

What's wrong with Europe?

Paolo Manasse and Isabella Rota Baldini

University of Bologna; Link Tank

The economic recovery is well underway in the US – growth back to 2.5% and unemployment falling. The Eurozone economy, by contrast, is still struggling (IMF 2013). Why is this?

This *Policy Insight* argues that major structural and institutional differences go a long way in explaining this transatlantic divergence. Unlike the US, the Eurozone consists of a heterogeneous federation of independent states, an economic area where goods, labour and financial markets are segmented by national boundaries. Consequently, competition across states is often scarce (compared to the US), and European institutions are far from adequate to address the fragmented and diverse economic difficulties facing its constituent economies.

We document in this paper that the crisis has slowed the process of convergence between EZ countries, bringing to light the unresolved structural problems that hamper growth in many countries. Price and wage rigidities have exacerbated the recessionary effects of demand shocks, the credit crunch and budget consolidations. Moreover, the crisis has exposed the underlying fragility of both new and old European institutions, revealing serious faults in the overall design of the European monetary union.

Per-capita GDP

It is informative to compare the trend of per-capita real GDP in the US (the blue line in Figure 1) with that of the Eurozone (the yellow line in Figure 1). Real average incomes have declined since 2007-2008 in both areas. The impact of the crisis in the US was larger, with a reduction of \$2,459 at constant prices (-6%), compared to the Eurozone, where incomes fell by €1200 (-4.7%). However, while average income in the US had returned to its pre-crisis level by 2012, that of the Eurozone remains 2.5% below its 2007 level.

In order to understand why this is the case, it is useful to compare the level of average incomes across the individual US states and EZ member states. Figure 1 shows two bands, blue for the US and yellow for the Eurozone, whose upper and lower limits consist of the per-capita income in the richest and poorest intra-union states.¹ The graph clearly shows that internal differences are much greater in the Eurozone than in the US: between 2000 and 2012, the real per-capita income of the richest US state was five times that of the poorest state, while in the Eurozone the ratio was 8.6:1.

Figure 1 Real per-capita GDP

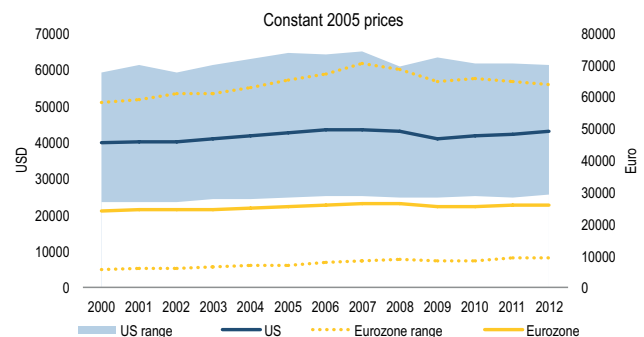
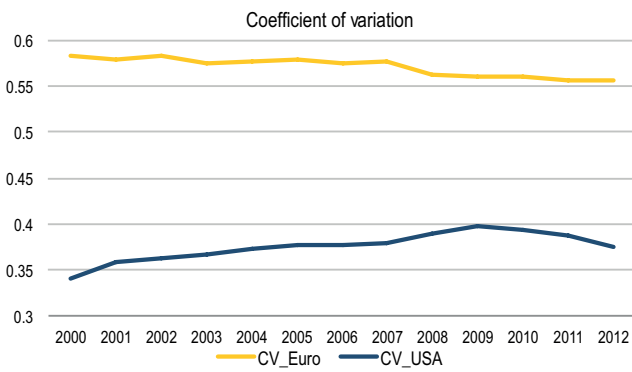


Figure 2 clarifies how these differences have changed over time. The yellow and blue lines represent, for the Eurozone and the US respectively, an index that measures the average distance of individual state per-capita income from the mean in the two areas.² A negative slope indicates a reduction in income differences across states. The figure shows that until 2008 income differences among European countries fell, but that this process has slowed since the beginning of the crisis. In the US, the crisis increased the degree of inequality between states on impact, but this increase was reversed beginning in 2009.

1 These are the District of Columbia and Mississippi for the US, and Luxembourg and Estonia for the Eurozone.
2 More precisely, the lines measure the ratio of the standard deviation of per capita income and the mean.

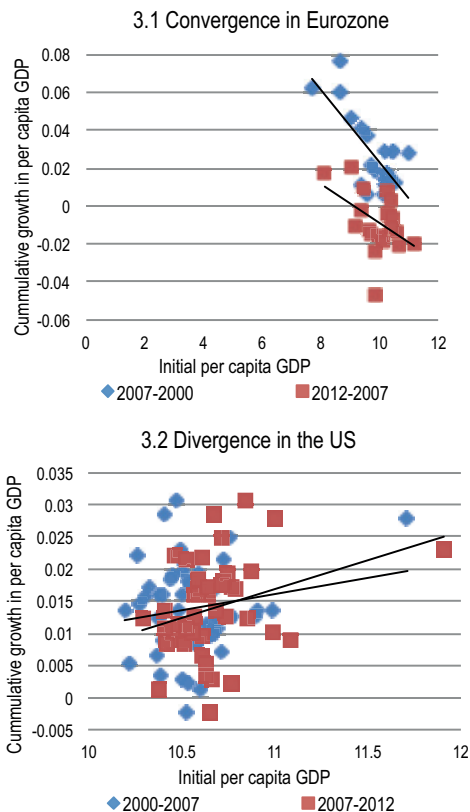
Figure 2 Dispersion in per-capita GDP



A closer look at convergence/divergence

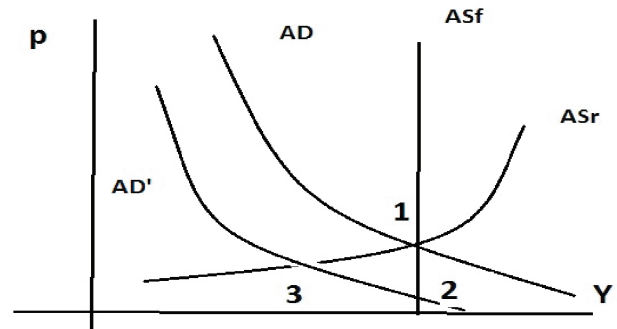
According to the standard model of economic growth, poor countries should grow faster than rich ones. This is because poor countries tend to have less capital, compared to labour, implying that the marginal product of capital and the return to investment should be greater. Europe experienced a significant process of convergence between 2000 and 2007, as documented by the reduction in the dispersion of per-capita incomes across EU members, but the speed of this convergence has been halved in the most recent period following the crisis.

Figure 3 EZ convergence and US divergence



In Figure 3.1, each dot represents a country in the period 2000-2007 (in blue) and 2007-2012 (in red). The figure shows the relationship between the initial level of real per-capita income on the x-axis, and the average increase in income in subsequent years on the y-axis. When the data points lie on a downward line, this means that the countries that initially had the lowest per capita incomes have grown faster on average. The greater this (negative) slope, the higher the speed of convergence. The figure shows that the European convergence rate almost halved in the post-crisis period compared to the previous period (the slope of the red line is about half the slope of the blue one). In the US (see Figure 3.2) the relationship between growth and initial income is less clear and statistically insignificant. In fact, the graph suggests that the recent period has increased income divergence between US states.

Figure 4 Aggregate supply and demand



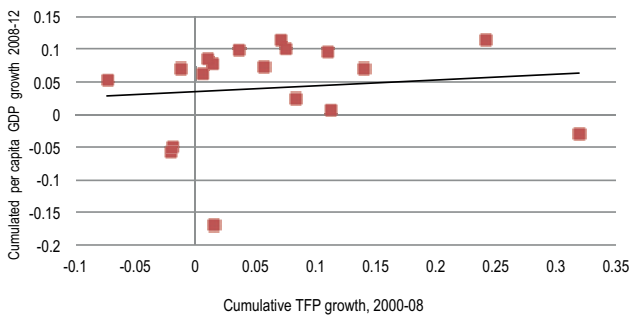
Two factors explain these divergent patterns across countries. The first is the extent to which national economies were subject to large demand shocks (in particular related to the credit crunch and fiscal austerity). The second is the role of structural rigidities in product and labour markets. The negative effects of demand shocks on GDP and employment are larger when prices are rigid, as firms use their market power to prevent prices from falling, thereby exacerbating the decline in consumption and output. The same holds for wage rigidities, as the unemployed are not easily reabsorbed into the labour market. These demand and supply effects are depicted in Figure 4. A leftward shift in the aggregate demand curve, from AD to AD', has a large negative effect on output when the aggregate supply curve (ASr) is flat because prices are sticky. On the contrary, demand shocks have no effect on output when the supply curve is vertical (ASf) as prices are completely flexible and absorb the full effect of the shock.

Productivity

It turns out that countries that had larger labour market rigidities and lower (incentives for) productivity growth before 2008 have suffered more during the crisis. Figure 5 shows the relationship

between the cumulative growth of total factor productivity in Europe during the pre-crisis period (2000-08), and the subsequent change in real GDP per-capita from 2008-2012. The countries whose productivity had risen by less before the crisis witnessed a greater fall (or smaller rise) in per-capita GDP during the crisis. However, there are exceptions: Greece (the lowest point in the chart) experienced a meltdown of GDP per-capita during the crisis (-17%) despite having experience a modest rise in productivity (+1.5%) in the previous years. Slovakia (the rightmost point in the chart) also experienced a decline in capital income (-2.8%) despite a spectacular cumulative growth in productivity of 30% between 2000 and 2008. The Greek experience is certainly tied to the sovereign default and the harsh austerity measures; that of Slovakia is largely due to the sharp contraction in exports.³ Both cases highlight the important role played by aggregate demand factors in addition to supply rigidities (see below).

Figure 5 TFP and crisis in the Eurozone



Source: European Commission, Eurostat

The labour market

The recessionary impact of the crisis has been worse in countries where unemployment (and thus labour market rigidities) was already high before the crisis. Each dot in Figure 6 represents a state. The horizontal axis shows the average unemployment rate before the crisis, and the vertical axis measures the change in the unemployment rate after 2007. The positive slope of the trend line implies that on average unemployment has risen more in those countries where it was already high before the crisis. Interestingly, this process of divergence is much stronger in Europe than in the United States.

Figure 7 shows the average unemployment rate in the Eurozone (yellow) and the US (blue). The bands around the lines describe the maximum and minimum levels in both economic areas. In 2007, the largest difference in unemployment rates between US states was 4.6%. This gap widened

to 10% in 2010, but has since declined. The European experience was very different. Already in the pre-crisis period, the European labour market was much more segmented: different cultures, languages and institutions limit the international mobility of labour so that unemployment rates are not equalised across countries. After the crisis, the gap widened to reach 20.7% in 2012, with unemployment equal to 25% in Spain and 4.3% in Austria. While aggregate unemployment in the US has been declining since 2010, aggregate unemployment in the Eurozone continues to grow.

Figure 6 Unemployment in the Eurozone and the US

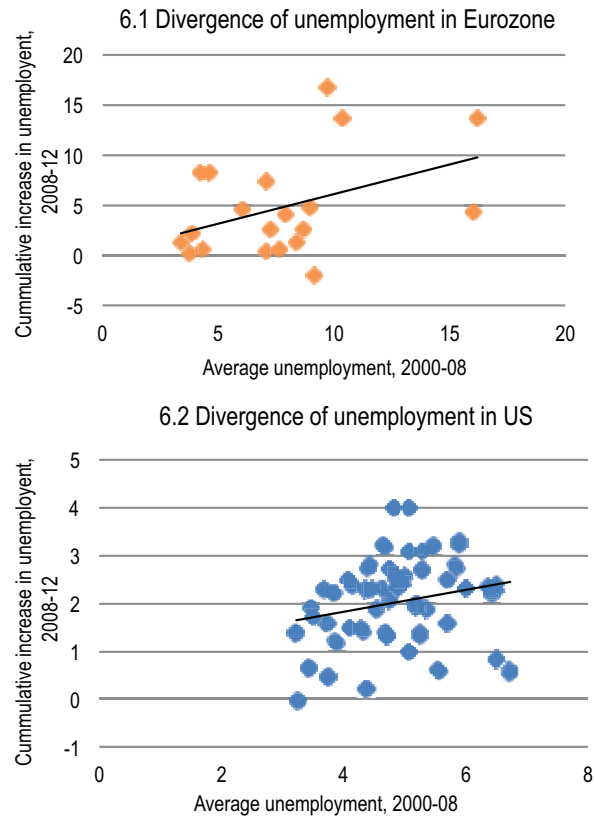
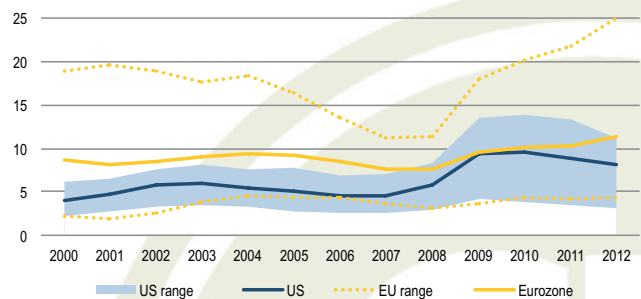


Figure 7 Unemployment rate



Source: Bureau of Labor Statistics, Eurostat

Budget deficits

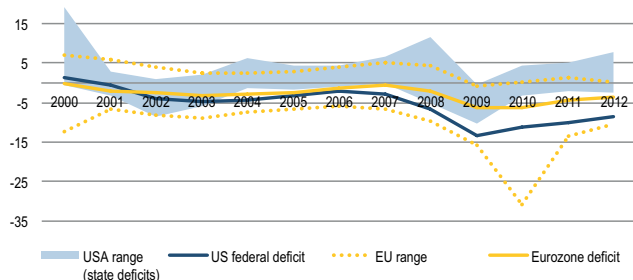
Fiscal policy is another important element that explains the difficulties in Europe. In the US, the federal deficit as a percentage of GDP (see Figure 8)

³ For a discussion of the role of productivity and unit labor costs in Italy see Manasse (2013).

increased from 0.7% in 2006 to over 13% in 2009, remaining above 8% until 2012. This reflects in part the expansionary policies put in place by the Obama administration, in addition to the effects of "automatic stabilisers" (the tendency of transfers to rise and revenues to fall during a recession) and the dramatic fall in GDP. Europe, contrary to the US, does not have a real "federal budget" in a macroeconomic sense.⁴ Moreover, the EU cannot issue common debt.

The yellow line in Figure 8 thus represents the average budget/GDP ratio of Eurozone countries, and not a federal budget. The rise in the average deficit in the Eurozone between 2007 and 2009 (5.7% of GDP) is largely due to the collapse in GDP and the automatic stabilisers. The two solid lines show the maximum and minimum level of balance/GDP ratio in the US states and EU member states. From Figure 8, it is clear that it is the federal budget that is responsible for stabilisation, while states do not stray too far from a balanced budget (the blue stripe).⁵ In Europe, the opposite occurs: given the absence of a federal budget, economic stabilisation can only be implemented at the member state level. Fiscal rules designed to insure fiscal discipline (e.g the Stability and Growth Pact and the Fiscal Compact) are imposed from the center, but these rules are (unsurprisingly) systematically violated, particularly when the economic situation deteriorates (e.g. Manasse, 2007) Figure 8 also shows that since 2008 the gap between budget positions has increased in Europe (the yellow band). However, as early as 2009-10 almost all Eurozone countries put in place policies to cut budget deficits, and this has led to a reduction in budget differences across member states.

Figure 8 Budget/GDP in the Eurozone and US



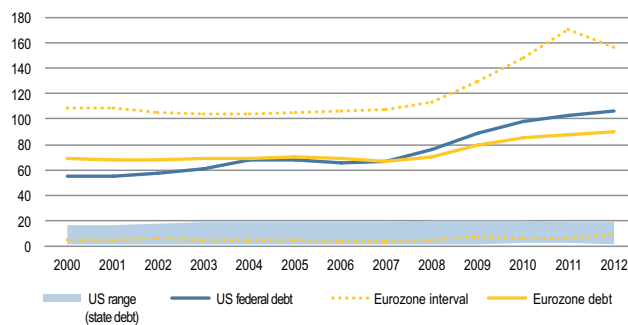
Source: Eurostat, IMF World Economic Outlook April, 2013, our calculations based on data www.usgovernmentspending.com

Public debts

The implications for public debt levels are shown in Figure 9. The US federal debt has increased from 60.4% to 106.5% of GDP between 2006 and 2010, while the debt of individual states (blue band)

never exceeded 20%. In Europe, the average debt/GDP ratio of countries (there is no federal debt) increased from 70 to 90.6%. While the increase in average debt levels has been much less than in the US, contrary to the US, the differences between European member states have exploded: in 2012, Estonia had a debt/GDP ratio of 10% while in Greece it was 157%.

Figure 9 Debt/GDP at state and federal level

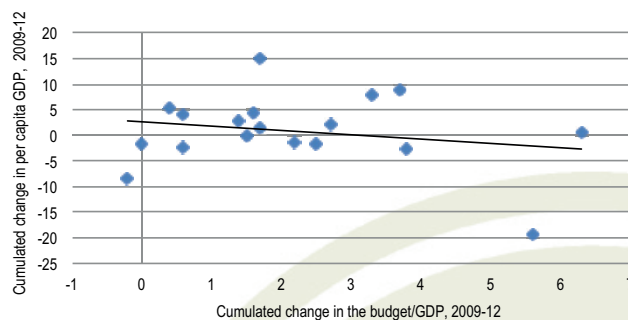


Source: Eurostat, IMF World Economic Outlook April 2013 www.usgovernmentspending.com.

Fiscal austerity

Explaining the heterogeneous impact of the crisis on Eurozone countries cannot abstract from the demand effects of fiscal consolidations. Figure 10 shows the relationship between the extent of fiscal tightening in the period 2009-12, measured by the improvement in the budget balance as a percentage of GDP on the x-axis and the growth of GDP per capita over the same period on the y-axis.

Figure 10 Fiscal adjustment and Eurozone per capita GDP



On average, each percentage point of reduction in the deficit/GDP ratio is associated with a fall of 0.84 points of GDP per capita.⁶ The figure also shows significant heterogeneity in the response of European countries to the budgetary tightening, which suggests that fiscal austerity alone is not enough to explain the differential impact of the crisis. The most notable cases are Greece and Ireland, two countries that have lost access to

4 The budget of the EU represents about 1% of GDP and is always balanced.
5 In the US, states adhere to (explicit or implicit) self-imposed rules of budget discipline.

6 Note however that this number is likely to overestimate the negative impact of domestic austerity on demand for smaller countries, which are more exposed to the negative spillover effects from other countries' consolidations.

international capital markets and were forced to rely on conditional loans offered by the "Troika" (EU, IMF, ECB). In Greece (bottom right of the graph), GDP per capital fell by nearly 20%, while the budget position improved by about 5.6 points of GDP. In contrast, in Ireland (right of the graph), per-capita income has remained largely unchanged despite a fiscal tightening of over 6% of GDP. The difference between these two countries exemplifies the difference between a "rigid" and "flexible" economy, as described above.

Redistribution in Europe and the US

The lack of an adequate EU federal budget not only prevents Eurozone countries to implement stabilisation policies in the face of global economic shocks, but also prevents the implementation of an effective risk-sharing system based on inter-state transfers that would insure countries against "country specific" shocks (such as the banking crises in Ireland or Spain). The Netherlands, the largest net contributor to the European budget relative to its GDP, pays to the EU budget 0.31% of GDP per year (see Table 1).

Hungary, the country that most benefits from the EU budget, receives transfers equal to 4.76% of GDP. The size of the equalisation scheme in the US is at least one order of magnitude larger (see Table 2). The poorest states (such as West Virginia, Mississippi, New Mexico and Puerto Rico) have received between 1990-2009 total transfers totalling between 224% and 291% of their GDP, while the richest states (such as New Jersey, Delaware and Minnesota) have contributed between 150% and 206% of their income.

Table 1 Net contributions to EU budget

Country	Net contributions (€ million)	% GDP
Belgium	-1369	-0.36
Bulgaria	725	1.94
Czech Republic	1455	1.01
Denmark	-836	-0.34
Germany	-9002	-0.34
Estonia	350	2.31
Ireland	383	0.31
Greece	4622	2.22
Spain	2994	0.29
France	-6405	-0.31
Italy	-5933	-0.38
Cyprus	6.8	0.04
Latvia	731	3.62
Lithuania	1368	4.63
Luxembourg	-75	-0.24
Hungary	4418	4.67
Malta	67	1.15
The Netherlands	-2213	-0.36
Austria	-805	-0.27
Poland	10975	3.10
Portugal	2983	1.81
Romania	1451	1.08
Slovenia	490	1.40
Slovak Republic	1160	1.71
Finland	-652	-0.34
Sweden	-1325	-0.33
UK	-5565	-0.32

Source: European Commission 2011 data

Table 2 US fiscal transfers

US fiscal transfers	Federal taxes, 1990-2009, \$bn	Federal spending, 1990-2009, \$bn	Taxes minus spending, \$bn	GDP, 2009, \$bn	Federal taxes minus spending, 1990-2009, as % of 2009 GDP
Delaware	211.1	86.4	124.8	60.7	206
Minnesota	1,016.9	503.8	513.2	258.5	199
New Jersey	1,656.2	950.5	705.7	471.9	150
Illinois	2,000.0	1,299.1	700.9	632.0	111
Connecticut	715.2	474.5	240.7	227.6	106
New York	3,320.8	2,364.6	956.2	1,094.1	87
Ohio	1,569.3	1,265.8	303.5	462.0	66
Michigan	1,228.0	1,031.2	196.8	369.7	53
Nebraska	246.5	202.2	44.2	86.4	51
Massachusetts	1,065.5	917.9	147.6	360.5	41
Colorado	606.9	506.2	100.7	250.7	40
Wisconsin	630.1	543.3	86.8	239.6	36
Texas	2,738.6	2,348.8	389.8	1,146.6	34
Georgia	1,018.3	918.8	99.5	394.1	25
Nevada	219.9	197.0	22.9	125.0	18
California	4,249.5	3,913.3	336.2	1,847.0	18
Arkansas	333.3	316.3	17.0	98.8	17
Washington	785.8	739.6	46.2	331.6	14
Rhode Island	145.6	139.7	6.0	47.5	13
New Hampshire	134.2	129.7	4.5	59.7	8
Pennsylvania	1,602.3	1,602.5	-0.3	546.5	0
Indiana	632.0	642.2	-10.2	259.9	-4
North Carolina	863.5	881.3	-17.8	407.0	-4
Oregon	350.0	361.8	-11.8	167.5	-7
Kansas	307.1	331.7	-24.6	122.5	-20
Missouri	723.5	794.3	-70.8	238.0	-30
Tennessee	649.9	731.2	-81.3	243.8	-33
Utah	187.6	225.3	-37.7	111.3	-34
Oklahoma	385.0	434.3	-49.3	142.4	-35
Florida	1,704.0	2,002.7	-298.7	732.8	-41
Idaho	124.3	148.4	-24.1	53.7	-45
Iowa	268.9	332.2	-63.3	136.1	-47
Wyoming	51.3	70.4	-19.1	36.8	-52
Vermont	54.7	73.9	-19.2	24.6	-78
Arizona	424.9	631.7	-206.8	249.7	-83
Louisiana	397.8	601.2	-203.5	205.1	-99
South Dakota	64.7	109.9	-45.3	38.3	-118
Kentucky	329.3	536.8	-207.5	155.8	-133
South Carolina	302.1	494.5	-192.4	158.8	-121
Hawaii	118.9	206.6	-87.7	65.4	-134
Virginia	848.1	1,441.0	-592.9	409.7	-145
Alaska	63.2	131.4	-68.2	45.9	-149
Maryland*	1,030.8	1,604.1	-573.3	384.0	-149
Maine	96.9	172.5	-75.6	50.0	-151
North Dakota	53.9	102.6	-48.7	31.6	-154
Alabama	340.1	630.8	-290.6	166.8	-174
Montana	60.8	125.2	-64.5	35.0	-184
West Virginia	98.6	247.6	-149.0	61.0	-244
Mississippi	164.7	404.6	-239.9	94.4	-254
New Mexico	115.7	316.6	-201.0	76.9	-261
Puerto Rico†	73.7	256.1	-182.4	62.8	-291

Sources: Census Bureau; Internal Revenue Service; The Economist estimates *Includes Washington, DC †US territory

Conclusions

We have documented that:

- The crisis slow convergence process among European economies.

This has amplified the differences in terms of income, unemployment, fiscal balance and public debt. This has happened because:

- The countries have been subject to demand shocks, fiscal austerity and a credit crunch of different magnitudes.

These asymmetric shocks exacerbated pre-existing supply-side structure problems in goods, labour and credit markets.

The crisis has also highlighted the inadequacy of European institutions, and exposed serious flaws in their design (Wyplosz, 2013).

- In the US, the federal budget serves a dual purpose: aggregate macroeconomic stabilisation and redistribution of income through inter-state transfers.

Moreover, the US states choose their own fiscal rules, and budget discipline is supported by an explicit no-bailout commitment from the federal government.

- In the Eurozone, the federal budget is negligible and always balanced, implying that the burden of macroeconomic stabilisation falls on national budgets.

Budgetary discipline rules are imposed from the centre, and prevent effective implementation of stabilisation policies and insurance against country-specific shocks.

Unlike the US, the integrity of the Eurozone ultimately depends on the political will of each member. This makes the Eurozone intrinsically vulnerable to speculative attacks. In order to stem

the crisis, the ECB has intervened by providing cheap liquidity to banks, enabling them to buy government bonds and to use these as collateral for loans. The EFSF/ESM fund has contributed to the recapitalisation of banks in Spain, and should also be used to finance interventions in government bond markets. This tool, however, is likely to create moral hazard problems because, given the recent experience in Greece, Ireland and Portugal, it cannot be supported by a credible no bail-out commitment.

The way to shelter the Eurozone from the risk of disintegration is long and fraught with political obstacles. It requires member states to undergo difficult structural reforms. It also requires Europe to gradually establish a federal budget and an inter-state risk-sharing mechanism.⁷ Notwithstanding these challenges, it is a path worth pursuing, since the alternative (the disintegration of the Eurozone) would have unforeseeable consequences. In addition to the solvency risks for state and banks, a return to national currencies carries the risk of taking the continent back to an era of competitive devaluations and trade protectionism. In such a scenario, the benefits of the free movement of goods, persons and capital could be at stake.

Reference

IMF (2013), *World Economic Outlook*, International Monetary Fund, October (www.imf.org/external/pubs/ft/weo/2013/02/).

Manasse, Paolo (2007), “Deficit Limits and Fiscal Rules for Dummies”, IMF Staff Papers, 54(3).

Manasse, Paolo (2013), “The Roots of the Italian Stagnations”, CEPR Policy Insight No. 66.

Wyplosz, Charles (2013), “Europe’s Quest for Fiscal Discipline”, *Economy*, Economic Papers, No. 498, European Commission.

⁷ This could be achieved by devolving the proceeds and the administration of part of the tax base (e.g the VAT) to the centre.

Paolo Manasse is Professor of Macroeconomics and International Economic Policy at the University of Bologna. He also taught at L. Bocconi (where he currently teaches Macro in the PhD program), at Sorbonne (Paris I), Johns Hopkins (Bologna Center) and other Italian universities. He worked as a Consultant for the OECD, the World Bank, the Inter-American Development Bank, and was a resident Consultant, Visiting Scholar and Technical Assistance Advisor for the IMF. He is a research fellow of IGIER-Bocconi in Milan, and of the Rimini Centre for Economic Analysis. His research interests are in international macroeconomics, including a wide range of issues such as monetary and fiscal policy in currency unions, fiscal federalism and asymmetric information, international trade and the labour market, international policy coordination, sovereign debt and banking crises.

Isabella Rota Baldini is the editorial coordinator of Link Tank (www.linkiesta.it/linktank), a section dedicated to economic analysis, at *Linkiesta.it*, an Italian online newspaper. She holds a double degree in Economics and Social Sciences at Università Bocconi and at HEC, Paris (2011). During her studies, she spent a semester at the University of California, Berkeley.

The **Centre for Economic Policy Research**, founded in 1983, is a network of over 800 researchers based mainly in universities throughout Europe, who collaborate through the Centre in research and its dissemination. The Centre's goal is to promote research excellence and policy relevance in European economics. Because it draws on such a large network of researchers, CEPR is able to produce a wide range of research which not only addresses key policy issues, but also reflects a broad spectrum of individual viewpoints and perspectives. CEPR has made key contributions to a wide range of European and global policy issues for almost three decades. CEPR research may include views on policy, but the Executive Committee of the Centre does not give prior review to its publications, and the Centre takes no institutional policy positions. The opinions expressed in this paper are those of the author and not necessarily those of the Centre for Economic Policy Research.

