/workshops/2009/tax.pdf>
- Gros, Daniel and Thomas Mayer (2010), 'Financial Stability beyond Greece: Making the most out of the European Stabilisation Mechanism', 11 May 2010,
<http://www.voxeu.org/index.php?q=node/5028>
- International Monetary Fund (2009), 'Marco Policy Lessons for a Sound Design of Fiscal Decentralization', July, IMF Fiscal Affairs Department,
<http://www.imf.org/external/np/pp/eng/2009/072709.pdf>
- Leonard, Herman B., and Jay H. Walder (2000), 'The Federal Budget and the States. Fiscal Year 1999' 24th Edition, Taubman Center for State and Local Government, John F. Kennedy School of Government, Harvard University and Office of Senator Daniel Patrick Moynihan, United States Senate,
<http://www.hks.harvard.edu/taubmancenter/publications/fisc/index.htm>
- Malanga, Steven (2009) 'Should We Let California Go Bankrupt?', 25 February 2009,
http://www.realclearmarkets.com/articles/2009/02/should_we_let_california_go_ba.html
- Mankiw, Gregory (2010), 'Does a common currency area need a centralized fiscal authority?', 7 May 2010, <http://gregmankiw.blogspot.com/2010/05/does-currency-area-need-fiscal.html>
- Marzinotto, Benedicte, Jean Pisani-Ferry and André Sapir (2010), 'Two Crises, Two Responses', Bruegel Policy Brief No 2010/01, March,
<http://www.bruegel.org/publications/show/publication/two-crises-two-responses.html>
- Martin, Philippe (1998), 'Discussion of the paper 'Does Europe Need a Fiscal Federation?' by Antonio Fatás', Economic Policy 13(26), p. 195-197.
- McNichol, Elizabeth, and Nicholas Johnson (2010) 'Recession Continues to Batter State Budgets; State Responses Could Slow Recovery', 27 May 2010, Center on Budget and Policy Priorities, <http://www.cbpp.org/cms/index.cfm?fa=view&id=711>
- Méltiz, Jacques (2010), 'Eurozone Reform: A Proposal', CEPR Policy Insight No. 48, May 2010, <http://www.cepr.org/pubs/PolicyInsights/PolicyInsight48.pdf>
- National Conference of State Legislatures (1999), 'State Balanced Budget Requirements', <http://www.ncsl.org/issuesresearch/budgettax/statebalancedbudgetrequirements/tabid/12660/default.aspx>

- Oates, Wallace E. (1999), 'An Essay on Fiscal Federalism', *Journal of economic Literature*, 37(3), p. 1120-1149. <http://www.jstor.org/pss/2564874>
- OECD (2010), 'OECD Economic Outlook', May 2010
- Pacheco, Luís Miguel (2000), 'Fiscal Federalism, EMU and Shock Absorption Mechanisms: A Guide to the Literature', *European Integration online Papers (EIoP)* Vol. 4 (2000) N° 4; <http://eiop.or.at/eiop/texte/2000-004a.htm>
- Rodden, Jonathan and Erik Wibbels (2009), 'Fiscal Decentralization and the Business Cycle: An Empirical Study of Seven Federations', *Economics & Politics* 22(1), p. 37-67. <http://www3.interscience.wiley.com/journal/122577501/abstract>
- Snell, Ronald K. (2004), 'State Balanced Budget Requirements: Provisions and Practice', <http://www.ncsl.org/?TabId=12651>
- Ter-Minassian, Teresa (2007), 'Fiscal Rules for Subnational Governments: Can They Promote Fiscal Discipline?', *OECD Journal on Budgeting* 6(3), p. 108-120, <http://www.oecd.org/dataoecd/26/6/43469443.pdf>
- Veron, Nicolas (2010), 'EU Inaction on Banks Grows Ever Costlier', <http://www.bruegel.org/publications/show/publication/eu-inaction-on-banks-grows-ever-costlier.html>
- von Hagen, Jürgen, and Barry Eichengreen (1996), 'Federalism Fiscal Restraints and European Monetary Union', *American Economic Review*, Vol. 86, No. 2, Papers and Proceedings, p. 134-138. <http://www.jstor.org/pss/2118110>
- Watkins, Bill (2009) 'What Happens When California Defaults?' 16 December 2009, <http://www.newgeography.com/content/001274-what-happens-when-california-defaults>
- Wyplosz, Charles (2009), 'Bailouts: the next step up?', 21 February 2009, <http://www.voxeu.org/index.php?q=node/3110>

APPENDIX

REGIONAL CODES FOR FIGURE 4A

EU				USA					
AT	Austria	LV	Latvia	AK	Alaska	KY	Kentucky	NY	New York
BE	Belgium	MT	Malta	AL	Alabama	LA	Louisiana	OH	Ohio
BG	Bulgaria	NL	Netherlands	AR	Arkansas	MA	Massachusetts	OK	Oklahoma
CY	Cyprus	PL	Poland	AZ	Arizona	MD	Maryland	OR	Oregon
CZ	Czech Republic	PT	Portugal	CA	California	ME	Maine	PA	Pennsylvania
DE	Germany	RO	Romania	CO	Colorado	MI	Michigan	RI	Rhode Island
DK	Denmark	SE	Sweden	CT	Connecticut	MN	Minnesota	SC	South Carolina
EE	Estonia	SI	Slovenia	DC	District of Columbia	MO	Missouri	SD	South Dakota
ES	Spain	SK	Slovakia	DE	Delaware	MS	Mississippi	TN	Tennessee
FI	Finland	UK	United Kingdom	FL	Florida	MT	Montana	TX	Texas
FR	France			GA	Georgia	NC	North Carolina	UT	Utah
GR	Greece			HI	Hawaii	ND	North Dakota	VA	Virginia
HU	Hungary			IA	Iowa	NE	Nebraska	VT	Vermont
IE	Ireland			ID	Idaho	NH	New Hampshire	WA	Washington
IT	Italy			IL	Illinois	NJ	New Jersey	WI	Wisconsin
LT	Lithuania			IN	Indiana	NM	New Mexico	WV	West Virginia
LU	Luxembourg			KS	Kansas	NV	Nevada	WY	Wyoming

Discussion Papers published in 2010

- Gábor BÉKÉS - Péter HARASZTOSI: Agglomeration Premium and Trading Activity of Firms. MT-DP 2010/1
- TARJÁN Tamás: Jánossy elmélete az új növekedélmélet tükrében. MT-DP 2010/2
- Holger GÖRG - László HALPERN - Balázs MURAKÖZY: Why Do Within Firm-Product Export Prices Differ across Markets? MT-DP 2010/3
- KOZAK Anita - SERES Antal - SZABÓ Márton: Sikeres kisárutermelők és egy sikeres termelési, értékesítési rendszer a zöldség-gyümölcs ágazatban. MT-DP 2010/4
- András SIMONOVITS: Tax morality and progressive wage tax. MT-DP 2010/5
- Peter CZIRAKI - Peter de Goeij - Luc Renneboog: Insider Trading, Option Exercises and Private Benefits of Control. MT-DP 2010/6
- LACKÓ Mária: A rossz magyar egészségi állapot lehetséges magyarázó tényezői; összehasonlító makroelemzés magyar és osztrák adatok alapján, 1960-2004. MT-DP 2010/7
- Gusztáv NEMES: Environmental Governance in Hungary Rural Development Policies and Social Learning during the Implementation of EU Agri-Environmental Policies - A Case Study. MT-DP 2010/8
- KOVÁCS Ilona: A hazai jövedelemeloszlás és jövedelemegyenlőtlenség mérése és elemzése személyi jövedelembevallási adatok alapján. MT-DP 2010/9
- SERES Antal: A részmunkaidős foglalkoztatás tendenciái és terjedésének tényezői az Európai Unióban és Magyarországon. MT-DP 2010/10
- Ilona KOVÁCS: Measuring and analyzing income distribution and income inequality in Hungary based on data from personal income tax returns. MT-DP 2010/11
- László PAIZS: Asymmetric competition in the setting of diesel excise taxes in EU countries. MT-DP 2010/12
- Mária CSANÁDI: Institutional Reactions to the Impact of Global Crisis at Source and Destination Cities of Migration in China. MT-DP 2010/13
- Mihály LAKI: The Evolution of the Market of the Hungarian Printing Industry after 1989: The End of a Success Story? MT-DP 2010/14
- Jenő KOLTAY: Labour Relations and Multinational Companies in Hungary: between Home Country - Host Country Effects and Global Tendencies. MT-DP 2010/15
- VINCE Péter: A verseny alakulása a liberalizáció után az energiaszektorban. MT-DP 2010/16
- Parantap BASU - Max GILLMAN - Joseph PEARLMAN: Inflation, Human Capital and Tobin's q . MT-DP 2010/17
- László Á. KÓCZY - Martin STROBEL: The World Cup of Economics Journals: A Ranking by a Tournament Method. MT-DP 2010/18
- Zsolt DARVAS - Jakob von WEIZSÄCKER: Financial Transaction Tax: Small is Beautiful. MT-DP 2010/19
- László Á. KÓCZY: Prospects after the voting reform of the Lisbon Treaty. MT-DP 2010/20