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# Designing a European Unemployment Insurance Scheme

With disparities in national unemployment rates reaching record levels, the debate on fiscal stabilisers in Europe has gained new momentum. Can a European unemployment insurance scheme help to absorb asymmetric shocks and bring about the desired level of macroeconomic stabilisation? What should such an unemployment benefit system look like? The contributions to this Forum explore the benefits expected from a European unemployment insurance scheme and discuss the difficulties in establishing such a policy.

László Andor

## Basic European Unemployment Insurance – The Best Way Forward in Strengthening the EMU’s Resilience and Europe’s Recovery

The recent European elections visibly strengthened Euro-sceptic forces in various EU member states and penalised mainstream parties for incremental and largely contractionary responses to the long financial and economic crisis. There are some obvious conclusions the dominant and pro-European centre-left and centre-right groups need to draw from this experience.

It is crucial to understand that the divergence that has developed within the euro area between core and periphery is a threat to the existence of the single currency and to the stability of the EU as a whole. Consequently, there is a need for further strengthening of the Economic and Monetary Union (EMU) architecture, and in particular to strengthen its social dimension. Ideally, the next period should see a forward-looking, though limited, mechanism of solidarity that would strengthen people’s and markets’ confidence in Europe’s monetary and political union.

### Post-election momentum for reform

As the new European Parliament and Commission are being formed and key priorities for the next five years are being discussed, discussion is growing about the possibilities of reforming the existing fiscal rules of Europe’s EMU or applying them more flexibly. Greater attention is being paid, in particular, to the importance of investment for economic growth and consequently for debt sustainability.

However, in focusing their debates on greater fiscal flexibility in the short term, Europe’s political leaders run a major

risk of losing sight of the continuing fragility of the EMU and its bias towards internal devaluation as the predominant mechanism of adjustment to macroeconomic shocks.

After the March 2014 agreement on a Single Resolution Mechanism as the pinnacle of a banking union, some seem to consider the process of EMU reform as finished and are content to shelve the other elements of the 2012 Four Presidents’ report “Towards a genuine Economic and Monetary Union”.

Settling for short-term budgetary leeway and postponing further systemic reform of the EMU until the next moment of crisis is a reliable recipe for minimal growth, for ongoing uncertainty about the EMU’s future and for further increases in citizens’ disillusion with Europe. The approach of overselling weak solutions has been tested with the 2012 Compact for Growth and Jobs and brought results in the 2014 European elections.

In order to strengthen economic confidence in Europe and people’s trust in the European project, further serious steps are needed to strengthen the EMU’s resilience against financial and economic shocks. In particular, the EMU needs to become able to cope with economic shocks in a way that would be acceptable from the viewpoint of the EU’s Treaty objectives such as balanced economic growth, full employment and social progress.

A recognition that can no longer be avoided is that making the EMU more resilient requires equipping it with a well-

designed mechanism of fiscal transfers between member states using the euro. Through such a scheme, it should be possible to create a European safety net for the welfare safety nets of individual member states, strengthening the ability of national governments to support an economic recovery.

A conclusion which I draw from several years of expert debates on the issue of possible EMU-level shock absorbers is that the best option would be a scheme where EMU member states share part of the costs of short-term unemployment insurance.

A basic European unemployment insurance scheme would provide a limited and predictable short-term fiscal stimulus to economies undergoing a downturn in the economic cycle – something that every country is going to experience sooner or later.

With its automatic and countercyclical character, a basic European unemployment insurance scheme could boost market confidence in the EMU and thus help to avoid repeating vicious circles of downgrades, austerity and internal devaluation in the eurozone. It would help to uphold domestic demand and therefore economic growth in Europe as a whole.

Like more flexible interpretation of the EMU's fiscal rules, partial pooling of fiscal risks at the EMU level would provide national governments with greater fiscal leeway. However, the big advantage of achieving countercyclical stimulus on the basis of cross-country transfers rather than more flexible rules for national budgets is precisely in the collective character of the EMU-level scheme.

While individual stimulus by countries with high debt-to-GDP ratios may run the risk of triggering further financial crises, solidification of the monetary union through the creation of a common fiscal capacity would reduce uncertainty about individual countries' solvency both in the short and in the longer term. In addition, a basic European unemployment insurance scheme would strengthen the EMU institutionally, politically and in terms of social cohesion.

### The end of EMU 1.0

Since the onset of the sovereign debt crisis in 2010, economic developments in Europe decoupled from the rest of the industrialised world. Further macroeconomic instability and a second European recession can only be explained by the incomplete design of the EMU. The inherited model lacks the key instruments which countries historically used to generate a recovery and offers nothing to replace them.

Unlike the global financial crisis of 2007-09, the second recession of 2011-13 was specific to Europe. When the global crisis escalated in autumn 2008, following the fall of Lehman Brothers, European governments agreed a coordinated stimulus known as the European Economic Recovery Plan, amounting to €200 billion or 1.5 per cent of GDP, including through temporarily increased deficits of national budgets.

Governments paid unemployment benefits to people who lost jobs, tried to maintain investments and refrained from raising taxes. This stimulus helped Europe to overcome the first deep recession, but unfortunately could not be followed up in many countries when the sovereign debt crisis hit in 2010-11.

The response to the Greek debt crisis in 2009-10 already showed the limitations of the EMU architecture to deal with threats to its stability. An emergency loan was unnecessarily delayed to avoid interference with a regional election in a major member state. Thus the programme had to be much larger than would have been the case if Europe had taken collective action more promptly. Some elements of the conditionality turned out to be excessive or even counterproductive.

Instead of containing the crisis, the Greek bailout was followed by similar interventions in Ireland and Portugal within one year. Speculation continued about sovereign debt restructuring and about possible exit of various countries from the eurozone, meaning that interest rates in the eurozone "periphery" climbed to very high levels.

Debts from financial markets were replaced by debts from official sources, which turned the eurozone into a club of

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debtors and creditors, set against each other. The elected governments of Greece and Italy were replaced with technocratic administrations as the democratically elected ones were unable or unwilling to implement front-loaded fiscal consolidation.

However, the sacrifice in itself did not lead to an economic recovery, not even if structural reforms were introduced at the same time. Countries experiencing financial markets' distrust could not unilaterally devalue, could not call upon a lender of last resort and could not count on any fiscal support from other member states that would enable them not just to survive but to stimulate economic recovery.

While the euro provided some shelter in the sense that emergency lending was always agreed for member states losing access to financial markets altogether, the euro has also been a trap, because member states could no longer adjust to economic shocks through tailor-made monetary policies and devaluation in their exchange rate, while at the same time being subject to strict rules on fiscal policy.

The financial fragmentation further deepened the core-periphery divide within the euro area. The fiscal impact of bank bailouts added to the financial problems of sovereign borrowers, and so contributed to the destabilising trend in the eurozone. At the same time, the lack of confidence in the sustainability of the eurozone resulted in capital flight from less stable countries towards more stable ones, causing further polarisation. The break-up of the eurozone became a real threat.

In the absence of a fiscal stimulus, a lender of last resort or revaluation within Europe's "surplus" countries, countries experiencing balance of payment problems inevitably needed to undertake measures to regain cost competitiveness and start attracting capital again. The only option for the "deficit" countries consistent with keeping the euro at that juncture was to pursue deep internal devaluation (and in some cases accept emergency bailouts) with clearly adverse effects on employment and the social situation.

The sovereign debt crisis since 2010 and the fiscal consolidation strategies implemented in response to it have substantially weakened the effectiveness of automatic fiscal stabilisers at the national level, i.e. the ability of a state to immediately act in a countercyclical way as tax revenues drop and social expenditure increases. Unemployment increased to 11 per cent in the EU and 12 per cent in the euro area in 2013.

Because of the lack of a lender of last resort, a central budget or at least coordinated policies aiming to uphold aggregate demand across Europe, the sovereign debt cri-

sis became an existential crisis of the monetary union, and of the EU as a whole. The incomplete EMU proved to be – at best – a structure for fair weather, but not for a financial and economic crisis.

### EMU reconstruction: first steps

The EU only started to emerge from the financial whirlpool when the ECB announced that it would be actually ready to act as a central bank in a crisis when the integrity of the currency is challenged. In spring 2013, the Commission proposed a more patient approach to fiscal consolidation, which contributed to increasing domestic demand and bringing the eurozone recession to end.

In 2012, the Presidents of the European Council, the Commission, the ECB and the Eurogroup came forward with a long-term plan about the reconstruction of the EMU. Monetary reform became a key component of the EU recovery strategy.

Coordination of fiscal and structural policies within the EU was strengthened through the European Semester, the Six-Pack, Two-Pack and the Treaty on Stability, Coordination and Governance in order to reassure financial markets of the member states' commitment to the EMU. However, many other elements of a deep, genuine, sustainable and legitimate economic and political union remained remote.

The creation of a fiscal capacity at the level of the EMU was clearly foreseen in the Blueprint for a deep and genuine EMU, which the European Commission put forward in November 2012. The subsequent report of the Four Presidents specified that such fiscal capacity should help the EMU to be able to absorb economic shocks.

As a first step in EMU reform, a banking union is in the process of being implemented, which will hopefully relieve pressure on government bailouts of major banks thanks to the application of the bail-in principle and a Single Resolution Mechanism at the European level, based on a strengthened common rulebook. To the extent that the banking union can be trusted to perform equally for all its member states and their banks during financial crises, it would reduce the existing financial fragmentation in the Single Market.

However, our minimalist banking union will do little to mitigate the EMU's bias towards internal devaluation as the predominant adjustment mechanism during balance-of-payments crises. Moreover, as long as sovereign debt levels in Europe remain high, governments may still find themselves forced towards pro-cyclical fiscal consolidation in times of a downturn.

A number of options for automatic fiscal stabilisers at the level of the monetary union have been proposed in the literature. What most of them have in common is their focus on mitigating short-term cyclical downturns occurring in parts of the EMU as opposed to compensating for structural differences among the EMU economies.

The idea of EMU-level automatic stabilisers is to be able to respond to asymmetric shocks or endogenous pressures in the monetary union and to uphold aggregate demand in the short term, before factors of production can be reorganised in the affected economy and recovery can resume.

In other words, the point is to maintain enough spending during a downturn, before failed companies are turned around or replaced by new ones and before workers who lost their jobs can find new employment. Fiscal instruments are needed not to replace but to supplement other adjustment mechanisms, like structural reforms and labour mobility.

Structural reforms play an important role in responding to crisis but they primarily provide a boost to long-term growth potential, without a short-term capacity to stimulate the economy. In the history of emerging economy financial crises, they always functioned in combination with currency devaluation.

Labour mobility in principle (in textbooks) offers a solution to imbalances, but in reality it can only play a minor role, especially in such a fragmented labour market as the EU. The eurozone crisis has triggered new migration of workforce, but often towards other continents, causing a long-term loss of human capital for the EU.

Governments will never be able to offset an economic downturn completely, and economic restructuring will need to happen anyway. However, the point is to minimise the overall economic and social damage, and to ensure that Europe's monetary fragility does not result in long-term competitive disadvantage.

Focusing fiscal transfers on mitigation of asymmetrically distributed cyclical shocks means that over the long term, all participating member states are likely to be both contributors and beneficiaries of the scheme. But even if the balance is not exactly zero after a certain period of time, the effect that economic crises would be less deep and last less long would be good for all countries.

### What could basic European unemployment insurance look like?

A major advantage of basing an EMU-level fiscal shock absorber on short-term unemployment is that this indica-

tor very closely follows developments in the economic cycle. It is easily understandable, and it is easily and promptly measurable (as compared to, for instance, the output gap).

The fiscal risk of cyclical downturns could be pooled at the level of the monetary union through basic European unemployment insurance, which would replace the corresponding part of existing national schemes. The levels of the contribution and of the benefit should represent a relatively low common denominator between the rules of national schemes.<sup>1</sup>

The EMU-level scheme should clearly focus on cyclical unemployment caused by a drop in aggregate demand, as opposed to structural unemployment caused by skills mismatches, less efficient labour market institutions and the like.

For example, the basic European unemployment benefit would be paid only for the first six months of unemployment and the amount would represent 40 per cent of the previous reference wage. These exact parameters would need to be discussed on the basis of thorough quantitative analysis of their projected performance and in view of the desired level of macroeconomic stabilisation.

The eligibility conditions of basic European unemployment insurance should not be too strict, so that also workers in short-term or part-time jobs could contribute and qualify for corresponding support. But in any case there should be clear conditionality in terms of the job search and training effort.

Each member state would be free to levy an additional contribution and pay out a higher or longer unemployment benefit on top of this European unemployment insurance. What the European scheme would do is to ensure a fairly basic standard of support during short-term unemployment.

Crucially, this basic European unemployment insurance would help EMU member states to share part of the financial risk associated with cyclical unemployment. Citizens would directly benefit from EU solidarity at times of hardship, and member states would be required to upgrade

<sup>1</sup> The idea of a basic European unemployment benefit scheme has been pioneered and most clearly advocated by Sebastian Dullien (see Sebastian Dullien's contribution in this Forum), and since 2012 it has been analysed by the European Commission's DG EMPL with the involvement of a number of external experts. Two conferences organised by the Bertelsmann Foundation in cooperation with DG EMPL (October 2013 and June 2014) explored the underlying problems and the available options in great detail.

their employment services and labour market institutions to the best EU standards.

The jobseekers would continue to interact with national authorities (public employment services). However, every month these national authorities would send to the European fund the basic contribution from all their employed workers. Likewise, every month the European fund would pay to the national authorities an amount corresponding to the sum of all the basic European unemployment benefit payments to be made that month in the country.

In principle, each country would therefore make every month an overall contribution and receive an overall payment from the European scheme. In practice, these two could be offset and only the net balance would be paid.

The overall volume of such a basic European unemployment insurance scheme would be around one per cent of GDP, mainly depending on the exact parameters such as duration and level of the benefit or the eligibility conditions. Of course, the net transfers from or into any particular country would be smaller, because drawdowns would be offset by contributions and vice versa.

The question who is a net contributor and a net beneficiary at any given point in time should be to some extent secondary. Sharing a currency really in many ways means sharing a destiny, and the euro is meant to be irreversible.

However, it is understandable that national politicians would probably want to make sure that their country is not permanently a net contributor, and especially that there are no free-riders in the scheme, i.e. countries that would be net beneficiaries most of the time.

The risk of “lasting transfers” could be minimised through two mechanisms, which already exist in federal unemployment insurance systems elsewhere in the world, namely experience rating and clawbacks.

Experience rating means that the contributor versus beneficiary profile of each member state in the scheme is monitored, and the contribution or drawdown parameters can be adjusted at the beginning of each period so as to bring the member state closer to a projected balance with the scheme over the medium term.

Clawbacks, on the other hand, neutralise net transfers *ex post*, meaning that member states are allowed to be net beneficiaries for several years, but then their contribution and/or drawdown rates are modified so as to compensate for the net transfers that had occurred.

### Why is basic European insurance the best option?

An automatic fiscal stabiliser in the form of basic European unemployment insurance would have a meaningful macroeconomic effect in counteracting a cyclical downturn. It would be based on a few basic parameters agreed in advance, and its functioning would be entirely predictable and calculable on the basis of these clear rules.

The parameters of the scheme could be adjusted in response to actual experience. At the same time, governments, citizens and financial markets would be able to rely on the principle that an EMU country undergoing a cyclical downturn receives a limited fiscal transfer to support the cost of short-term unemployment.

The fact that the scheme would trigger countercyclical transfers automatically and immediately is a major advantage compared to bailout programmes or bank rescues. These are always surrounded by uncertainty which pushes up their cost. The basic European unemployment insurance would be relatively cheap precisely because of its automaticity.

The size, predictability and automaticity also make the basic European unemployment insurance scheme a better alternative compared to discretionary fiscal instruments where a fiscal transfer would be provided in exchange for structural reforms. The “catalogue” of reforms and corresponding financial support under such discretionary instruments would be very hard to define and the decision-making process would be rather unpredictable, not to mention the political tensions arising around the approval of discretionary cross-country transfers.

The predictability, limited volume and limited duration of fiscal transfers would also make a basic European unemployment insurance scheme a much safer option than various scenarios for mutualisation of eurozone countries’ sovereign debt. This feature is particularly important when member states consider themselves in the role of a contributor rather than a beneficiary.

Finally, a scheme of automatic short-term fiscal transfers between countries is clearly a better alternative compared to simply granting individual member states greater budgetary leeway thanks to a more generous interpretation of the EU’s existing fiscal rules.

Exempting investments in fixed assets and human capital from the calculation of the excessive deficit would be a growth-friendly move in the short term. However, it would be a short-sighted and insufficient step, notably in view of the EMU’s recent experience of systemic crisis.

Greater leeway for national fiscal policies could temporarily support growth in some countries which are relatively close to the core of the eurozone, but it would not help those who have just exited adjustment programmes or are still implementing them.

Crucially, an “investment clause” or a softer comparable mechanism would not really strengthen the resilience of the EMU against financial crises or other asymmetric shocks. It would not fix the problem of eurozone governments facing the financial markets all on their own and being forced to respond to downturns with pro-cyclical fiscal consolidation. In other words, it would be a poor substitute for a genuine, sustainable solution.

If we really want to improve the functioning of the EMU, we need to touch the fundamentals: the ECB’s mandate, and especially the absence of a eurozone budget even at a time when national fiscal policies are constrained by a tight fiscal framework.

## Conclusion

Given the constraints that membership of a monetary union implies, it is fundamental to recreate possibilities of macroeconomic adjustment inside the eurozone whereby aggregate demand and economic growth can be maintained.

If short-term shocks and private sector deleveraging cannot be mitigated by autonomous monetary policy, they have to be absorbed by fiscal policy. Structural reforms cannot be the main answer to cyclical developments.

The tighter the coordination framework for national fiscal policies in the EMU, the greater the need for a fiscal capac-

ity at the EMU level, unless Europe is content to completely abandon the idea of countercyclical economic policy, and with it the ambition of sustained improvements in employment and social outcomes.

However, given the still elevated levels of public debt in the eurozone, the simple relaxation of requirements on national budgets would not be a sustainable solution. Expansionary fiscal policy needs to be based on greater solidarity between member states, otherwise we risk a re-run of the recent financial crisis.

An automatic stabiliser at the EMU level would help uphold aggregate demand at the right time, and it would help prevent short-term crises from unleashing longer-lasting divergence within the monetary union. It would provide an answer to the simple question of a disillusioned European voter: “Where is Europe when we need it most?”

At the same time, a basic European unemployment insurance scheme would not represent “more Europe” for its own sake, and certainly not more intrusion by Brussels into national policy-making. It would constitute a mechanism that strengthens the autonomy of each member state precisely by stabilising the EMU, on the basis of transparent rules.

The coming five years are probably the last opportunity for a substantial reconstruction of the EMU. In its absence, a de-construction will present itself as the more appealing option for voters towards the end of the decade, with consequences much more unpredictable than limited fiscal risk-sharing in a basic European unemployment insurance scheme.

Sebastian Dullien

## The Macroeconomic Stabilisation Impact of a European Basic Unemployment Insurance Scheme

Since the onset of the euro crisis, the debate on fiscal stabilisers in Europe has gained new momentum. Over recent years, the term “fiscal capacity” for the euro-zone has popped up in a large number of official EU documents, including the European Commission’s roadmap for a more complete monetary union<sup>1</sup> and the “four presidents’ report” by the presidents of the European Council,

the European Commission, the European Central Bank and the Eurogroup.<sup>2</sup>

At least in the interpretation of some observers, “fiscal capacity” is understood as introducing automatic stabilisers at the European level. One of the often-mentioned options

<sup>1</sup> See European Commission: A Blueprint for a Deep and Genuine Economic and Monetary Union, Brussels 2012.

<sup>2</sup> See H. Van Rompuy: Towards a Genuine Economic and Monetary Union, Report by the President of the European Council, Brussels 2012, European Council.

would be the introduction of a basic European unemployment insurance, which has been referred to in both of the above mentioned documents and which has been further elaborated in the European Commission's concept for the "Social Dimension of EMU".<sup>3</sup>

This article discusses the idea of such a European basic unemployment insurance, its potential macroeconomic stabilisation benefits, and the main unresolved issues of such a proposal.<sup>4</sup> To this end, first, the basic mechanism of such an insurance scheme is described in detail. In a second step, a simulation of macroeconomic effects is presented under different assumptions. The final section outlines open questions and political concerns about such an insurance system.

### The basic idea

The underlying idea of the European basic unemployment insurance is to introduce an unemployment benefit system at the European level that will replace part of the existing national schemes. Under such a system, a certain share of contributions to unemployment insurance would be paid to a European fund instead of into national systems. Under certain conditions, the unemployed in participating member states would receive benefits from the European system.

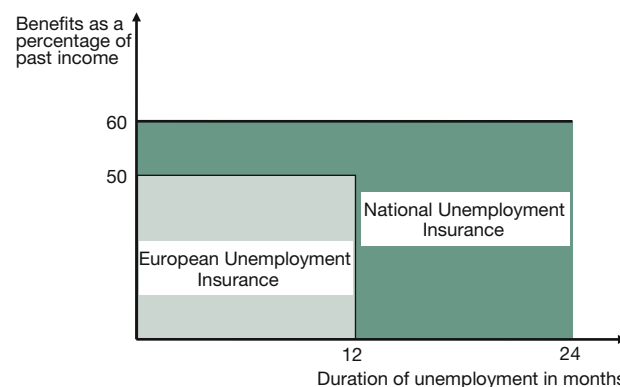
The European system would be designed in such a way that it provides a basic unemployment insurance for those who have been insured under the system for a certain number of months prior to unemployment. Benefits would be defined as a certain share of past earnings, up to a certain limit defined as a share of a country's median income. These replacement payments would be limited to a relatively short time frame, e.g. one year.

Benefits from European unemployment insurance would be financed by contributions based on wages and collected through existing national unemployment insurance administrations. National governments could decide to top up the payments from the European level or extend its coverage to other unemployed groups. If a country decides on a top-up, these extensions would have to be paid for by national funds, e.g. through national contributions to national unemployment insurance systems.

3 See European Commission: Strengthening the Social Dimension of the Economic and Monetary Union, Brussels 2013.

4 This article builds heavily on the author's earlier work on this topic such as S. Dullien: Improving Economic Stability: What the Euro Area can learn from the United States' Unemployment Insurance, in: Working Paper Stiftung Wissenschaft und Politik, Vol. FG 1, No. 2007/11, 2007; S. Dullien: A European Unemployment Benefit Scheme: How to Provide for More Stability in the Euro Zone, Gütersloh 2014, Bertelsmann Foundation.

Figure 1  
Interaction of European unemployment insurance with national unemployment insurance



Source: Author's calculations.

Figure 1 illustrates this principle: in the specific country depicted, according to national rules, unemployment benefits of 60 per cent of past earnings are paid indefinitely. Here, the European basic unemployment insurance would pay 50 per cent of past income for up to 12 months (the lightly shaded area) while national unemployment insurance would have to pay the rest (the darker area). From the point of view of the unemployed, the introduction of European unemployment insurance does not alter the generosity of unemployment protection.

This set-up would assure a number of critical points. First, it would make sure that the scheme's generosity is automatically adjusted to a country's level of GDP per capita. As the unemployed in poorer countries can be expected to earn lower wages, their replacement payments would also be lower in the case of unemployment. As the maximum benefit level is tied to median income in a country, maximum benefits in rich countries would be higher than in poor countries.

Second, it would allow member states to keep a large degree of discretion over the level of social protection in their own country. If a country desires a higher level of protection than is provided by the European unemployment insurance (e.g. as we have now in France, the Netherlands or Germany), it could easily do so by topping up the European benefits. The only constraint is that a single country cannot cut the generosity of unemployment benefits below that of the European insurance.

Third, the set-up prevents countries from shifting the costs of long-term unemployment to partner countries. As the basic unemployment insurance is only paid for a limited period of time and only to those who had been in



employment prior to unemployment, it is not paid to the long-term unemployed.

Fourth, overall, the introduction of the system would leave the fiscal burden for employees and business overly unchanged. As the system just replaces part of already existing national systems both with regards to payouts and contributions, the overall costs would remain unchanged and, overall, the contributions towards unemployment insurance could be expected to remain constant.

As regards membership, ideally, the European unemployment scheme would be introduced at least for all euro area countries. However, it could also be just introduced for a sub-group of the euro area or for a larger group, including countries that have a fixed exchange rate against the euro and hence could need some additional macroeconomic stabilisation.

### Macroeconomic stabilisation

The proposed unemployment insurance would clearly contribute to macroeconomic stabilisation within the participating countries. In a downturn, the net amount a country is paying into the system would fall as, first, contributions from this country fall with contracting employment and, second, payouts would increase with rising unemployment. This would support purchasing power in a country and hence stabilise GDP. In a boom, increasing employment would lead to higher net payments into the system, first by higher contributions and, second by lower payouts. This would drain purchasing power from the country in question and limit overheating of the national economy.

While in principle such a stabilisation could also be provided by a purely national system that is allowed to borrow in financial markets during a downturn, experience of recent years tells us that this is not necessarily sufficient. First, during the past few years, we have seen that a downturn can be so severe and the related deterioration of a country's fiscal position so stark that countries are effectively cut off from financial markets and are forced to cut expenditure pro-cyclically. Second, as euro area countries are now subject to strict fiscal rules, room for new borrowing even in a recession is limited.

A critical question is the size of this stabilisation impact. Even for well-researched social security systems such as the United States' unemployment insurance, estimates of the macroeconomic stabilisation effect vary greatly. For example, a widely quoted study by Asdrubali et al. concludes that US unemployment insurance has contributed a mere two per cent to the stabilisation of the American

business cycle.<sup>5</sup> In contrast, Vroman comes to the conclusion that, during the recession after 2008, US unemployment insurance has bolstered almost 30 per cent of the US downturn.<sup>6</sup>

The huge differences stem from the methodology of measurement of stabilisation, among other things. Specifically, Asdrubali et al. look at average stabilisation over the whole business cycle, while Vroman compares a simulation of the recession after 2008 without unemployment insurance against the actually observed path of GDP and employment with existing US unemployment insurance, which one can dub "marginal stabilisation". As a typical business cycle consists of a large number of years without a recession and only a few recession years, even a significant stabilisation during a recession does not necessarily mean a large degree of average stabilisation over the cycle can be detected.

For the political debate, clearly the question of marginal stabilisation in a recession is the most sensible way of measurement as it is of little interest whether a European unemployment insurance helps to smooth small variations in GDP growth in average years over the cycle. Instead, it is the support in dire economic times which is asked for in the debate on fiscal stabilisers.

Hence, this section tries to give a simple estimation of the marginal stabilisation impact of such a scheme. This simulation estimates, using simple rules of thumb, the net impact on euro member states' GDP and compares this to the change in the output gap in recent recessionary periods.

Estimating the stabilisation impact for the euro area comes with additional problems, the most difficult of which is that there is no data readily available on which share of the unemployed would actually receive benefits under a European unemployment insurance. While data on short-term unemployment by duration and country is regularly published by Eurostat, simulating the payouts from the system with great precision would require detailed data on employment and earnings history, which is not available. Without this data, only rough approximations of both the number of unemployed covered by European unemployment insurance and the average amount of benefits can be made.

<sup>5</sup> See P. Asdrubali, B.E. Sorensen, Y. Oved: Channels of Interstate Risk Sharing: United States 1963-1990, in: *Quarterly Journal of Economics*, Vol. 111, No. 4, 1996, pp. 1081-1110.

<sup>6</sup> W. Vroman: *The Role of Unemployment Insurance as an Automatic Stabilizer during a Recession*, Washington DC 2010, Urban Institute.

Following previous work on this topic, two options are chosen to get around this problem: in one scenario, it is assumed that a fixed rate of 50 per cent of the short-term unemployed (with an unemployment duration of less than one year) receive unemployment benefits from the European system (“constant coverage ratio”). In a second scenario, it is assumed that the number of unemployed receiving benefits equals the change in short-term unemployment over the past 12 months plus one-fifth of the existing level of short-term unemployment in a country (“time-varying coverage ratio”).

In order to simulate the impact, one needs to make some more settings. Based on previous works,<sup>7</sup> the following settings have been chosen:

- All employees in the EMU are insured; they contribute a share of their wage up to a certain threshold, linked to each country’s average income.
- The average insured wage is 80 per cent of the average wage in each country.
- The replacement payment is 50 per cent of the insured wage.
- Unemployment insurance can build up reserves and borrow in the capital market.
- Unemployment benefits are paid for 12 months.
- The macroeconomic multiplier of disbursed unemployment benefits by the European scheme is one.<sup>8</sup>
- Cross-country spillover effects are neglected.

7 See S. Dullien: *Improving Economic Stability ...*, op. cit.; and S. Dullien: *A Euro Area-Wide Unemployment Insurance as an Automatic Stabilizer: Who Benefits and Who Pays?*, paper prepared for the European Commission, DG EMPL, Brussels 2013.

8 Generally, one could expect a higher multiplier from unemployment insurance payments, as is documented by the Congressional Budget Office: *Unemployment Insurance in the Wake of the Recent Recession*, No. 4525, 2012, available at: [http://www.cbo.gov/sites/default/files/cbofiles/attachments/11-28-UnemploymentInsurance\\_0.pdf](http://www.cbo.gov/sites/default/files/cbofiles/attachments/11-28-UnemploymentInsurance_0.pdf); or M. Zandi: *A Second Quick Boost from Government Could Spark Recovery*, in: Edited excerpts from July 24, 2008 testimony before the U.S. House of Representatives Committee on Small Business, 2008; and can also be shown in the IMF’s multi-country macroeconomic model as presented in C. Freedman, M. Kumhof, D. Laxton, J. Lee: *The Case for Global Fiscal Stimulus*, IMF Staff Position Note SPN/09/03, Washington 2009. However, the multiplier for a European scheme as proposed here would work slightly differently. As E(M)U unemployment insurance replaces (part of) national expenses, it would allow governments to spend funds in a different fashion. As it is not clear from the outset how national governments would use this degree of freedom, the actual multiplier might be smaller than from targeted transfers alone. Hence, a multiplier of one seems to be an adequate estimate.

Table 1 presents the results of a simulation run for the euro member states with data from 1999 to 2012. It lists a number of important recessionary periods in the euro area since 1999 as well as the observed change in the output gap. In the last two columns, it lists the impact on GDP through the unemployment scheme in relation to the change in output gap under the two assumptions on the coverage ratio. This number is a summary measure of the macroeconomic stabilisation impact and can be read as follows: if in a recession the actual output gap of a country moved from +1 per cent of GDP to -2 per cent of GDP and the simulated impact of the European unemployment insurance would have been 0.5 per cent of GDP, the stabilisation effect would be 16.6 per cent (0.5 per cent divided by three per cent).

Not in the table, but also of importance, is the overall volume moved through the system. For the assumption of a constant coverage ratio, the simulated financing requirements would amount to about €50 billion annually or a contribution of 1.3 per cent of insured wages. For the assumption of a time-varying coverage ratio, the simulated financing requirements would amount to about €26 billion annually or a contribution rate of 0.7 per cent.

What we can see in the table is that the scheme would have provided a sizable stabilisation impact at least in some important cases. For example, in the case of Spain, the system would have bolstered (depending on the assumption of the coverage ratio) between about 20 and 30 per cent of the recession of 2007 to 2009 and an even larger share of the recession of 2011 to 2012. Interestingly, it is not only countries with traditionally high levels of unemployment that would have experienced a strong macroeconomic stabilisation, but also the Netherlands in 2002 to 2004 or after 2011.

### Open issues

One should not hide, however, that the proposal of a European basic unemployment insurance comes with a number of not completely resolved questions. The most pressing issue is to get more reliable estimations of the exact payouts. In order to do so, one would need to get access to (confidential) micro-level data of employment and earnings history in the different euro area countries. Here, more research needs to be done and the cooperation of national governments would be needed to provide a clearer picture.

Second, at least under a set-up with uniform contribution rates, there is the danger that some countries might become net payers or net receivers of funds over an extended period of time. For example, under the framework

**Table 1**  
**Macroeconomic stabilisation by European unemployment insurance under different assumptions of coverage ratios**

Country	Start year recession	End year recession	Change output gap in percentage points	Stabilisation effect in % of the observed economic downturn	
				Constant coverage ratio	Time-varying coverage ratio
Belgium	2001	2003	-1.6	9.8	14.0
Belgium	2007	2009	-4.5	1.7	4.8
Germany	2001	2003	-3.0	4.5	5.5
Germany	2008	2009	-6.0	1.0	2.6
Spain	2007	2009	-6.2	17.8	28.7
Spain	2011	2012	-0.8	31.5	62.9
France	2008	2009	-4.2	4.0	9.2
Ireland	2008	2009	-5.3	11.5	22.6
Italy	2001	2002	-0.9	2.3	8.5
Italy	2008	2009	-5.3	1.5	1.7
Italy	2011	2012	-1.7	7.8	18.8
Netherlands	2002	2004	-1.1	17.2	24.0
Netherlands	2008	2009	-4.7	2.0	5.5
Netherlands	2011	2012	-1.4	4.9	11.8
Austria	2001	2002	-0.5	31.7	75.3
Austria	2008	2009	-4.8	2.2	5.6
Portugal	2001	2003	-3.5	6.1	10.5
Portugal	2008	2009	-2.7	6.1	13.7
Portugal	2010	2012	-2.9	13.7	18.1
Finland	2001	2002	-1.5	4.2	11.4
Finland	2007	2009	-10.4	1.4	4.1
Finland	2011	2012	-1.2	0.4	0.6
Greece	2001	2002	-1.5	0.0	0.7
Greece	2008	2011	-10.5	5.5	6.4
Latvia	2007	2009	-23.7	5.0	9.7
Estonia	2007	2009	-21.2	4.1	8.6

Source: Author's calculations.

described above, the Netherlands would have been a country which would have contributed cumulatively several points of GDP to the system over 1999-2012. In contrast, Spain would have been a net recipient to the extent of several per cent of GDP, mainly because of the strong increase in unemployment after 2008.

Such permanent net transfers are a cause of political concern. One option here would be to work with a clawback mechanism which would automatically adjust the contribution rates to the European system in single

countries if it is found that a country has become a net payer or net contributor over an extended period of time. While the danger of such an additional element would be that it makes the system more complicated and that the macroeconomic stabilisation impact is somewhat reduced, it would clearly increase the political acceptance, especially in countries which potentially could become net payers.

Third, a certain risk of moral hazard remains. Some authors have argued that introducing such a European unemployment scheme would create adverse incentives not to pursue important structural reforms in countries with sclerotic labour markets. This argument is not very convincing: usually, it is long-term unemployment that is seen as being mostly effected by labour market reforms, and the cost of long-term unemployment even under a European unemployment insurance remains completely the responsibility of a single member state. Moreover, it is a well-known fact of labour market research that more flexible labour markets (not sclerotic labour markets) show a larger increase in short-term unemployment in a recession, as firms can more easily fire their workers.<sup>9</sup> Hence, it could even be argued that introducing a European unemployment insurance increases the incentive for flexibilising the labour market as some of the short-term costs of reforms would then be covered at the European level. Thus, there is no reason to expect that the incentives for reforms of a country's labour markets are weakened.

However, there is another element of potential moral hazard: if a significant share of unemployment benefits for the short-term unemployed is paid for at the European level, there might be the danger that national unemployment administrations do not put the same effort into placing the unemployed into new jobs as they would if they had to bear all costs for unemployment. This is a problem that has been observed empirically in some federal systems of unemployment insurance, for example in Belgium. Hence, more research is needed on how to coordinate and set minimum standards on efforts to put the (short-term) unemployed back to work for participating countries in a European unemployment insurance scheme.

In conclusion, European unemployment insurance provides an opportunity to equip the euro area with an effective fiscal stabiliser. However, the proposal needs more work before it can be proposed as a legislative act.

<sup>9</sup> See R. Faccini, C.R. Bondibene: Labour Market Institutions and Unemployment Volatility: Evidence from OECD Countries, Bank of England Working Paper, No. 461, London 2012; O. Blanchard, P. Portugal: What Hides Behind an Unemployment Rate: Comparing Portuguese and US Labor Markets, in: American Economic Review, Vol. 91, No. 1, 2001, pp. 187-207.

H. Xavier Jara and Holly Sutherland

## The Effects of an EMU Insurance Scheme on Income in Unemployment

It is increasingly recognised that for the Economic and Monetary Union (EMU), and the European project more generally, to be successful and sustainable there is a need for greater risk sharing across member states in order to provide better shock absorption against asymmetric economic fluctuations.<sup>1</sup> As part of a strategy to meet this need, an unemployment benefit system at the level of the EMU countries has been discussed.<sup>2</sup> This would serve as an insurance mechanism to smooth fluctuations in income across member states.<sup>3</sup> It could also serve to strengthen income security for the unemployed themselves. To the extent that the EMU unemployment benefit added to existing coverage, or was more generous than existing systems (through higher level payments or longer duration, for example), national automatic stabilisers would be strengthened and the individual income protection of the unemployed and their families would also be improved, potentially enhancing social cohesion.

Existing national unemployment benefit schemes vary greatly in many dimensions. This makes the notion of an EMU scheme that reflects current national provision but provides an additional cross-country insurance and stabilisation function, rather challenging. Alternatively, one can think of the EMU scheme as deliberately reducing the differences in extent of income protection for the unemployed across countries to some extent (levelling up rather than down).

The aim of this article is to contribute to the debate by providing evidence about the additional potential beneficiaries of an EMU unemployment benefit of a specific design, if it were to provide a minimum standard for the level and structure of benefit in each country and assuming that where existing provision is more generous (in any dimension) this remains in place. We examine who additionally benefits, thereby identifying gaps and inadequacies in existing national systems using the EMU

scheme as a benchmark. We also measure the additional aggregate effect of an EMU unemployment insurance scheme (EMU-UI) in protecting household incomes when someone becomes unemployed.

The present analysis does not consider how the EMU unemployment benefit would be financed or administered.<sup>4</sup> These aspects are of course critical for the design of an effective scheme, its political acceptability and its practical implementation, not least because they could add to the income stabilisation properties that we identify here in considering only the effect on beneficiaries. Nevertheless, understanding the relative effects of the EMU scheme across countries with varying existing systems and labour markets is one important first step.

### Key dimensions of national unemployment insurance benefits

Existing unemployment benefit systems vary widely in many dimensions, making comparisons and assessments quite complex as well as posing challenges for any attempt to suggest pathways to greater harmonisation. Esser et al. provide an excellent summary of the 2010 systems.<sup>5</sup> The dimensions that are likely to have the most effect on the amount of benefit received by any particular person in unemployment are:

1. *Eligibility* in terms of meeting the minimum required amount of work or contributions; the period in which these occurred may matter too.
2. *Eligibility* in terms of other conditions (e.g. employment status (employed or self-employed), type of employment contract, age).

1 European Commission: A Blueprint for a Deep and Genuine Economic and Monetary Union: Launching a European Debate, COM(2012) 777 final, 2012.

2 European Commission: On Automatic Stabilisers, DG-EMPL Working Group paper, 2013, available at: <http://ec.europa.eu/social/BlobServlet?docId=10964&langId=en>.

3 See S. Duillien: A Euro-Area Wide Unemployment Insurance as an Automatic Stabilizer: Who Benefits and Who Pays?, paper prepared for European Commission (DG-EMPL), 2013.

4 Nor does it explore the inter-temporal implications of establishing an insurance fund at EMU level, or the effect of introducing triggers to the benefit design parameters (level, duration, etc.) depending on macro-economic conditions. Each of these has the potential to increase the between-country stabilisation effect.

5 I. Esser, T. Ferrarini, K. Nelson, J. Palme, O. Sjöberg: Unemployment Benefits in EU Member States, Uppsala Center for Labor Studies Working Paper 2013:15, 2013.

3. For those eligible, the *level of payment*. This may be proportional to previous earnings (either net or gross of income tax and/or social insurance contributions) or another reference income base, with or without floors and ceilings; or flat rate. It may also depend on the length of the period of contributing, and vary over the period of eligibility.

4. The *duration* of entitlement.

Table 1 summarises the key characteristics of the schemes in 2012 in the ten countries that we consider in the analysis. The minimum contribution period varies from four to 12 months. In addition, in most countries these contributions can have been made over a longer period and the implicit proportion of time contributing to qualify for benefit can be as low as 14 per cent (France: four months out of the previous 28) or as high as 75 per cent (Latvia: nine months out of the previous 12).<sup>6</sup> Other conditions exist in some countries, such as lower age limits and the type of labour contracts covered. In general, the self-employed are not covered by unemployment insurance (and do not pay contributions) but could be eligible for particular types of unemployment assistance benefits in some countries. The benefit payment is flat rate in Greece and is calculated as a percentage of previous earnings in a reference period in the remaining countries. This period may be the same as the contribution period or it can be shorter, sometimes that of the last earnings payment. In Finland, Germany and Austria the earnings base is calculated net of income tax and social insurance contributions. The percentage that is applied ranges from as high as 75 per cent in Italy in the first months of unemployment to as low as 20 per cent (Finland) or 25 per cent (Italy) for earnings above an upper limit. In Germany the percentage depends on the presence (67 per cent) or absence (60 per cent) of children. In many countries there are minimum levels of contribution or payment and/or maximum payments. The latter can substantially reduce the replacement rate for higher earners. The level of payment in many countries reduces through time and within the 12 months considered in this paper in Estonia, Italy, Latvia and Portugal. The duration of entitlement depends on several criteria in some countries. Table 1 shows the maximum duration for “standard cases”, but in many countries special cases (based on age or length of contribution, for example) apply, extending duration up to or beyond the 12 months considered in this paper. Only in Latvia is the maximum duration shorter than 12 months in all cases.

6 See European Commission: On Automatic Stabilisers ..., op. cit., Table 8.

Table 1  
Key characteristics of unemployment benefit systems in 2012

Country		Contribution period (months) <sup>a</sup>	Payment	Duration (months) <sup>b</sup>
Germany	DE	12/24	67-60% of net; max.	12
Estonia	EE	12/36	50% falling to 40% of gross; min., max.	12
Greece	EL	6/14	Flat rate	10 (12)
Spain	ES	12/60	70% falling to 50% of gross; min., max.	24
France	FR	4/28	40% of gross; min., max.	24
Italy	IT	12/24	75% falling to 60% of gross; 25% above an earnings limit; min., max	8 (12)
Latvia	LV	9/12	50-65% of gross; reduces with duration	9
Austria	AT	12/24	55% of net; min., max.	9 (12)
Portugal	PT	12/24	65% falling to 55% of gross; min., max.	11 (12)
Finland	FI	8/28	45% of net; 20% above an earnings limit	17

Notes: <sup>a</sup> Months of contributions/period in which contributions can be made; <sup>b</sup>“Standard” maximum duration (typical maximum duration taking account of age and other criteria, where this is longer).

Source: MISSOC, July 2012.

### An EMU unemployment insurance

There are many possible designs for a European or EMU unemployment benefit system. The scheme that we analyse here is based on the assessment of key design issues set out in a paper prepared by a DG-EMPL working group.<sup>7</sup> The EMU-UI benefit would:

- be available to all currently employed and self-employed up to age 64;
- be payable from the fourth month of unemployment up to the twelfth month;
- depend on having made contributions on earnings during at least three months in the previous 12 months;
- be paid at a level based on 33 per cent of average earnings in the country OR 50 per cent of previous (most recent) own gross monthly earnings, with no floors or ceilings; we consider these two alternative options (“flat” and “proportional”) separately;

7 European Commission: On Automatic Stabilisers ..., op. cit.

- be treated in the same way as the existing national unemployment insurance in the rest of the tax-benefit system (i.e. whether it is taxable or included in the income base for the assessment of other benefits);
- translate into a higher overall provision each month by the amount that the EMU-UI entitlement exceeds that due from the national benefit.<sup>8</sup>

### Simulating the effects of an EMU-UI using EUROMOD

Our analysis makes use of EUROMOD, the tax-benefit microsimulation model of the EU based on EU-SILC micro-data, to evaluate the potential of an EMU unemployment insurance benefit to improve the income protection to the unemployed for ten of the 18 member states of the EMU: Germany, Estonia, Greece, Spain, France, Italy, Latvia, Austria, Portugal and Finland.<sup>9</sup> Our simulations use the 2012 tax-benefit system, including 2012 national unemployment insurance schemes as the starting point for our analysis. Labour market and other behaviour is assumed to be the same before and after the introduction of the EMU-UI, as is the behaviour of other household members when a person becomes unemployed.

The strategy used in this paper in order to evaluate the potential effect of an EMU-UI consists of moving people from work into unemployment and re-calculating their new disposable income both with and without introducing the EMU-UI, hence capturing the implications of tax and benefit systems under their new labour market status.<sup>10</sup> The national and the EMU-UI benefits are simulated as separate policies in EUROMOD on a month-by-month basis. Each month the simulated EMU-UI benefit is compared to the national provision, and the analysis focuses on the additional amount provided by the EMU-UI: the amount that exceeds the national benefit. In order to provide a generalisable assessment of the effects of existing unemployment benefit systems and what an EMU benefit could add, we calculate the effects for all of those currently in work on the basis that everyone has an equal chance of becoming unemployed under unknown economic conditions.

<sup>8</sup> Our results can be interpreted as showing the net effect of an EMU-UI substituting for the first tranche of national benefit (and extending it if the EMU-UI entitlement is more generous), and with national provision remaining, topping up to the existing level, if this exceeds the EMU-UI provision.

<sup>9</sup> For more information about EUROMOD see H. Sutherland, F. Figgari: EUROMOD: the European Union Tax-benefit Microsimulation Model, in: *International Journal of Microsimulation*, Vol. 6, No. 1, 2013, pp. 4-26.

<sup>10</sup> See: H.X. Jara, H. Sutherland: The Implications of an EMU Unemployment Insurance Scheme for Supporting Incomes, EUROMOD Working Paper Series, EM5/14, 2014.

Simulating transition to unemployment is particularly practical in order to simulate the policy rules determining entitlement to unemployment benefits. Most national unemployment insurance systems are based on previous earnings, and this information is unavailable in the data for the currently unemployed. In our analysis, previous earnings for the new unemployed are simply recorded as the earnings before their transition to unemployment.

Figure 1 shows the month-by-month entitlement to the national and two alternative EMU-UI schemes for a person who has been on national median earnings with a full contribution history and maximum unemployment benefit duration. By design, the EMU-UI schemes only kick in month four. In Estonia, Italy and Portugal, the national UI provision drops somewhat within the year, and in Latvia it falls to zero in month ten. In all countries, except Latvia, the proportional EMU-UI is worth more than the flat EMU-UI. In Greece and Latvia both the flat and the proportional EMU schemes are worth more than the national scheme in each of months 4-12, while they are worth less than the national provision in each month in Spain, France, Portugal and Finland. In Germany, Estonia and Austria, only the proportional EMU-UI scheme is more generous than the national benefit; this is due to the fact that the level of payment of the national scheme is based on net earnings in Germany and Austria, and because the national benefit amount decreases after month three in Estonia.

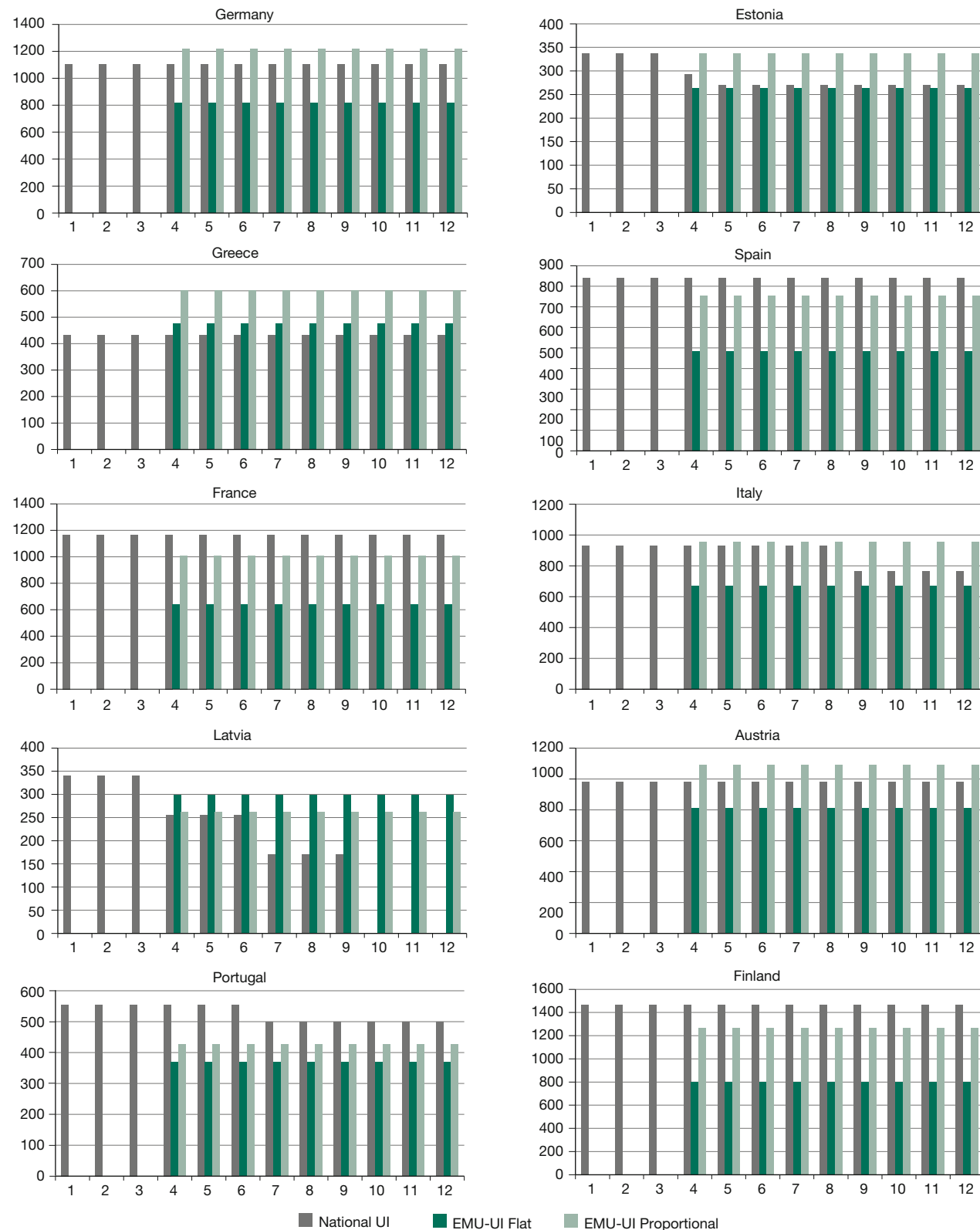
These illustrative calculations for stylised situations provide some indication of the nature of the effect of the EMU-UI schemes. For example, it seems likely that the EMU-UI schemes would have little effect in Spain, while they would have a major effect on incomes in unemployment in Greece and Latvia.

Moreover, the additional entitlement provided by the EMU-UI will differ across the earnings distribution and to different extents across countries. The flat EMU-UI would result in higher entitlements than the proportional scheme at the bottom of the distribution, while the proportional scheme would perform better at the top. To explore whether this is so, and to compare how actual populations in each country would be affected, the next sections analyse the effect of paying unemployed people any additional benefit from the EMU-UI that would exceed the national benefit in each month. This is analysed as an average over the year.

### Beneficiaries

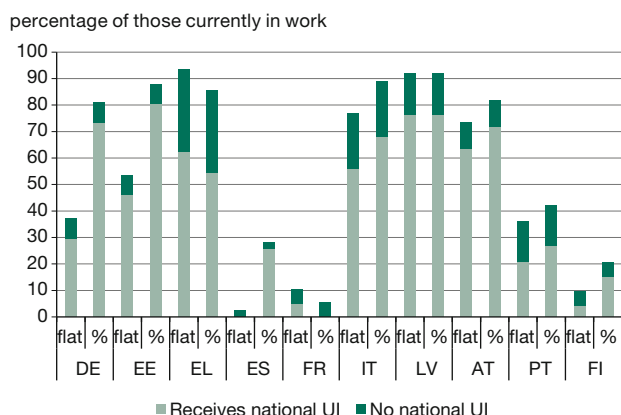
Among those potentially gaining from the introduction of an EMU-UI, it is important to distinguish between those

**Figure 1**  
**Entitlement to unemployment insurance benefits for those previously on median earnings by month**  
 in euros



Source: Own calculations using EUROMOD version G1.4.

**Figure 2**  
**Beneficiaries: those who would receive additional benefit through the EMU-UI in case of an unemployment spell**



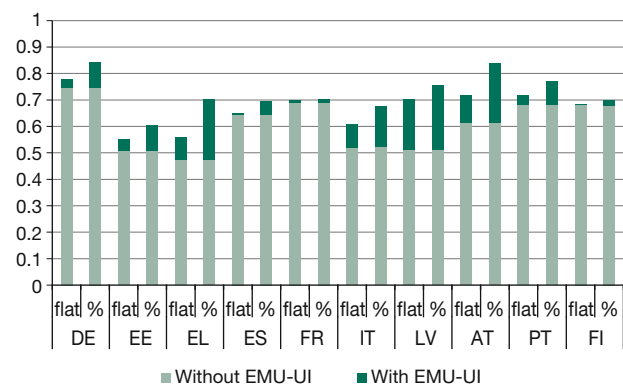
Note: As indicated by the different shading, some of the people potentially receiving an additional EMU provision would also receive some national provision, some not.

Source: Own calculations using EUROMOD version G1.4.

who would benefit while being also entitled to (and receiving) national unemployment insurance benefits and those not entitled to the national provision. As such, the effect of an EMU-UI on the former group provides an indication of the gains in terms of increased benefit amounts and/or duration provided by the EMU-UI, while the effect on the latter captures the increase in terms of coverage with respect to national schemes. Figure 2 presents these results, where beneficiaries are defined as the proportion of the potentially unemployed who would receive an additional payment from the EMU scheme at some point in the 12 months following becoming unemployed. The figure shows the effect for both the flat rate EMU-UI and that which depends on the person's own previous earnings (shown in the chart as “%”). The share of potentially unemployed who would benefit from either version of the EMU-UI varies widely across countries, from nearly 92 per cent in Latvia for both versions of the scheme down to less than three per cent for the flat rate EMU-UI in Spain and between five and ten per cent for the two schemes in France. The rate is particularly high in Latvia because everyone who qualifies receives additional benefits in months 10-12.

The extent to which beneficiaries do not already receive some national UI benefits varies and is substantial in Greece, Italy, Latvia and Portugal and smaller elsewhere. The high proportion of beneficiaries among non-recipients of national provision in Greece and Italy is mainly related to the important proportion of self-employed in the labour force, which are not covered by

**Figure 3**  
**Income stabilisation coefficient: additional effect of EMU-UI for all people currently in work, in case of an unemployment spell**



Source: Own calculations using EUROMOD version G1.4.

the national schemes. In Latvia (and Portugal to some extent) the less stringent contribution conditions of the new EMU-UI explain the high proportions. Among those new unemployed who would be receiving the national benefit, relatively large shares would receive some extra benefit at some point in the year from the EMU-UI, except in Spain, France, Portugal and Finland. The share is more than 50 per cent in Estonia, Greece, Italy, Latvia and Austria, and for the proportional scheme in Germany. Larger shares of the new unemployed benefit from the proportional scheme than the flat rate scheme, except in Greece and France.

### Income protection

We measure the increase in income protection due to the higher coverage or increased generosity in one or more dimensions using the “income stabilisation coefficient” as defined and used in Bargain et al.<sup>11</sup> The income stabilisation coefficient measures the proportion of gross income from work lost due to unemployment, which is retained by the unemployed person in the form of increased benefits and reduced taxes. Figure 3 shows the coefficient of income stabilisation due to the national tax-benefit system as a whole, as well as the additional effect of the EMU-UI. In Estonia, Greece, Italy and Latvia under the current system on average about 50 per cent of the gross income from work that is lost on becoming unemployed is retained by the unemployed person

11 O. Bargain, M. Dolls, C. Fuest, D. Neumann, A. Peichl, N. Pestel, S. Siegloch: Fiscal Union in Europe? Redistributive and Stabilizing Effects of a European Tax-Benefit System and Fiscal Equalization Mechanism, *Economic Policy*, Vol. 28, No. 75, 2013, pp. 375-422, Equation 12.



in the form of reduced taxes and increased benefits, particularly unemployment insurance. The coefficient is larger in the remaining countries, reaching 75 per cent in Germany.<sup>12</sup> The EMU-UI has the effect of increasing the degree of income stabilisation, with the pattern across countries similar (although not identical) to that seen for new beneficiaries. The largest additional stabilisation is in Greece, Latvia and Austria under the proportional EMU-UI scheme (by 23 to 24 percentage points in each case). There are also sizeable effects with the flat rate EMU-UI in Greece and Italy (nine points) and Latvia (19 points) and with the proportional EMU-UI in Germany and Estonia (ten points) and Portugal (nine points).

### Concluding remarks

The EMU-UI as described in this article would add to the stabilising effects of tax-benefit systems when unemployment rises. These effects would occur partly through providing additional income from UI received by the unemployed in their first year out of work; and partly by extending coverage of UI to groups currently excluded and to those with insufficient contributions to qualify in systems requiring high levels of these.

These effects vary in size by country and also with the specific EMU scheme. The flat rate EMU-UI, set at 33 per cent of average earnings, tends to particularly benefit the lower paid, while the proportional scheme, based on 50 per cent of own last earnings, particularly benefits the higher paid. Two factors drive the differences in the

<sup>12</sup> These estimates of within country income stabilisation are higher than those shown by some other studies. This is because in our analysis we focus on the effect of unemployment on incomes in the first year of unemployment when entitlements to UI benefits are at their highest.

Daniel Gros

## A Fiscal Shock Absorber for the Eurozone? Insurance with Deductible

Since the onset of the sovereign debt crisis, the argument for a system of fiscal transfers to offset idiosyncratic shocks in the eurozone has gained adherents. This paper argues that what the eurozone really needs is not a system that offsets all shocks by some small fraction, but a system that protects against shocks that are rare, but potentially catastrophic. A system of fiscal insurance with a fixed deductible would therefore be

average effect seen across countries. First and most important, the existing national UI schemes vary widely in design in many dimensions. In those countries where the national UI is more generous than the EMU-UI in most dimensions (e.g. contributions conditions, payment, etc.), the EMU-UI has little effect (e.g. France, Finland and Spain). On the other hand, in countries where any dimensions of the national scheme fall far short of the standard set by the EMU scheme, the EMU-UI has a strong effect (e.g. in Greece, Italy and Latvia). The second driving factor is the characteristics of the potentially unemployed and the extent to which they differ across countries. In particular the proportion that is self-employed or otherwise excluded from the national scheme is an important determinant of the potential extension in coverage of the EMU-UI (e.g. Greece and Italy).

Our results are relevant in two distinct ways. First, they can provide a measure of the extent to which a common EMU-UI could replace the existing national UIs, potentially providing a cross-country insurance mechanism with minimised cost or gainers and losers. However, due to the diversity of national systems in many dimensions, designing a common scheme without losers and at low cost would be a challenge. Second, if the aim is to add to the protective and stabilising effects of existing UI schemes, as well as providing a cross-country insurance mechanism, then our results provide some first insight into the size and distribution of the effects. Inevitably this means increasing the generosity in one or more dimensions in the countries with the less generous (e.g. Greece), inclusive (e.g. Italy) or long duration (e.g. Latvia) schemes. However, according to our results, there would be beneficiaries in all or most countries, underlining the potential of EMU schemes to cover gaps of national benefits for specific population groups.

preferable to a fiscal shock absorber that offsets a certain percentage of all fiscal shocks.

Even before the euro crisis started, it had been widely argued that the eurozone needed a mechanism to help countries overcome idiosyncratic shocks. The experience of the crisis itself seemed to make this case overwhelming, and throughout the EU institutions it is now

taken for granted that the eurozone needs a system of fiscal shock absorbers. For example, the Report of the President of the European Council calls for: “Stage 3 (post 2014): establish a well-defined and limited fiscal capacity to improve shock absorption capacities, through an insurance system set up at the central level”.<sup>1</sup>

Following this line of thought, a number of shock absorber mechanisms have been proposed recently. These mechanisms usually stipulate that a certain percentage of each upswing or downturn in the economy should be offset by payments to a central fund.<sup>2</sup> But this approach neglects a key insight from the economics of insurance.

### Insurance and convexity

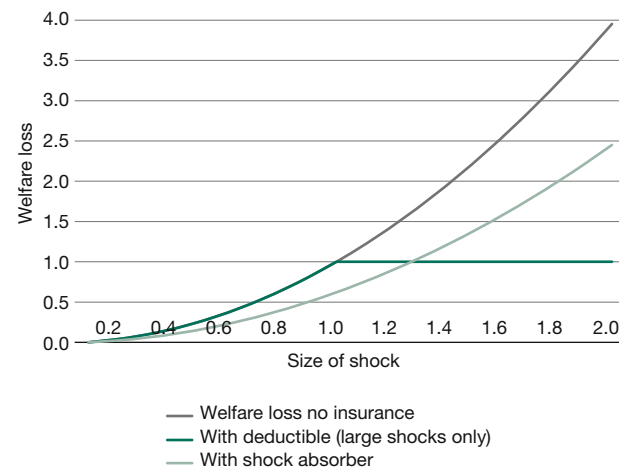
Insurance is useful when the cost of unpredictable events is convex – when a shock of twice the magnitude of another one causes more than twice as much damage. The standard case for insurance at the microeconomic level is simply that utility functions are assumed to be concave (and hence the cost of losing income convex). The euro crisis has vividly illustrated that the costs of large shocks can be more than proportionally large, especially when a shock impairs access to financial markets. In this case, consumption smoothing is no longer possible, or very expensive. The case of Greece has also shown that the social cost of very large, “catastrophic” shocks can be extremely severe, because a shock that leads to insolvency creates other problems, including widespread bankruptcy costs. By contrast, the small shocks that were prevalent during the “Great Moderation” did not involve large costs, as temporary shocks to output or income can be smoothed at a low cost via savings or borrowing in the capital market.<sup>3</sup>

1 H. Van Rompuy, J.M. Barroso, J.C. Juncker, M. Draghi: Towards a Genuine Economic and Monetary Union, Report to the European Council Meeting, 13/14 December 2012.

2 See, for example, S. Dullien: A Common Unemployment Insurance System for the Euro Area, in: DIW Economic Bulletin, Vol. 3, No. 1, 2013, German Institute for Economic Research, Berlin; or H. Enderlein, L. Guttenberg, J. Spiess: Making One Size Fit All – Designing a Cyclical Adjustment Insurance Fund for the Eurozone, Notre Europe Policy Paper 61, Paris 2013, Notre Europe.

3 There is some confusion in the literature on the purpose of shock absorbers. In principle, the ultimate motive for insurance should be to smooth consumption over time. But most empirical analysis concentrates on the variability of income (GDP). P. Asdrubali, B.E. Sorensen, O. Yosha: Channels of Interstate Risk Sharing: US 1963-90, in: Quarterly Journal of Economics, Vol. 111, No. 4, 1996, pp. 1081-1110, are among the few to analyse how variations in income are transmitted to variations in consumption. D. Furceri, A. Zdzienicka: The Eurozone Crisis: Need for a Supranational Fiscal Risk Sharing Mechanism, IMF Working Paper 13/198, Washington DC 2013, IMF, build their proposal on this approach.

Figure 1  
Welfare loss with a (partial) shock absorber versus insurance with deductible



Source: Own calculations.

There are thus good reasons why social loss functions are assumed to be convex. Most optimal control models simply assume a special form of convexity, namely that the social loss function is quadratic in output (or output compared to its equilibrium level<sup>4</sup>).

### Insurance with deductible first best

A widespread practice in the insurance industry is to offer clients full coverage only above a certain deductible or threshold. This approach should be applied to the discussion about the need for a shock absorber for the eurozone as well.

The basic idea behind insurance with a deductible can be illustrated easily: Figure 1 shows the usual quadratic social loss function (grey line) as the square of the shock which is hitting the economy (e.g. the increase in unemployment or the fall in GDP) on the horizontal axis. This is what the economy would be subject to in the absence of an insurance mechanism.

With a (partial) shock absorber that offsets a certain percentage of the shock (as proposed by Enderlein et

4 See O. Blanchard, S. Fischer: Lectures on Macroeconomics, Cambridge MA 1989, MIT Press, Chapter 11.

5 P.P. Benigno, M. Woodford: Optimal monetary and fiscal policy: a linear-quadratic approach, ECB Working Paper 345, Frankfurt 2004, European Central Bank, derive this functional form somewhat more generally. For a critique, see T. Mayer: The Macroeconomic Loss Function: A Critical Note, CESifo Working Paper 771, Munich 2002.

al.)<sup>6</sup>, the welfare impact of all shocks is lower, as indicated by the light green line.

An alternative to a shock absorber is to introduce a deductible, but to fully compensate all shocks above that threshold. The resulting welfare loss as a function of the shock is indicated by the dark green line (where the threshold was set at one).

The actuarially fair price for both insurance policies will of course depend on the parameters of the probability density function of the shocks, the percentage of the shock absorbed, and the deductible.

In Figure 1, the difference between the welfare losses under the two approaches can be determined as the difference between the areas between the dark green and the light green lines to the left and to the right of the point where they meet. The example drawn here suggests that the area to the right is much larger, but the two areas must be weighted by the probability of these shocks occurring. It thus seems that *a priori* it is not possible to say whether a shock absorber or an insurance contract with a deductible is superior.<sup>7</sup>

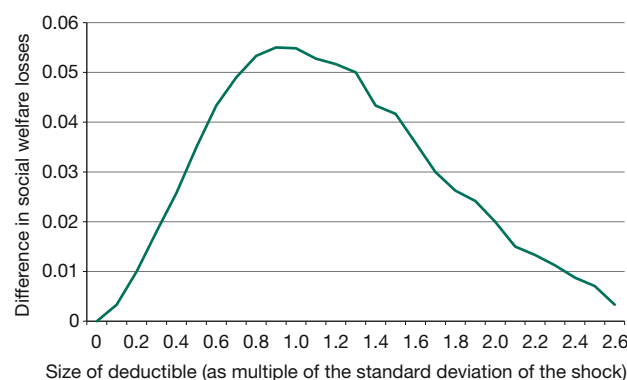
However, there exists a general theorem that insurance with a deductible is superior. Arrow “proved that if we stay within the class of contracts with the same expected loss, EU [expected utility] maximizers prefer a contract with full (100%) insurance above a fixed deductible.”<sup>8</sup>

6 H. Enderlein, L. Guttenberg, J. Spiess: Making One Size Fit All ..., op. cit.

7 Formally, the cost of a shock absorber under which a fraction alpha of any shock,  $x$ , is absorbed by the insurer is given by  $\alpha \cdot E(x)$ . If welfare losses are a quadratic function of the shock, one can calculate the following expected losses: (1) no shock absorber – in this case the welfare loss would be proportional to the variance of the shock, i.e.  $E(x^2)$ ; (2) shock absorber – in this case the welfare loss would be proportional to the variance of the shock attenuated by the fraction alpha, or  $(1-\alpha)^2 \cdot E(x^2)$ ; (3) insurance with deductible – in this case, the welfare loss would be given by the sum of two elements: for a shock smaller than the deductible (indicated by gamma) one has to take the expected value of  $x^2$ , but for larger shocks (i.e.  $x > \text{gamma}$ ) the welfare loss will be just equal to  $\text{gamma}^2$  (which has to be multiplied by the probability that  $x > \text{gamma}$ ).

8 T. Russell: Catastrophe Insurance and the Demand for Deductibles, manuscript, Santa Clara University Department of Economics, Santa Clara CA 2004, p. 2. See also K. Arrow: Optimal Insurance and Generalized Deductibles, in: Scandinavian Actuarial Journal, 1974, No. 1, pp. 1-42. See C. Gollier, H. Schlesinger: Arrow's Theorem on the Optimality of Deductibles: A Stochastic Dominance Approach, in: Economic Theory, Vol. 7, 1996, pp. 359-363, for a more general version of the theorem about the optimality of full insurance above some fixed deductible.

Figure 2  
Difference between social losses shock absorber versus insurance with deductible



Source: Own calculations based on data provided by Claudius Gros.

### An illustration: normally distributed shocks

The advantage of insurance with a deductible over a shock absorber (with the same premium) can be illustrated graphically using the most widely used functional form concerning the distribution of the shocks, namely that they are normally distributed. This is often a convenient assumption to solve linear quadratic problems, but has the disadvantage that, for the normal (Gaussian) distribution (or probability density function) of the shock, one can only calculate numerically the truncated variances and expected values that one needs to evaluate the welfare losses and the actuarially fair cost of providing either a shock absorber or insurance with a deductible.<sup>9</sup>

Figure 2 thus shows the difference between the welfare loss under a shock absorber and insurance with a deductible as a function of the deductible in terms of the standard deviation of the distribution of the shock. The size of the shock absorber was in all cases adjusted so that the actuarially fair price of both contracts was the same.

It is apparent that in Figure 2 the difference is always positive, i.e. the welfare loss is always lower under an insurance contract with a deductible, as proven more generally by Arrow.<sup>10</sup>

9 Another drawback of the normal distribution is that reality has “fat tails” – large events occur more often than one would expect if the distribution were normal.

10 K. Arrow: Optimal Insurance and Generalized Deductibles, op. cit.

Figure 2 also shows a general property of insurance with a deductible. The value of such an insurance contract depends on the size of the deductible: if it is zero the contract provides full insurance; whereas if the deductible is infinity there is no insurance at all. This also implies that the difference between a shock absorber and insurance with a deductible must go towards zero as the deductible goes to zero (in this case, the shock absorber will have to go to full shock absorption); and it must also go to zero as the deductible goes towards infinity, since at that point there will be little difference between the two types of insurance.

Figure 2 refers to the case of the shock having a standardised Gaussian distribution. In this case the difference reaches a maximum if the deductible is equal to one (one standard deviation). In other words, a deductible equal to one standard deviation of the shock provides the situation where the advantage of this type of contract is largest.

### Issues related to implementation

Any insurance system against shocks at the macroeconomic level faces a number of implementation challenges. Insurance against macroeconomic shocks is different from “normal” insurance for an individual or a household.

For example, insuring a house against fire or a car against accidents involves clearly defined risks. Anybody who has rented a car has been asked whether she wants to take out additional insurance to cover the excess waiver of usually  $x$  hundred dollars or euros. If a house catches fire or the car is involved in an accident, the “event” can be clearly defined and the damage can in principle at least be objectively assessed.

This is much more difficult in macroeconomic terms. Here it is difficult to define both the “event” and the damage it entails. For example, if one considers a key indicator of macroeconomic costs, namely unemployment, one has to make an initial choice whether to look at the headline unemployment rate, or only short-term unemployment because one might argue that long-term unemployment is determined by labour market institutions and its level does not give an indication of a shock, but rather of the efficiency of labour market institutions in general. Further, both long- and short-term unemployment rates may be influenced by the eligibility and generosity of unemployment benefit in a country, because only registered employment is measured.

But even the level of short-term unemployment also has a certain basic component which is influenced by

the “churn” in labour markets as there will always be a number of workers who quit to look for a new job. This raises the question of how to define a “shock” to (short-term) unemployment. This is a difficult question to answer if one considers how many different national policy measures might affect unemployment, not only changes in social welfare policy but also discretionary changes in fiscal policy. It is thus difficult to distinguish between variations in the unemployment rate which are due to national policy choices and exogenous shocks which are outside the control of national policy makers. The purpose of any European shock absorption system would presumably be to help member states deal with outside shocks, rather than offset the negative impact from domestic policy choices.

At the empirical level one has to take into account the wide differences in the level and variability of unemployment rates in Europe. One way to define a shock would be to take an increase in the rate above the medium-term average over the past. For a country like Austria, where the unemployment rate has for a long time been close to five per cent, an increase to seven per cent would represent a major event. By contrast, for Spain an increase from the longer term average of around 15 per cent to 17 per cent would not constitute something unusual. A simple remedy is a shock measure which looks at the relative change, say a 20 per cent increase, in the unemployment *rate*.

Another way to define a shock would be to measure the increase in unemployment relative to the variability of the rate in the country concerned.<sup>11</sup>

### Comparison with the US

The US has a system in place in which large economic shocks are traditionally recognised at the federal level and where Congress generally establishes emergency programmes to extend unemployment benefit when the

11 In this case insurance is triggered if the unemployment rate rises more than a certain multiple,  $\gamma$ , of the standard deviation above the average historical unemployment rate. Formally, the insurance threshold for country  $i$  at time  $t$  would equal

$$stUR_{it} > \overline{stUR}_i + \gamma \sigma_{stUR_i}$$

Where  $stUR_{it}$  and  $\overline{stUR}_i$  are respectively the current unemployment rate and the mean historical unemployment rate (defined over the relevant time interval, e.g. ten years). The standard deviation is given by  $\sigma_{stUR_i}$ . M. Beblavy, D. Gros, I. Maselli: Reinsurance of National Unemployment Benefit Schemes, Centre for European Policy Studies, study prepared for DG Employment, forthcoming, provide numerical simulations of such an insurance scheme.

US economy faces a deep recession.<sup>12</sup> This was the case with the 2009 American Recovery and Reinvestment Act (known as the stimulus bill). States are then refunded for part or all of unemployment insurance paid to individuals after their first 26 weeks of unemployment.

Although this emergency benefits programme is available for all states, it also provides a de facto shock absorber for regional shocks since even in the US unemployment is often regionally concentrated and states in which unemployment is much higher than the national average benefit much more.

For shocks of the more asymmetric type where individual states are experiencing an economic downturn while the national economy is performing well relief is available from the so-called Permanent Extended Benefits Program. This programme extends unemployment insurance beyond 26 weeks for between another 13 to 20 weeks depending on conditions states have to fulfil. Costs are split 50-50 between the federal and state governments. The programme is triggered if the unemployment rate is above five per cent and has increased by more than 20 per cent relative to the same period in each of the two preceding years. If necessary, state governments can cover their part with loans from the federal government.

In this sense the US has a system under which the federal government provides support during really bad times. Outside major recessions and specific situations at the state level, unemployment insurance remains a responsibility of the states.

## Conclusions

Many observers and policymakers now argue that the eurozone needs a system of fiscal shock absorbers and often refer the US as the example to follow. But the importance of fiscal policy in absorbing regional shocks is often over-estimated.

Recent studies by the IMF find that about 20 per cent of shocks to state income are offset by the US federal fiscal

system.<sup>13</sup> Financial integration provides a much greater degree of shock absorption.

But a fiscal shock absorber mechanism which smoothes only one-fifth of the shock would have been of limited value in the euro crisis. Offering a country whose output falls by one per cent (relative to the eurozone average) a transfer of 0.2 per cent of GDP would not have changed the nature of the crisis. A country hit by a very large shock (like Ireland) would receive a larger transfer, but the problems would not be substantially different. By contrast, in a system of insurance with a deductible, of say one per cent of GDP, the country hit by a small shock would receive nothing. But most of any large shock – everything above the one per cent deductible – could then be fully offset.

What the eurozone really needs is not a system that offsets all shocks by some small fraction, but a system that protects against shocks that are rare, but potentially catastrophic. The many minor cyclical shocks that do not impair the functioning of financial markets can then be dealt with via borrowing at the national level.

The European Stability Mechanism – the eurozone's rescue mechanism – does not provide the needed insurance function because it only provides loans, which have to be repaid with interest, rather than a transfer when a shock materialises. A system of direct fiscal transfers among euro area states appears at present politically impossible. The discussion has thus focused on unemployment insurance and how a European or euro area system could mitigate the impact of idiosyncratic shocks.

The main thrust of this contribution is that one should concentrate on providing support in the case of large shocks, which is implicit in any insurance mechanism with a deductible. One way in which one could achieve this aim would be to create a system of reinsurance for national unemployment insurance systems, under which the national systems would pay regular premiums to a central eurozone fund. This fund would then support the national system in countries where the unemployment rate suddenly increases above a certain threshold. This is the type of absorption capacity that the presidents of the EU should be considering – not merely copying the way the US federal fiscal system appears to offset a small proportion of all shocks.

12 C. Stone, W. Chen: Introduction to Unemployment Insurance, Center on Budget and Policy Priorities, 2013, available at: <http://www.cbpp.org/files/12-19-02ui.pdf>.

13 IMF: Toward a Fiscal Union for the Euro Area, prepared by C. Allard, P. Koeva Brooks, J.C. Bluedorn, F. Bornhorst, K. Christopherson, F. Ohnsorge, T. Poghosyan and an IMF Staff Team, Washington DC 2013; IMF: Toward a Fiscal Union for the Euro Area: Technical Background Notes, Washington DC, September 2013.