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A euro area macroeconomic stabilisation function: Assessing options in view of their redistribution and stabilisation properties

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Gerrit Koester, David Sondermann

A euro area macroeconomic stabilisation function: assessing options in view of their redistribution and stabilisation properties

No 216 / October 2018

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Abstract

A macroeconomic stabilisation function for the euro area - as envisaged in the Five Presidents' Report - plays a central role in the debate on deepening Economic and Monetary Union (EMU). We evaluate a broad range of options, their impact on economic growth, macroeconomic stabilisation and synchronisation of the euro area business cycle, and review how they could be designed so they do not undermine incentives for welfare-enhancing national economic policies.

A common macroeconomic stabilisation function, e.g. in the form of a European Unemployment Insurance (EUI), could in theory help stabilise the business cycle in the euro area, especially in some participating Member States. Yet, simulating the effects of such a function for 2002-2014 suggests that its stabilisation properties would have been relatively limited. At the same time, design options with meaningful safeguards and relatively low financing requirements would have been most efficient when comparing the degree of stabilisation with the size of the funds distributed among countries. Finally, we discuss some design elements of a scheme whose aim is to support the transition process towards more resilient economic structures in the euro area as envisaged in the Five Presidents' Report.

Keywords: EMU, economic union, macroeconomic stabilisation, unemployment insurance.

JEL codes: J65, H53, F55.

Executive Summary

A macroeconomic stabilisation function for the euro area plays a central role in the debate on deepening Economic and Monetary Union (EMU). This was proposed among others in the Five Presidents' Report (5PR) in 2015, which suggested that an automatically working scheme could improve the cushioning of macroeconomic shocks and make EMU more resilient overall. This call by the Five Presidents has been echoed in recent years by specific proposals from academia (e.g. CEPS, 2018), international institutions (e.g. Arnold et al., 2018, Claveres and Stráský, 2018) and policy circles (e.g. European Commission, 2017 or Padoan, 2016).

A European unemployment insurance (EUI) is a natural candidate for a macroeconomic stabilisation function in the euro area. It could add a cross-country insurance dimension and help better synchronise national business cycles in the euro area, especially if it focuses on short-term unemployment, which is more cyclical.

However, a macroeconomic stabilisation function could incur moral hazard behaviour if it is not well designed. Unlike a convergence fund for example, it should ex-ante provide an equal probability of pay-outs to all countries. In other words, it should be designed in such a way that it avoids permanent transfers or transfers in one direction only. If this can be ensured, the facility should in principle not affect incentives for sound fiscal and economic policymaking as well as welfare-enhancing economic policies at national level. However, given that economic structures are already different and the pay-out probability is therefore not necessarily equally distributed across countries, various options and safeguards are discussed in both the literature and in this paper to reduce the likelihood of permanent transfers and to minimise moral hazard and incentive distortions. Nevertheless, it should be acknowledged that it is difficult to fully eliminate these risks.

In this paper we develop a set of possible EUI schemes and analyse how they could help macroeconomic stabilisation and how they should be designed in order to avoid moral hazard. Our analysis includes genuine schemes, which could pay out benefits directly to unemployed Europeans, as well as so-called equivalent schemes, which can be interpreted as a form of re-insurance of national unemployment systems.

A common EUI could in theory help stabilise the business cycle in the euro area, especially in some participating Member States. The positive effects would be concentrated in the countries facing large idiosyncratic shocks.

However, in practice the effects of an EUI on stabilisation would overall have been limited. Simulating the effects of an EUI based on actual data from 2002-2014 shows that the additional stabilisation effects of an EUI in the euro area would have been quite limited – even if comparatively high fiscal multipliers were applied. This can be mainly traced back to the fact that common (and not idiosyncratic) shocks were prevalent in 2002-2014. Moreover, if some parts of the schemes were to replace rather

than top up national schemes, as has often been proposed, the stabilisation properties of an EUI would falter even further as some funds that already act as automatic stabilisers would just be shifted from the national to the EU level. Furthermore, our analysis cannot explicitly model the potential (longer-term) costs of EUI schemes to the extent they could trigger distorting incentives for fiscal and economic policy. In the context of this discussion, it seems noteworthy that design options with far-reaching safeguards and relatively low financing requirements would be most efficient when comparing the degree of stabilisation with the size of the funds distributed among countries (‘bang for the buck’). For example, simulations explicitly accounting for labour market inefficiencies across euro area countries seem to result in comparatively efficient pay-outs in terms of stabilisation per euro contribution, thus helping to moderate the trade-off between stabilisation and incentive-compatibility for an euro-area EUI.

1 Introduction

A macroeconomic stabilisation function for the euro area plays a central role in the debate on deepening EMU. This was proposed among others in the Five Presidents' Report in 2015, which suggested that an automatically working scheme could improve the cushioning of macroeconomic shocks and make EMU more resilient overall. This call by the Five Presidents has been echoed in recent years by specific proposals from academia (e.g. CEPS, 2018), international institutions (e.g. Arnold et al., 2018, Claveres and Stráský, 2018) and policy circles (e.g. European Commission, 2017 or Padoan, 2016).

The stabilisation mechanisms in EMU could be further improved. When joining EMU, countries lost two shock absorption channels – the national interest and exchange rate channels. Other stabilisation mechanisms remain in place, for example the possibility for economic actors to organise self-insurance by accessing international capital markets and by conducting consumption smoothing by means of savings and credit markets, labour mobility across regions and countries or automatic fiscal stabilisers. However, these channels have their limits. First, the functioning of some channels could be improved (e.g. labour market mobility remains limited). Second, these mechanisms might not ensure an optimum level of stabilisation in the euro area because of external effects: national governments in EMU may provide for example less fiscal stabilisation to temporary demand shocks than would be optimal because they do not internalise the positive spill-overs that fiscal stabilisation can have on other Member States. Furthermore, stabilisation might be hampered if public budgets become overwhelmed in cases of large shocks, not least given the already high level of debt in several euro area countries.

However, a macroeconomic stabilisation function could incur moral hazard behaviour if it is not well designed. To ensure that pay-out probabilities are ex-ante equally distributed across countries, the facility should in principle not affect incentives for sound fiscal and economic policymaking and also to some extent recognise existing structural differences in countries' economies. The 5PR, for example, argues that "a sustained and significant convergence towards similarly resilient economic structures should be a condition for access to a shock absorption mechanism to be set up in the euro area." This would be instrumental in trying to avoid permanent transfers or transfers in one direction only and not to undermine incentives for sound fiscal and economic policymaking and welfare-enhancing structural reforms.

A European Unemployment Insurance (EUI) is a natural candidate for a macroeconomic stabilisation function in the euro area. This results mainly from the fact that unemployment expenditure is the main category of public spending that moves automatically with the business cycle.

While national unemployment insurances only smooth the national business cycle over time, an EUI could add a cross-country insurance dimension. This could be particularly important in the event of idiosyncratic shocks. In such cases, a country hit by an adverse idiosyncratic shock, which leads to a spike in

unemployment, would automatically receive net support that is financed by the other Member States of the stabilisation mechanism. This would help to smooth the effect of the idiosyncratic shock on the business cycles of the country affected.

An EUI could also help better synchronise national business cycles in the euro area. Under EUI schemes, countries in booms would tend to be net payers, and countries in downturns would tend to be net receivers. This could help synchronise business cycles in the euro area in general.

The beneficial effects of an EUI scheme would be larger if fiscal multipliers were state-dependent. This implies that the dampening effects of net payments in countries in booms are smaller than the stimulating effects of net support in countries in downturns – also helping EUI schemes to make a positive contribution to economic growth over time.

Allowing an EUI scheme to temporarily accumulate deficits could further improve its stabilisation effects. This can specifically be the case in the event of adverse shocks, which hit a large part of the euro area at the same time. In case of such common shocks, the deficit financing of net payments to a large number of Member States could stimulate economic growth and further help to smooth the business cycle in the euro area. Again, these effects would be larger is the fiscal multipliers were state-dependent.

In theory, a common macroeconomic stabilisation function could support the conduct of monetary policy. Assuming that such a common macroeconomic stabilisation function would improve the smoothing of national business cycles over time and would increase the synchronisation of business cycles in the euro area countries, the effectiveness of a common monetary policy in the euro area could be increased further. Monetary policymaking would be supported further, especially if (as we will argue later) such a stabilisation function would be preceded by reforms that increase the resilience of the monetary union as a whole and therefore improve its shock absorption capacity. By the same token, it needs to be ensured that the introduction of an EUI does not reduce national policy incentives or ownership to improve the shock resilience of the Member States' economies in the longer term – this would be detrimental to the working of the common monetary policy in EMU.

An EUI requires safeguards to ensure that incentives for sound economic and fiscal policymaking at national level are not undermined. The EUI schemes discussed in this paper assume that fiscal and economic policymaking remains largely at national level in the euro area. Moving (parts of) unemployment spending to the European level could be prone to moral hazard as public unemployment expenditure not only depends on cyclical developments but also on rigidities in labour markets, on which economic policy has a decisive influence. In this paper we try to account for such risks. However, it is difficult to eliminate these risks by including safeguards. This is because it is very difficult to determine to what extent adverse economic outcomes (e.g. a recession or increase in unemployment) are down to 'bad luck' or 'bad policies'.

This paper analyses what role an EUI could play as a macroeconomic stabilisation function in the euro area while avoiding moral hazard. To this end,

we compare the main design options for such an EUI proposed in the literature in terms of their stabilisation and redistributive properties – in theory as well as empirically. We add to the existing literature by evaluating a broad range of proposals for a common approach to quantifying their detailed stabilisation effects based on counterfactual exercises for ex-post data. Our approach is limited by the fact that it is based on “static simulations” – not being able to take into account dynamic adjustments of agents’ behaviour. This also implies that our analyses cannot explicitly model the costs of EUI schemes, which would result from possible incentive distortions to fiscal and economic policies over time.

While the paper analyses the properties of various schemes, it does not deal with specific governance proposals. In Chapter 2 we discuss the general mechanisms of an EUI. Chapter 3 provides an overview of the design options. Chapter 4 illustrates contributions to and transfers from different EUI schemes to euro area countries and the implied redistributive properties of different schemes. In Chapter 5 we evaluate the stabilisation effects of a broad range of EUI schemes. Chapter 6 develops a proposal on how the introduction of an EUI could be linked to convergence to more resilient economic structures in the spirit of the 5PR. Chapter 7 details our conclusions.

2 Coverage and concept of an EUI mechanism

Before analysing the stabilisation effects of specific proposals for an EUI scheme, we first discuss general conceptual issues. These include the question of which part of total unemployment should be covered by an EUI, a general discussion on how the stabilisation function of an EUI scheme works and how an EUI fits with national unemployment insurance systems.

2.1 Measure of unemployment in an EUI

Spending on unemployment expenditure tends to move with the business cycle. Chart 1 illustrates that changes in unemployment are closely linked to the business cycle, although they lag behind slightly.[1] A simple correlation analysis shows that each 1 percentage point (pp.) deviation from national average real growth rates (as a measure of the state of the business cycle in euro area countries) is associated with an increase in the unemployment rate of around one third of a percentage point.[2] For the unemployment gap[3], which is calculated as the difference between the unemployment rate and the NAIRU, a similar correlation coefficient is obtained (see Chart 2).[4]

Unemployment rates that are measured in a transparent way seem to be better suited as indicators for an EUI than for example unemployment gaps. All EUI schemes in principle face the problem of "Goodhart's law", which states that "when a measure becomes a target, it ceases to be a good measure". In this context, using official unemployment rates has the advantage that such data are actually observable (compared for example to NAIRU, which is needed to calculate the unemployment gap). Furthermore, the quality standards of such indicators have been established and are carefully monitored by Eurostat[5], and are therefore less prone to 'creative accounting' by national governments.[6] Nevertheless, additional quality checks of

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1 Price et al. (2014) estimate the reaction of unemployment to changes in economic activity in greater detail. They find significant differences in the output elasticity to employment, ranging from −1.25 in Hungary to −6.18 in Poland. The differences in this elasticity are among others related to differences in labour market policies, such as employment protection legislation.

2 This is also in line with cross-sectional Okun's law estimates for other decades, see e.g. Italianer and Vanheukelen (1993).

3 As for example suggested in Beblavý and Maselli (2014).

4 However, for the correlation with the unemployment gap the explanatory power is much lower – reflected by the fact that only 11% of the variation in the unemployment gap can be explained by the annual deviation in average real GDP growth.

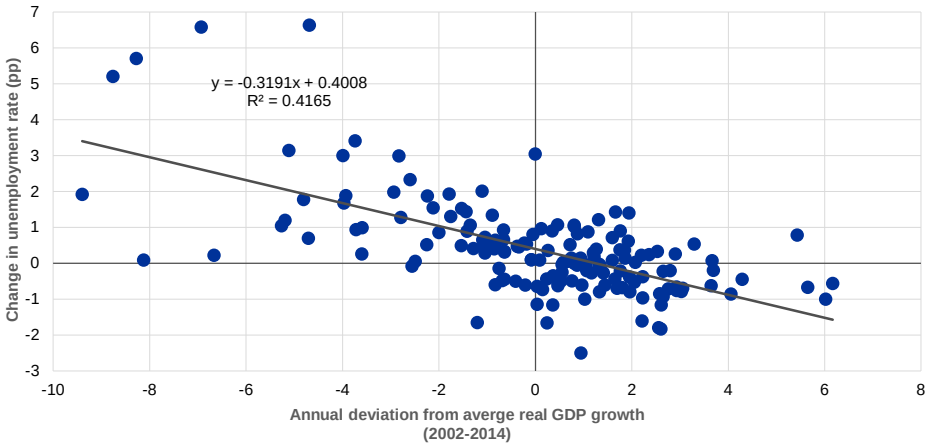
5 The Labour Force Survey questions, used to determine the number of unemployed, are the same across countries, making it difficult to politically influence it when data are gathering.

6 One of the few ways for governments to influence the data is by setting up (and later cancelling) fabricated active labour market policies, which in effect exclude the unemployed from the data. However, such policies usually give the data a downside bias rather than an upside bias, whereas the latter would be relevant for an EUI as payments are to some extent linked to the (increase in) unemployment rate.

national data might be necessary if data such as the unemployment rate would serve as a main trigger in such a scheme. Important advantages of the indicator are that unemployment is available with only a small time lag, series are harmonised across countries and ex-post revisions are more limited and less frequent than for example for NAIRU.

Chart 1

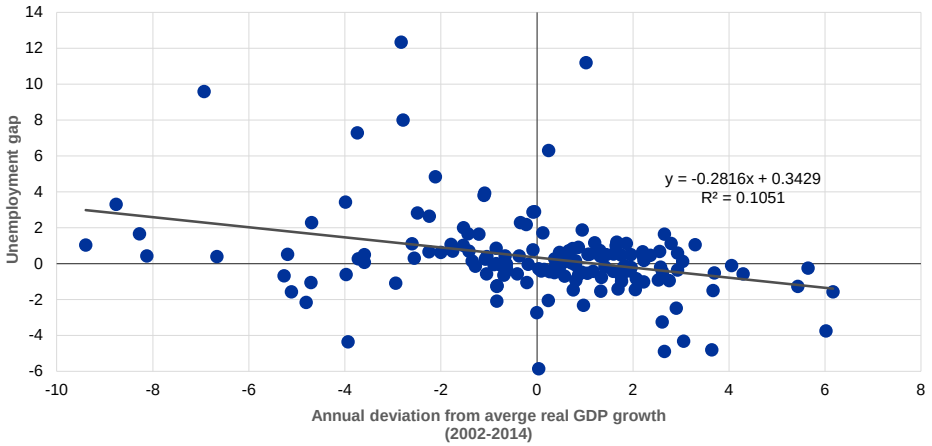
Correlation of changes in unemployment rate and business cycle



Sources: Eurostat and Labour Force Survey (LFS).

Chart 2

Correlation of changes in the unemployment gap and business cycle



Sources: Eurostat and LFS.

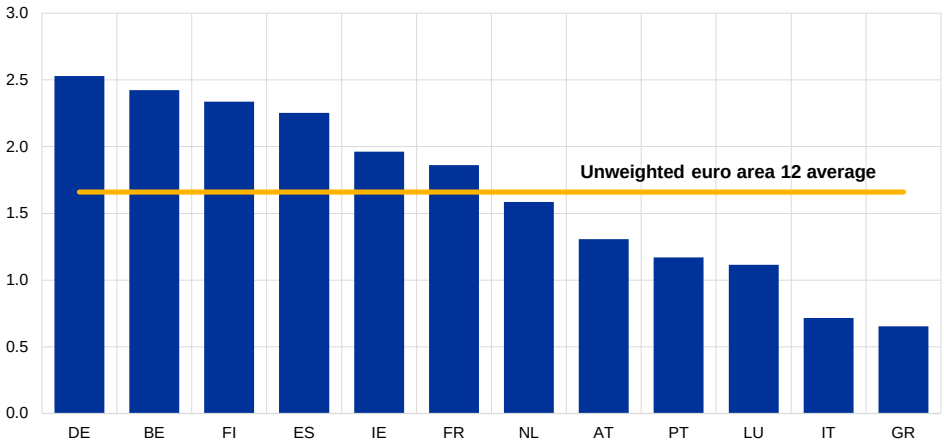
However, far-reaching heterogeneity in existing national unemployment schemes and labour market regulations makes it difficult to introduce a common EUI scheme. Overall spending on unemployment benefits accounted for 1.8% of GDP on average (and around 3.5% of total government expenditure) over 2002-2014 in the EA-12 countries analysed in this paper (Chart 2). Average spending on unemployment benefits in these countries differs considerably, and ranges from 0.7% of GDP in Greece to 2.5% of GDP in Germany on average. These differences reflect not only different levels of unemployment in the period analysed, but also

differences in terms of the generosity[7] of national unemployment insurance systems. In general, spending on unemployment benefits has to be seen in conjunction with other labour market policies (e.g. the degree of employment protection legislation).

Chart 3

Unemployment spending in EA-12 countries (based on COFOG[8] data)

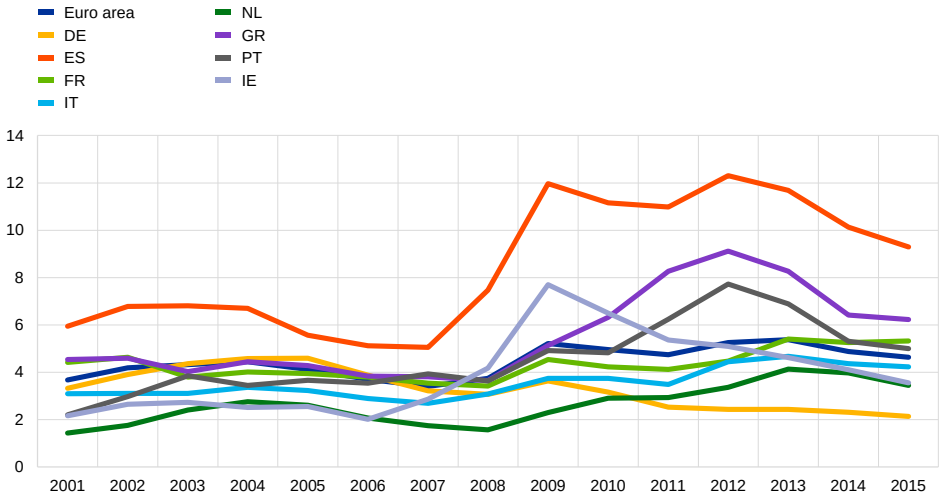
(unemployment spending in pps of GDP; annual average 2002-2014)



Sources: Eurostat and LFS.

Chart 4

Short-term unemployment in euro area countries (up to 12 months)



Source: LFS.

7 Net replacement rates (i.e. the income received in unemployment compared with the latest salary) during the initial period of unemployment for example varied from 39% in Greece to 92% in Denmark in 2014. Similarly, the duration of unemployment benefit payments also varied significantly among countries, ranging from 21 weeks in Lithuania to an unlimited time in Belgium. Moreover, unemployment benefits are also not income-tested in all countries. For example in Estonia, Sweden or the Netherlands, unemployment benefits are paid as a flat-rate. The qualification period, i.e. the number of weeks a worker needs to have been employed before being eligible for payments, also differs from 20 weeks in France to 156 weeks in Slovakia. However, half of the countries apply a period of between 50 and 52 weeks. An in-depth comparison of national unemployment benefit systems is provided in Esser et al. (2013).

8 COFOG stand for classification of the functions of government and is a standard classifying the purposes of government activities.

However, as economic and fiscal policies are still mainly managed by national authorities, the decision about which part of unemployment should be covered in an EUI scheme has to take into account incentive effects for example with regard to structural reforms. To effectively increase the resilience of the euro area, it is vital that a stabilisation mechanism is protected against moral hazard and does not undermine the incentives for sound economic and fiscal policies at national level.[9] An EUI could be particularly prone to moral hazard as public unemployment expenditure not only depends on cyclical developments but also on rigidities in labour markets, which economic policy has a decisive influence on. As long as the efficiency of labour markets is not explicitly controlled, an EUI without safeguards in the design would imply ex-ante asymmetric costs for Member States with well-functioning labour markets compared to Member States with rigid labour markets; this would lead to unidirectional transfers from the former to the latter rather than an insurance mechanism. It should also be taken into account that increased stabilisation by way of transfers could reduce the incentives to enact policies that improve the structural resilience to shocks in a more general way – also beyond labour market policies. An EUI design will therefore need to try to discriminate – to the extent possible – between 'bad policies' and 'bad luck' at national level. Moreover, an EUI should also not discourage further reforms of countries with a good reform track record. Countries that have reformed their labour markets in the past are now benefiting from lower unemployment. If the current state of labour market institutions would be taken as a given, successful reformers of the past would then be required to finance unemployment benefits in the countries where no or insufficient reforms have been implemented.[10]

Limiting an EUI to some measure of short-term unemployment could help to focus on cyclical unemployment rather than structural differences in labour markets, which can be partly caused by bad policies and could cause permanent transfers. Chart 4 shows the development of short-term unemployment rates. We will argue later (see Section 3.1) that short-term unemployment, at least compared with overall unemployment, is better at capturing cyclical developments outside of the control of policymakers and is therefore better suited to an EUI design. However, Chart 4 also shows that differences in short-term unemployment (and its rate of change) are quite persistent and therefore unlikely to be caused solely by cyclical factors. By contrast, they can be explained to some extent by structural differences in labour markets, which – if persistent – would likely lead to permanent transfers in an EUI scheme; these could in turn reduce incentives to address structural inefficiencies. These issues could be partly addressed by focusing on a subset of short-term unemployment, such as the change in short-term unemployment or the

9 As reiterated recently by the Advisory Council to the German Finance Ministry (Wissenschaftlicher Beirat beim Bundesministerium der Finanzen, 2016).

10 Shifting (part of) the national unemployment benefit system to the euro area level despite the prevailing level of heterogeneous labour markets may also entail unintended spill-overs for other labour market policies than unemployment benefit policies: for example Belgium, where the national authority is responsible for the unemployment benefit scheme, while the regional authorities are responsible for active labour market policies, has shown that if both sets of policies are not coordinated at the same level, this might reduce the incentives to encourage people to quickly find a new job.

deviation of short-term unemployment from its long-term average. Chapter 3 discusses possible schemes in detail.

2.2 Stabilisation function of an EUI

While national unemployment insurances only smooth the national business cycle over time, an EUI could add a cross-country insurance dimension. Depending on the specific design of an EUI, such insurance can cover either mainly idiosyncratic shocks or also common shocks that affect all member countries in a similar way.

An EUI can go beyond the effects of national schemes, especially if there are idiosyncratic shocks (see Table 1). With idiosyncratic shocks, an EUI will lead to net transfers from countries in a relatively favourable position in the economic cycle to countries in an unfavourable position; it will therefore smooth the national business cycles and help better synchronise business cycles across countries. There could also be additional spill-overs from the growth dividend to other euro area countries. In addition, the scheme might help to avoid hysteresis effects by limiting the negative consequences of idiosyncratic shocks on the labour market.

The stabilisation effect of an EUI could be amplified if fiscal multipliers are state-dependent: if they are smaller in favourable cyclical circumstances than in unfavourable cyclical circumstances, the positive effects on growth in the countries receiving the net transfers will overcompensate the negative effects on growth in the countries financing the net transfers. This increases both the stabilisation effect and the business cycle synchronisation effect. It also leads to a net positive 'growth dividend' for the euro area: growth will be higher with the scheme than without.

In our analyses, we assume heavily state-dependent fiscal multipliers when simulating the effects of an EUI scheme on smoothing the business cycle. A higher multiplier of spending financed by an EUI in downturns can be justified by the fact that the traditional crowding-out argument, whereby government expenditure replaces private spending, is generally applicable in times of high-capacity utilisation but less so in times when capacity utilisation is below potential and excessive capacities in the economy are available. This gives additional spending financed by an EUI the chance to activate unused factors of production particularly in downturns. In our analyses, we distinguish between (i) normal times (GDP growth between +1 and −1 pp. of average real GDP growth over 2002-2014; annual GDP growth in relation to average GDP growth is employed as an observable proxy of capacity utilisation); (ii) downturns (GDP growth of more than 1 pp. below average real GDP growth over 2002-2014); and (iii) upturns (GDP growth of more than 1 pp. above average real GDP growth over 2002-2014, see Chart 6). We assume that the multiplier of net payments from an EUI is 1 in normal times. The multiplier is assumed to be 1.5 in economic downturns, and 0.5 in economic upturns. For the stylised example of transfers between two countries of the same size, this would imply that a net transfer of 0.2 pp. of GDP from a country experiencing an economic upturn could reduce GDP growth in the financing country by 0.1 pp. while it would increase GDP growth in the receiving

country that is experiencing an economic downturn by 0.3 pp. This would then amplify the stabilisation effect and lead to a growth dividend in the form of higher aggregate growth in the euro area as a whole. The deficit financing of additional EUI spending in times of economic downturns in the event of common shocks (see the discussion below) could also help to improve overall euro area growth over time. In case of fixed and homogenous multipliers across countries, there would be neither a growth dividend of transfers between countries nor of intertemporal borrowing.

Compared to "standard" assumptions, the state-dependent fiscal multipliers applied in our analyses are on the high side. While a multiplier of 1 for EUI spending in normal times is in line with most of the contributions in the literature on EUI schemes, meta-analysis of the literature tend towards a far lower "standard" fiscal multiplier of around 0.5.[11] However, when monetary policy is constrained by the zero lower bound – as in the later years of the sample analysed in this paper – the fiscal multipliers for government spending in particular might be much higher than monetary policy that is unconstrained. This is explicitly taken into account in recent analyses (Arnold et al., 2018, Claveres and Stráský, 2018) of the effects of EUI schemes on the euro area. While some studies even obtain multipliers of more than 2 for government spending when monetary policy is constrained (Eggertsson, 2011, Christiano et al., 2011), more recent studies indicate that in the event of more forward-looking expectations about monetary policy, the multiplier is likely to be not much more than 1 (Hills and Nakata, 2014; Swanson and Williams, 2014). Against this background, the choice of a multiplier of 1 in the baseline seems to be a good compromise in order to take the uncertainty surrounding the fiscal multiplier estimate – which is further amplified in times when monetary policy is constrained by the zero lower bound – into account.

[11] For a discussion on this, see for example "Fiscal multipliers and the timing of consolidation", ECB Monthly Bulletin, April 2014, pp. 75-89.

Table 1

Stabilisation channels of an EUI scheme

Shock	Channel	Effects	Results
Idiosyncratic	Cross-country net transfers from countries in booms to countries in downturns	Via net transfers economic growth is dampened in countries in booms and stimulated in countries in downturns	Smoothing of national business cycles
		Because of state-dependent fiscal multipliers dampening effect in booms smaller than stimulating effects in downturns	Additional growth dividend via state-dependent multipliers adds to smoothing of business cycles
			Better synchronization of national business cycles in the euro area
"Common"	Schemes run deficits in euro area downturns financed by surpluses in euro area booms	Economic growth is dampened in euro area booms and stimulated in euro area downturns	Smoothing of euro area business cycle over time
		Because of state-dependent fiscal multipliers dampening effect in booms smaller than stimulating effects in downturns	Additional growth dividend (also on EA growth) via state-dependent multipliers adds to smoothing of the business cycle

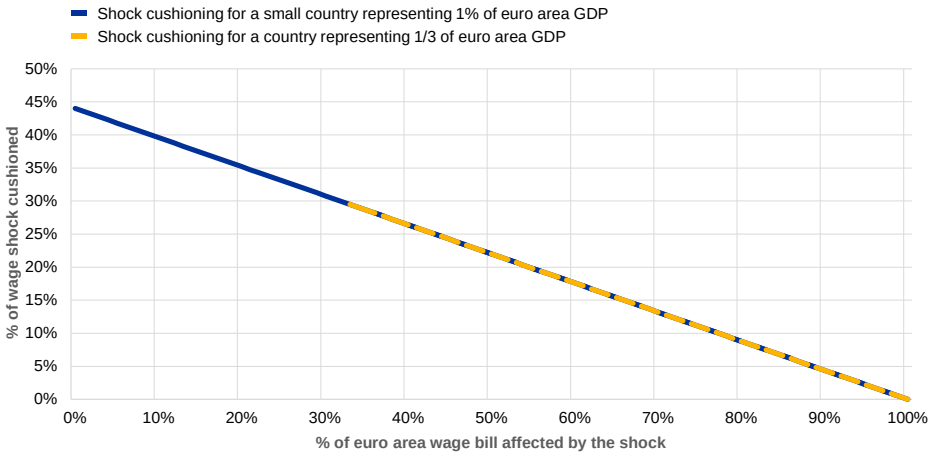
Source: Authors' designs.

In conceptual terms, the ability of an EUI to cushion shocks decreases with the dispersion of a shock across the euro area. The larger the share of the euro area wage bill that is affected by a shock, which is determined by the number and size of the affected countries, the more disbursed funds need to be shared among Member States. This can be demonstrated by first analysing which share of a 'loss in wages', driven by lower employment or higher unemployment, will be cushioned by the different EUI schemes. Our example assumes a replacement rate of 44%, which is in fact the replacement rate that will be used in all the EUI schemes proposed in Chapter 3. The replacement rate determines the gross pay-out a country receives in the event of a wage shock: 44% of the loss in wages. However, to calculate the stabilisation effect the financing contributions also have to be taken into account. Our baseline is that the contributions are financed by the central government's budget and represent additional public spending. However, our analyses also include scenarios in which the contributions to and pay-outs from an EUI scheme partly replace the national unemployment insurance (see Sections 2.3, 3.1 and in particular the Annex). In the case of a simple EUI scheme in which a country receives benefits for each short-term unemployed (and which is not allowed to run deficits), the ability to cushion a shock decreases linearly, with the dispersion of the shock starting at a maximum cushioning of 44% in case only a very small part of the euro area is affected (e.g. a small country representing only 0.5 pp. of the euro area's overall wage bill) to 0% if the whole euro area is hit by the same shock (see Chart 5). The dashed line reflects the case of a large country representing one-third of the euro area's wage share. If the shock hits such a large country, it automatically affects at least one-third of the euro area and the possible net payment therefore decreases to only 29% of the original wage shock (44%*(1-0.33)=29%). The underlying reason is that the large country hit by a shock needs to finance one-third of the incurred costs itself (based on the usual

proportionality principle of contributions in an EUI).[12] In the extreme case in which all countries are affected in the same way by a shock (i.e. a common shock affecting 100% of the euro area), an EUI that is not allowed to run deficits/surpluses at any point in time cannot help to cushion shocks.

Chart 5

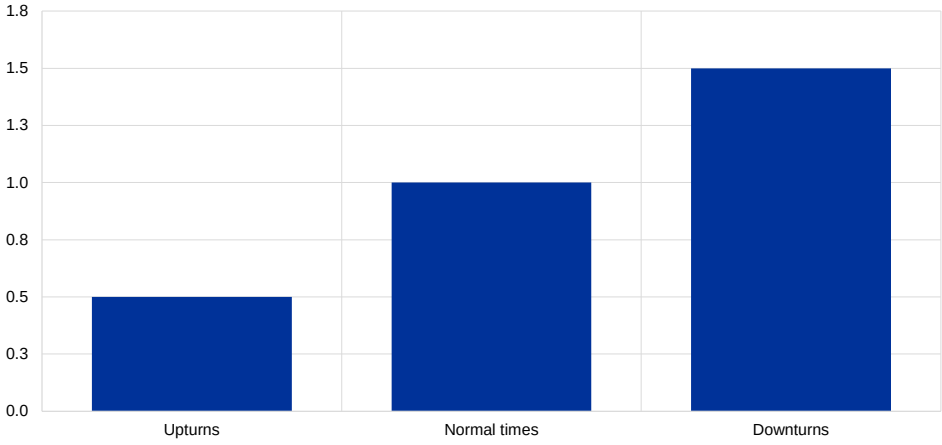
Cushioning of a wage shock depending on its dispersion in the euro area – illustration



Source: Authors' calculations.

Chart 6

State-dependent fiscal multipliers



Source: Authors' calculations.

In the case of common shocks, EUI schemes could still help to stabilise the euro area business cycle over time, but only if they are allowed to run (at least temporary) deficits (see Table 1). In unfavourable times for the euro area as a

[12] With some schemes, the dispersion of the shock is even more important than under the simple scheme used here for illustrative purposes. As some schemes focus on deviations from averages, it should be remembered that with an increasing dispersion, the effect of a shock on the average also increases. In the extreme case in which all countries are affected in the same way by a shock (i.e. a common shock affecting 100% of the euro area), even the gross payments are zero for example under Scheme C as the average short-term unemployment rate in the euro area increases by the same amount as the average short-term unemployment rate in each Member State. For details on the schemes, see Chapter 3.

whole, the EUI could run a deficit to push up growth, which could be financed by surpluses that dampen economic growth in cyclically favourable times for the euro area as a whole. As in the case of idiosyncratic shocks, the effects could be amplified if fiscal multipliers are state-dependent and smaller in favourable cyclical circumstances than in unfavourable cyclical circumstances. EUI schemes that could at least temporarily run deficits would help to smooth the business cycle over time and also lead to an additional growth dividend if multipliers are state-dependent. It can be argued that the smoothing of the business cycle over time in the event of common shocks could – in contrast to idiosyncratic shocks – also be provided by national schemes in a similar way. However, if national budgets are in danger of being overwhelmed in the face of very large shocks, the EUI could also improve stabilisation beyond what would be possible based on national systems.

The insurance character of an EUI could be ensured if deficit financing is temporarily allowed while neutrality is respected in the medium-term budget. In our schemes we will analyse the requirement of medium-term budget neutrality, which will be implemented based on a fixed contribution rate each year that is sufficient to finance the pay-outs of the EUI schemes over the whole period analysed. Nevertheless, pay-outs naturally vary over the cycle, with economic downturns leading to higher unemployment. In such downturns, higher pay-outs would imply deficits of the schemes which, in turn, would be financed by surpluses in times of booms.

2.3 EUI scheme – relationship with national schemes

We can distinguish between genuine and equivalent EUI schemes. Genuine schemes assume that the benefits are directly received by the unemployed. By contrast, flows of funds under equivalent schemes are calculated in a similar way to genuine schemes, but are disbursed nationally (see Section 3.1 for a more detailed discussion). A genuine EUI scheme could in theory not only top up but also replace at least parts of national unemployment schemes and take over direct contributions from employees as well as pay-outs to the unemployed across the euro area. Given that equivalent schemes have the form of reinsurance mechanisms for national unemployment schemes and are not disbursed directly to the unemployed, they cannot replace national systems.

Annex A explains in detail how the additional net stabilisation impact can be calculated, i.e. by "netting out"[13] the part that is currently served by the national unemployment scheme but is taken over, if so designed, by the European scheme.

While netting out this stabilisation effect of alternative national systems helps to gauge what an EUI can really add in terms of stabilisation, it makes it difficult to compare different types of schemes. It should be noted in general that the positive effects of an EUI on stabilisation might be overestimated if the effects of

[13] Netting out refers to a design in which an EUI would partly replace the national unemployment scheme, while non-netting out assumes that the scheme comes on top of the respective national schemes.

alternative national systems are not netted out, as is the case in most studies cited in Section 3.1. However, netting out like this seems to only make sense for genuine EUIs, our analysis focuses on the gross stabilisation effects of an EUI to ensure comparability across all the different options. We still report the results for “netting out” where applicable.

3 Design options for an EUI

Designing an EUI involves defining who will benefit and how the benefits will be calculated and financed. Defining these parameters should create a sufficient level of stabilisation and at the same time limit potential moral hazard and avoid distortions in national labour markets. The design should, to the extent possible, also aim to ensure that the benefits are ex ante equally distributed across countries, as otherwise the mechanism would lead to a permanent transfer system with adverse effects on policy incentives.

In this chapter we first review the schemes proposed in the literature (Section 3.1). We then design several schemes (Section 3.2), which we analyse in terms of their distribution (Chapter 4) and stabilisation properties (Chapter 5). The schemes we propose and analyse are intended to cover the main features of schemes proposed in the literature, in particular the schemes suggested by the Centre for European Policy Studies (CEPS) report[14] recently.

3.1 Proposals for an EUI in the literature

Several studies going back as early as Marjolin et al. (1975) have looked at possible designs for a fiscal capacity at EU level in the form of a common unemployment insurance scheme. Two broad approaches are usually proposed. The first proposes an EUI as a basic unemployment insurance that replaces a certain part (or all, depending on the current level of national benefits) of the national unemployment benefit system ('genuine' EUI; see e.g. Dullien, 2012, 2014; Dolls et al., 2014; Fichtner and Haan, 2014; Jara and Sutherland, 2014). In this case, contributions and benefits are directly transferred between the EU level and the (affected) national employees. Alternatively, they are modelled to fulfil the role of a reinsurance system, which only comes into force in the event of sizeable shocks without involving the population directly; it receives from and pays out directly to the central government ('equivalent' EUI; see e.g. Gros, 2014; Padoan, 2016; Majocchi and Rey, 1993; Beblavý and Maselli, 2014; Italianer and Vanheukelen, 1993). The recent proposals published by the IMF (Arnold et al., 2018) and the OECD (Calveres and Stráský, 2018) study the potential stabilisation effects of equivalent euro area unemployment insurance schemes especially in times when monetary policy is constrained by the zero lower bound.

In terms of genuine EUI schemes, choices have to be made on the group of eligible recipients and the amount of benefits payable, which is similar to national schemes. The consensus of the literature is to focus on short-term unemployment up to one year. On the one hand, this stems from the established practice of many national schemes to pay unemployment insurance benefits for a

[14] CEPS (2017), Feasibility and Added Value of a European Unemployment Benefits Scheme, Report initiated by the European Parliament and commissioned by the European Commission.

limited time (on average for a year), after which a minimum income scheme applies. On the other hand, and more importantly, the choice of short-term unemployment also mirrors the above-mentioned need to restrict an unemployment scheme as much as possible to the cyclical part of unemployment, which is less a result of (insufficient) policies. Dullien (2014), Dolls et al. (2014), and Fichtner and Haan (2014) propose targeting all the short-term unemployed for up to a year. Others are slightly more restrictive, excluding the first few months (e.g. Jara and Sutherland (2014) consider 4-12 months) or limiting the payment more generally to around 6-8 months (Padoan, 2016 or Brandolini et al., 2014). Limiting the set of recipients (e.g. from 12 months to 6) or capping the number of short-term unemployed covered by the scheme reduces the funds transferred each year and likewise affects the stabilisation properties.

A common replacement rate across countries has to be set with the national replacement rates in mind. In terms of the level of benefits, all papers propose a common replacement rate. It is most often around 40-60% of the latest annual salary (e.g. Dullien, 2014; Padoan, 2016; Dolls et al., 2014; Bandolini et al., 2014). Only a few studies suggest higher rates (e.g. 70% in Fichtner and Haan, 2014). Setting a common replacement rate is essential to ensure that countries have a common basis on which transfers are calculated in case of a shock. By contrast, the national dimension is captured by multiplying the common replacement rate by the national annual (average) wage level to calculate the actual benefits.[15] The common replacement rate is indispensable for the design of the scheme. On the one hand, a common element should be included in the design. On the other hand, this is usually chosen in the literature as otherwise countries with more generous unemployment schemes at present would benefit from higher transfers per unemployed person. However, such a common replacement rate could create perverse incentives for various policymakers, in particular in countries where the national replacement rate is much lower than the common replacement rate. In those cases, the unemployed receiving funds from the EU by means of a genuine EUI scheme would receive higher payments, e.g. discouraging them from seeking re-employment.

The contribution rate in such schemes is normally modelled to balance revenues and expenditures of the fund across the simulation sample – which would ensure that the EUI scheme is fiscally neutral over the medium term. However, fiscal neutrality over the medium term does not exclude the fact that the EUI fund can borrow in a given year. Net borrowing and net savings only need to cancel each other out over the medium term. The average national wage level is also used to calculate payments into the fund, which is determined as a percentage of the overall national wage bill. By opting for a euro area average replacement rate rather than country-specific wage levels, the common EUI aims to establish both common standards that apply to all participating euro area countries, while also accounting for heterogeneity across countries. Moreover, using the national wage level is necessary

[15] While it is possible to use the actual average wage level in particular for genuine EUI schemes, it should be noted that the average wage level itself is also among other things influenced by the degree of rigidity in an economy. As significant downward wage rigidities due to inefficient labour market policies would tend to drive the wage level in a country upwards, calculating the pay-outs from the fund on the basis of the average wage level and the pay-in on the basis of the wage sum (which is reduced by higher unemployment due to market rigidities) would to some extent reward instead of penalise labour market rigidities.

to avoid negative effects on employment in each country, e.g. via changes to the reservation wage.

While equivalent EUI schemes do not replace national unemployment schemes, they take on the role of complementing national reinsurance systems in the event of adverse shocks. At the heart of the design is a trigger that sets the conditions for a pay-out from the fund to the general budget of the Member State. The variable used to define the trigger is usually the unemployment rate or in some cases the GDP growth rate. Italianer and Vanheukelen (1993) for example define the trigger as an annual unemployment rate increase that is greater than the average increase in other EU countries. In Beblavý and Maselli (2014) the trigger is activated if the difference between the unemployment rate and the non-accelerating wage rate of unemployment (NAWRU) exceeds 2 percentage points. By contrast, Beblavý et al. (2015) look at the short-term unemployment rate and define 'sufficient' shocks if this rate differs from its 10-year average plus (a multiple of) one standard deviation. Padoan (2016) suggests payments to a country if the employment trend rate exceeds 1 percentage point compared to the euro area average (however, they argue that similar results are achieved with short-term unemployment). Moreover, the payments would be limited to 1% of Member States' GDP.

The effects of equivalent schemes largely depend on how the transferred funds are actually used. While unemployed Europeans receive the money directly in genuine EUI schemes, equivalent schemes are usually more complex and do not allow funds to be matched to individuals. As a result, transfers would be carried out between governments and would find their way into the annual budgets. The stabilisation properties hinge on the use of the money. If such funds are not allocated at all by governments or not in an efficient way, the impact on stabilisation might be much smaller.

Most schemes in the literature allow the EUI fund to run deficits. This is another crucial assumption as the potential stabilisation impact can be twofold, namely across countries and time. Stabilisation across countries is the main argument for a common EUI, as stabilisation across time is in fact already performed by the national unemployment insurance systems. However, it is often argued (see e.g. Dullien 2014) that stabilisation at national level is not sufficient in the event of severe downturns – in particular for countries that are already constrained by debt and might not (be able to) make full use of automatic stabilisers. Moreover, stabilisation across countries might be significantly hampered in the event of a severe shock that hits most euro area countries at the same time. In such a case, running deficits might be the only way to ensure sufficient stabilisation.

The prevailing heterogeneity of labour markets across the euro area is likely to lead to an unequal distribution of benefits and costs, which will need to be corrected for. This assessment is widely shared in the literature. Against this background, many studies suggest so-called learning mechanisms such as 'experience rating' or a 'claw-back mechanism,' which ex-ante or ex-post limit permanent transfers among Member States respectively. 'Experience rating' takes into account past differences in the unemployment rate compared to peers to determine whether a higher contribution rate should be prescribed ex-ante (e.g. Dolls

et al., 2014). By contrast, 'claw-back' envisages the pay-back of funds ex-post, or alternatively a higher contribution in the following year, if payments from the fund have exceeded a certain amount over a number of years (e.g. Dullien, 2014; Dolls et al., 2014; Beblavý and Maselli, 2014). These safeguards could be theoretically included in both genuine and equivalent schemes. However, the repayment of benefits by individual recipients is economically questionable and politically not feasible, which limits the possibility to apply the claw-back mechanism in genuine schemes. Padoan (2016) in fact suggests a very strong claw-back clause: during the years following the transfer, the beneficiary country needs to gradually and completely repay the resources received. Moreover, once the ceiling of 1% of GDP is reached, the country needs to wait a number of years before further pay-outs can be made. In practice, experience rating is in fact part of the basic federal unemployment system in the United States. The common fund can request firms in states with a repeatedly negative balance to make higher payroll contributions (Whittaker and Isaacs, 2014).

While claw-back mechanisms are an elegant way to avoid permanent transfers, they tend to reduce the stabilisation impact if anticipated by consumers. Without a claw-back mechanism, transfers between countries are expected to have a larger stabilising effect than national debt-financed stimulus given that transfers do not increase public debt and, in turn, Ricardian consumers do not expect increases in future taxes (Hebous and Weichenrieder, 2016). By contrast, adding claw-back mechanisms to the schemes restores the common reaction of Ricardian consumers by increasing savings in order to offset expected future increases in taxes. As a result, the multiplier in receiving countries can be expected to be significantly lower. Most papers built in experience rating or claw-back mechanisms, while others (e.g. the IMF approach in Arnold et al., 2018) only show the implications in separate scenarios. When comparing stabilisation properties between proposals, it is essential to check for the same level of safeguards to allow full comparability.

The report published by a consortium led by CEPS in January 2017 and commissioned by the European Commission largely builds on the above-mentioned research. The 18 schemes analysed also broadly fall into two categories, namely the genuine and equivalent (or reinsurance) schemes. The report makes use of the properties chosen in Dolls et al. (2014), Beblavý and Maselli (2014), Jara and Sutherland (2014) and to some extent Dullien (2014). In terms of results, the report is therefore largely in line with the findings of these previous papers.

3.2 EUI schemes analysed in this paper

The EUI schemes we analyse cover the main options proposed in the literature, but also add – in line with the conditions specified in the 5PR – new combinations of features to reduce the likelihood of permanent transfers. One condition that the 5PR explicitly establishes for a euro area stabilisation function is that "it should not lead to permanent transfers between countries or to transfers in one direction only". Permanent transfers could emerge in particular given the heterogeneity of labour markets. Sufficient safeguards therefore need to be implemented to ensure that the schemes do not create adverse incentive mechanisms

or reward past failures of labour market reforms. Similar to the literature, for all our schemes we assume that benefits are calculated based on the number of short-term unemployed (i.e. those who are unemployed for 11 months or less). We apply an average replacement rate of 44% across time and countries.[16] In line with the literature, we also apply the replacement rate to the average national wage level. In the equivalent schemes, the number of short-term unemployed is only used to calculate the overall payment from the fund to the recipient countries. In all schemes, the EUI fund is allowed to borrow, although it needs to balance overall contributions and pay-outs over the medium term.

Scheme A (Table 2) is the most far-reaching option, which assumes an EUI scheme that covers all the short-term unemployed. In line with the literature, this implicitly assumes that structural unemployment is often driven by inefficient national economic policies, although the cyclical part of unemployment is less under the control of policymakers and often linked to idiosyncratic shocks. Assuming all short-term unemployment (as measured by the national short-term unemployment rate) to be cyclical allows us to avoid reliance on methods to establish structural unemployment (i.e. NAIRU), which are prone to methodological criticism. However, it should be kept in mind that the one year is likely to not only cover cyclical unemployment given that short-term unemployment is also structural to a certain degree. Moreover, not all the short-term unemployed might be eligible or even apply for unemployment benefits. While we assume coverage of 100% for simplicity's sake, some studies in the literature apply a haircut of around 20% to account for this bias (Beblavý and Maselli, 2014).

Scheme A2 also covers all the short-term unemployed, but introduces some minor safeguards to avoid permanent transfers in the form of experience rating and claw-back mechanisms. Given that most studies find that limiting the focus to short-term unemployment does not fully eliminate the heterogeneity in labour markets and is therefore prone to permanent transfers, we include a learning mechanism in Scheme A2; this takes into account past differences in levels of short-term unemployment (experience rating) as well as a contribution premium if pay-outs become too one-directional (claw-back).

Scheme B tries to net out the level of short-term unemployment that is common to all Member States by restricting pay-outs to the difference between the euro area average short-term unemployment rate and the national short-term unemployment rate. Under this scheme, only countries with a national short-term unemployment rate above the euro area average rate would receive benefits. As a result, common shocks affecting national short-term unemployment in all Member States in the same way would not lead to any payments under the scheme.

However, such a scheme would not prevent countries with persistently higher levels of short-term unemployment, which could be completely unrelated to cyclical developments or external shocks, from receiving higher pay-outs than countries with lower levels of short-term unemployment. Chart 4 has already

[16] The average long-term replacement rate for the set of euro area countries covered in our sample.

shown that the levels of short-term unemployment have in fact been largely different across Member States. It should also be noted that paying out benefits only to a fraction of the short-term unemployed is difficult in a genuine scheme, in which the EU level could directly pay out the benefits to the unemployed. In case it should still be set up as a genuine scheme, the recipient country would need to pay back the difference above the euro area average. The same holds for Scheme C below.

Scheme C goes one step further in extracting idiosyncratic shocks by assigning benefits only based on differences in the change in the national short-term unemployment rate over the change of the euro area average short-term unemployment rate. As noted above, the short-term unemployment rate could already include a significant degree of structural unemployment, which is due to 'bad policies' rather than 'bad luck'. If this is the case and short-term unemployment is persistently higher in some countries than in others, one-directional transfers would follow for example under Scheme A and Scheme B. One safeguard would be to consider only the difference in changes in the national short-term unemployment rate over changes in the euro area average short-term unemployment rate to account for the persistency in short-term unemployment. In such a scheme, common shocks that affect national short-term unemployment in all Member States in the same way would also not lead to any payments. These features would make permanent transfers highly unlikely. The design of this scheme is similar to the setup in the influential early contribution of Italianer and Vanheukelen (1993). However, one difference is that their proposal targets overall unemployment instead of short-term unemployment.

Table 2

Various options for the design of an EUI

Scope of the scheme	**Scheme A**: *non-contingent* scheme	**Scheme A2**: *mildly contingent* scheme	**Scheme B**: *mildly contingent* scheme	**Scheme C**: *contingent* scheme	**Scheme C2**: *strongly contingent* scheme	**Scheme D**: *rainy day fund (trigger based)*
Recipients/ Beneficiaries	All short-*term unemployed* (NSTU)	All short-*term unemploye d* (NSTU)	Short-term unemployed based on the *deviation of the NSTU from the EA average (EASTU)*	*Short-term unemployed based on the annual change of the deviation of the NSTU from the EASTU*	Short-term unemployed based on the *annual change of the deviation of the NSTU from the EASTU,*	Transfers to governments if the NSTU rate deviates more than 1pp from its 5 year average. // payment capped at euro area unemployment rate
Genuine or equivalent scheme	genuine	genuine	equivalent	equivalent	equivalent	equivalent
'learning mechanism'	none	Experience rating and claw back	none	none	Experience rating and claw back	Experience rating and claw back
Payment per eligible unemployed	Average EA replacement rate (44%) multiplied with country-specific mean basic wage					
Calculation of (country-specific) pay-out	NSTU payment per eligible unemployed	As in Scheme A, but pay-out corrected ex-ante and ex-post	(NSTU - EASTU) * payment per eligible unemployed	$((NSTU_t - NSTU_{t-1}) - (EASTU_t - EASTU_{t-1}))$ * payment per eligible unemployed	As in Scheme C, but pay-out corrected ex-ante and ex-post	*Min (NSTU rate, EASTU rate)* national labour force, if* $NSTU - \overline{NSTU}_{t,\dots,t-5} > 1pp$.
Calculation of contribution rate	• Uniform across countries and stable over time • Fixed contribution rate calculated to match total pay-out over the whole sample (2002-2014) ; levied as percentage point contribution of the total wage bill in EA • Allowing debt accumulation (i.e. fund does not need to balance each year) over time – but no permanent deficits (i.e. over the period analysed the fund need to balance overall contributions and pay-outs)					

Source: Authors' designs.
Notes: NSTU = Number of national short-term unemployed; EASTU = Number of euro area average short-term unemployed.

Scheme C2 is a strongly contingent scheme that focuses even more on only idiosyncratic shocks and includes further safeguards against permanent transfers. The basic design is the same as Scheme C. However, we apply additional safeguards by including both experience rating and claw-back mechanisms. This could help to prevent labour market inefficiencies, which might affect not only the level of short-term unemployment but also the way short-term unemployment reacts to shocks, from leading to permanent transfers.

With Scheme D, we add a classical reinsurance scheme for very severe shocks. This scheme would need to be implemented as a fully equivalent system, where funds are only released if a shock of a certain magnitude hits the country. We follow a similar approach to Beblavý et al. (2015) by defining the trigger as a deviation of the short-term unemployment rate of more than 1 percentage point from its five-year average. Moreover, even if this condition is met we limit the payments from the funds to the percentage of short-term unemployment across the euro area to check for different levels of short-term unemployment in the spirit of Schemes B and C. We also include experience rating and claw-back clauses. However, the claw-back clause is less severe than in Scheme A2 and C2 as the rainy day fund is only triggered in the event of big shocks and a too severe payback option would almost completely offset the stabilisation properties.

Schemes C2 and D are closest to the proposal of the Italian Ministry of the Economy (Padoan, 2016) in that payments are relatively restrictive given the strict limits and far-reaching learning mechanisms, which limit permanent transfers. However, as is also evident in Padoan (2016), while it is possible to limit permanent transfers to a large degree, it is difficult to eliminate them completely. Based on the trigger, Scheme D also comes closest to the recent contribution of Arnold et al. (2018); however, its baseline approach does not include any safeguards.

Schemes A and A2 are closest to the 14 CEPS variants of genuine schemes, with Scheme D closest to the CEPS variants of a rainy day fund. Differences in the design relate to changes in small parameters, such as the replacement rate (with CEPS this is 50% for most schemes rather than 44% in our case). They also try more combinations, e.g. claw-back, experience rating and debt issuance. However, the main design of the schemes is very similar, as already argued above.

4 Contributions and payments under different EUI schemes and their redistributive properties

Net payments as the result of contributions and pay-outs are decisive for the stabilisation impact of EUI schemes across time and countries. For our simulation exercises of contributions, pay-outs and net payments, we assume that the EUI schemes would have been in place for the EA-12 countries[17] in 2002-2014. These net payments are then used as decisive input for simulating the stabilisation effects of different schemes in the next part.

Based on the simulated net payments, we can also evaluate to what extent the different EUI schemes fulfil the guiding principles on redistributive properties specified for example in the 5PR. In this context, it is vital to determine the extent to which different EUI schemes act as true insurance schemes and avoid permanent transfers or transfers in one direction only; this could undermine incentives for sound fiscal and economic policymaking and might also reduce the willingness of expected net payers to participate in an EUI.

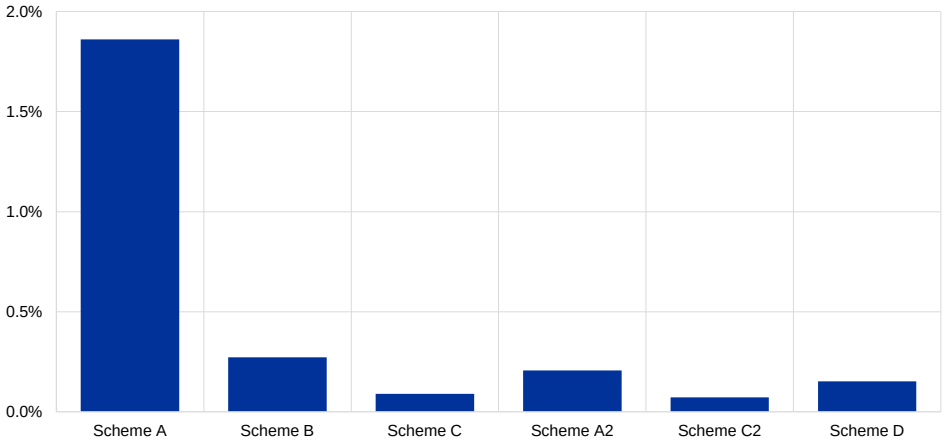
The results of this analysis can also help to assess the influence of remaining divergences in national labour markets. This will reveal what is still needed to achieve economic convergence in the euro area in order to allow an EUI to work as a real insurance (instead of merely a transfer) mechanism. However, when assessing the results for this sample period, it should be borne in mind that some important changes to the EU governance architecture have been implemented towards the end of our sample to improve the resilience of its Member States to shock. Moreover, several countries with more rigid labour market institutions have engaged in important reforms in previous years. This should be taken into account when taking our results as an indication for future net payments across countries.

[17] We focus on the 12 countries that were part of the euro area at the beginning of the sample.

Chart 7

Contribution rates needed to finance the different schemes

(in % of wage bill)



Source: Authors' calculations.

With the different coverage of the six schemes analysed, the contribution rates also differ significantly (see Chart 7). More comprehensive schemes that cover a larger number of beneficiaries naturally lead to higher pay-outs and therefore also require higher inflows into the fund, which are generated by contributions in per cent of the total economy wage bill. Against this background, the average annual contribution rates for euro area countries (for the 2002-2014 sample) would have varied from 1.8% in Scheme A[18] to 0.1% of the countries' wage bill in Scheme C or C2.[19]

Net payments vary significantly across countries over the 13 years under observation depending on the specific scheme applied. Average net payments per year over the entire period range from around −0.5% of GDP to 0.9% of GDP across all countries for the schemes described above (see Chart 8) – indicating that the potential redistributive implications of some schemes could be quite substantial.

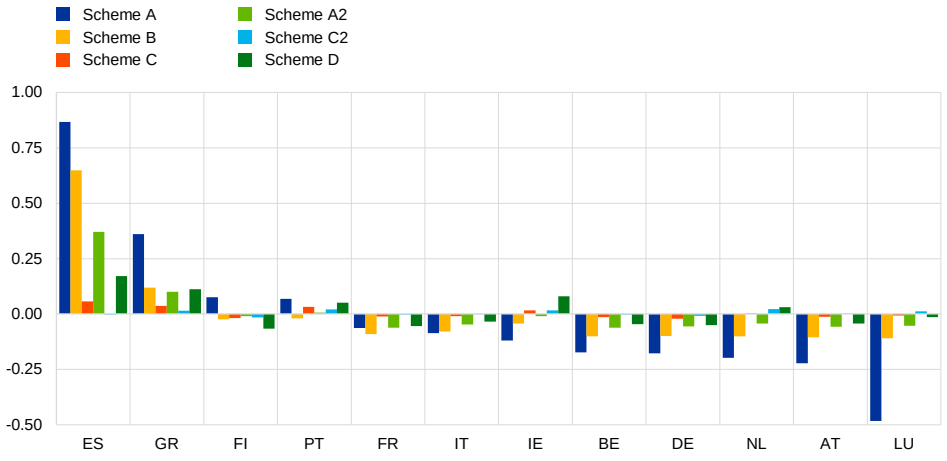
[18] These contributions are measured in terms of percentage shares of the wage bill, while Chart 1 displays unemployment expenditure in % of GDP.

[19] National unemployment insurance contributions vary substantially depending on the generosity of the respective schemes.

Chart 8

Average net receipts (+) / payments (-) per year across the EUI schemes, 2002-2014

(% of national GDP)



Source: Authors' calculations.

Scheme A implies significant transfers for the whole sample analysed[20] among euro area countries in 2002-2014 (see Chart 9). On average, sizeable net payments per year over the entire period would have been channelled in particular to Spain (0.9% of GDP per year) and Greece (0.4% of GDP). This is because Spain (and to some extent also Greece) already recorded the highest level of short-term unemployment in the EA-12 before the crisis and that its level of unemployment then also increased the most during the crisis (see Chart 4). This seems to imply that short-term unemployment is a highly imperfect proxy for cyclical unemployment given that it also captures structural differences in labour markets. This can be illustrated for example by the fact that Spain – despite its strong economic boom – still had the highest level of short-term unemployment even before the crisis. Scheme A is very popular in the literature (see e.g. Dullien, 2014). However, the distributional properties of this scheme between countries are often not taken into account enough in these studies and might therefore lead to misleading policy conclusions.

Scheme B would reduce the size of unidirectional permanent transfers but not their general pattern. By restricting benefits to the short-term unemployment rate in one Member State over and above that observed in the euro area on average, Scheme B reduces the amount of transfers proportionally (when compared to Scheme A), but does not fundamentally change the pattern of transfers (see Chart 10). Spain would still be the main beneficiary, with permanent transfers of around 0.6% of GDP per year. For Greece, net payments would be substantially reduced when compared to Scheme A and would account for only 0.1% of GDP per year on average (see Chart 10).

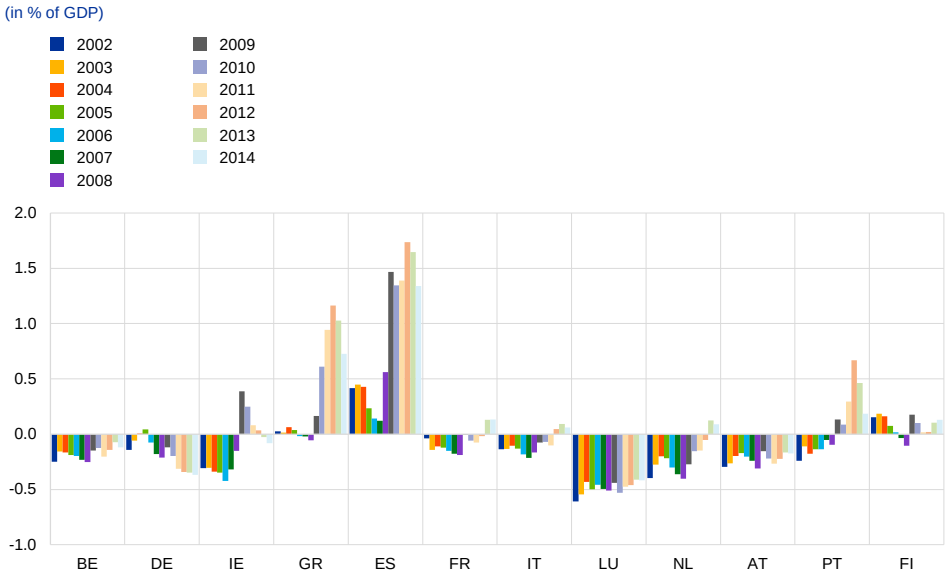
Scheme C nearly but eliminates permanent unidirectional transfers across countries. It is even more restrictive than Scheme B, linking payments to differences in the annual changes of short-term unemployment in one country to changes in the

[20] We label net payments as permanent transfers if they are persistent on average over the sample period.

euro area. Chart 11 illustrates that Scheme C successfully removes any permanent transfers between Member States. At the same time, the size of transfers is – based on the more restrictive approach – far smaller than in previous schemes, with average net payments shrinking to below 0.1% of GDP per year for countries like Spain or Greece. Given that the change in the national short-term unemployment rate is compared each year to the change in the short-term unemployment rate for the euro area, many more countries have also experienced years with net benefits, such as Ireland (2007-2009), Italy (2010 and 2012-2013), Germany (2003 and 2005), or France (2005-2006, 2013-2014). Overall, each country is a net receiver in at least two years.

Chart 9

Scheme A – net payments

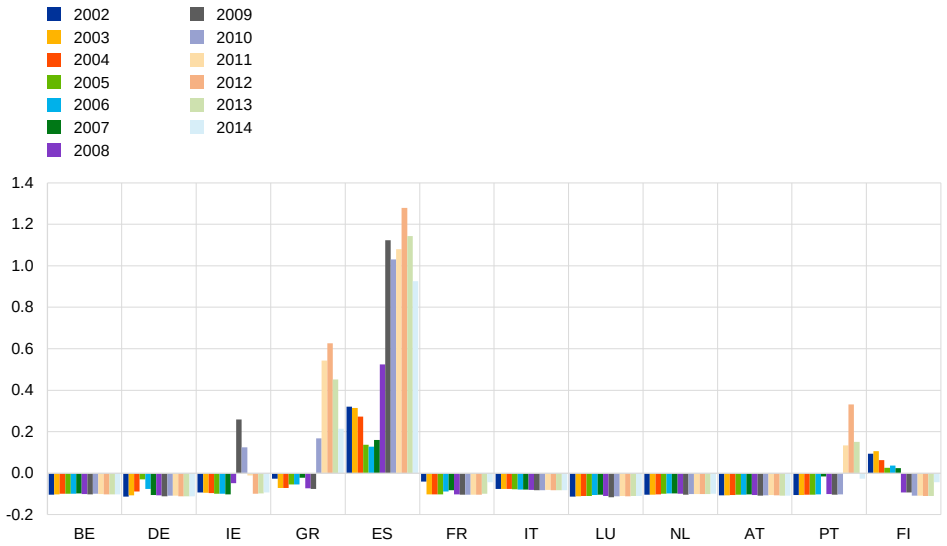


Source: Authors' calculations.

Chart 10

Scheme B – net payments

(in % of GDP)

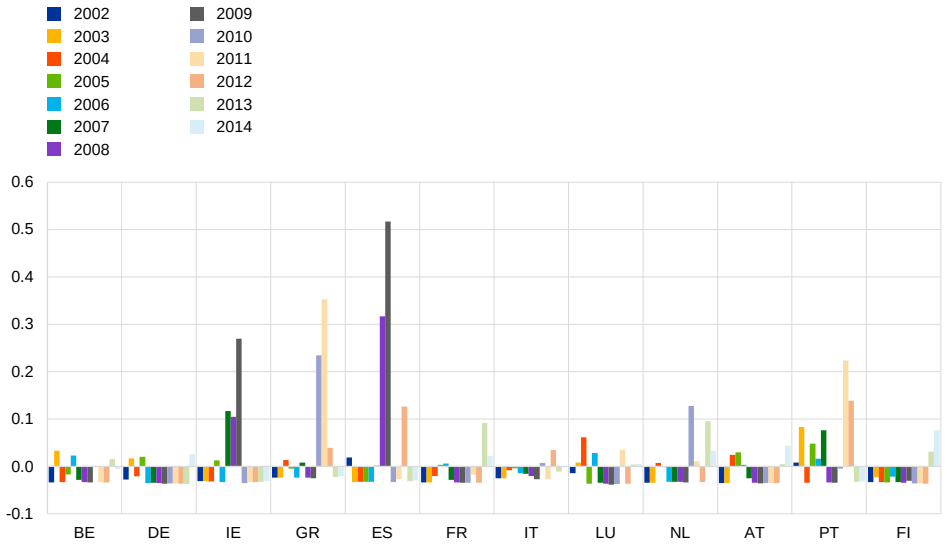


Source: Authors' calculations.

Chart 11

Scheme C – net payments

(in % of GDP)

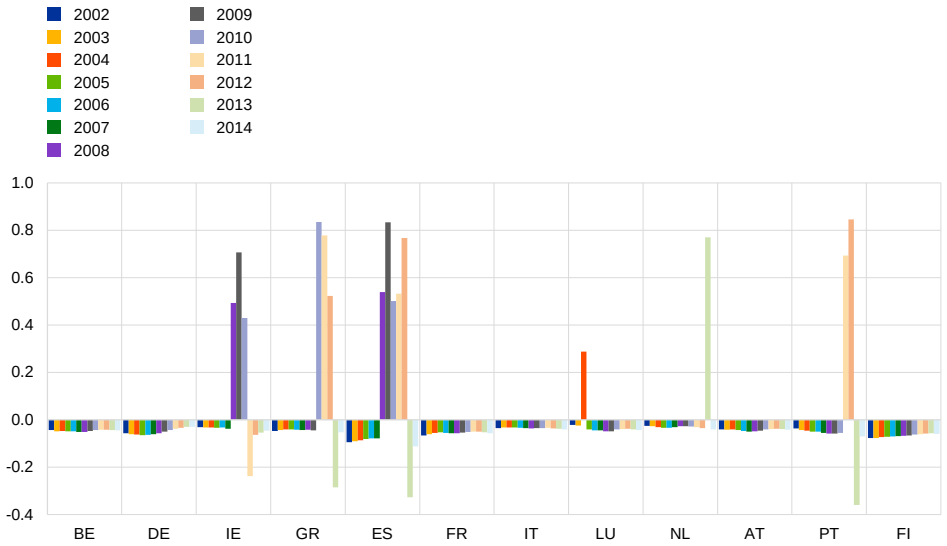


Source: Authors' calculations.

Chart 12

Scheme D – net payments

(in % of GDP)

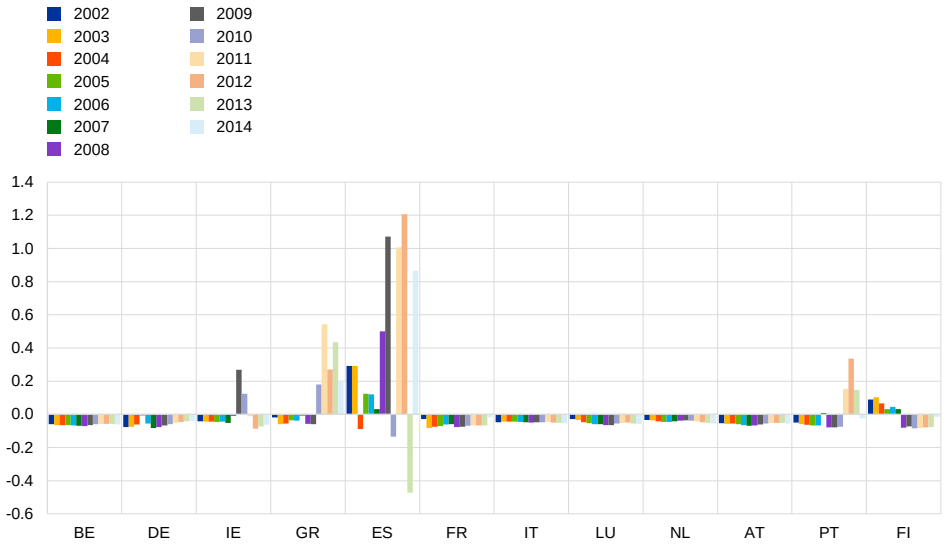


Source: Authors' calculations.

Chart 13

Scheme A2 – net payments

(in % of GDP)

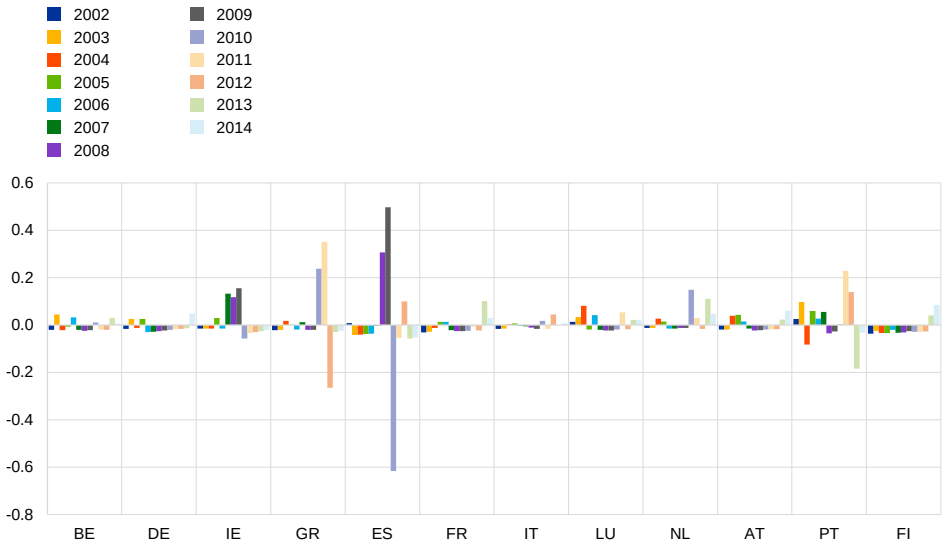


Source: Authors' calculations.

Chart 14

Scheme C2 – net payments

(in % of GDP)



Source: Authors' calculations.

Scheme D, our only purely equivalent scheme, leads to net payments only in around half of the years covered; however, similar to Scheme A and Scheme B, it cannot prevent unidirectional permanent transfers (see Chart 12). As described in Section 2.2, only significant spikes in the unemployment rate are captured by this rainy day fund, which is modelled as reinsurance against larger shocks rather than a genuine unemployment system. For the period selected in our analysis, this implies that transfers are limited to a relatively small number of years (overall net transfers are observed in 7 out of 13 years, concentrated between 2008 and 2011). The beneficiaries of this scheme are mainly the (former) programme countries Greece, Spain, Portugal and Ireland, which have arguably been hit hardest by the crisis. Once again, as argued above, these spikes in unemployment are also to a large degree a reflection of inefficiencies in the respective national labour markets; these have been caused by a lack of actions of national governments and should therefore not be rewarded by transfers between countries. Against this background, Scheme D includes experience rating and claw-back to correct for too high transfers. While this somewhat limits net payments on average per year to 0.2% for Spain and to 0.1% for Greece, Ireland or Portugal, they are still not as limited as in Schemes C/C2. In addition, exceptional net payments also occur for Luxembourg (2004) and the Netherlands (2013), although these are still overall net creditors of the scheme.

In Schemes A2 and C2, learning mechanisms (experience rating and claw-back) limit unidirectional transfers across countries. We include both experience rating, i.e. ex-ante correction, and claw-back, i.e. ex-post correction in Schemes A and C. For example, experience rating would mean that Spain would have been asked to pay proportionally more into the scheme precisely because the Spanish short-term unemployment rate is higher than that of the euro area. In addition, claw-back would mean that Spain would be asked in the current period to pay back the amount it received on average in the last two periods over and above the one standard deviation

of all payments during these periods. The latter adjustment would ensure that payments per country would still be in an order of magnitude that is appropriate compared to other countries' payments.

In Scheme A2, experience rating and claw-back manage to trim permanent transfers significantly compared to the scheme without such learning mechanisms. Spain and Greece, the two countries with the largest net receipts in Scheme A – 0.9% and 0.4% of GDP on average per year respectively – would only receive 0.4% and 0.1% of GDP on average per year in the adjusted Scheme A2 (see Chart 13). However, transfers would nonetheless remain very much unidirectional, with seven countries being net payers each year.

Scheme C2 (which adds experience rating and claw-back to Scheme C) eliminates permanent unidirectional transfers across countries. In Scheme C2, every country is – similar to Scheme C – at least a net receiver in two years (see Chart 14). At the same time, the learning mechanisms ensure that the small permanent transfers (i.e. positive average net payments per year over the entire sample) for example to Spain that still exist in Scheme C would also be eliminated. While this scheme therefore takes full account of the risks highlighted in Section 2, at the same time it reduces overall payments to a very low level and therefore also significantly reduces the potential for macroeconomic stabilisation (see the discussion in Chapter 4).

Looking at past data, we found in general that on the redistributive probabilities only Scheme C and its variant C2 – which includes substantial safeguards – would have been able to avoid permanent unidirectional transfers as required by the 5PR. Based on the remaining differences in labour market rigidities, all other schemes would have divided the euro area into a large group of permanent net payers and a small number of countries that permanently receive high net payments. In this sense, an EUI would have worked more as a transfer system than as an (re)insurance system. However, it is essential to underline the possibility of a small sample bias in our simulations. While the boom and bust years (preceding and following the financial and sovereign debt crisis) offer a useful time window to assess the prospective effects of an EUI, a much longer observation period over several decades would have increased the representativeness of the exercise. However, such analysis is constrained by data availability.

Limitations to our static approach should also be taken into account. We derive distribution stabilisation properties of various EUI schemes by applying static simulation. Accordingly, the results do not take into account how such schemes could change the behaviour of economic agents in the economies. For example, economic agents might be inclined to reduce private risk sharing (savings or diversifications) on account of increased public risk sharing. The literature contains more fully-fledged general equilibrium analyses (for example the work of Moyen et al., 2016). However, such analyses do not allow for a detailed assessment of different design options of EUIs, which is the aim of this paper.

5 Stabilisation effects of different schemes based on developments in the EA-12, 2002-2014

In this chapter we discuss to what extent the different schemes could help stabilise the business cycle in the participating countries and also the euro area as a whole. This is based on the simulated net payments of countries over time under different schemes from 2002-2014, as illustrated in Chapter 4. In our analyses we account for the fact that fiscal multipliers can depend on the state of the business cycle and also that genuine EUI schemes could replace existing national unemployment insurance schemes (see discussion in Chapter 2). Nevertheless, our analyses remain incomplete and mechanical for example by only calculating the impact of net payments on growth in a given year, leaving all other things equal. This implies that we extract developments in the same period but also in later periods for example from interactions between net payments, growth and unemployment.

Most studies in the literature evaluate stabilisation properties only in very limited analyses for selective years and selective countries. Brandolini et al.. (2014) is one of the few studies to attempt a relatively comprehensive assessment. Most papers limit their assessment to a marginal stabilisation analysis, looking only at a few years (mostly recessions) for some selected countries (see for example Dullien, 2012, 2014; Italianer and Vanheukelen, 1993; Dolls et al., 2014). These very limited analyses usually rely on measures such as the impact of the unemployment scheme in relation to the changes in the output gap. It is important to note that such incomplete analyses have very limited informational value for assessing the benefits and costs of introducing an EUI scheme from a national as well as from an euro area perspective.

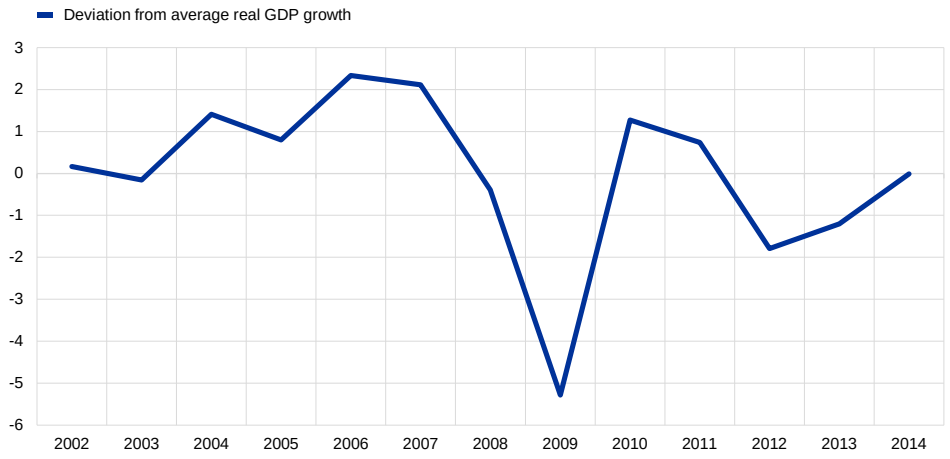
We aim to create a comprehensive analysis that takes into account the effects of different EUI schemes not only on net receivers but also on net payers in all years for the period 2002-2014. As illustrated in Chapter 2, the main benefits of an EUI are that it can help to smooth the business cycles in the Member States and the euro area as a whole and can contribute to economic growth by channelling transfers to countries in economic downturns – where transfers have a comparatively high multiplier. We therefore first discuss the smoothing effects of different EUI schemes. To this end, we analyse to what extent the different EUI schemes would help to reduce the standard deviation of real economic growth from its long-term (2002-2014) average. We then evaluate how different EUI schemes would contribute to economic growth in the Member States and the euro area as a whole. Given that schemes not only vary in terms of net payments, but also in terms of the contribution rate, we show a measure of ‘bang for the buck’. This measure puts into relation the degree of stabilisation or contribution to growth on the one hand and the size of the funds distributed among countries on the other. We assess the efficiency of the schemes across all countries over 2002-2014; for the genuine schemes, we also show the net

effects by substituting the national systems with a euro area wide solution, as discussed in Section 2.3.

Chart 15

EA real GDP growth 2002-2014

(in pp. deviations from average GDP growth 2002-2014)



Source: Eurostat.

To analyse the stabilisation impact of the different EUI schemes, we need to keep in mind that the conjunctural pattern in the period analysed (2002-2014) was dominated not only in the euro area but also in each of its Member States by a pre-crisis boom followed by a severe collapse in GDP growth and a period of relatively sluggish growth (see Chart 15). The prevalence of this large common negative shock is likely to dominate the results of an analysis of stabilisation properties of different schemes based on actual data. In times dominated by idiosyncratic shocks, the stabilisation effects of the discussed EUI schemes might look substantially different.

We will first review the effects of different EUI schemes on economic growth in different countries and in the euro area and then evaluate to what degree these growth effects would have improved stabilisation. As illustrated in Table 1 (see Chapter 2), net payments from EUI schemes affect economic growth – with a dampening effect for net payers and a stimulating effect for net receivers in a given year. State-dependent multipliers amplify these effects and also facilitate a "growth dividend" for the euro area as a whole. As these growth effects of EUI schemes cushion shocks and smooth downturns and booms over time and across countries, they also drive the stabilisation effects of the EUI schemes.

We will therefore first evaluate the effects on economic growth (Section 5.1) and then the resulting stabilisation effects (Section 5.2). The last part (Section 5.3) then evaluates the efficiency of different schemes by evaluating how much additional growth and stabilisation would have been achieved relative to their economic costs in terms of the contribution rates ('bang for the buck').

5.1 Effects of an EUI on economic growth – simulation based on 2002-2014 data

The different EUI schemes increase growth in roughly around half of the countries analysed, while in the other half growth is reduced compared to the situation in which no EUI exists. Chart 16 shows that the growth effects are negative for all schemes in Belgium and France, and are also negative in Germany, Italy and Austria except for Scheme C2 as these are the countries that tend to be net creditors in the scheme on average over time, i.e. those that transfer part of their GDP to their peers.

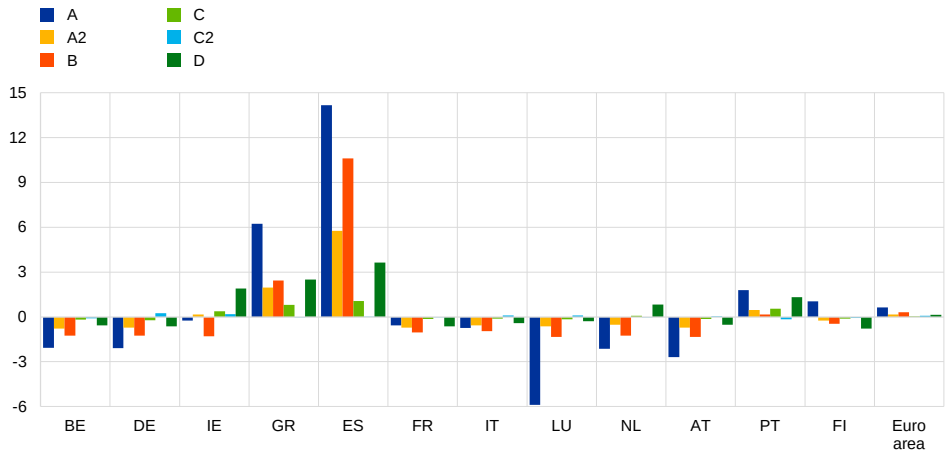
However, the cumulative impact on economic growth in the euro area would have been only relatively small. By way of comparison, the cumulated euro area figure in Chart 16 is the same, as can be seen when comparing actual GDP with how it would have evolved with the respective schemes in place. This result is particularly crucial in light of our assumption of strongly state-dependent fiscal multipliers. In case of a smaller difference between multipliers in booms and recessions, the overall growth effects would have been even more limited.

The introduction of an EUI would have pushed up GDP growth especially in Spain and Greece – which both faced severe idiosyncratic shocks that were reflected in sharp increases of their short-term unemployment rates. As discussed in Chapter 4 (Chart 8), Spain and Greece in particular would have received large net transfers under almost every scheme analysed in this paper – based on the high level of short-term unemployment and sharp increase in these countries. As a result, growth in these countries would also have profited the most from the introduction of an EUI – with the effects being very sizeable in Spain (see Table 3).

Chart 16

Cumulative effects of different schemes on GDP growth over 2002-2014

(pp of national GDP)



Source: Authors' calculations.

Table 3

Contribution of different schemes to economic growth

(delta economic growth; cumulated in pps, 2004-2014)

	Not netting out							Netting out	
	A	A2	B	C	C2	D		A	A2
BE	-2.07	-0.77	-1.26	-0.18	-0.08	-0.57		-2.13	-0.77
DE	-2.09	-0.72	-1.25	-0.22	0.26	-0.63		-2.37	-0.73
IE	-0.25	0.16	-1.30	0.37	0.18	1.91		-1.43	-0.22
GR	6.24	1.97	2.43	0.81	-0.01	2.50		4.33	1.15
ES	14.17	5.77	10.60	1.06	0.00	3.63		11.24	4.70
FR	-0.57	-0.72	-1.04	-0.13	-0.00	-0.63		-0.68	-0.72
IT	-0.74	-0.57	-0.96	-0.12	0.10	-0.42		-1.02	-0.57
LU	-5.88	-0.62	-1.33	-0.15	0.10	-0.30		-5.76	-0.62
NL	2.03	2.00	2.03	2.00	2.00	1.95		2.06	2.00
AT	-2.68	-0.72	-1.33	-0.14	0.04	-0.53		-2.77	-0.72
PT	1.80	0.46	0.17	0.55	-0.16	1.32		1.00	0.08
FI	1.04	-0.25	-0.46	-0.12	-0.08	-0.78		0.87	-0.17
EA	**0.64**	**0.16**	**0.31**	**0.04**	**0.08**	**0.15**		**0.05**	**0.01**

Source: Authors' calculation.
Notes: Netting out refers to a design in which an EUI would partly replace the national unemployment scheme, while non-netting out assumes that the scheme comes on top of the respective national schemes. Red cells indicate negative, green cells positive values.

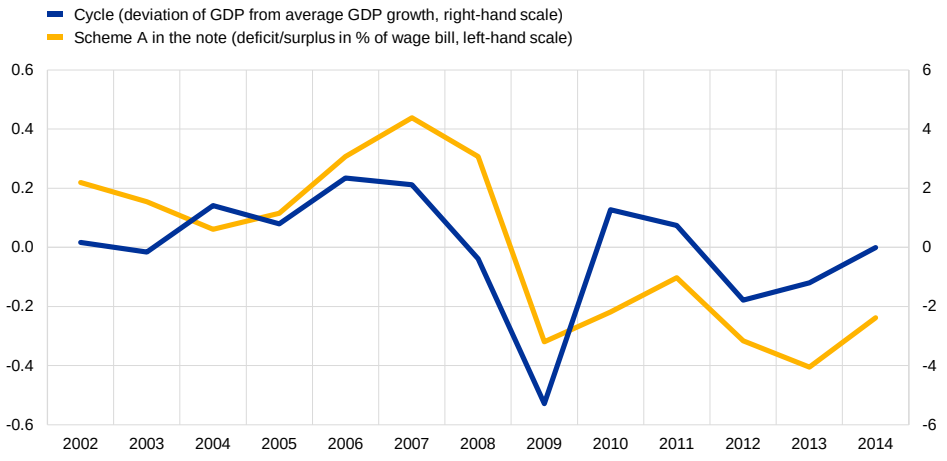
The timing of surpluses and deficits of different EUI schemes suggests that the borrowing of EUI schemes after 2008 has contributed to the stabilisation and growth effects of EUI schemes. Chart 18 indicates in the case of Scheme A that EUIs would point to a strong countercyclical pattern in the balance between contributions and transfers paid. This shows that an EUI could lead to a pattern of "automatic stabilisation" over the cycle at the level of the euro area. However, this is conditional on the ability of the scheme to borrow. If the schemes would need to balance contributions each year, there would clearly be no such countercyclical pattern.

Based on our simulations for 2002-2014, the most important effects of EUI schemes on euro area economic growth are likely to be linked to the ability of the schemes to borrow and the different multipliers that are assumed. Taken together, Chart 17 and Chart 18 illustrate that the positive effects of EUI schemes on economic growth occur in particular after 2008 and are therefore strongly correlated with deficit financing of the scheme.

Chart 17

Cyclicality of deficits/surpluses for the EUI schemes

(left-hand side: in % of euro area GDP; right-hand side: in %)

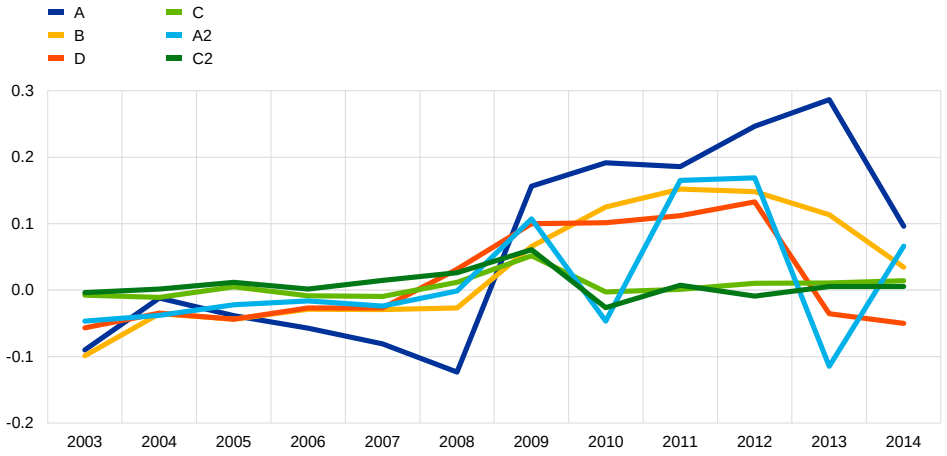


Source: Authors' calculations.

Chart 18

Effects of EUI schemes on EA GDP growth over the cycle

(in % of GDP)



Source: Authors' calculations.

5.2 Stabilisation – smoothing the business cycle

As the impact of EUI spending on economic growth would cushion shocks and smooth downturns and booms over time and across countries, it would also drive the stabilisation effects of the EUI schemes over time and across countries.

All schemes discussed in this paper would smooth the business cycle in the euro area as a whole – albeit to a limited degree only (see Table 4). Scheme A would have the largest effect and would reduce the standard deviation by 3% (i.e. the standard deviation of real growth from its long-term average would be 1.93 instead of 1.98). This would only have a very marginal stabilisation impact in general (especially

given the economic means that such schemes need – see below). The alternative schemes have even lower stabilisation effects than Scheme A. This implies that for the euro area as a whole, the overall pattern of the cycle is scarcely changed by the different EUI schemes (see Chart 19). These results are in line with Brandolini et al. (2014) for the euro area or Von Hagen (1992) for the United States, who also find relatively limited stabilisation effects across all countries during an entire cycle. As discussed above, this is largely because the overall pattern of the economic cycle was dominated by a strong common shock.

Table 4

Stabilisation channels of an EUI scheme

(change in standard deviation of the difference in economic growth from its long-term average; in % of SD 2002-2014)

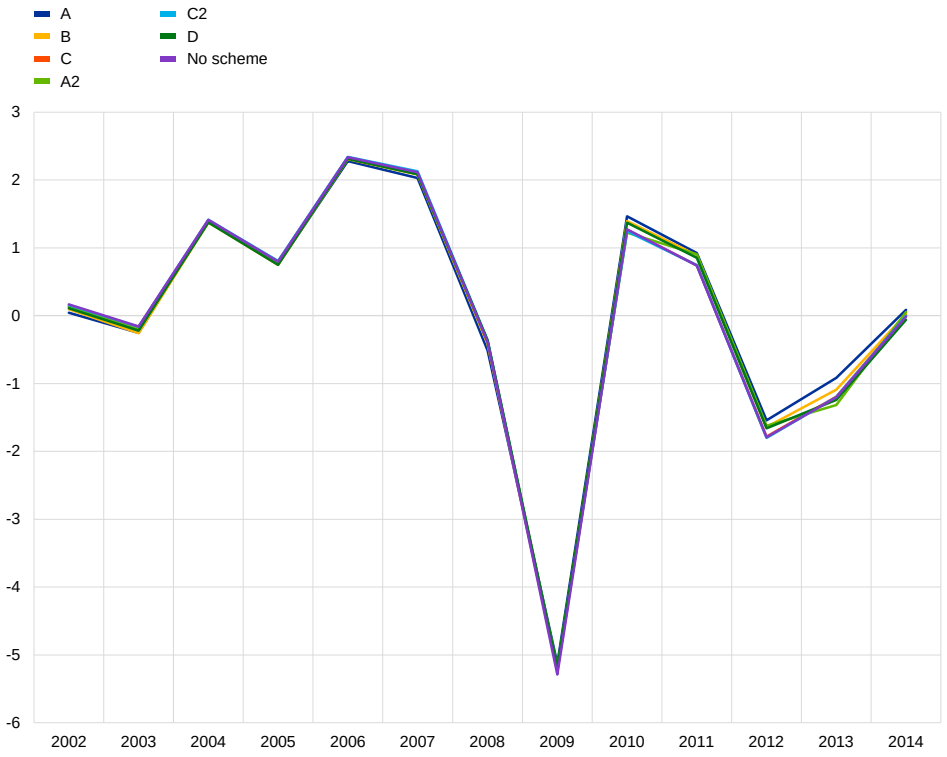
	Not netting out							Netting out	
	A	**A2**	**B**	**C**	**C2**	**D**		**A**	**A2**
BE	2.2%	1.3%	2.2%	0.4%	0.4%	1.0%	BE	3.7%	1.3%
DE	1.2%	0.9%	1.5%	0.3%	-1.9%	0.7%	DE	2.5%	0.8%
IE	-4.6%	-2.2%	1.7%	-2.3%	0.5%	-8.3%	IE	1.6%	0.5%
GR	-10.6%	-4.2%	-5.3%	-2.1%	0.7%	-6.5%	GR	-3.1%	-0.7%
ES	-35.9%	-13.5%	-27.1%	-4.7%	-0.1%	-12.8%	ES	-15.3%	-5.8%
FR	-1.3%	1.2%	1.8%	0.5%	0.3%	1.0%	FR	1.1%	1.1%
IT	-0.8%	0.9%	1.4%	0.1%	0.6%	0.6%	IT	1.5%	0.9%
LU	5.1%	0.7%	1.3%	0.5%	0.4%	0.7%	LU	5.5%	0.7%
NL	1.9%	0.7%	1.7%	0.4%	0.4%	-1.8%	NL	3.3%	0.7%
AT	2.1%	0.9%	1.8%	0.5%	1.6%	0.7%	AT	3.8%	0.9%
PT	-12.5%	-5.1%	-5.0%	-2.4%	0.4%	-10.9%	PT	-1.4%	0.3%
FI	-1.8%	1.3%	1.7%	0.0%	0.2%	0.6%	FI	-0.8%	0.0%
EA	**-3.0%**	**-1.7%**	**-1.3%**	**-0.8%**	**-0.6%**	**-1.5%**	**EA**	**0.0%**	**0.0%**
Contribution (% of GDP)	0.90%	0.10%	0.13%	0.04%	0.03%	0.07%			
Ratio	3.4	16.7	10.2	17.8	18.6	20.0			

Source: Authors' calculation.
Notes: The ratio shown in the last line reflects the reduction of the standard deviation divided by the contribution rate needed to finance the scheme in % of GDP. Higher values therefore indicate more "efficient" schemes. Netting out refers to a design in which an EUI would partly replace the national unemployment scheme, while non-netting out assumes that the scheme comes on top of the respective national schemes. Red cells indicate negative, green cells positive values.

Chart 19

Cyclical developments measured by the deviation of real growth from its average value 2002-2014 – euro area

(in pps of GDP)

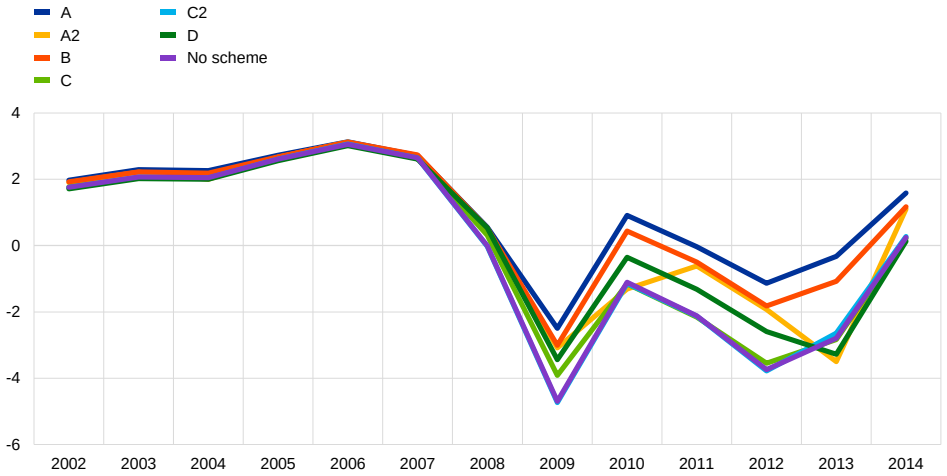


Source: Authors' calculations.

Chart 20

Cyclical developments measured by the deviation of real growth from its average value 2002-2014 – Spain

(in pps of GDP)



Source: Authors' calculations.

The stabilisation effects would be very different across Member States – with some countries even experiencing a destabilising effect under all schemes. Spain would be the only country for which every scheme would stabilise the business cycle, and this stabilisation would be substantial based on high net transfers. For Spain, Chart 20 illustrates that an EUI would have very much softened the downturn after 2008 – an effect of both the high net transfers and the high multipliers assumed for this period. On the other hand, cyclical fluctuations would be amplified under every scheme in Belgium, Austria and Luxembourg (see Table 4), which all face a net outflow of funds over the period analysed. The underlying reason is that these countries would be net payers even when they are in an economic downturn themselves – because they are hit less hard by common shocks than other countries.

Net of the effects of alternative national schemes, genuine EUI schemes would smooth the business cycle in the euro area and in the Member States even less. Scheme A and Scheme A2 could also replace national unemployment benefit schemes for the short-term unemployed (as discussed in Section 2.3). If the effects of these alternative schemes are netted out, there would be no additional smoothing effects from the international dimension of transfers. This is because the negative effects of international transfers on financing countries and the positive effects on receiving countries tend to net out for the period analysed. One important factor driving these results is that the largest bulk of cross-border transfers takes place after the crisis – when financing and receiving countries are both experiencing unfavourable economic circumstances and the fiscal multipliers are the same in these two country groups. In the case of idiosyncratic shocks only, Schemes A and A2 would still imply a positive contribution to stabilisation even if the effects of alternative national schemes are netted out.

However, it should be noted that our stabilisation analysis also does not take into account the possible negative implication of claw-back mechanisms on the consumption behaviour of households. As noted in Section 3.2, the claw-back mechanism might be an elegant way of accounting for labour market heterogeneity without measuring it, but it might also cause ‘Ricardian’ households to save instead of consume given the anticipated paybacks in the future. For the analysed schemes with learning mechanisms, the derived stabilisation could therefore be seen as upper bound calculations.

5.3 Efficiency of the different schemes in terms of ‘bang for the buck’

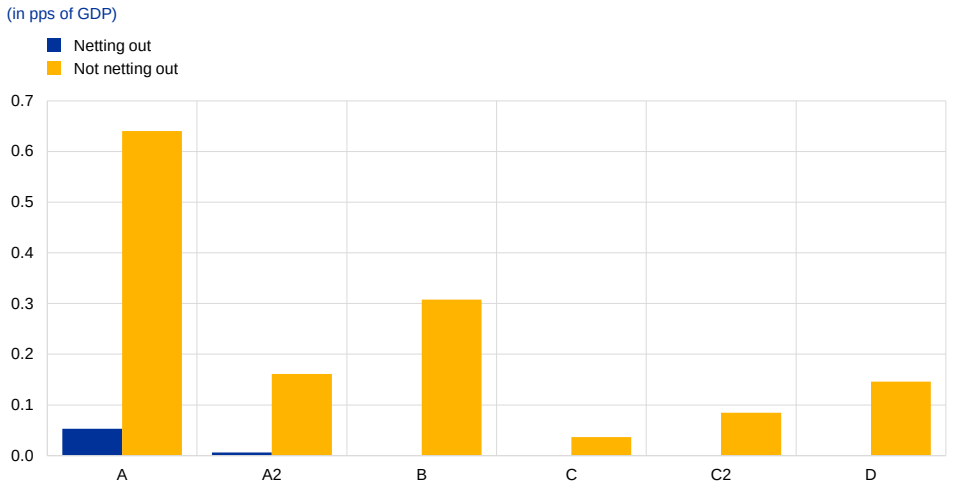
In this section we evaluate the efficiency of different EUI schemes in terms of their growth and stabilisation effects in relation to the different contribution rates. This is based on indicators that set the objective of additional economic growth in the euro area as a whole and increased stabilisation in terms of a lower standard deviation in relation to the economic costs of different schemes in terms of contribution rates (‘bang for the buck’).

Cumulatively the effects of the different EUI schemes on economic growth in the euro area are limited – even in schemes with relatively high contribution rates. Chart 21 echoes the finding from Section 5.1 – that Scheme A has the largest absolute effect and pushed up euro area GDP growth over 2002-2014 by 0.6 pp. cumulatively. The effects of Scheme B and Scheme D are only half of this, and the other schemes had even lower effects (for details, see also Chart 16). These effects on economic growth depend crucially on state dependency and the size of the fiscal multipliers. If a multiplier of 0.75 in good times (instead of 0.5 in the benchmark case) and 1.25 in bad times (instead of 1.5 in the benchmark case) would be assumed while the multiplier in normal economic times would be unchanged (at 1), the cumulative effects on economic growth would only be half as large (e.g. 0.3 pp. cumulatively in Scheme A).[21]

If an EUI were to replace the national scheme, to some extent only a very small net positive effect on economic growth would result for 2002-2014. In the most genuine Schemes A and A2, more than 90% of the growth effects could also have been achieved without allowing for transfers between countries in the context of an EUI (see Chart 21 and table 3). This shows that nearly all of the positive effects of an EUI on euro area economic growth (except for the assumptions on different multipliers) are achieved by the countercyclical borrowing of the EUI scheme; however, this could be achieved at national level only as long as the Member States do not face tight financing restrictions (for example linked to fiscal sustainability being endangered).

Chart 21

Cumulated impact of different schemes on GDP growth 2002-2014



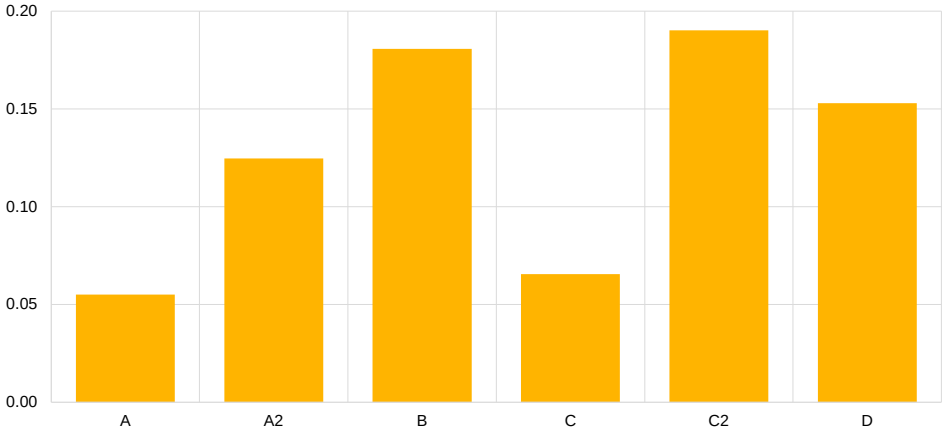
Sources: Authors' calculations.
Notes: Netting out refers to a design in which an EUI would partly replace the national unemployment scheme, while non-netting out assumes that the scheme comes on top of the respective national schemes.

[21] The effects in terms of stabilising the business cycle and promoting economic growth are far more limited than those advocated for some scenarios by Arnold et al., 2018. There are two main sources for this difference: First Arnold et al. assume a far larger scheme, which requires average annual contributions of 0.35% of GDP, while Scheme D (that comes based on the trigger applied closest to their scheme) requires only 0.07% of GDP per year and is therefore five times smaller. In addition, Arnold et al. seem to apply a substantially larger multiplier than our analyses, especially for those scenarios under which monetary policy is constrained by the zero lower bound.

Chart 22

Impact of different schemes on GDP growth in relation to contribution rates

(cumulated effect on GDP growth in 2002-2014 in pps of GDP divided by annual contribution rate in pps of GDP)



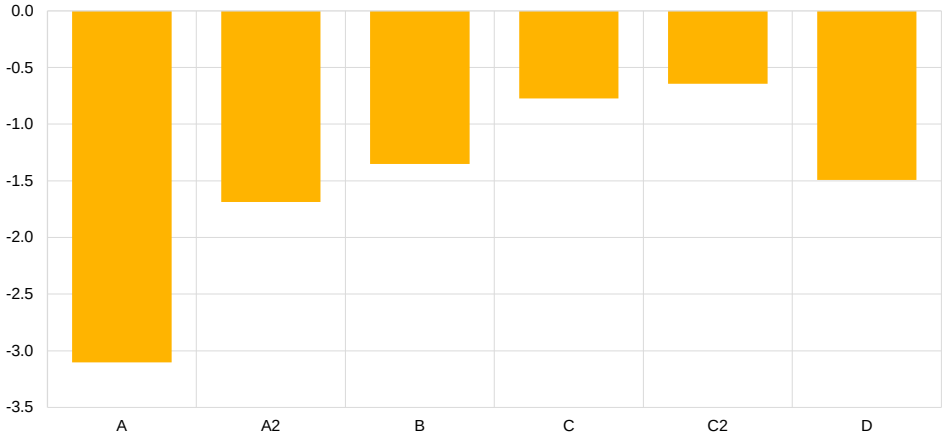
Source: Authors' calculations.

On contribution rates, Schemes C2, B and D give the biggest 'bang for the buck' in terms of economic growth. Dividing the cumulated effects on GDP growth by the contribution rates (see Chart 22) shows that Scheme A is relatively inefficient as it pushes growth up by only 0.6 pp. over the whole period analysed, despite a high annual contribution rate of around 1.8% of the wage bill (0.9% of GDP). Schemes D and C2, which both have low contribution rates of around 0.1% of the wage bill, are relatively more efficient.

Chart 23

Stabilisation effect of different schemes

(measured as reduction of the standard deviation of the annual difference between annual real economic growth and its long-term (2002-2014) average (in %))

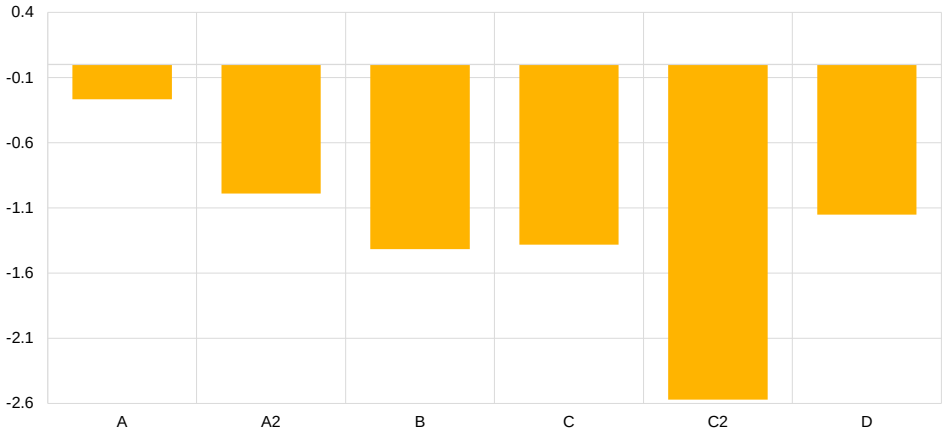


Source: Authors' calculations.

Chart 24

Stabilisation effect of different schemes in relation to contribution rates

(measured as reduction of the standard deviation of the annual difference between annual real economic growth and its long-term (2002-2014) average (in %)) divided by annual contribution rate in pps of GDP)



Source: Authors' calculations.

The performance of different schemes in terms of their stabilisation effects is closely linked to their growth effects (see Chart 23). This is unsurprising as stabilisation is basically achieved via the different effects on economic growth. Scheme A with the highest contribution rate again has the largest effect. Scheme A2 in particular has a relatively strong stabilisation effect compared to its economic growth effect. The underlying reason is that the claw-back mechanisms of Scheme A2 reduce the growth impact in 2013, with only limited effects on the stabilisation properties of the scheme. There is also a comparatively large impact on stabilisation with Scheme D.

On contribution rates, Schemes B, C2, C and D achieve the most stabilisation. Overall efficiency of the different schemes tends to decrease with the contribution rates.

Taking the effects on economic growth and on stabilisation together, Scheme C2 performs best. This could also be seen as an indication that the schemes with high safeguards perform relatively well in the euro area. The finding that strongly contingent schemes (such as Scheme C2) are more efficient in terms of "bang for the buck" than broader schemes with net payments in any year is also in line with what some studies have found so far, e.g. Brandolini et al., 2014.

Most of the existing literature seems to treat an EUI as a top-up scheme, which might lead to an additional upward bias. The texts often argue that an EUI would in principle replace (to some extent) national schemes. However, in the stabilisation exercise the studies seem to top up national schemes with the EUI without correcting the entire GDP series for the effect of losing national stabilisation (e.g. Beblavy, 2014, Italianer and Vanheukelen, 1993, Dullien, 2014). Given the significant difference between netting out and no netting-out as shown above, the results in the literature tend to have an upward bias.

6 Linking an EUI to 'convergence towards more resilient economic structures'

Could an EUI perhaps work as an instrument that promotes convergence? The analysis of different EUI schemes above has shown that the prevailing heterogeneity of labour market efficiency among euro area countries limits its effectiveness. This chapter outlines how a gradually phased-in EUI could serve as an instrument to promote convergence among similarly resilient economic structures and thereby pave the way towards a more effective working of a macroeconomic stabilisation mechanism in the euro area. This could be achieved by a scheme that links payments explicitly to labour market efficiency. Such a scheme could help to (i) effectively discriminate between 'bad luck' and 'bad policies' (as benefits paid for unemployment would decrease with the level of labour market inefficiencies) and (ii) create additional (financial) incentives for efficiency-enhancing reforms. This would support a convergence process towards efficient labour markets in the euro area as a whole.

We design Scheme E by taking Scheme C as a starting point but also discount the pay-outs of the scheme in case of labour market inefficiencies. For this we need a measure for labour market inefficiencies based on an institutional indicator. The main caveat applies to the appropriate definition of such an 'institutional indicator'. Given the multi-faced and country-specific nature of structural characteristics, the assessment contained in institutional indicators involves a significant amount of judgement. In practice, it could be possible to use a combination/average of indicators to account for this. Such institutional indicators also face the problem of "Goodhart's law", which states that "when a measure becomes a target, it ceases to be a good measure". To avoid "creative accounting" by governments, a high degree of independence and important quality controls would therefore be required. For illustrative purposes, this paper uses the World Economic Forum Labour Market Flexibility Index (see Chart 25) mainly because of its broad scope and good data availability.[22,23] However, we are aware that in reality a much broader set of indicators for the well-functioning of labour markets would need to be used. The indicator is rescaled to reflect the countries' distance from the best performer in terms of labour market efficiency (see Table 5). This "labour market efficiency indicator" ranges from 0 to 1, with 1 being the best performing country (i.e. the most efficient) in a given year. The pay-outs in Scheme E are then determined by taking the pay-outs from Scheme C and multiplying them by the "labour market efficiency indicator". Based on this system, payments are then reduced relative to the distance to the most efficient structures – which creates additional incentives to catch up with the best performers

[22] As an alternative to the World Economic Forum Index, the Heritage Foundation indicator or the OECD Employment Protection Legislation indicator could also be used. However, the latter does not cover a broad notion of flexibility as it just captures a small part of labour market policies to determine performance.

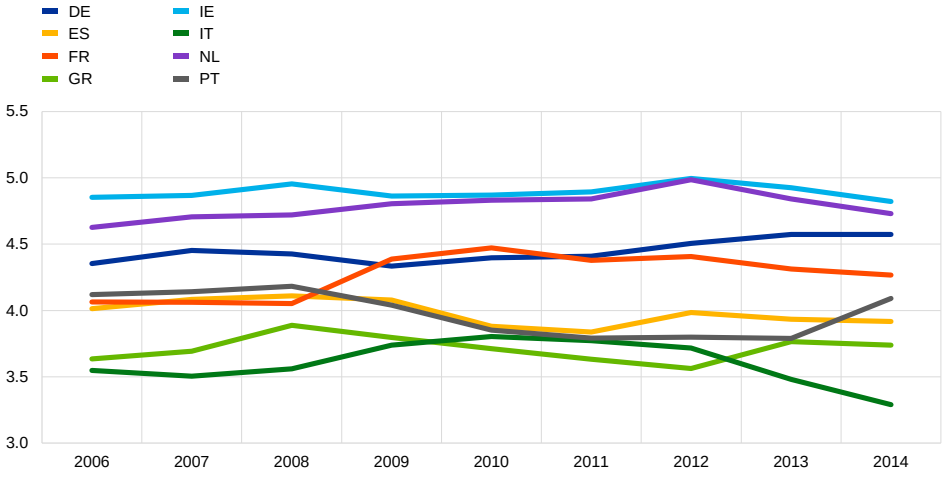
[23] Although the indicator is longer than others, it still does not cover the entire samples. We backward extend the series for four years until 2002 assuming constant behaviour.

by carrying out reforms. If all countries manage to achieve a similar level of labour market efficiency, discounts are no longer applied.

Scheme E further reduces the net payments across countries. At the same time, it offers strong safeguards against moral hazard and acknowledges the reform efforts of some countries in the past (see Chart 26). Countries with comparatively more rigid labour markets would still receive some positive net payments as in Scheme C, but these would be much more limited as Scheme E explicitly controls for the structure of their labour markets.

Chart 25

Labour market flexibility indicator in selected euro area countries and euro area average



Sources: World Economic Forum Competitiveness Report, own calculations.

Table 5

National labour market efficiency in terms of deviation from the euro area frontier (=1)

	AT	BE	DE	ES	FI	FR	GR	IE	IT	LU	NL	PT
2006	0.6	0.4	0.6	0.4	0.8	0.4	0.2	0.9	0.1	0.7	0.7	0.5
2007	0.7	0.4	0.6	0.4	0.8	0.4	0.2	0.9	0.1	0.7	0.8	0.5
2008	0.7	0.5	0.6	0.5	0.8	0.4	0.3	0.9	0.1	0.7	0.8	0.5
2009	0.8	0.8	0.6	0.4	0.9	0.6	0.3	0.9	0.2	0.8	0.8	0.4
2010	0.8	0.7	0.6	0.3	0.9	0.6	0.2	0.9	0.3	0.8	0.8	0.3
2011	0.8	0.7	0.6	0.3	0.9	0.6	0.2	0.9	0.3	0.7	0.9	0.3
2012	0.8	0.7	0.7	0.4	0.9	0.6	0.1	0.9	0.2	0.7	0.9	0.3
2013	0.7	0.6	0.7	0.4	0.9	0.6	0.3	0.9	0.1	0.8	0.9	0.3
2014	0.6	0.5	0.7	0.3	0.8	0.5	0.2	0.8	0.0	0.9	0.8	0.4

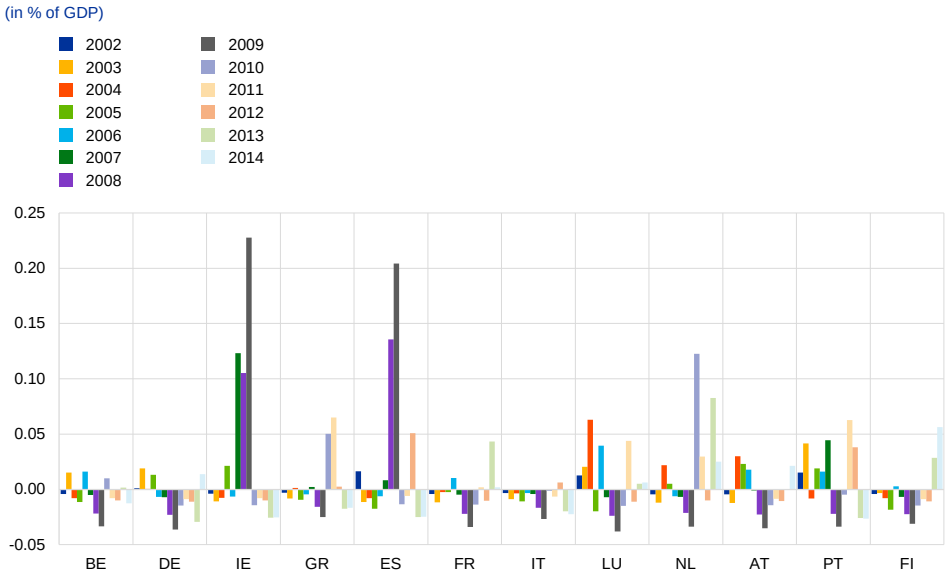
Sources: World Economic Forum Competitiveness Report, own calculations.
Notes: The frontier is Estonia, although its range is very close to that of Ireland. Deviation from the frontier is calculated by determining the maximum and minimum in each period and measuring the distance of each country in each period from the minimum divided by the distance between maximum and minimum.

Table 5 shows that in 2008, Greece for example would have received only 30% and Spain only 50% of the net payments based on Scheme C in any year because of the high level of labour market inefficiencies. On the other hand, for

Finland, the Netherlands and also Ireland only small discounts would have been applied, which somewhat increases the importance of pay-outs to these countries. Overall the scheme – similar to Scheme C – does not lead to permanent transfers from or into any country (see Chart 26).

Chart 26

Scheme E – net payments



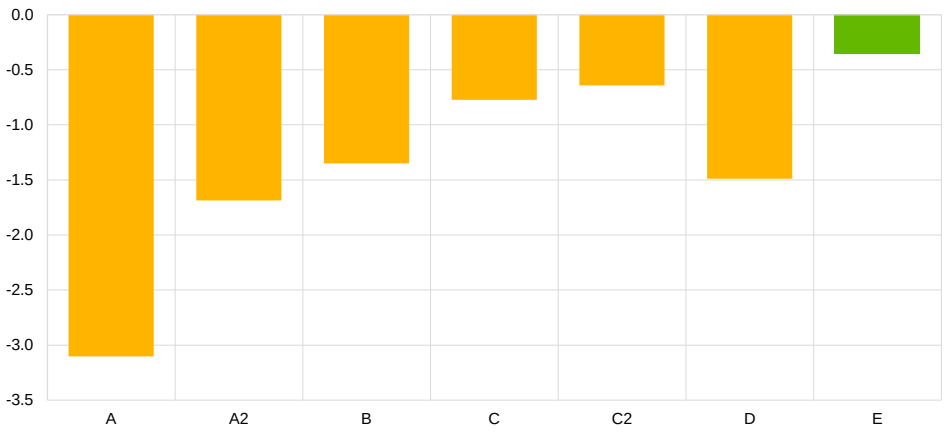
Source: Authors' calculations.

Scheme E could even be relatively efficient in terms of achieving stabilisation per euro spent. The scheme might therefore be particularly well suited to a euro area with strong divergences in labour market institutions. The scheme would be quite small (in fact the smallest of the schemes analysed, with an annual contribution rate of 0.04% of the wage sum). Based on the small size of the scheme, the absolute stabilisation impact would be small (see Chart 27). However, looking at the efficiency of the scheme based on the "bang for buck" measure (see Chart 28) shows that Scheme E would achieve a degree of efficiency comparable to most other schemes, although perhaps somewhat smaller. This is noteworthy as this estimate does not even take into account any dynamic positive effects of growth resulting from improved incentives for more sustainable polices.

Chart 27

Stabilisation effect of Scheme E

(measured as reduction of the standard deviation of the annual difference between annual real economic growth and its long-term (2002-2014) average (in %))

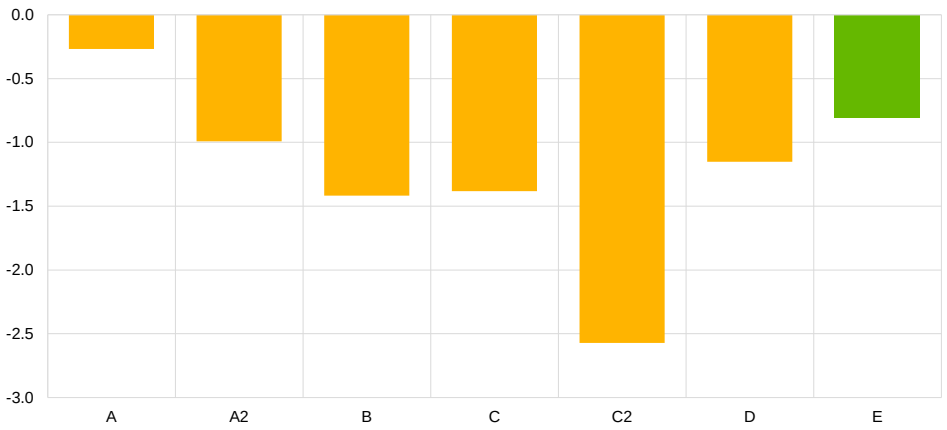


Source: Authors' calculations.

Chart 28

Stabilisation effect of Scheme E in relation to contribution rate

(reduction of the standard deviation of the annual difference between annual real economic growth and its long-term (2002-2014) average (in %)) divided by annual contribution rate in pps of GDP)



Source: Authors' calculations.

Overall, Scheme E could combine two main elements of the roadmap to a complete EMU specified in the 2015 Five Presidents' Report: "convergence towards more resilient structures" and the set-up of a "euro area stabilisation function". In addition, it would ensure the necessary sequencing of the two concepts given that pay-outs would be scaled depending on the degree of convergence achieved by labour markets with the frontier. Based on the strong safeguards, the set-up of such a stabilisation function should already be acceptable even to countries with a relatively high labour market efficiency. These countries should also have an interest in making the euro area as a whole more resilient to internal and external shocks.

7 Conclusion

Setting up a macroeconomic stabilisation function for the euro area could in theory make it easier to stabilise output in the euro area and thereby also facilitating the conduct of the common monetary policy. A common EUI is a natural candidate for such a macroeconomic stabilisation function as it could in theory help to automatically smooth national business cycles by way of transfers between countries. The smooth functioning of EMU would be supported further if such a stabilisation function would also be preceded by reforms that increase the resilience of monetary union as a whole and thereby improve its shock absorption capacity. In order to act as a true insurance mechanism and to effectively increase the resilience of the euro area, it is essential that the scheme does not distort policy incentives by providing permanent transfers to countries with inefficient labour markets.

Starting out from the existing literature, we developed a set of possible EUI schemes. We analysed what role they could play as a macroeconomic stabiliser in the euro area and how they should be designed in order to avoid moral hazard. We identified seven main options, varying the generosity of the schemes and safeguards in terms of claw-back and experience rating as well as conditionality related to the quality of labour market institutions.

We find that a common EUI could in theory make an important contribution to stabilising cyclical developments in participating Member States. This paper uses the hypothetical case of an idiosyncratic shock for small and large Member States.

In practice, stabilisation would have been quite limited. Simulating the effects of an EUI based on actual data from 2002-2014 shows that the additional stabilisation effects of an EUI in the euro area would have been very limited (despite the fact that multipliers are assumed to be state-dependent and higher than the “standard” assumption). This can be mainly traced back to the fact that common (and not idiosyncratic) shocks were prevalent in 2002-2014. Moreover, if some parts of the schemes were to replace rather than top up national schemes, as has often been proposed, the stabilisation properties of an EUI would falter even further.

Nearly all schemes analysed would have led to permanent transfers given the lack of similarly resilient economic structures. Instead of acting as a real insurance mechanism, an EUI would mainly support countries with high levels of structural unemployment and relatively inefficient labour market institutions.

To ensure that an EUI would set the right incentives so that countries can move towards efficient labour market institutions, any scheme selected for the euro area at this juncture would need to control for labour markets with different levels of efficiency. This could be done for example by building in learning mechanisms, which ensure that payments are limited and contributions into the fund increase if unemployment is structurally higher than in peer Member States. In a similar vein, this paper also develops an innovative scheme for an EUI, which could be

explicitly linked to a convergence process towards similarly resilient structures – as stipulated in the Five Presidents' Report – by making pay-outs directly conditional upon the level of labour market efficiency.

An effective governance framework will be essential for the effectiveness of an EUI and efficient use of resources. While this paper does not deal with specific governance proposals, including who manages and oversees the day-to-day functioning of such a scheme, we still reiterate in all sections that the choice of design options and the operation of the scheme will be essential for its success. Given the potential sizeable impact of such a scheme (i.e. transfers of funds among countries) and also the likely reluctance of governments to carry out far-reaching reforms of their labour market policies, the risk is that the governance of the scheme will become politicised, i.e. based on discretion rather than automatic rules. This could also create risks for compliance with the requirement of fiscal neutrality in the medium term if the ability to borrow is not tightly restricted.

Overall, schemes that implicitly (e.g. using the claw-back mechanism) or explicitly control for labour market efficiency could potentially largely avoid permanent transfers. At the same time, they are also among the most efficient schemes in terms of the stabilisation achieved per euro spent by the schemes considered. Moreover, given that such schemes are designed to create incentives for making structural reforms, more efficient and similarly resilient economic structures would in turn further improve the stabilisation properties of an EUI.

Annex – Stabilisation in case an EUI (partly) replaces national unemployment insurances

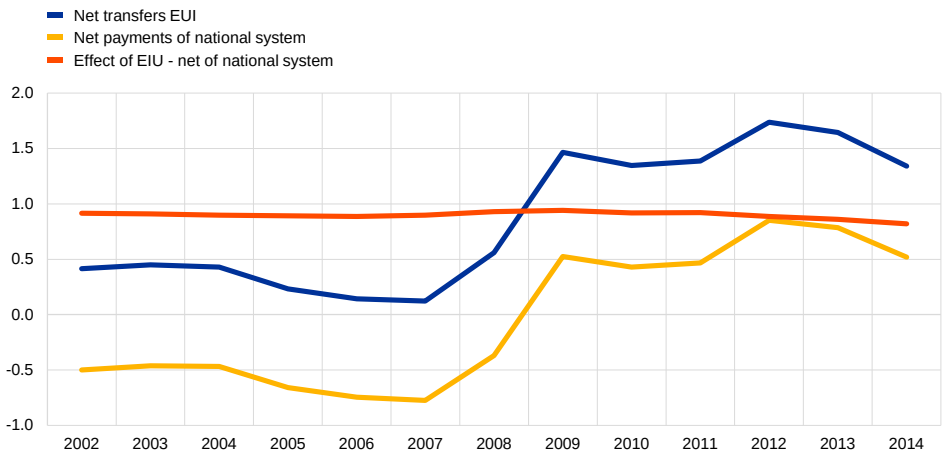
This Annex discusses how the net additional stabilisation impact of genuine schemes could be calculated based on the assumption that they replace national schemes and provide the same benefits. This can be illustrated based on Scheme A. To ensure that the net additional stabilisation impact only reflects the impact of having a European system rather than different national systems (and not also the impact of different benefit levels), we assume that a national system replaced by Scheme A would need to ensure the same pay-outs in a given country as the European system (i.e. 44% of the net wage for each short-term unemployed person).

Based on these payments, we calculate the contribution rate necessary to finance these benefits over 2002-2014 in a given country based on a percentage point contribution of the national wage bill. The annual surpluses/deficits of the 'national version' of an unemployment insurance system with benefits according to Scheme A would then result from subtracting the national pay-outs from the national contributions. Over the whole period analysed (2002-2014), the national unemployment system would be fiscally neutral as surpluses would finance deficits (the cumulated contributions over 2002-2014 would equal the cumulated payments). The main difference compared to an EUI scheme would be that the national scheme would only allow the business cycle to be smoothed across time (via deficits and surpluses in the national system); it would not include any transfers between countries.

Chart A.1

Comparison of payments of European and national unemployment system based on Scheme A in Spain

(in % of GDP)

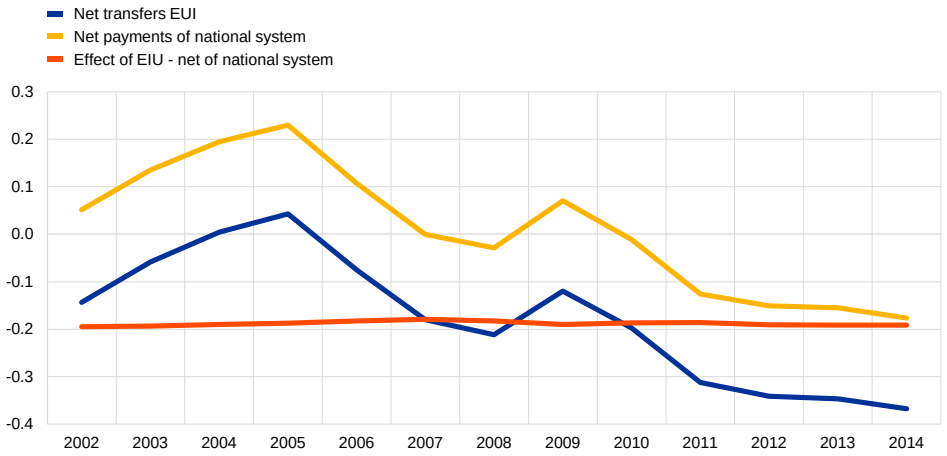


Source: Authors' calculations.

Chart A.2

Comparison of payments of European and national unemployment system based on Scheme A in Germany

(in % of GDP)



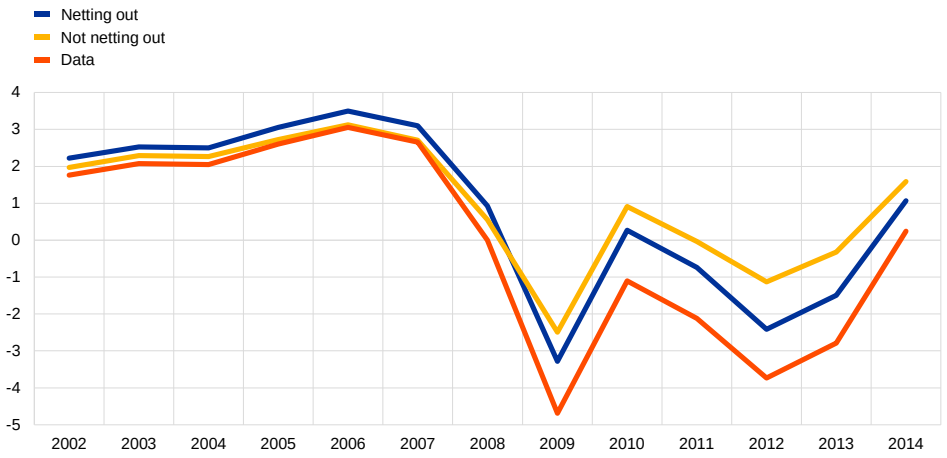
Source: Authors' calculations.

Under Scheme A, netting out the effects of alternative national systems basically reduces the effects of an EUI to a net transfer that is relatively constant over time. Chart A.1 illustrates for Spain that a national system based on Scheme A would have recorded substantial surpluses in the boom years before 2008 and deficits of a similar magnitude after that. An EUI based on Scheme A would have led to Spain receiving net transfers each year between 2002-2014, which would have been relatively low before 2008 and substantially higher after that. Netting out the effects of the national system (with a pattern over time basically mirroring the effects of the European system) leaves a relatively constant net transfer each year. As the national system has to balance its payments over time, this transfer equals the average annual transfer of an EUI under Scheme A to Spain (around 0.9 pp. of GDP; see Chart 8). In the case of Germany (see Chart A.2), the general mechanism is the same, while the pattern of the cycle differs somewhat. Netting out in this instance leads to a net payment of almost −0.2 pp. of GDP, which is also relatively constant over time (compare with Chart 8, in which average net payments of a similar magnitude are reported).

Chart A.3

Stabilisation of the economic cycle under different scenarios in Spain

(in pp. deviations from average GDP growth 2002-2014)

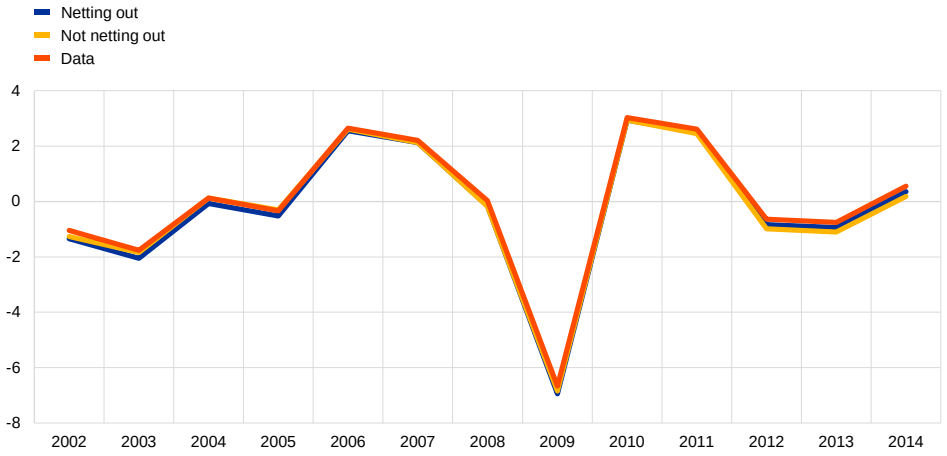


Source: Authors' calculations.

Chart A.4

Stabilisation of the economic cycle under different scenarios in Germany

(in pp. deviations from average GDP growth 2002-2014)



Source Authors' calculations.

The impact of an EUI based on Scheme A is substantially smaller if the effects of alternative national systems are netted out. Chart A.3 shows how the cyclical development of the Spanish economy – measured in terms of percentage point deviations of real GDP growth from its 2002-2014 average – would have been smoothed by an EUI based on Scheme A with and without netting out the effects of a national system that provides the same level of benefits. In this analysis, the state-dependent fiscal multipliers discussed above were applied to the net payments under the EUI (in one version on the net transfers from the EUI and in another on the net transfers of the EUI minus the net transfers from the national system). Netting out reduces the stabilisation effect over the cycle assigned to the EUI, indicating that a part of this stabilisation would also have been achieved based on a national system.

In the case of Germany (see Chart A.4), the stabilisation effects are far smaller – also because of Germany's much lower average net payment to an EUI when compared to the EUI's net transfer to Spain. Furthermore, they also go in the opposite direction as an EUI would have amplified business cycle fluctuations in Germany. This is because Germany would have been a net contributor even during downturns in the German economy at the beginning and at the end of the period analysed (see Chart A.2).

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