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**Which fiscal capacity for the euro-area:  
Different cyclical transfer schemes in comparison**

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# Which fiscal capacity for the euro-area: Different cyclical transfer schemes in comparison

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## Abstract:

The paper compares different recently discussed proposals for a „fiscal capacity“ for the European Monetary Union with respect of their ability to stabilize the EMU business cycle and hence to contribute to a better policy mix in Europe. The term fiscal capacity has sprung up in a number of official documents over the past years, among others the EU Commission’s roadmap for a more cohesive EMU. One interpretation of the „fiscal capacity“ is the introduction of cross-border fiscal transfers to stabilize the business cycle in EMU member countries. The paper takes a look at recent proposals for such transfer systems. Here, especially, Notre Europe’s Cyclical Shock Insurance (CSI) Scheme (Enderlein et al. 2013, 2013a), Dullien’s (2014) European Basic Unemployment Insurance and CEPS’ (2014) Catastrophic Unemployment Insurance are compared. It is argued that the CSI carries the danger to actually exacerbate cyclical variations in the euro-area. Among the basic and the catastrophic unemployment insurance, the advantage of the catastrophic unemployment insurance is that it is far easier to implement and to administer while the basic unemployment insurance has the advantage that it offers the widest and strongest stabilization impact among the proposed schemes.

## Keywords

EMU, fiscal capacity, shock absorber, European unemployment insurance

## JEL-Classifications

F15, E63, J65

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## 1 Introduction

Since the onset of the euro crisis, the debate on potential transfer mechanisms in the euro-area has gained new relevance. A number of policy papers now routinely refer to a planned „fiscal capacity“ for the euro-zone (including the European Commission’s roadmap for a more complete monetary union and the so-called „four presidents‘ report“ by the presidents of the European Council, the European Commission, the European Central Bank and the Euro group). While some observers hope to design a fiscal capacity as a carrot to induce structural reforms, the large majority of economists and politicians interprets the term “fiscal capacity” as introducing automatic stabilizers on the European level.

At the same time, a number of proposals have been made and discussed, among others one for a basic European Unemployment Insurance (Dullien 2007, 2008, 2012, 2014), one for a cyclical shock insurance (Enderlein et al. 2013, 2013a) and one for a “catastrophic” unemployment insurance (CEPS 2014) which can be seen as some reinsurance for national unemployment insurances. While these proposals all contain some analysis of the stabilization properties of the individual proposal, they do so in specific ways which are not always easy to compare. Moreover, so far, there is no study which systematically compares the approaches.

This paper is supposed to close this gap. It will give a first assessment of the differences in macroeconomic stabilization between the different proposals. To this end, it will first review the theoretical debate about fiscal capacities to stabilize the economy of the euro area. In a second step, it will present the basic mechanisms of the basic unemployment insurance, the cyclical shock insurance and the catastrophic unemployment insurance. In a third step, it will look at historical data and analyze how much of the fluctuations in economic activity both at the euro-zone level and at the level of the member states could have been mitigated by these proposals.

## 2 A fiscal capacity: The basic idea<sup>2</sup>

The debate over fiscal stabilizers or “fiscal capacity,” as they are often referred to in recent policy documents, is not new. In the theory of monetary integration, it has long been argued that Europe might need a stronger centralization of fiscal policy.<sup>3</sup> According to arguments deduced from the theory of optimum currency areas (OCA), relinquishing autonomy over monetary policy requires alternative adjustment mechanisms for asymmetric macroeconomic shocks. According to the classic Mundell (1961) OCA criteria, one possible adjustment mechanism can be the mobility of the factors of production, especially labor. If one region is hit by a negative shock, workers would quickly migrate to other regions, keeping unemployment in the adversely affected region low.

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<sup>2</sup> This section draws from Dullien (2014).

<sup>3</sup> For a textbook exposition, see Baldwin and Wyplosz (2006: 358) or De Grauwe (2005).

An alternative adjustment mechanism could be a high flexibility of wages and prices. If one region is hit by an adverse shock, wages and prices for that region's goods would fall quickly, thus increasing demand for its products again.

However, if a high degree of labor mobility or wage flexibility cannot be attained, alternative mechanisms might be necessary. One of these mechanisms could be a fiscal transfer system which would attempt to bolster regional demand by increased public expenditures, higher transfers or lower taxes, if a region is hit by a transitory asymmetric negative demand shock. Such a system would also dampen demand in a regional boom, by cutting local expenditures and local transfers or increasing taxes.

Against this background, one could even make the argument that stabilization requirements for fiscal policy are bigger in the EMU than in other federal entities, such as the United States. First, labor mobility in Europe is lower than in the United States, not least because there are almost a dozen different languages in the EMU, and customs still differ more than between regions of the United States. Second, wages are usually assumed to be less flexible in Europe, again strengthening the case for more national stabilization policies.

Early policy discussions on European monetary integration, such as the MacDougall (1977) report, consequently proposed to increase the European Community's budget to between 5 to 7 percent of GDP to be able to provide meaningful stabilization through fiscal policy in a European monetary union. While this argument was solidly founded in traditional, old Keynesian-style macroeconomic textbook models such as the Mundell-Fleming model, it fell into disregard from the 1980s onward.

This shift in the debate happened for a number of reasons. First, among academic economists, the belief in the effectiveness of fiscal policy faded with the ascent of new classical economics in the late 1980s. Moreover, some authors claimed that market integration would increase endogenously with the EMU, making labor markets more flexible and thus reducing the need for a stabilization policy (Von Hagen 1992; see also Bertola and Boeri 2002, Blanchard and Giavazzi 2003).

Another reason was the growing importance of international capital flows and cross-border holdings of financial assets. It was argued that with access to international financial markets, national governments could undertake fiscal stabilization on their own without a transnational transfer system. Here, it was assumed that governments could borrow all the funds they would need in a downturn and use this money to stimulate their national economy. If governments had sufficient national automatic stabilizers in place, this stabilization would even work without discretionary fiscal policy decisions, and any increase in public deficits incurred in the process would automatically be corrected during an upswing.

A related argument was that with sufficient cross-border holdings of financial assets and internationally diversified portfolios, parts of asymmetric shocks could be bolstered through capital markets: If a country were hit by an asymmetric shock, return on domestic assets would fall, but foreign assets would perform relatively better. If now residents hold a portfolio that is well-diversified between domestic and foreign assets, part of their income loss caused by the asymmetric shock would thus be compensated for by higher returns from abroad. According to this argument, with the EMU expected to increase financial market integration, the need for transfers would diminish after the introduction of a common currency. This argument was further supported with findings from Asdrubali et al. (1996), who claimed that in the United States, a large share of asymmetric intraregional shocks are smoothed by the capital markets.

Finally, political realities in the early 1990s made any closer political union with a larger budget virtually unthinkable, and the EMU was put into the Maastricht Treaty without an increase in the EU budget. Because of this, the debate on fiscal stabilizers in the European Monetary Union among academics petered out.

While the basic arguments against the efficiency of fiscal policy as a macroeconomic stabilizer has lost appeal with the descent of New Classical economics (see e.g. the contributions in favor fiscal policy in Kopcke et al. 2006), the main event which has put the debate on fiscal transfer mechanisms back on the agenda has been the euro crisis. The depth and length of the recession triggered by the euro crisis has been unprecedented, and has once more underlined first the need for an insurance device for adverse shocks and second, that macroeconomic management within the EMU was not sufficient prior to the crisis.

The experience of countries such as Ireland and Spain has shown that even countries which had been running a very prudent fiscal policy prior to the crisis could easily get into serious problems if a really deep recession were to hit. Both Ireland and Spain had budget surpluses and low debt-to-GDP ratios prior to the onset of the U.S. subprime crisis in 2007, and both countries saw their budget deficits balloon after their respective real-estate bubbles burst. Government finances were suddenly and unexpectedly hit by adverse developments on the revenue side, caused by rapidly falling tax revenue, and on the expenditure side, where new outlays for financing the costs of unemployment and for bailing out insolvent banks became necessary. Obviously if a recession is deep enough, even the most prudent national fiscal policy cannot prepare for it.

A second new experience is that capital markets do not necessarily work well as an insurance tool against large macroeconomic shocks. The old argument has always been that interregional transfer mechanisms are not necessary in a well-integrated common market, as governments can always

borrow the funds needed for stabilization policies from international capital markets and repay them in better times.

The euro crisis has proved this assumption wrong. During the crisis, policymakers had to learn that even countries with completely open capital accounts and financial markets deeply integrated with those of other European countries could not rely on capital markets to finance their stabilization. This was most notably the case with Greece, Ireland and Portugal. These countries saw themselves suddenly faced with growing mistrust from investors which pushed up interest rates. The rising interest rates on the one hand made borrowing very expensive, which left the governments concerned with less funds available for stabilization purposes. On the other hand, these rising interest rates hurt economic activity at home, further destabilizing these economies.

While European partners and the IMF stepped in with emergency loans to prevent a default on government bonds, these loans did not offer the countries relief from pro-cyclical fiscal policies. These emergency loans from official lenders were always linked to the conditionality of bringing down the budget deficit, quickly and decisively.

Thus, in these cases, countries were forced by the financial markets and the international community to counteract their automatic stabilization efforts by discretionary expenditure cuts and tax increases. The result was a clearly pro-cyclical policy, with large reductions in structural budget deficits at a time when their respective economies were already in recession.

A cyclical transfer mechanism between euro area countries could have mitigated this effect.

Another element which has contributed to a reassessment of the merits and necessity of fiscal transfer mechanisms is the occurrence of large macroeconomic divergences in a number of countries, and especially the emergence of housing price bubbles in countries such as Ireland and Spain. As has been widely discussed, euro periphery countries such as Portugal, Ireland, Greece and Spain have strongly lost competitiveness over the past decade. In parallel, the current account deficit has increased in some cases to more than 10 percent of GDP. In the cases of Ireland and Spain, additionally, large housing price bubbles have developed, financed by capital inflows from the rest of the EMU.

These macroeconomic divergences can be interpreted as a reaction by the respective economies to an asymmetric shock. Both Ireland and Spain had a history of high real interest rates and (at times) high and volatile inflation. In joining the EMU in 1999, risk premia and hence nominal interest rates for these countries fell while remaining more or less unchanged for core EMU countries such as Germany or Austria. Especially in combination with a competitive exchange rate after the 1992 crisis

of the European Monetary System and the devaluation of the Irish punt and the Spanish peseta, this fall in interest rates provided a significant stimulus to the countries' economies.

This initial acceleration of economic growth set in motion a self-enforcing cycle of rising asset prices, rising wages and deteriorating competitiveness. As this initial growth shock pushed up national inflation rates, and given that the European Central Bank's short-term interest rate was set with average EMU inflation in mind, real interest rates in these countries declined even further and over a period of time, even turned negative. At the same time, falling unemployment led to accelerating wage inflation. The combination of falling interest rates and increasing disposable incomes pushed up the demand for housing, which in turn led to rising real-estate prices. These higher real-estate prices stimulated construction activity, further pushing up economic growth, wages and inflation.

While during this process, the export sector was slowly losing competitiveness, the initially favorable real exchange-rate position provided a buffer before this turned up in actual problems in the export manufacturing sector. Moreover, growing domestic demand helped to smooth over some of the growing problems of price competitiveness abroad. Different from what the literature had proclaimed, the real exchange-rate channel started to work only very slowly, while the real interest-rate channel fuelled the housing boom.

While in principle, national policymakers could have dampened the boom by increasing taxes and running larger budget surpluses than they already did, this did not happen. First, policymakers were not aware of the extent of the bubble and its macroeconomic impact. In Spain, for example, the European Commission's annual forecast for the respective years concluded that for 2002 to 2004, as well as from 2006 onward, the economy was still operating below its potential output, a diagnosis strongly at odds with current assessment (Feld and Osterloh 2013). Consequently, fiscal policy in Spain at the time looked appropriate. Second, if surpluses materialize over several years in social security systems, experience tells us that political pressure will build to see that these surpluses are reduced in the form of cuts in contributions or tax rates.

Here, a cyclical transfer mechanism could have helped, provided it would not have built on indicators mistaking the Spanish boom for a structural improvement in the economy. Under such a scheme, in the early 2000s, funds would have been transfers from Spain to the rest of the euro-area, hence limiting the funds available for tax cuts and increases in public expenditures. This in turn would have led to a slower economic growth rate and a less rapid buildup of macroeconomic divergences. Moreover, while there is no consensus among economists how asset price bubbles build and develop, it is plausible that a slowdown in price increases might also lead to less self-enforcing effects and might then lead to a smaller bubble before a boom period comes to an end.

### 3 The proposals on the table

Before we turn to analyzing the relative benefits and costs of the three schemes, it is helpful to understand the basic mechanisms.

#### 3.1 European basic unemployment insurance<sup>4</sup>

One of the options currently discussed is a European basic unemployment insurance (Dullien 2007, 2014). The underlying idea is to introduce an unemployment benefit system at the European level which will replace part of the existing national schemes. Under such a system, a certain share of contributions to the unemployment insurance would be paid to a European fund instead of into the national systems. Under certain conditions, unemployed in participating member states would receive benefits from the European system.

The European system would be designed in 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 the stint of 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 the European unemployment insurance would be financed by contributions based on wages which would be 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 groups of unemployed. If a country decides on a top-up for the European system, these extensions in the generosity would have to be paid for by national funds, e.g. through national contributions to the national unemployment insurance.

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

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<sup>4</sup> This subsection draws from Dullien (2014a).



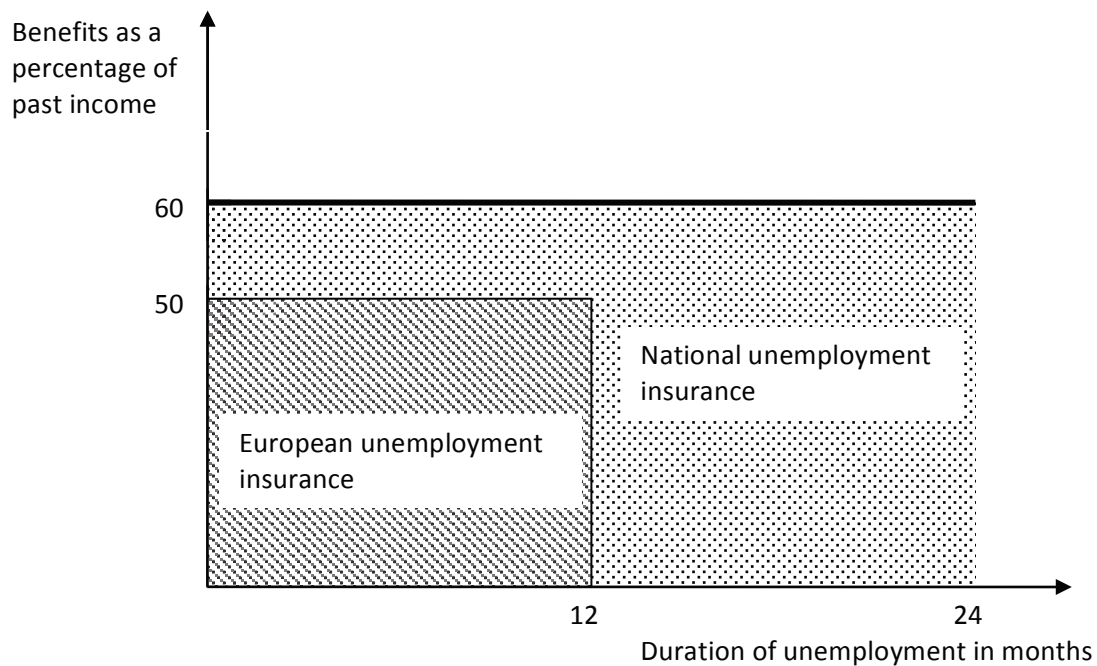


Figure 1: Interaction of European Unemployment Insurance and national unemployment insurance systems

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 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 for those who had been in employment prior to the stint of unemployment, it is not paid for 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.

### 3.2 Cyclical shock insurance

Another alternative is what Enderlein et al. (2013) dub “cyclical shock insurance”. They propose a formula which links transfers between national budgets to the deviation of the national output gap from the euro-zone output gap. Countries which experience an output gap less negative than the euro-area average (meaning their current output is closer to potential output than for the other countries) will have to pay into the system, while countries which experience an output gap larger than the euro-area average will receive funds.

The absolute size of the resulting transfers could be varied by multiplying the relative output gap by a factor between 0 and 1, with one meaning that the transfer would reach the full amount of the deviation of the national output gap from the euro-zone output gap. As by definition, these payments would balance out each year, there would be no need that the system is allowed to incur debt.

Stabilization would run through the (assumed) mechanism that national governments would use the extra funds for extra public spending (or extra tax cuts), thus stabilizing aggregate demand.

### 3.3 Catastrophic unemployment insurance

A third option is the so-called “catastrophic unemployment insurance”, mentioned by Daniel Gros and his team at CEPS (2014). According to this proposal, no transfers would be made in normal times, but countries which experience a very strong increase in their national unemployment would receive transfers from a common fund. During these bad times, part of the unemployment compensation in that country is refunded from a European fund. It is proposed that these transfers are paid by a contribution of 0.1 percent of GDP annually until the common fund has reached a reserve level of 0.5 percent of the Eurozone GDP. Alternatively, the authors propose varying the contribution rate according to past episodes of unemployment surges (so as to mimic a “risk-adequate” insurance premium).

By setting the trigger value (the value by which unemployment has to increase above its long term average before payments are made), one can easily adjust the generosity and the stabilization impact of the scheme. The smaller the trigger value, the more often the scheme is activated and hence the more transfers are needed.

## 4 Performance across different dimensions

While all of these proposals in the end would lead to transfers between euro-area countries, the description should have made clear that they work in a rather different way.

### 4.1 Stabilization across space and stabilization across time

The first important difference between the schemes is the type of shocks which they stabilize. In principle, in a monetary union, there might be asymmetric shocks which hit countries differently and symmetric shocks which hit all countries the same. As the Enderlein et al. proposal only redistributes between countries, but does not carry over deficits or reserves between countries, it can only help to mitigate the asymmetric element of a shock. This need not be a problem, granted, when one believes in the standard macroeconomic model predominantly used prior to the U.S. subprime crisis of 2008-2009, in which monetary policy can always stabilize the overall business cycle and bring current output back in line with potential output.

However, there are a number of indications that these models do not describe adequately the real world. First, with interest rates very low, monetary policy might be constrained by the zero-bound problem. Central banks cannot lower their policy rates below zero, even if this is a necessary step to stabilize the business cycle. Second, if there are problems in the banking system (as observed still at the time of writing), the transmission of monetary policy might not be able to adequately stabilize the euro area's overall business cycle. In fact, not only in the current crisis but also after the bursting of the dot-com bubble in 2000, low interest rates in the United States failed to close the output gap quickly.

In cases in which monetary policy fails to work adequately, the Enderlein et al. proposal actually risks destabilizing a national business cycle further, at least in some countries. Imagine a situation of a prolonged downturn in the euro area, with some countries harder hit than others. According to the Enderlein et al. proposal, countries not as badly hit would have to pay transfers to those more severely affected (even though the former would also be affected by a recession and rising unemployment). If the transfers were really affecting government spending directly (as the authors assume), this would mean that the recession would be deepened in the countries less badly affected, while the recession would be slightly ameliorated in those countries more strongly affected.

While this would mean a synchronization of the business cycle across the euro area, it is not clear whether the result is desirable. Politically, transfers that would deepen a recession in stronger economies could easily cause a backlash. Economically, it is not clear how much is really won, as the problem is not necessarily the deviation of business cycles from each other, but the amplitude and duration of fluctuations in national business cycles.

## 4.2 Robustness of indicator for transfers

The second important difference between the schemes is the robustness of the indicator used. Ideally, an indicator for cross-national transfers needs to robustly show the position in the cycle and cannot be manipulated by member states as to induce transfers.

For the criteria of robustness, the Enderlein et al. proposal has the most problems as it is based on the output gap for determining financial transfers. The output gap as measure for the cyclical position has significant shortcomings as it cannot be measured or estimated with great precision in real time, and first estimates are often considerably revised.

One possibility would be, of course, to take the available data at one point in time, estimate the output gap based on this information (and with a previously defined methodology) and then fix payments regardless of future revisions to the output gap estimate.

However, while this approach would allow national governments a method of reliable planning, it has the shortcoming of potentially destabilizing economies further. The fact that estimates for the output gap are often ex post significantly revised, with sometimes even the sign reversing, is an indication that this variable is not a good instrument for the timely measuring of an economy's position in the business cycle, and therefore should not be used for making decisions on stabilization activities. If the measured output gap shows a negative value (that is current output below potential), leading to transfers and additional public spending, but it turns later out that the economy had been operating above potential, this transfer would instead have boosted an already overheating economy.

The revisions to the output gap for Spain are a case in point. According to European Commission estimates in spring 2007, the Spanish economy since 2004 had been operating significantly below potential. According to autumn 2012 estimates, however, this has been corrected as completely wrong. Instead the European Commission now reports a significantly positive output gap for the same period (Table 4).<sup>5</sup> Had there been a stabilization scheme operating on the original data, Spain would have received extra funds to boost its economy in those years—which would have been wrong, according to the more current data. These transfers would have had a pro-cyclical effect, making the construction and real-estate boom at the time even worse.

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<sup>5</sup> Note that this revision does not stem from mistakes by the European Commission or by a revision of underlying GDP data, but just because estimates for the output gap are sensitive to what is assumed in the future. As the period after 2007 turned out to be much worse for the Spanish economy than anticipated, potential output for prior periods was revised downward.

In fact, the problems with the output gap are not restricted to individual countries such as Spain. As Kempkes (2012) demonstrates, large-scale revisions of output gaps complete with sign changes are a common feature in standard measurement methodology, not only for Spain, but for many EU countries.

	Average 1997-2001	Average 2002-2006	2002	2003	2004	2005	2006	2007	2008
Spring 2007 forecast	0.4	-0.3	1.1	0.1	-0.6	-1.2	-1.1	-1.0	-1.3
Autumn 2012 forecast	1.0	1.2	1.5	0.9	0.8	1.0	1.8	2.1	0.5

Table 1: Output gap estimates for Spain by the European Commission in 2007 and 2012, in percent of potential GDP

### 4.3 Ease of administration

The ease of administration also differs greatly between the three proposals. Here, clearly, the proposal for a cyclical shock insurance as well as for the catastrophic unemployment insurance can be implemented with a rather light administration. For both, basically, only a small secretariat would be necessary in which the data on unemployment or on the output gap would have to be calculated. In the case of the cyclical shock insurance, the results of this calculation could directly be turned into transfer orders sent to national governments. As the cyclical shock insurance does not accumulate reserves, no large financial management would be necessary for this proposal. In contrast, the catastrophic unemployment insurance would need a financial department which invests the reserves and manages liquidity of the scheme.

The largest administration would be required by the European unemployment insurance. Here, the European payments would need to be integrated in national laws and a common fund would need to be administered. Moreover, employment data for those having paid contributions would need to be collected, stored and processed.

In addition, the catastrophic unemployment insurance as well as the genuine unemployment insurance would need mechanisms to limit moral hazard. In both cases, it would not be the standard problem of moral hazard between the unemployment insurance and the individual unemployed which might become problematic, but the relationship between national administrations and the European fund. In the case of the catastrophic unemployment insurance, there might be an incentive to push national unemployment beyond the trigger values if it is already elevated, and in the case of the genuine unemployment insurance, there is the risk that national and sub-national governments create temporary employment schemes for long-term unemployed to make them eligible for

European unemployment benefits. Both issues would require personnel at the European level to monitor and counteract detrimental actions of national and sub-national governments.

## 5 Simulation results

While the question of moral hazard between different administrative levels in a system as the EU is difficult to forecast, macroeconomic impacts of the schemes discussed above can be simulated. This is done in the following section to see how much the systems would actually differ and what their impact would have been had they been in place during the deep crisis since 2008 in the euro-area. This exercise also gives an idea how relevant the real-time measurement problems of the output gap discussed above really are in such a transfer system.

As discussed in Dullien (2014), there are different ways to measure the stabilization impact: A first possibility is to distinguish between average and marginal stabilization. Average stabilization would measure by how much the fluctuations around potential output are mitigated over the average of a business cycle while marginal stabilization would look at the question which part of a specific downturn could have been prevented in a given period.

For the US, the application of different measures comes to hugely different results about the stabilization properties of the US unemployment insurance. For example, a widely quoted study by Asdrubali et al. (1996) concludes that the U.S. unemployment insurance has contributed a mere 2 percent to the stabilization of the American business cycle. In contrast, Vroman (2010) comes to the conclusion that during the recession after 2008, the U.S. unemployment insurance has bolstered almost 30 percent of the U.S. downturn.

Here, Asdrubali et al. look at average stabilization over the whole business cycle while Vroman compares a simulation of the recession after 2008 without an unemployment insurance against the actually observed path of GDP and employment with the existing U.S. unemployment insurance, which one can dub “marginal stabilization”. As a typical business cycle consists of a large number of years without a recession and only a few recession years, even a significant stabilization during a recession does not necessarily mean a large degree of average stabilization over the cycle can be detected.

A second dimension is the question whether the aim of stabilization really is to limit the deviations of national output gaps from a currency union’s average or to limit the amplitude of national business cycles as a whole. By definition, the Enderlein et al. proposal aims at limiting the deviations from the euro-area average, while the other two proposals aim at both goals.

Both marginal and average stabilization can be measured by looking at a counterfactual situation based on historical data had the three systems existed. Marginal stabilization can then be measured by looking at specific cases and recessionary episodes, while average stabilization would look at the absolute value of the output gap under a historical baseline and under scenarios with the alternative transfer mechanisms.

To this end, transfers for the three schemes found in the literature have been used, added to a standardized set of recent output gap estimates and then compared to the historical baseline. In line with the literature on this topic, this way of gauging the impact assumes a uniform fiscal multiplier of the transfers through the system of 1 and neglects cross-border spillovers or feedbacks on monetary policy.

Data for transfers for the European unemployment insurance have been taken from Dullien (2014) for two baseline scenarios under different assumptions of the coverage ratio among the short-term unemployed. In one scenario, it is assumed that the coverage ratio is constant and the same in all countries, in a second scenario, it is assumed that the coverage ratio varies over the cycle and the number of unemployed covered under the scheme equals the number of job losses over the past year plus a certain share of the rest of the unemployed. For the Enderlein et al. (2013a) proposal, data has been taken from the paper's simulation using real-time estimates of the output gap (table 5b on p. 81 in their paper). For the catastrophic unemployment insurance, data has been taken from Bruegel's (Clayes et al. 2014) online tool.<sup>6</sup>

## 5.1 Average stabilization

Table 3 presents the absolute value of historical output gaps by country as well as the simulation exercises for the three schemes for both the period 1999 to 2012 and 2008 to 2012. This can be seen as a measure of the stabilization of the overall business cycle in the member states. Moreover, the table presents the standard deviation of the national output gaps as a measure how much cyclical divergence the euro-area experiences. Table 4 translates the historical output gaps and the counterfactuals under the three different schemes into a percentage measure of stabilization. This measure shows what share of the deviation of current output from potential output would on average have been prevented by the scheme. For example, if the average absolute value of the output gap without such a scheme in a country has been 2 percent and with such a scheme it would have been 1.5 percent, the stabilization would be 25 percent.

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<sup>6</sup> Parameters were set so that the transfers are triggered if deviation of unemployment from the five-year average is more than 1.0 percentage points, that 50 percent of past wages are covered and that contribution rates are varied by country.

	1999-2012					2008-2012				
	Historical data	Unemployment Insurance (constant coverage ratio)	Unemployment Insurance (variable coverage ratio)	Cyclical Shock Insurance	Catastrophic Unemployment Insurance	Historical data	Unemployment Insurance (constant coverage ratio)	Unemployment Insurance (variable coverage ratio)	Cyclical Shock Insurance	Catastrophic Unemployment Insurance
<b>Belgium</b>	1,2%	1,2%	1,2%	1,3%	1,2%	1,3%	1,3%	1,3%	1,6%	1,3%
<b>Germany</b>	1,4%	1,4%	1,4%	1,5%	1,4%	1,6%	1,6%	1,6%	1,7%	1,6%
<b>Estonia</b>	4,8%	4,6%	4,6%	4,7%	4,9%	4,9%	4,7%	4,6%	4,8%	4,3%
<b>Ireland</b>	2,3%	2,1%	2,2%	2,0%	2,3%	2,6%	2,3%	2,3%	2,1%	2,6%
<b>Greece</b>	2,9%	2,8%	2,8%	2,6%	2,8%	5,7%	5,3%	5,3%	4,5%	5,2%
<b>Spain</b>	2,5%	2,3%	2,4%	2,4%	2,4%	3,8%	2,9%	3,3%	3,3%	3,4%
<b>France</b>	2,1%	2,0%	2,0%	2,0%	2,1%	1,9%	1,9%	1,9%	1,9%	1,9%
<b>Italy</b>	2,0%	2,0%	2,0%	2,1%	2,0%	2,3%	2,3%	2,3%	2,3%	2,2%
<b>Cyprus</b>	1,1%	1,1%	1,1%	1,3%	1,2%	1,0%	0,9%	0,9%	1,3%	1,1%
<b>Latvia</b>	5,2%	5,0%	5,0%	5,2%	5,2%	7,3%	6,8%	6,8%	7,3%	7,3%
<b>Luxembourg</b>	2,5%	2,4%	2,4%	2,3%	2,3%	2,7%	2,8%	2,7%	2,6%	2,4%
<b>Malta</b>	1,1%	1,1%	1,1%	1,3%		1,2%	1,3%	1,3%	1,8%	
<b>Netherlands</b>	1,7%	1,8%	1,7%	1,5%	1,7%	1,9%	2,0%	1,9%	1,8%	1,9%
<b>Austria</b>	1,2%	1,2%	1,2%	1,3%	1,2%	1,4%	1,5%	1,4%	1,8%	1,4%
<b>Portugal</b>	1,6%	1,5%	1,5%	1,4%	1,5%	1,9%	1,7%	1,7%	1,8%	1,6%
<b>Slovenia</b>	2,3%	2,3%	2,3%	2,1%	2,3%	3,2%	3,1%	3,1%	2,7%	3,0%
<b>Slovakia</b>	2,6%	2,5%	2,5%	2,7%	2,5%	2,7%	2,6%	2,6%	3,0%	2,6%
<b>Finland</b>	2,0%	2,0%	2,0%	1,9%	2,0%	2,7%	2,6%	2,6%	2,5%	2,7%
<b>Unweighted average of member countries</b>	2,3%	2,2%	2,2%	2,2%	2,2%	2,8%	2,6%	2,6%	2,7%	2,6%
<b>Euro-Area</b>	1,6%	1,5%	1,5%	1,6%	1,5%	1,5%	1,4%	1,4%	1,5%	1,4%
<b>Standard Deviation of national output gaps</b>	0,021	0,020	0,020	0,019	0,021	0,025	0,023	0,024	0,022	0,024

Table 2: Average absolute value of output gaps under different transfer schemes, in percent of GDP



	1999-2012				2008-2012			
	Unemployment Insurance (constant coverage ratio)	Unemployment Insurance (variable coverage ratio)	Cyclical Shock Insurance	Catastrophic Unemployment Insurance	Unemployment Insurance (constant coverage ratio)	Unemployment Insurance (variable coverage ratio)	Cyclical Shock Insurance	Catastrophic Unemployment Insurance
<b>Belgium</b>	5,2%	5,0%	-7,2%	0,0%	-1,0%	1,3%	-23,0%	0,0%
<b>Germany</b>	2,5%	2,1%	-4,1%	0,0%	-1,3%	0,2%	-4,1%	0,0%
<b>Estonia</b>	3,3%	3,7%	0,7%	-2,1%	5,5%	7,3%	1,8%	12,7%
<b>Ireland</b>	7,1%	5,6%	14,1%	0,2%	10,0%	10,1%	17,5%	0,4%
<b>Greece</b>	3,9%	4,7%	11,6%	6,3%	6,5%	6,6%	21,6%	8,4%
<b>Spain</b>	7,0%	5,7%	5,3%	6,3%	23,1%	13,6%	13,9%	10,9%
<b>France</b>	1,9%	3,3%	4,5%	0,0%	1,7%	2,6%	1,3%	0,0%
<b>Italy</b>	2,5%	2,9%	-4,2%	1,9%	1,0%	1,5%	0,7%	4,4%
<b>Cyprus</b>	4,7%	3,7%	-10,9%	-1,5%	8,3%	9,2%	-33,7%	-14,9%
<b>Latvia</b>	3,8%	3,7%	0,0%	-0,3%	6,6%	6,1%	0,0%	0,0%
<b>Luxembourg</b>	1,7%	1,7%	5,8%	5,2%	-1,7%	0,1%	6,1%	12,3%
<b>Malta</b>	-1,6%	-1,3%	-21,3%		-5,3%	-3,9%	-49,8%	
<b>Netherlands</b>	-4,0%	0,4%	11,3%	1,1%	-5,9%	0,5%	5,1%	0,0%
<b>Austria</b>	-1,4%	-1,0%	-12,4%	0,0%	-7,3%	-2,2%	-24,7%	0,0%
<b>Portugal</b>	6,9%	7,4%	11,3%	9,5%	10,5%	12,9%	5,0%	18,5%
<b>Slovenia</b>	2,5%	2,2%	8,9%	2,3%	1,9%	2,7%	15,0%	3,9%
<b>Slovakia</b>	2,1%	2,6%	-4,8%	2,0%	3,7%	4,6%	-11,9%	4,8%
<b>Finland</b>	3,2%	2,7%	5,2%	0,0%	2,7%	2,3%	6,4%	0,0%
<b>Unweighted average of member countries</b>	3,1%	3,3%	2,2%	1,6%	4,9%	5,2%	2,8%	4,8%
<b>Euro-Area</b>	3,8%	3,4%	0,0%	3,2%	4,1%	3,3%	0,0%	3,3%

Table 3: Average stabilization for different transfer schemes, in % of historical downturn

The first interesting lesson is that none of the schemes is able to decrease cyclical divergence as measured by the standard deviation of output gaps in the euro-area by much. Yet, among the proposals, the Enderlein et al. proposal here does best, which should not come as a huge surprise given that the proposal's explicit aim is to reduce such a divergence. Here, it should be more

surprising that it cannot do more. This most likely is due to the huge problems with using the real-time output gap as an indicator for cross-border transfers. The proposal for a “catastrophic unemployment insurance” provides the least reduction in deviations of national output gaps from the euro-area average.

When it comes to average overall stabilization, the performance differs strongly according to the time period chosen: If we take the whole period from 1999 onwards, the catastrophic unemployment insurance provides only half as much stabilization as the basic unemployment insurance and less than the Enderlein et al. proposal. However, in the crisis period from 2008 onwards, the catastrophic unemployment insurance performs much better than the Enderlein et al. proposal and almost reaches the level of stabilization of the European basic unemployment insurance.

When we look at a country-by-country comparison, we also see significant differences. The Enderlein et al. proposal would have destabilized the economy in a number of countries, notably during the crisis years in Belgium, Cyprus, Malta, Austria, Slovakia and to a lesser extent in Germany. On the other hand, it would have provided more stabilization than the other schemes to Greece and Ireland.

Destabilization (when measured with the approach used in this paper) in some countries is not a unique feature of the Enderlein et al. model, though. All schemes occasionally seem to destabilize the cycle somewhat in some countries, but the Enderlein et al. proposal here is worst.

## 5.2 Marginal stabilization

As mentioned above, the concept of marginal stabilization measures how much of a given downturn would have been mitigated by the different transfer schemes. To this end, the historical widening of the output gap in a recession is compared to a hypothetical widening of the output gap under the assumption of existing transfer schemes. If, for example, the output gap has widened by 3 percentage points in a given recession and simulations show that it would only have widened by 2 percentage points given the existence of a specific transfer scheme, the stabilization would be 33 percent.

Table 5 presents the data for marginal stabilization in recessionary periods since the start of EMU. The definition of recessionary periods is in line with Dullien (2014a), but the table presents the hypothetical output gaps not only for the genuine unemployment insurances, but also for the cyclical shock insurance and the catastrophic unemployment insurance. Here, by and large, the genuine unemployment systems have the largest and most widely spread stabilization impact. What is more, there is no single recessionary episode in which the genuine unemployment insurance has made the

downturn worse. However, stabilization is largest in a few selected cases such as Spain in 2007-9, Spain in 2011-2, or the Netherlands in 2002-4.

In certain cases, the cyclical shock insurance actually trumps the stabilization impact of the genuine unemployment insurance (such as Greece in 2008-12 or the Netherlands in 2002-4). However, in 10 out of the 26 recessionary periods analyzed, the cyclical shock insurance destabilizes the economy and makes the downturn worse. Unfortunately, this is not only the case for minor recessions such as the Belgian recession from 2001-3 in which the widening of the output gap would have been increased from 1.6 to 1.7 percent of GDP, but also in Spain between 2007 and 2009 when the widening of the output gap would have increased from an already large 6.2 percentage points to a staggering 7.1 percentage points. A closer look reveals that this is mostly due to the revision problem of the output gap. The cyclical shock insurance would have increased Spanish GDP by roughly 0.75 percent in 2007 when the country was in the late phase of a real estate boom (and according to most recent data still overheated). It then would have reduced Spanish GDP in 2009 by a little more than 0.1 percent of GDP relative to the baseline when Spain was also hit by the global financial and economic crisis, but according to estimated output gap data at that time, to a lesser extent than other euro-area countries.

Country	Recession dates		Change in output gap over recession period, in percentage points					Stabilization impact of different transfer schemes, in %				
	Start year	End year	Historical data	Unemployment Insurance (constant coverage ratio)	Unemployment Insurance (variable coverage ratio)	Cyclical Shock Insurance	Catastrophic Unemployment Insurance	Unemployment Insurance (constant coverage rate)	Unemployment Insurance (variable coverage rate)	Cyclical Shock Insurance	Catastrophic Unemployment Insurance	
Belgium	2001	2003	-1,6	-1,4	-1,4	-1,7	-1,6	9,8%	14,0%	-6,9%	0,0%	
Belgium	2007	2009	-4,5	-4,5	-4,3	-4,6	-4,5	1,7%	4,8%	-1,3%	0,0%	
Germany	2001	2003	-3,0	-2,9	-2,9	-3,0	-3,0	4,5%	5,5%	0,3%	0,0%	
Germany	2008	2009	-6,0	-5,9	-5,8	-5,6	-6,0	1,0%	2,6%	6,5%	0,0%	
Spain	2007	2009	-6,2	-5,1	-4,4	-7,1	-4,8	17,8%	28,7%	-14,0%	23,8%	
Spain	2011	2012	-0,8	-0,5	-0,3	-0,5	-1,0	31,5%	62,9%	33,7%	-24,6%	
France	2008	2009	-4,2	-4,0	-3,8	-4,4	-4,2	4,0%	9,2%	-5,5%	0,0%	
Ireland	2008	2009	-5,3	-4,7	-4,1	-3,9	-5,0	11,5%	22,6%	26,5%	7,0%	
Italy	2001	2002	-0,9	-0,9	-0,9	-0,9	-0,9	2,3%	8,5%	4,3%	0,0%	
Italy	2008	2009	-5,3	-5,3	-5,2	-5,4	-5,3	1,5%	1,7%	-1,1%	0,0%	
Italy	2011	2012	-1,7	-1,5	-1,4	-1,1	-1,2	7,8%	18,8%	34,7%	30,0%	
Netherlands	2002	2004	-1,1	-0,9	-0,8	-0,2	-0,8	17,2%	24,0%	77,7%	27,1%	
Netherlands	2008	2009	-4,7	-4,6	-4,4	-4,9	-4,7	2,0%	5,5%	-6,2%	0,0%	
Netherlands	2011	2012	-1,4	-1,3	-1,2	-0,9	-1,4	4,9%	11,8%	33,3%	0,0%	
Austria	2001	2002	-0,5	-0,3	-0,1	-0,6	-0,5	31,7%	75,3%	-28,9%	0,0%	
Austria	2008	2009	-4,8	-4,7	-4,6	-4,8	-4,8	2,2%	5,6%	0,4%	0,0%	
Portugal	2001	2003	-3,5	-3,3	-3,1	-3,0	-3,1	6,1%	10,5%	15,9%	11,9%	
Portugal	2008	2009	-2,7	-2,6	-2,4	-3,1	-2,1	6,1%	13,7%	-12,0%	25,1%	
Portugal	2010	2012	-2,9	-2,5	-2,4	-0,9	-2,2	13,7%	18,1%	67,7%	24,4%	
Finland	2001	2002	-1,5	-1,4	-1,3	-1,4	-1,5	4,2%	11,4%	8,0%	0,0%	
Finland	2007	2009	-10,4	-10,2	-10,0	-9,6	-10,4	1,4%	4,1%	7,9%	0,0%	
Finland	2011	2012	-1,2	-1,2	-1,2	-2,1	-1,2	0,4%	0,6%	-68,0%	0,0%	
Greece	2001	2002	-1,5	-1,5	-1,5	-2,0	-1,5	0,0%	0,7%	-30,5%	0,0%	
Greece	2008	2012	-13,6	-12,8	-13,1	-9,9	-13,1	5,4%	3,8%	27,0%	3,8%	
Latvia	2007	2009	-23,7	-22,5	-21,4	-23,7	-23,6	5,0%	9,7%	0,0%	0,1%	
Estonia	2007	2009	-21,2	-20,3	-19,4	-21,2	-19,9	4,1%	8,6%	0,0%	6,3%	

Table 4: Marginal stabilization of different transfer mechanisms for major recessionary periods

## 6 Conclusions

Concluding, one can say that the three proposals have different strengths and weaknesses. The cyclical shock insurance and (to a slightly lesser extent) the catastrophic unemployment insurance have the clear advantage that they would imply only a slim administration with very little staff needed. In contrast, implementation of a basic European unemployment insurance would be much

more difficult and complicated, among others because the rules would need to be designed in a way that they interact without major tensions with national unemployment insurance systems.

The serious downside of the cyclical shock insurance is its characteristic that in many cases, it actually leads to destabilization of the national business cycle, in some cases in quite a significant way. While the cyclical shock insurance might have the advantage that it uses the output gap which is also used in other parts of the European economic governance structure (e.g. when determining whether a country has made sufficient progress in bringing down structural deficits), this short-coming seems rather severe.

The European basic unemployment insurance promises the largest stabilization impact, both in a crisis and in normal times, but its downside is clearly the complexity of setting up and running such a system.

Another lesson from this exercise is also that none of the proposed schemes can really systematically stabilize a large share of downturns. Hence, a fiscal transfer mechanism can only be one element for stabilizing business cycles in the euro-area, but it cannot be a panacea. Other reforms in the euro-zone governance mechanisms will remain necessary.

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