



Design of a European Unemployment Benefit Scheme

Miroslav Beblavý, Karolien Lenaerts and Ilaria Maselli

Abstract

In this extensive report, we assess how a European unemployment benefit scheme (EUBS) could be designed. To this end, we examine 18 EUBS variants, 4 equivalent and 14 genuine schemes, and their key features. Some of these features can also be found in national unemployment benefit schemes, while others are more related to the EUBS context. We analyse the design of a common EUBS in previous literature and combine these insights with results for the legal and operational options as well as constraints and the economic value added obtained as part of our study on the “Feasibility and Added Value of a European Unemployment Benefit Scheme”. All this information is integrated into a summary fiche for each of the 18 EUBS variants studied. In addition, the report deals with a range of policy issues including convergence, minimum requirements and accession criteria.

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List of abbreviations

EA	Euro area
EMU	Economic and monetary union
EUBS	European unemployment benefit scheme
FUA	Federal Unemployment Account (US)
GDP	Gross domestic product
M	Month
NAWRU	Non-accelerated wage rate of unemployment
NUBS	National unemployment benefit scheme
SD	Standard deviation
STU	Short-term unemployment
TFEU	Treaty on the Functioning of the European Union
ToR	Terms of reference
TU	Total unemployment
UBS	Unemployment benefit scheme
V1-18	Variant options of the European unemployment benefit scheme (18 in total)

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Miroslav Beblavý, Karolien Lenaerts and Ilaria Maselli*

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1. Introduction

While the European economic and monetary union (EMU) is still recovering from the Great Recession and its consequences for EMU member state economies, labour markets and citizens, the crisis has revived a longstanding debate on the EMU's institutional architecture. Especially in the aftermath of the crisis, there has been a widespread call to reform the EMU, after it became clear that its stabilisation mechanisms were insufficient to prevent economic shocks and mitigate their effects. The 2015 Five Presidents' Report, for example, has put forward a proposal to establish a common fiscal capacity to deal with economic shocks (Juncker et al., 2015). A European unemployment benefit scheme (EUBS) has long been discussed as a potential stabiliser, among other options.

In this report, we examine how an EUBS could be designed. To this end, we explore 18 different variants (drawing inspiration from the terms of reference (ToR) guiding our study on the "Feasibility and Added Value of a European Unemployment Benefit Scheme", which was initiated by the European Parliament and commissioned by the European Commission). Building on the literature and other work that has been carried out in light of the project, the report thoroughly analyses the potential design of the 18 variants and their main features. Two types of EUBS variants are distinguished throughout this report: *equivalent* and *genuine* schemes (representing 4 and 14 out of the 18 options respectively). For both types, an in-depth analysis of the features of the different options is undertaken. In the report, we focus on issues related to the design of a potential EUBS and the policy challenges that this brings.

The remainder of this report is structured as follows. The second section of the report comprises a general presentation of the 18 policy options. The section clarifies the difference between equivalent and genuine schemes and points out the key features through which both types, and the different options within these types, can be differentiated. The section also presents a preview of the key policy features of an EUBS and what they look like in our work.

Section 3 consists of a comparison of the 18 policy options for an EUBS with the experiences of other countries. The section builds upon an earlier literature review of the existing unemployment insurance schemes in federations within and outside the EU. This review comprised eight case studies (Australia, Austria, Belgium, Canada, Denmark, Germany, Switzerland and the US). We indicate in section 3 which of the different options best matches each of the case studies.

In section 4, we analyse the distribution of unemployment shocks (for short-term and total unemployment rates) across Europe. To this end, we first take a graphical approach and then continue by performing normality tests. The analysis of the distribution of shocks is motivated by the fact that if such shocks are normally distributed, then all countries have the same probability of being a beneficiary

* Miroslav Beblavý is Senior Research Fellow at CEPS and Karolien Lenaerts is Researcher at CEPS. Ilaria Maselli is Senior Economist at The Conference Board. The authors are grateful to the consortium partners for their feedback and input. The authors are also grateful to Gabriele Marconi for his contribution in the early stages of the project. This report was prepared for the study entitled "Feasibility and Added Value of a European Unemployment Benefits Scheme" commissioned by DG EMPL and carried out by a Consortium led by CEPS.

of an equivalent EUBS (over a sufficiently long period of time). In addition, this would also provide support for the political acceptability of the genuine EUBS. This analysis provides us with more insight into the types of shocks that generally affect countries.

Section 5 then presents an analysis of the 18 policy options and their main features, one by one. This section is at the heart of the study because it outlines the features that make up each of the 18 options. The section further summarises – for each feature – the related literature, the most important trade-offs that the selection of the feature involves and the choices that were made to come up with operational definitions to be used in the micro- and macro simulations of the EUBS in a later phase of the project. To be more precise, the section first introduces the trigger, a feature that is only applicable to the equivalent EUBS. The subsequent parts of the section address the pay-in, experience rating and claw-back, along with the possibility of the supranational fund to issue debt. These features are relevant to both types of EUBS. The final parts of section 5 cover all the other features. These features are especially relevant to the genuine schemes, as they differ across options 5-18. In the equivalent schemes these features are also relevant, but they are identical in each of the four cases.

In section 6, the issue of minimum requirements is addressed. Both equivalent and genuine EUBS can be linked to minimum requirements for national unemployment benefit schemes (NUBS) and activation policies. More specifically, the section deals with the potential risks of moral hazard on the one hand and of ineffectiveness of the scheme due to low coverage on the other hand. These risks may result from a substantial decentralisation of eligibility conditions to member states. Section 6 is further devoted to issues such as accession criteria, voluntary and involuntary opt-outs, opt-ins and convergence.

Section 7 presents a fiche for each of the 18 policy options. Each fiche comprises an overview table of the main features, the economic impacts, the legal and operational impacts of the option, and some general remarks. The economic impacts include the results of the micro- and macro simulations (stabilisation, redistribution and transfers), the value added of the scheme (labour mobility, structural reforms, and confidence on the part of markets and agents) and the risk of moral hazard. The legal and operational impacts refer to the compatibility with national laws and practices of member states and with the EU legal framework. In each fiche, countries or cases that require further attention are highlighted.

In section 8, the final section of the report, we present some concluding remarks to reflect on the work that has been carried out in light of this report and in the project at large. As European policy-makers are still searching for an automatic stabiliser to complete EMU and the EUBS has long been discussed as a potential stabiliser, this report has strived to inform policy-makers on the factors they need to take into consideration when designing a common, European unemployment insurance scheme.

2. Presentation of 18 policy options for an EUBS

This section presents an in-depth analysis of 18 policy options for the EUBS. The 18 options can be divided into two groups, *equivalent* and *genuine* schemes, which are further characterised by a range of *features* or parameters. The section first clarifies the distinction between these two types of schemes and then describes each of the features in detail. Specifically, for each of the features we provide a conceptual and an operational definition, discuss in detail why specific parameters were chosen, compare the definitions of these features with those in the current literature and, when possible, give an overview of related empirical or simulation results. In each case, baseline and alternative variants of the features are explored. The operational definitions of the various features will be used to construct the different EUBS for the micro- and macro simulations of their impact. These simulations will be carried out in a later stage of the project. To better embed this section in the literature, we also draw on the review of the existing realities in federations within and outside the EU (Vandenbroucke and Luigjes, 2017) as well as the review of current proposals for a supranational unemployment benefit scheme (Beblavý et al., 2015b).

The 18 policy options are closely related to each other, because each one is a combination of different variants of the features described in this section. Some of these features have been comprehensively defined in the ToR for the project. In these cases, we carefully describe the features and review the relevant literature. For other features, we have chosen some aspects of the definition (particularly the operational definition, which is used in the simulation exercises). In such cases, our analysis extends beyond a description of the feature and a literature review, and also makes explicit our choices for the operational definitions of the features and the reasoning that led to these choices. In these cases, we present an overview of the different options that we explored and a detailed explanation as to why we prefer specific parameters or variables to their alternatives. We also consider the implications of these choices. We rely on related empirical work to verify our feature definitions and to provide support for these choices, which are also validated by the simulations performed in other tasks of the project.

A European unemployment benefit scheme is one form of a supranational automatic stabiliser that could be introduced in Europe. An EUBS would contribute to the welfare of European citizens in times of crisis and, by reinforcing fiscal capacity, to crisis prevention by breaking the vicious circle of economic and financial crises. Besides stabilisation and crisis prevention, an EUBS would also act as a mechanism for redistribution. Stabilisation and (re)distribution reinforce each other. It can be argued that a downturn will affect primarily the more vulnerable workers (e.g. the low-skilled, who have the lowest hiring and firing costs). An uneven distribution of the adjustment burden may strengthen the intensity and persistence of the downturn (e.g. as low-income earners typically have a higher propensity to consume – adversely affecting aggregate demand).

2.1. Genuine versus equivalent schemes

A key distinction that is made in this study is that between equivalent and genuine schemes. Out of the 18 options that we explore, four are *equivalent EUBS*. These schemes involve financial transfers between the supranational fund, which manages the EUBS, and the member states. In these schemes, there are no direct transfers between the supranational fund and unemployed individuals. Note that transfers may still reach unemployed individuals indirectly, if the supranational fund pays the national state which in turn directs the funds towards its unemployed citizens.

Table 1 presents an overview of the four equivalent schemes and the features that differentiate them. The main difference between the equivalent schemes is the design of the trigger (i.e. the threshold level that determines when the funds are disbursed). This is a rather different situation in comparison with

the genuine schemes, in which a number of other features come into play as well. Table 1 lists the main characteristics of the four equivalent schemes through which they can be distinguished from each other. These are, apart from the *trigger*, the presence of *experience rating*, the presence of a *claw-back* mechanism, and the possibility for the supranational fund to issue *debt*. Note that the definitions of the features can be found in the glossary in appendix I.

As is clear from Table 1, the trigger is defined in a similar way for each of the variant (V) options, but the cut-off level differs. In the ‘rainy day’ scenario (options V2 and V3), the cut-off is set at 0.1%, which means that the trigger is pulled very frequently. In this scenario, the trigger is activated when the recorded short-term unemployment rate at quarter t minus its average in the last 40 quarters ($t-40, \dots, t-1$) exceeds 0.1%. This scenario covers nearly all shocks. The cut-off is set at 1% in the ‘stormy day’ scenario (V1) and at 2% in the case of ‘reinsurance of national UBS’ (V4). The latter only covers very severe recessions. The selection of these three cut-off values is documented in the following sections. Note that experience rating is not implemented in the ‘stormy day’ scenario, while claw-back is not present in the ‘reinsurance’ scenario. In two of the options, the supranational fund can issue debt to deal with short-term imbalances.

Table 1. An overview of the equivalent systems

	V1/18 Stormy day	V2/18 Rainy day with debt	V3/18 Rainy day without debt	V4/18 Reinsurance of national UBS
Trigger	$UR_{t,i} - \overline{UR}_{i,t-40 \dots t-1} > 1\%$	$UR_{t,i} - \overline{UR}_{i,t-40 \dots t-1} > 0.1\%$	$UR_{t,i} - \overline{UR}_{i,t-40 \dots t-1} > 0.1\%$	$UR_{t,i} - \overline{UR}_{i,t-40, \dots, t-1} > 2\%$
Experience rating	No	Yes	Yes	Yes
Claw-back	Yes	Yes	Yes	No
Debt-issuing possibility	Yes	Yes	No	No

Source: Authors’ re-elaboration based on the ToR.

The remaining 14 options are *genuine EUBS*, which do involve direct transfers from the supranational fund to unemployed citizens. In genuine schemes no trigger is required, as these schemes are activated for any eligible worker who becomes unemployed.

An overview of the 14 options and the features that are particularly relevant in these cases is provided in Table 2. These features are a *basic or top-up scheme* (V6); the *duration* of the benefits (V7 and V8); the *replacement rate* of the benefits (V9 and V10); the *eligibility* criteria (the minimum requirements to be able to qualify for the scheme, V11 and V12);¹ *capping* (with benefits that are capped upwards, such that beneficiaries do not receive more than a certain amount, V13 and V14); *cyclical variability* (with features that are affected by the economic cycle, e.g. the duration of benefits, V15); the presence of *experience rating* (V16); the presence of a *claw-back* mechanism (V17); and the possibility for the supranational fund to issue debt (V18). For the exact definitions of each of these features we again refer to the following sections and the glossary in appendix I. In its most basic form as represented in V5, the

¹ Note that in the modelling exercises, V11 and V12 are operationalised as follows: V11 has an eligibility of 6 months (M) out of 12M, while V12 has an eligibility of 9M out of 12M.

genuine EUBS is a basic scheme that provides benefits from the beginning of the fourth month until the end of the twelfth month to all unemployed individuals who have worked at least three out of the last twelve months. The replacement rate is set at 50% of the reference wage and capped at 150% of the average national reference wage. The scheme is further characterised by experience rating, claw-back and the possibility of the supranational fund to issue debt. There is no cyclical variability in this baseline scheme. For the duration, the replacement rate, the eligibility and the capping features, the alternative variants include both an extension (e.g. a replacement rate of 60% instead of 50%) and a reduction (e.g. 35% instead of 50%).

Table 2. An overview of the genuine systems

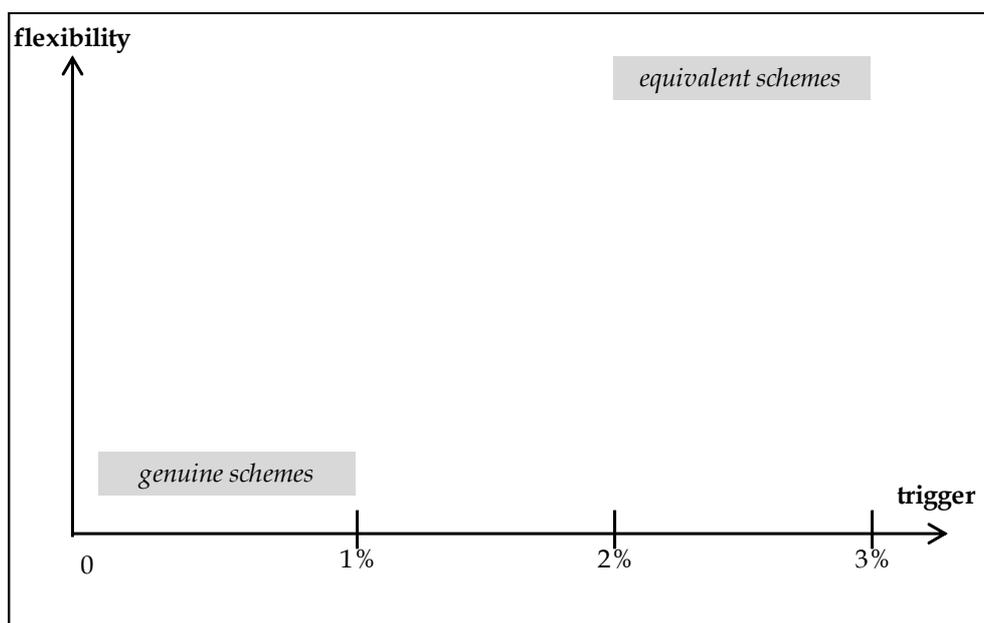
	Basic or top-up	Duration	Replacement rate (%)	Eligibility	Capping (%)	Cyclical variability	Experience rating	Claw-back	Debt
V5/18	Basic	M3-M12	50	3M out of 12M	150	No	Yes	Yes	Yes
V6/18	Top-up	M3-M12	50	3M out of 12M	150	No	Yes	Yes	Yes
V7/18	Basic	M0-M12	50	3M out of 12M	150	No	Yes	Yes	Yes
V8/18	Basic	M3-M6	50	3M out of 12M	150	No	Yes	Yes	Yes
V9/18	Basic	M3-M12	35	3M out of 12M	150	No	Yes	Yes	Yes
V10/18	Basic	M3-M12	60	3M out of 12M	150	No	Yes	Yes	Yes
V11/18	Basic	M3-M12	50	3M out of 6M	150	No	Yes	Yes	Yes
V12/18	Basic	M3-M12	50	12M out of 24M	150	No	Yes	Yes	Yes
V13/18	Basic	M3-M12	50	3M out of 12M	100	No	Yes	Yes	Yes
V14/18	Basic	M3-M12	50	3M out of 12M	50	No	Yes	Yes	Yes
V15/18	Basic	M3-M12	50	3M out of 12M	150	Yes	Yes	Yes	Yes
V16/18	Basic	M3-M12	50	3M out of 12M	150	No	No	Yes	Yes
V17/18	Basic	M3-M12	50	3M out of 12M	150	No	Yes	No	Yes
V18/18	Basic	M3-M12	50	3M out of 12M	150	No	Yes	Yes	No

Source: Authors' re-elaboration based on the ToR.

From the discussion above, one may derive that equivalent and genuine schemes differ in two important dimensions: the trigger (necessary to activate equivalent schemes, but irrelevant for genuine schemes) and the way in which funds are collected and disbursed (directly from/to the unemployed individuals in genuine schemes and from/to countries for equivalent ones). While these dimensions are clear in theory, the distinction between the two types of EUBS in the real world is less clear-cut and straightforward than one may initially expect. As became clear earlier in the project, the existing multi-tiered schemes are often complex and difficult to classify as either equivalent or genuine based on these two dimensions. An example that illustrates this is the American system of Extended and Emergency Benefits. These benefits are considered 'federal' and are conditioned by triggers. However, the Extended and Emergency Benefits are cashed out directly to unemployed individuals; this suggests that

they are genuine in nature. Reality thus seems much more complex than a theoretical framework could capture. A more nuanced way to think of it is that the two ideal types move, according to the specifications in each variant, in a continuous space (as illustrated in Figure 1). The horizontal axis in the figure represents the values of the trigger (with a cut-off of '0' for the genuine schemes and different options for the equivalent ones); the vertical axis represents the flexibility that governments have to operate their own unemployment benefit scheme (UBS; flexibility here captures the level of harmonisation – or the lack thereof – across the various UBS). Moving more towards the 0 on the vertical axis implies a higher level of harmonisation across the member states.

Figure 1. Stylised representation of the continuum of EUBS



Source: Authors' elaboration.

As indicated above, equivalent schemes leave much more flexibility to member states to run their own schemes and are therefore much less problematic than genuine EUBS from the administrative point of view. When it comes to the equivalent schemes, however, there are other complications. In genuine EUBS, the flow of transfers is clear: the supranational fund directly cashes out benefits to any eligible unemployed person. In equivalent EUBS, funds are transferred to national governments. In this case, it is crucial to distinguish between the rules and formulas used to calculate how much a government receives when the trigger is pulled and the rules that determine how a government can spend this sum through the national schemes (laid down in minimum requirements).

If an equivalent EUBS were introduced, one could envisage a simplistic scenario in which **no change** is applied to the NUBS and the supranational fund transfers resources when the local schemes are under financial stress. This would imply an EUBS that simply finances the existing NUBS. This system would help countries to avoid cutting the expenditure on unemployment benefits in a time of crisis. Yet, it would not improve the stabilisation capacity of the national system in question (importantly, the research performed by Dolls and Lewney (2017) and Jara et al. (2017) as part of the project shows that national stabilisation capacity can be particularly low).

The main question therefore is this: **Where does one draw the line in the equivalent EUBS?** To what extent should the funds transferred come with conditions that member states have to respect, and how specific should these conditions then be? One option is that the EUBS pays a lump sum to the country

whose trigger is activated, with some rules attached. For example, a condition could be that the amount of money transferred is spent on at least 75% of the short-term unemployed, leaving the country free to design specific eligibility requirements. An alternative, more stringent possibility is that the lump sum is spent on the same unemployed workers who would qualify for the genuine scheme (as identified in the baseline scenario V5). This is what is simulated by Dolls and Lewney (2017) and Jara et al. (2017). In this case, the only distinction between an equivalent and a genuine scheme is the existence of the trigger.

From this comparison, it follows that there exists a **continuum of minimum requirements** with regard to the regulation of NUBS, ranging from very flexible to rigid. If the EU determines exactly how the member states should spend the lump sum received in the equivalent EUBS, this would correspond to very rigid minimum requirements. If, on the other hand, the EU leaves it largely to the member states to decide how the money can be used, the minimum requirements can be regarded as highly flexible. The case of the genuine EUBS is rather different from that of the equivalent EUBS. For the genuine schemes, it is the EU that defines eligibility, generosity, duration, etc. (possibly allowing nation-specific adjustments, e.g. flat-rate benefits instead of earnings-related benefits in countries that already have such a system). This means that de facto there are no minimum requirements beyond the design of the scheme.

2.2. Design features of the 18 EUBS

To provide the reader with some more details on the design of the features presented above for both the genuine and the equivalent EUBS, we introduce Table 3 below. Table 3 is a summary table that comprises the operational definitions that we propose for each of the nine features: the trigger (when is the scheme activated), pay-in (the contributions requested from countries or individuals), experience rating (accounting for the country's historical unemployment), claw-back (limiting long-term transfers from the system to a particular country), duration (number of months unemployment benefits are paid out), replacement rate (percentage of reference wage paid out as unemployment benefits), reference wage (last gross monthly wage), eligibility (who is entitled to unemployment benefits) and capping (the maximum unemployment benefits that one can receive). When applicable, both the baseline definitions and the alternative ones are provided (e.g. the baseline duration of the unemployment benefits corresponds to 9 months, from M3 to M12, while the alternatives are a longer duration, from M0 to M12 (in V7), and a short duration, from M3 to M6 (in V8)). In this way, the reader can easily compare the operational definitions of the key features that define the 18 EUBS. In Table 3, i generally refers to country i and t stands for quarter t . However, because Table 3 only serves as a summary table, we do not go into detail on the definitions and parameters here, but instead refer the reader to section 5.

The remainder of this report presents each of the 18 EUBS variants in more detail, highlighting their key policy features. It further discusses issues related to convergence, minimum requirements and potential accession criteria, as well as the distribution of unemployment shocks. In the last part of the report, we present 18 fiches, one for each of the 18 variants, which summarises our main results.

Table 3. An overview of the specifications of the systems

	Genuine	Equivalent
Trigger	Not applicable	$Pay\ claim\ if\ UR_{i,t} - \overline{UR}_{i,t-40,\dots,t-1} > \tau$ where UR is the short-term unemployment rate, \overline{UR} the average short-term unemployment rate in the last 40 quarters and τ the cut-off
Pay-in (accounting for experience rating)	$Pay - in = x * w * C$ where w refers to gross salary and C is the coefficient that accounts for the experience rating; pay-in is equally divided between employers and employees ($x = a/2$, x ranges from 0.35 (0.36) in V8 to 1.36 (1.34) in V7 for the EA-19 (EU-27))	$Pay - in = x * GDP_{i,t} * C$; until $z\%$ of EU GDP is reached where the pay-in is a function of the country's GDP and C is the coefficient that accounts for the experience rating, with x equal to 0.1 and z equal to 0.5
Experience rating	$C = \frac{\overline{UR}_{i,t-40,\dots,t-1}}{\overline{UR}_{EU,t-40,\dots,t-1}}$ where \overline{UR} is the average short-term unemployment rate in the last 40 quarters (i.e. the 10-year average of a country's short-term unemployment over the 10-year average of the EU's short-term unemployment; updated every 3 years)	$C = 1 + 0.025 * F_{i,t-40,\dots,t-1}$ where F is the number of times country i recurs to the supranational fund in the past 40 quarters
Claw-back	A specific contribution by the national government of i if $cumulative\ balance_{i,t} > 1\%$ of GDP_i for $t > 20$ (0.2% of GDP, applies after 3 years of negative cumulative balance of more than 1% of GDP)	$C = 2$ in pay - in formula if cumulative balance $_{i,t} > 1\%$ of GDP_i for $t > 20$ (applies after 3 years of negative cumulative balance of more than 1% of GDP vis-à-vis the supranational fund until the balance declines below 1%)
Duration	M3 to M12 (baseline) except in V7 = M0 to M12 V8 = M3 to M6	M3 to M12
Replacement rate	50% of reference wage (baseline), except in V9 = 35% V10 = 60%	50%
Reference wage	Last gross monthly wage	Last gross monthly wage
Eligibility	3M out of 12 M (baseline), except in V11 = 3M out of 6M V12 = 12M out of 24M	3M out of 12M
Capping	150% of the average national gross wage (baseline), except in V13 = 100% V14 = 50%	150% of the average national gross wage

Source: Authors' elaboration.

3. Comparison of 18 EUBS policy options with experiences of other countries

This section is meant to bridge the gap between the present report and the work of Vandenbroucke and Luigjes (2017). The idea is to understand whether any of the 18 ‘ideal types’ matches one or more features of the cases deeply analysed by Vandenbroucke and Luigjes (2017) and to understand if the lessons from these eight cases have been learned.

Australia = Variant 9 and Variant 3. The system is organised centrally and it is financed by general revenue. As a result, there are no direct transfers across regions. Still, since different regions exhibit different unemployment rates, a form of redistribution exists determined by the fact that people living in more prosperous areas contribute more and people living in less prosperous areas recur more to the funds.

The policy mix is the following: low eligibility conditions, high controls to promote activation and ungenerous benefits. The closest of the variants is V9 (genuine), where the replacement rate is 35%. One should mention that the central level also regulates and implements activation, which makes it very different from the idea of a genuine EUBS in the European context, at least if we keep activation as (predominantly) a member state responsibility.

Canada = No specific matching variant. The Canadian system is organised at the federal level. Its origin dates back to the Great Depression, an interesting parallel with the current crisis and the debate on the EUBS. The system is financed by employee and employer contributions (respectively 40 and 60%) and its maximum duration is generally 52 weeks. The system does not match a specific variant, but can be classified as ‘genuine’.

What makes it interesting is a feature not directly matched by any of the 18 variants analysed in this study. The benefit rates are not equal across the country, but higher in those regions where the unemployment rate is higher! Moreover, in regions facing a downturn, the eligibility criteria are eased and the duration is prolonged. As a result, the system is effective in terms of shock absorption and also highly redistributive. As such, it is organised in the opposite way of the EUBS, which always have correction mechanisms based on experience rating and claw-back.

Austria = Variant 6. The Austrian labour market governance is relatively centralised. Like in all the genuine systems as a default option, the Austrian unemployment benefit system is financed by employee and employer contributions. Payments are granted for up to 52 weeks (like in most variants).

An interesting feature is the equalisation payment. Austria has a history of low replacement rates. To avoid falling below a social minimum, the system foresees the possibility to top up the replacement rate, which can reach up to 80% for a wage earner below the median income (this applies to social assistance, not to the unemployment benefits). The goal of such provision in Austria is to force Länder to attain certain replacement rates for social assistance benefits. This feature contains similarities to V6.

Belgium = Variant 16. The Belgian case is interesting because, among those analysed, it is the one where the issue of moral hazard emerges more aggressively. This is due to the combination of two factors: the generosity of the system and the substantial differences in terms of unemployment rates among the three regions. Such structural redistribution has led over time to political tensions among the different levels of government. This makes Belgium similar to the ‘missing variant’ in the list of 18, and precisely the one where neither the experience rating nor claw-back mechanisms are foreseen to correct the redistributive element of the system. As this variant is inexistent, the one closest to it is V16, where only the claw-back is present and by design it is pulled only in case of a negative balance of a country vis-à-vis the supranational fund for more than three years.

Finally, **Germany, Denmark** and **Switzerland** have all put in place UBS that belong to the category of 'genuine'. However, their specificity does not match any of the 18 variants considered for the EUBS.

US = Variant 15. It is difficult to clearly classify the American system under the equivalent/genuine dichotomy. Unemployment insurance, in normal times, is not redistributive as each state has its own account in the Unemployment Trust Fund. National funds can borrow from the central fund (Federal Unemployment Account, FUA) but have to restore the balance to zero in the long-term. If the outstanding loan is not repaid by that time, the state will face an effective federal tax increase (Whittaker, 2012).²

Yet, the system introduces a distributive element in case of major recessions. If no sign of recovery is present in the economy and the unemployment rate stays high, Congress can approve extended benefits and emergency benefits. The presence of a trigger for the Extended and Emergency Benefits makes the system 'mixed'.

Among the 18 variants, V15 is the closest to the US system. In this option the opportunity to include 'cyclical variability' will be tested. As can be read in the project ToR (p. 8): "the values for one or more dimensions change during a 'deep downturn'. One example would be a longer duration, such as in the case of 'extended benefits' in the US." This variant is interesting as it complements the 'insurance' aspect of the policy with a solidarity element across member states.

One more feature is interesting about the US case: the existence of minimum requirements. Unlike in all other systems considered, where the parameters of the unemployment insurance are defined at the federal level, in the US only a floor is harmonised. States are then free to be more generous with the unemployed, which translates into higher contributions by employers.

² In the US system, unemployment compensation benefits are financed through employer taxes (federal and state payroll taxes). With regard to the federal unemployment taxes, a gross tax rate of 6% is imposed. In states with programmes approved by the federal government and without any delinquent federal loans, this rate is reduced to only 0.6%. In times of economic downturn, state taxes and reserve balances may prove to be insufficient to cover the expenditure for unemployment benefits. If a state is unable to pay unemployment benefits, it does not have a programme that meets federal law and therefore employers will be subjected to a federal tax rate of 6%. Moreover, the state may need to borrow money from a dedicated loan account (FUA) or outside sources. Even in case of the former, interest rates are applied to the borrowed funds related to new loans when they have not been repaid by the end of the fiscal year in which they were obtained. It is strictly regulated which funds may or may not be used to pay interest, as well as when this needs to happen. The American Recovery and Reinvestment Act of 2009 temporarily waived interest payments. In contrast to the US system, the EUBS would not apply interest. The idea of charging interest runs counter to the idea of an insurance and risk-sharing. Moreover, the system is already based on wage growth and GDP growth, so this is accounted for to some extent. Another point is that the current interest rates are very low and likely to remain low for an extended period of time.

4. Analysis of the distribution of unemployment shocks

In this section, we investigate whether the short-term and total unemployment rates in various countries across Europe are normally distributed. This analysis is particularly relevant for equivalent schemes, where a trigger determines when the funds are disbursed. The main issue is the following: if ultimately unemployment shocks are normally distributed, then all countries have the same probability of being a beneficiary of the scheme (when a sufficiently long period of time is considered) (Beblavý et al., 2015a).

This analysis is also useful as it helps to determine the types of shocks that generally affect each country (i.e. positive or negative, large or small shocks). Since we consider both the short-term and total unemployment rates in the design of the trigger, we examine the normality of both distributions.

To obtain a sufficiently long period for our analysis, we extracted data from AMECO (total unemployment rates, covering 1980–2014) and Eurostat (short-term unemployment rates, covering 1990–2014). As data were not available for several countries for this period, the analysis is limited to a subset of countries (of which the majority are EU-15 members). We thus examine the distribution of shocks in a range of countries that differ (substantially) as far as the structure and functioning of their economy is concerned. Even though AMECO offers data for an even longer period for some countries (i.e. covering also the 1960s and 1970s), we decided to exclude these years as unemployment in that period was at a different level and had a very different structure from later years. We further considered the impact of the recent crisis on the distribution of the unemployment rates by including or excluding the years 2009–14 in our analyses, of which the results are displayed in the top and bottom panels of the tables below, respectively.

Our analysis of the distribution of shocks comprises two steps. As a first step, the distribution of shocks is explored graphically. The second step involves a more formal analysis, in which we make use of different normality tests. From the graphical analysis, it is immediately clear that in some countries unemployment is normally distributed (e.g. Belgium) while in other countries this is not the case (e.g. France). When the EU (EU-15) or the euro area as a whole is considered, however, distributions appear to be normal. Normality tests of the different distributions lead to a similar conclusion: in about half of the countries shocks are normally distributed. When the EU and the euro area are studied, the same result is found. Austria, Belgium, the Netherlands and Spain have normally distributed shocks in all cases, regardless of the period or the type of unemployment considered. The opposite applies to Ireland and Latvia, where normality is rejected every time. The period considered does seem to have a big impact on the distribution in some cases, though this does not apply to the EU and the euro area. A clear example of this result is the inclusion or exclusion of the recent crisis years (2009–14). For some countries, the result is also dependent on the unemployment measure used (total or short-term rates).

How can these results be interpreted? A first important finding is that in many countries the normality of the distribution of shocks is confirmed, regardless of the period considered and the unemployment measure used. This finding also applies to the EU and the euro area, a result that provides clear support in favour of risk sharing across countries. Nevertheless, normality is difficult to reject, and therefore the fact that in the other half of the sample unemployment shocks are not normally distributed requires further analysis. In this regard, for a number of countries normality is rejected because of the small tails of their distributions (which are fairly symmetric) in comparison with the normal distribution, which indicates that large shocks are less frequent. Still, one should further keep in mind that our time series are relatively short, which can affect results, as illustrated by the test in which the period 2009–14 is

excluded. Additionally, our analysis covers unemployment rates (levels) at annual frequency. We do not consider changes in unemployment levels. We opted for this approach for two reasons. First, unemployment levels change drastically from one quarter to the next, which severely complicates and precludes an analysis based on changes. Second, the dynamics of unemployment rates reflect the cycle well, given the strong correlation with changes in GDP (despite the fact that unemployment rates have a structural component).

4.1. Analysis

In this section, we first perform a graphical analysis of the distributions of the short-term and total unemployment rates and then continue with more formal tests. To this end, we make use of two datasets. The first dataset holds data on total unemployment rates, which we collected from AMECO. This dataset covers 15 EU countries, for which data are available and complete since the 1980s. We use this dataset because it allows us to have a longer time series. The countries included are Austria, Belgium, Denmark, Finland, France, Germany,³ Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK. This implies that even though new member states are excluded, countries with (very) different labour markets and economies are still covered in our analysis. We further extract data on total unemployment rates from AMECO for the EU and the euro area as a whole (covering the period 1980–2014, when possible). The second dataset was obtained from Eurostat and covers short-term unemployment rates. Unfortunately, these data are only available for a subset of countries (eight countries) and for a shorter period. In this case, we study Belgium, Denmark, Finland, France, Italy, Latvia, Luxembourg and the Netherlands in the period 1990–2014.

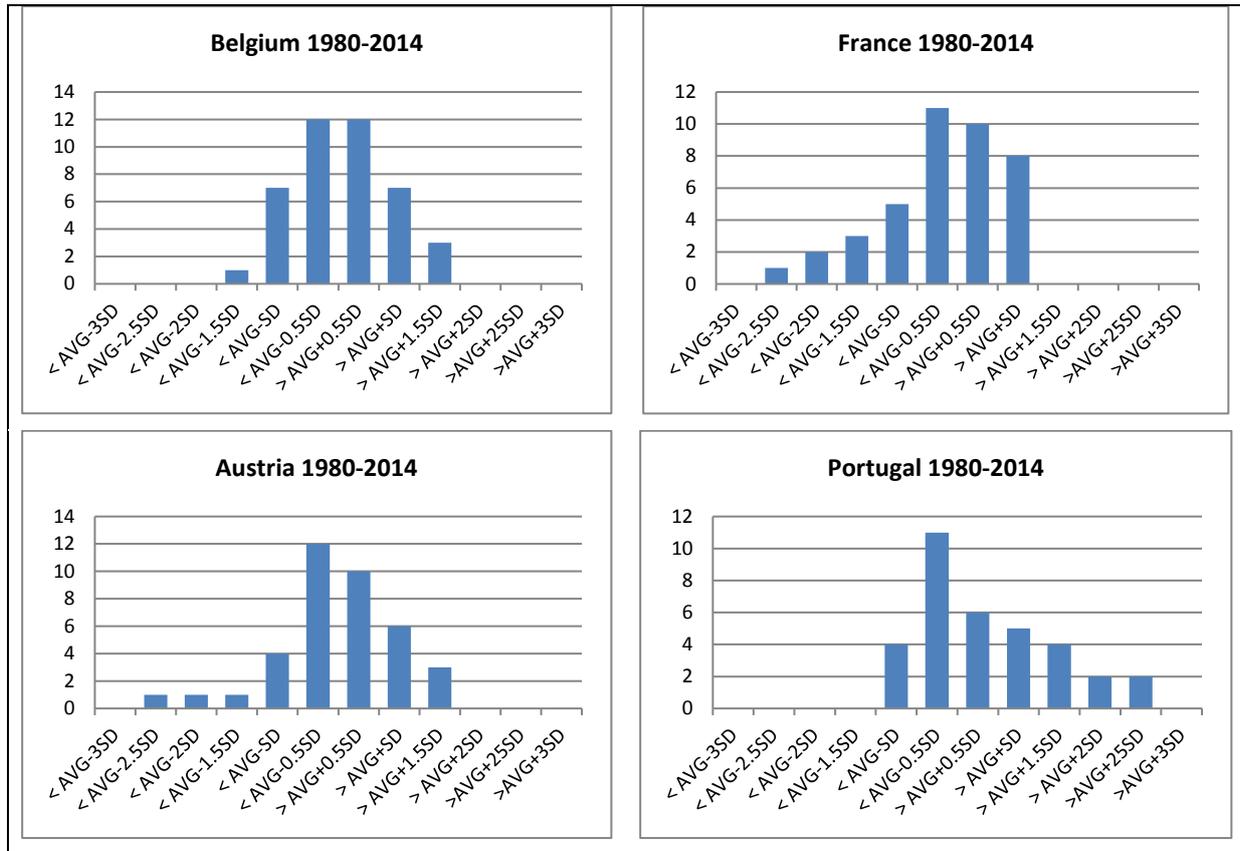
4.1.1. Graphical analysis

For the graphical analysis, we look at the distribution of unemployment shocks in the following way: we count how many times the unemployment rate is higher or lower than x times its standard deviation. In this exercise, x ranges from 0.5 to 3 and varies with steps of 0.5. As indicated above, we consider both the total and short-term unemployment rates, but only present graphs based on total unemployment here (i.e. the AMECO data, for which we have a longer time series).

Some examples are pictured in Figure 2 below, in which each panel holds the graph of one country (i.e. for Belgium, France, Austria and Portugal). In each graph, the number of times the total unemployment rate exceeds the cut-off is depicted on the vertical axis, while the horizontal axis displays the cut-off values. The top right panel of Figure 2 shows the distribution of the total unemployment rate in Belgium, which appears to be normal. In the other panels of Figure 2, the distribution of total unemployment does not appear to be normal (with Austria and Portugal showing an opposite pattern). For France, the distribution is strongly left-skewed, meaning that no large, negative unemployment shock is observed during the period.

³ The data series refer to West Germany during 1980–90 and to the full country from 1991 onwards.

Figure 2. Distribution of shocks in Belgium, France, Austria and Poland

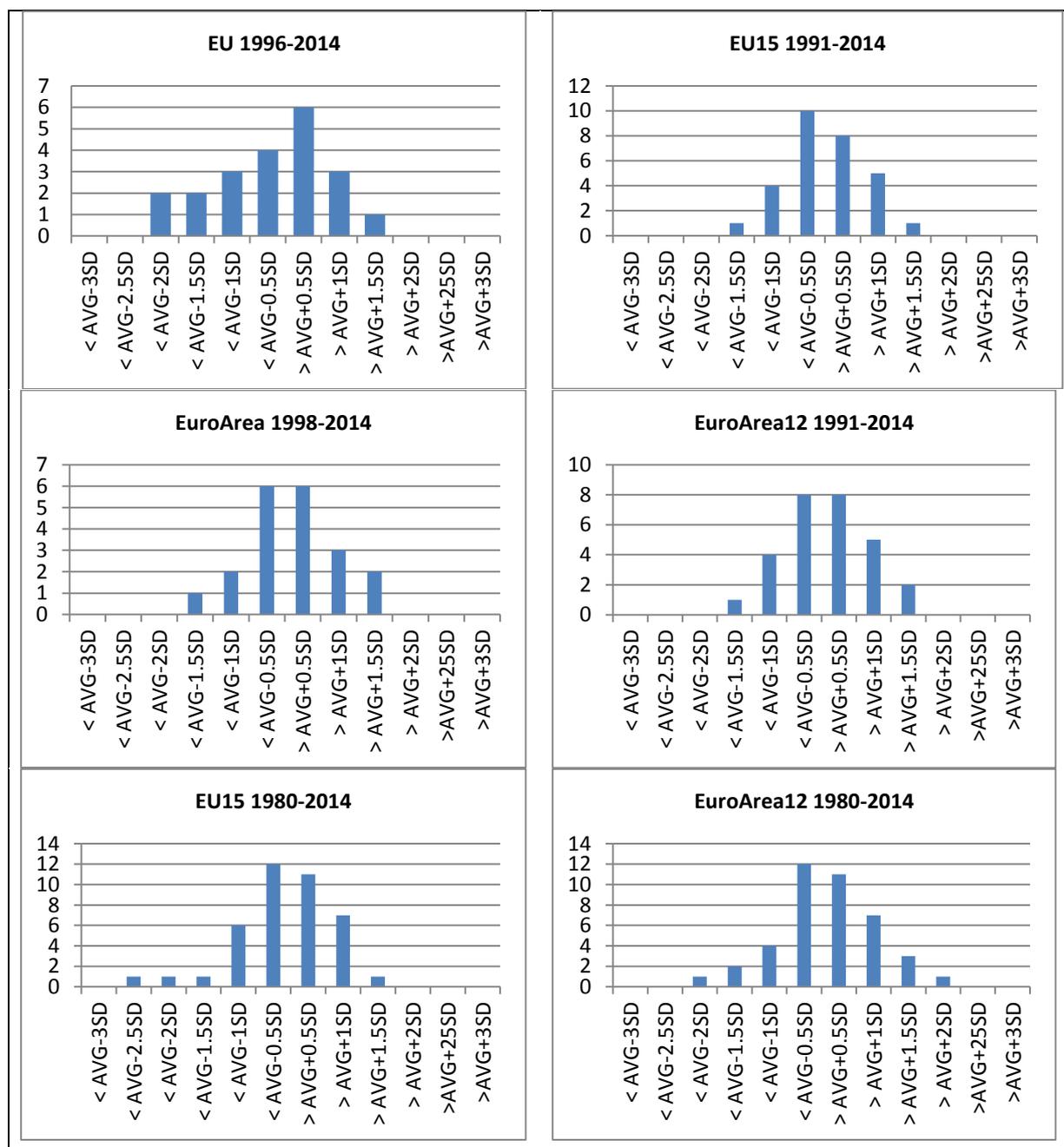


Note: Data are extracted from AMECO and cover total unemployment rates in the period 1980–2014.

Source: Authors' elaboration based on AMECO data.

The distribution of unemployment shocks in the EU and the euro area is studied in a similar way as before. Figure 3 depicts the distributions for these regions. When the longest time series available is considered – for the euro area-12 during 1980–2014 – the distribution is normal (the last panel of Figure 3). The chart for the EU-15 during this period also appears to be fairly normal (slightly left-skewed).

Figure 3. Distribution of shocks in the EU and the euro area



Notes: Data are extracted from AMECO and cover total unemployment rates in the period 1980–2014. The bottom two panels of the figure (EU-15 1980–2014 and euro area-12 1980–2014) include a data series for Germany that refers to West Germany in 1980–90 and to the country as a whole in 1991–2014.

Source: Authors' elaboration based on AMECO data.

4.1.2. Analysis based on normality tests

The second step of the analysis is based on normality tests. As before, total as well as short-term unemployment rates are considered. In both cases, we use two tests, the skewness and kurtosis test for normality and the Shapiro-Wilk normality test, and consider two periods (with and without 2009–2014). We first discuss the results for total unemployment and then focus on short-term unemployment. For

total unemployment rates, we not only show results for individual countries but also for the EU and the euro area.

Analysis of the total unemployment rates (AMECO data) for the period 1980–2014

First test: To test the normality of the unemployment distributions, the skewness and kurtosis test for normality (sktest) was used (in the statistical package Stata). This test requires at least eight observations and entails a normality test based on the skewness and kurtosis of the distribution (which are combined into an overall test statistic). The null hypothesis for this test is that the variable under examination is normally distributed. Two periods are studied: 1980–2014 and 1980–2008 (to see the extent to which the crisis has an impact on the shape of the distribution). The results are presented in Table 4. The countries indicated in red and bold are countries where unemployment shocks are not normally distributed (p-value > 10%). When the period 1980–2014 is considered, for 7 out of the 15 countries the null hypothesis is rejected at the 10% level (in the top panel of the table). This implies that total unemployment is not normally distributed in *Ireland, Greece, France, Luxembourg, Portugal, Sweden* or the *UK*. The first two columns show whether the skewness and kurtosis of the distribution are significantly different from those of a normal distribution. This appears to be the case for Greece, whereas for the remaining countries either the skewness or the kurtosis differs significantly. The bottom panel of the table shows results for the period 1980–2008. The results do appear to be influenced by the Great Recession. In this case, for 4 out of 15 countries (*Ireland, Portugal, Sweden* and the *UK*) the distribution is not normal, as the null hypothesis is rejected at the 10% level. This appears to be caused by the kurtosis of the distribution for these countries.⁴

Second test: The results of the first test were verified with a second normality test – the Shapiro-Wilk normality test (swilk command in Stata). For the top panel of Table 5, it is clear that the results are fairly similar to those for the first test (with the exception of *Finland*, which now appears to have a non-normal distribution). A similar conclusion is reached when the period 1980–2008 is used instead (in the bottom panel of the table), with the exception of *Finland* and *Luxembourg*.⁵

⁴ When the tests are repeated for unemployment changes, normality is rejected at the 10% level for 8 countries in the top panel (Denmark, Ireland, Greece, Spain, Luxembourg, Finland, Sweden and the UK) and 6 countries in the bottom panel (Denmark, Luxembourg, the Netherlands, Finland, Sweden and the UK).

⁵ Similarly, when changes are considered, normality is rejected at the 10% level in 7 countries in the top panel of the table (Ireland, Greece, Spain, Luxembourg, Finland, Sweden and the UK) and in 5 countries in the bottom panel (Luxembourg, the Netherlands, Finland, Sweden and the UK).

Table 4. Normality test using AMECO data on total unemployment (*sktest*), by country

1980-2014				
	Pr (Skewness)	Pr (Kurtosis)	adj chi2(2)	Prob>chi2
Belgium	0.510	0.175	2.45	0.2939
Denmark	0.770	0.082	3.37	0.1856
Germany*	0.778	0.970	0.08	0.9602
Ireland	0.286	0.000	12.09	0.0024
Greece	0.000	0.004	18.40	0.0001
Spain	0.715	0.353	1.05	0.5908
France	0.053	0.234	5.04	0.0803
Italy	0.327	0.427	1.70	0.4273
Luxembourg	0.105	0.136	4.82	0.0896
Netherlands	0.123	0.437	3.24	0.1981
Austria	0.899	0.913	0.03	0.9861
Portugal	0.004	0.107	9.11	0.0105
Finland	0.041	0.637	4.48	0.1064
Sweden	0.473	0.001	9.96	0.0069
United Kingdom	0.483	0.010	6.44	0.0399
1980-2008				
	Pr (Skewness)	Pr (Kurtosis)	adj chi2(2)	Prob>chi2
Belgium	0.901	0.056	3.92	0.1406
Denmark	0.368	0.121	3.54	0.1706
Germany*	0.336	0.685	1.17	0.5585
Ireland	0.721	0.000	17.35	0.0002
Greece	0.239	0.597	1.81	0.4053
Spain	0.861	0.083	3.34	0.1881
France	0.184	0.349	2.90	0.2346
Italy	0.739	0.189	1.99	0.3688
Luxembourg	0.033	0.784	4.65	0.0976
Netherlands	0.227	0.629	1.84	0.3990
Austria	0.695	0.239	1.66	0.4354
Portugal	0.683	0.033	4.72	0.0943
Finland	0.087	0.727	3.36	0.1860
Sweden	0.806	0.005	7.10	0.0287
United Kingdom	0.563	0.000	10.77	0.0046

* Indicates that these data series refer to West Germany from 1980 to 1990 and to Germany from 1991 to 2014.

Source: Authors' elaboration based on AMECO data.

Table 5. Normality test using AMECO data on total unemployment (swilk), by country

1980-2014 (N=35)				
	W	V	z	Prob>z
Belgium	0.96588	1.218	0.411	0.34040
Denmark	0.96852	1.124	0.243	0.40388
Germany*	0.99394	0.216	-3.197	0.99931
Ireland	0.88679	4.041	2.915	0.00178
Greece	0.74385	9.143	4.619	0.00000
Spain	0.97461	0.906	-0.205	0.58127
France	0.94412	1.995	1.441	0.07475
Italy	0.97057	1.050	0.103	0.45910
Luxembourg	0.91243	3.126	2.379	0.00868
Netherlands	0.96950	1.089	0.177	0.42964
Austria	0.96627	1.204	0.387	0.34935
Portugal	0.88226	4.202	2.997	0.00136
Finland	0.92572	2.651	2.035	0.02091
Sweden	0.91350	3.087	2.353	0.00931
United Kingdom	0.94468	1.975	1.420	0.07776
1980-2008 (N=29)				
	W	V	z	Prob>z
Belgium	0.95785	1.306	0.552	0.29061
Denmark	0.94726	1.635	1.014	0.15529
Germany*	0.98780	0.378	-2.007	0.97764
Ireland	0.88260	3.631	2.661	0.00390
Greece	0.96597	1.055	0.110	0.45637
Spain	0.96249	1.163	0.311	0.37788
France	0.94928	1.572	0.933	0.17537
Italy	0.96292	1.149	0.287	0.38708
Luxembourg	0.89557	3.237	2.424	0.00769
Netherlands	0.97348	0.822	-0.405	0.65720
Austria	0.96461	1.097	0.191	0.42429
Portugal	0.93682	1.958	1.387	0.08278
Finland	0.91711	2.569	1.947	0.02577
Sweden	0.92315	2.382	1.791	0.03667
United Kingdom	0.91333	2.686	2.039	0.02073

* Indicates that these data series refer to West Germany from 1980 to 1990 and to Germany from 1991 to 2014.

Source: Authors' elaboration based on AMECO data.

We further present results for the EU and the euro area (EA) in Table 6 and Table 7. In both tables, the null hypothesis of normality is rejected in only 1 out of 12 cases (at the 10% level, for the EU-15 country group only when we use a data series that starts in 1991; note that normality is not rejected for a longer

series that relies on data for West Germany to complete the series before 1991). This is a particularly interesting finding, which provides support for risk sharing across the region.^{6, 7}

Table 6. Normality test using AMECO data on total unemployment (*sktest*), EU and euro area

	Pr (Skewness)	Pr (Kurtosis)	adj chi2(2)	Prob>chi2
EU (96-14)	0.194	0.340	2.96	0.2275
EU-15 (91-14)	0.905	0.009	6.32	0.0425
EA (98-14)	0.464	0.695	0.74	0.6909
EA12 (91-14)	0.786	0.080	3.52	0.1718
EU15 (80-14)*	0.635	0.942	0.23	0.8908
EA12 (80-14)*	0.944	0.892	0.02	0.9883
	Pr (Skewness)	Pr (Kurtosis)	adj chi2(2)	Prob>chi2
EU (96-08)	0.093	0.433	3.84	0.1464
EU15 (91-08)	0.384	0.068	4.29	0.1171
EA (98-08)	0.788	0.851	0.11	0.9477
EA12 (91-08)	0.579	0.043	4.53	0.1038
EU15 (80-08)*	0.720	0.741	0.24	0.8879
EA12 (80-08)*	0.817	0.598	0.33	0.8471

* Indicates that these data series refer to West Germany from 1980 to 1990 and to Germany from 1991 to 2014.

Source: Authors' elaboration based on AMECO data.

Table 7. Normality test using AMECO data on total unemployment (*swilk*), EU and euro area

	W	V	z	Prob>z
EU (96-14) (N=19)	0.94721	1.205	0.375	0.35395
EU15 (91-14) (N=24)	0.93436	1.771	1.165	0.12204
EA (98-14) (N=17)	0.96264	0.789	-0.472	0.68155
EA12 (91-14) (N=24)	0.96008	1.077	0.151	0.43996
EU15 (80-14)* (N=35)	0.98013	0.709	-0.717	0.76327
EA12 (80-14)* (N=35)	0.98484	0.541	-1.282	0.90015
	W	V	z	Prob>z
EU (96-08) (N=13)	0.89385	1.870	1.226	0.11013
EU15 (91-08) (N=18)	0.89219	2.370	1.727	0.04208
EA (98-08) (N=11)	0.97694	0.373	-1.614	0.94675
EA12 (91-08) (N=18)	0.93713	1.382	0.648	0.25861
EU15 (80-08)* (N=29)	0.97182	0.873	-0.279	0.60997
EA12 (80-08)* (N=29)	0.96074	1.217	0.405	0.34281

* Indicates that these data series refer to West Germany from 1980 to 1990 and to Germany from 1991 to 2014.

Source: Authors' elaboration based on AMECO data.

⁶ When unemployment changes are used, normality is still never rejected for the euro area (neither in Table 6 nor in Table 7). However, in Table 6 it is rejected for the EU (full period) and the EU-15 (without West Germany) (both samples). In Table 7, normality is rejected at the 10% level for the EU and the EU-15 (regardless of whether data on West Germany are added or removed), and the EU-15 including West Germany when the shorter sample is used. These results are likely due to volatility in unemployment changes.

⁷ In addition to these tests, we also considered co-movement between the moments of the distributions across member states. To this end, we calculated the rolling mean, variance, skewness and kurtosis of subsequent five-year periods (e.g. 1980–84, 1981–82, etc.) and checked the correlations of these moving moments across the member states. Overall, no clear pattern can be detected for the mean and variance. Correlations vary from really low numbers (0.001) to rather high numbers (0.96), and are both positive and negative. When it comes to the skewness and kurtosis, correlations generally are low. It is difficult to draw clear-cut conclusions from these findings.

Analysis of the short-term unemployment rate (Eurostat data) for the period 1990–2014

The tests discussed above are repeated, but in this case short-term unemployment is used and the period considered is limited to 1990–2014 for a set of eight countries. The results are presented in Table 8 and Table 9 below.

First test: For the period 1990–2014, short-term unemployment is normally distributed in seven out of eight countries when we use the 5% level as a cut-off for the skewness and kurtosis test for normality (it is not normally distributed in *Latvia*). When the 10% level is used as before, the null hypothesis is rejected for *Denmark, Italy* and *Luxembourg* as well. When we consider the period 1990–2008 instead, for two countries the distribution is not normal at the 5% level: *Denmark* and *Latvia*. For *France* and *Italy*, the null hypothesis is rejected at the 10% level. For the first two columns of Table 8, one can again derive whether the rejection of normality is driven by the skewness or kurtosis of the distribution (or both).⁸

Second test: As before, these results were verified using the Shapiro-Wilk normality test. In the top panel of Table 9, we reach the same conclusion for Belgium, Denmark, Italy, Latvia, the Netherlands and Finland. For *France*, the null hypothesis of normality is rejected at the 10% level, whereas this no longer applies to Luxembourg. When only the period 1990–2008 is studied, the null hypothesis of normality is rejected for just two countries: *Denmark* and *Latvia*.⁹

Table 8. Normality test using Eurostat data on short-term unemployment (*sktest*)

1990-2014				
	Pr (Skewness)	Pr (Kurtosis)	adj chi2(2)	Prob>chi2
Belgium	0.445	0.846	0.65	0.7218
Denmark	0.037	0.186	5.75	0.0564
France	0.288	0.220	2.93	0.2316
Italy	0.814	0.018	5.42	0.0665
Latvia	0.004	0.057	9.58	0.0083
Luxembourg	0.665	0.104	5.87	0.0531
Netherlands	0.186	0.769	2.02	0.3650
Finland	0.726	0.110	2.98	0.2257
1990-2008				
	Pr (Skewness)	Pr (Kurtosis)	adj chi2(2)	Prob>chi2
Belgium	0.127	0.636	2.90	0.2341
Denmark	0.003	0.025	10.87	0.0044
France	0.803	0.026	4.99	0.0824
Italy	0.876	0.019	5.32	0.0700
Latvia	0.002	0.006	12.82	0.0016
Luxembourg	0.252	0.524	1.92	0.3820
Netherlands	0.661	0.233	1.81	0.4050
Finland	0.383	0.596	1.14	0.5661

Source: Authors' elaboration based on Eurostat data.

⁸ When unemployment changes are used instead of levels, the hypothesis of normality is rejected at the 10% level for Denmark, Latvia and the Netherlands in both cases.

⁹ An analysis based on unemployment changes reveals that normality is rejected at the 10% level in both cases for Denmark and the Netherlands and when the full period is used only for Latvia.

Table 9. Normality test using Eurostat data on short-term unemployment (*swilk*)

1990-2014 (N=25)				
	W	V	z	Prob>z
Belgium	0.96607	0.943	-0.120	0.54792
Denmark	0.92497	2.085	1.502	0.06655
France	0.93036	1.935	1.349	0.08860
Italy	0.93229	1882	1.292	0.09815
Latvia	0.86887	3.644	2.643	0.00411
Luxembourg	0.93434	1.824	1.229	0.10950
Netherlands	0.95469	1.259	0.471	0.31879
Finland	0.95421	1.272	0.492	0.31127
1990-2008 (N=19)				
	W	V	z	Prob>z
Belgium	0.91270	1.993	1.385	0.08298
Denmark	0.82608	3.970	2.770	0.00281
France	0.92820	1.639	0.993	0.16042
Italy	0.92096	1.804	1.186	0.11789
Latvia	0.85124	3.396	2.456	0.00703
Luxembourg	0.93541	1.475	0.780	0.21768
Netherlands	0.95622	0.999	-0.001	0.50488
Finland	0.94841	1.178	0.329	0.37116

Source: Authors' elaboration based on Eurostat data.

Finally, in Table 10, countries are classified into groups on the basis of the skewness and kurtosis of the total and short-term unemployment rate distributions. In the table, the full period is considered (i.e. including the crisis years). As a first step, the countries for which the short-term or total unemployment rate is normally distributed are separated from those to which this does not apply. This first group of countries has symmetric distributions with normal tails (indicated in the top left cell of the table). Then, the second group of countries is further split up according to the skewness (left-skewed or right-skewed) and kurtosis (flatter or thicker tails with regard to the normal distribution) of their distributions.

For the short-term unemployment rate, presented in panel A of the table, four countries had a non-normal distribution in the period 1990–2014. The distributions of three of these countries are right-skewed (i.e. positive shocks are more frequent). The distributions of two countries have flatter tails (no large shocks). With regard to skewness, the distributions of Denmark and Latvia are significantly different from that of the normal distribution (right-skewed, indicated in bold). For kurtosis, there are significant differences only for Italy and Latvia (the distribution of Italy has flatter tails; that of Latvia has thicker tails, in italics).

For total unemployment, which is presented in panel B of Table 10, we find seven countries with non-normal distributions. Three out of seven countries have distributions with significantly flatter tails (Ireland, Sweden and the UK, in italics), while the distribution of Greece has significantly thicker tails (i.e. larger shocks are more frequent). With regard to the skewness of the distribution, Table 10 suggests

that France has a left-skewed distribution, whereas Greece and Portugal have a right-skewed distribution (in all cases significantly different from the normal distribution, in bold).¹⁰

Table 10. Classification of countries into groups according to the distribution of short-term unemployment and total unemployment

PANEL A: Classification based on distribution of short-term unemployment (1990–2014)

	Symmetric distribution	Asymmetric distribution	
		Left-skewed (negative)	Right-skewed (positive)
Normal Tails	BE (-0.32/2.74) FR (0.45/2.04) NL (0.56/2.81) FI (0.14/1.92)		
Flatter Tails		<i>IT</i> (-0.10/1.71)	LU (0.18/1.69)
Thicker Tails			DK (0.93/3.73) LV (1.36/4.52)

PANEL B: Classification based on distribution of total unemployment (1980–2014)

	Symmetric distribution	Asymmetric distribution	
		Left-skewed (negative)	Right-skewed (positive)
Normal Tails	BE (0.24/2.12) DK (0.11/2.01) DE (-0.10/2.68) ES (0.13/2.27) IT (0.36/2.32) NL (0.56/3.21) AT (-0.05/2.76) FI (0.79/2.99)		
Flatter Tails		<i>IE</i> (-0.39/1.61) <i>SE</i> (-0.26/1.66)	LU (0.61/2.08) UK (0.25/1.81)
Thicker Tails		FR (-0.74/3.58)	GR (1.96/6.35) PT (1.20/4.05)

Note: A country is indicated in **bold** if skewness (the measure for lack of symmetry) is significantly different from that of the normal distribution (skewness = 0) at the 10% level and a country is indicated in *italics* if kurtosis (the measure of peakedness) is significantly different from that of the normal distribution (kurtosis = 3) at the 10% level; the first number between brackets is the value for skewness and second number is the value for kurtosis.

Source: Authors' elaboration based on AMECO and Eurostat data.

4.2. Conclusions on the distribution of unemployment shocks

In this section, we have focused on the distributions of the short-term and total unemployment rates of several countries and country groups. The aim has been to determine whether these unemployment measures are normally distributed or not. To this end, we have made use of two datasets obtained from AMECO and Eurostat, the latter for short-term and the former for total unemployment, covering a sufficiently long time series. We first examined the distributions from a graphical point of view and then continued by performing normality tests. In fact, we compared results for different periods (including or excluding the recent crisis) and different tests. From our analysis, we conclude that in half of the

¹⁰ Besides these analyses, we looked at the mean, variance, skewness and kurtosis of the distributions for each of the member states over time and calculated correlations to check whether they move together. Correlations for the mean and variance again range from very low to very high, and show both positive and negative signs. Correlations for skewness and kurtosis are lower. As before, it is difficult to draw clear-cut conclusions from these results.

countries, in the EU (EU-15) as a whole and in the euro area, shocks are normally distributed. This finding for the EU and the euro area is a strong argument in favour of risk sharing across these countries. Although it is hard to reject normality, one has to keep in mind that our time series are rather short and that including or excluding certain years (such as the period 2009–14) can have an impact on the test results. The findings for the euro area and the EU as a whole do not appear to be affected by the period considered.

5. Analysis of the key policy features of an EUBS

This section presents a thorough analysis of the key policy features – or the parameters that define each – of the 18 potential EUBS. Some of these features will be shared by both the equivalent and the genuine unemployment benefit schemes while other features are specific to one of these types. An example of the latter would be the trigger, which is a feature of the equivalent EUBS alone. As indicated above, *equivalent EUBS* are those schemes in which financial transfers flow from member states to the supranational fund or from the fund to the member states. There are no direct transfers to unemployed individuals. This, however, does not preclude indirect flows to unemployed citizens, since national governments can transfer the funds received from the supranational fund directly towards their unemployed citizens. The first 4 out of the 18 options considered in this report are equivalent schemes. The remaining 14 options are *genuine EUBS*: schemes that are characterised by direct financial transfers from the supranational fund to unemployed individuals.

The following features will be discussed in more depth: the trigger; pay-in, experience rating and claw-back; the possibility to issue debt; basic versus top-up schemes; cyclical variability; the duration of the unemployment benefits; the replacement rate; the reference wage; the eligibility criteria and capping. For each of these features we provide a definition and detailed description, we present an operational definition and we carefully explain how the parameters in this definition were determined. We also discuss related literature and empirical results. In each case, we list what the baseline form of the feature is and which alternatives are studied (e.g. the baseline replacement is 50%, with two variants: 35% in option V9 and 60% in option V10). Where relevant, we also discuss country-specific cases or results. For a comprehensive list of definitions for each feature, we refer to the glossary in appendix I.

5.1. Trigger

The trigger is the condition determining when financial transfers from the supranational fund towards a particular country should occur. It only applies to the *equivalent EUBS*, because in *genuine* systems the supranational fund is activated by any job loss that fulfils the eligibility requirements. In equivalent schemes, a trigger is necessary to define events that activate the supranational fund. A trigger is defined by an indicator and a threshold and is activated when the former is larger than the latter.

A trigger is defined by the choice of an indicator and of a threshold. When the indicator for a specific country i at a specific time t exceeds the threshold, then the supranational fund pays the country the agreed claim. In our proposal, t refers to quarters and not years.

For the indicator, we use the short-term unemployment rate of country i at time t (represented by $UR_{i,t}$ in the equation below). The threshold is based on the sum of the 10-year moving average of the country's short-term unemployment rate (which corresponds to the last 40 quarters, as represented by $UR_{i,t-40,\dots,t-1}$) and τ percentage points. The claim is paid to country i whenever the recorded short-term unemployment rate at quarter t minus its average in the last 40 quarters ($t-40,\dots,t-1$) exceeds a certain value. This condition can be stated as follows:

$$\text{Pay claim if } UR_{i,t} - \overline{UR}_{i,t-40,\dots,t-1} > \tau$$

The value of τ depends on the scenario considered: τ is equal to 0.1% in the baseline ‘rainy day’ scenario, equal to 1% in the ‘stormy day’ scenario and equal to 2% in the ‘reinsurance’¹¹ scenario.

Our preferred data series are the seasonally adjusted series from the European Labour Force Survey. Because of data limitations, the definition of the trigger will be adapted to yearly data in the simulations to be carried out later on in this research project.

An important methodological note concerns what we mean by the short-term unemployment rate. For the purposes of the EUBS, the tender defined the eligible unemployed as those unemployed between 3 and 12 months. However, for the purposes of historical analysis, such data are not available on a long-term basis; therefore, we use the short-term unemployment rate (0-12 months) as a proxy instead.¹²

A trigger is characterised by two parameters: an indicator and a threshold. With regard to the *indicator*, the literature has defined two broad types. The first type of indicator was put forward by Enderlein et al. (2013) and is based on the output gap. The output gap is “the difference of a country’s gross domestic product (GDP) to this country’s potential output – that is, to the highest level of output that is sustainable in the long term” (Enderlein et al., 2013, p. 24). The output gap has a very strong conceptual appeal as a measure of the economic cycle, because it is immediately related to it: when a country is in a negative phase of the economic cycle, the output gap is negative by definition. The second type of indicator, which receives much more support in the literature,¹³ is based on the unemployment rate. The reasons for this are that the unemployment rate is a solid indicator, as it is based on a head-count, and statistics on unemployment rates are available quarterly (thanks to the European Labour Force Survey). Even more importantly, output gap statistics are controversial (as they require estimating the ‘potential output’) and are often revised, even *ex post*, which makes them difficult to consider reliable in real time (Strauss et al., 2013; Ince and Papell, 2013; Biggs and Mayer, 2010). This means that the estimation of the output gap for 2015 calculated in 2015 will hardly coincide with the revisions conducted in later years (2016, 2017 and so on). A recent article by Darvas (2015) confirms this in his analysis of output gap estimate revisions made by the IMF and the European Commission during 2001 and 2015. Substantial revisions are made to the previous and current year output gap estimates one year later, amounting to 0.5 to 1% of GDP on average across countries (in normal years). Enderlein et al. (2013), however, indicate that not only can output gap revisions result from methodological changes but also from improvements in future estimates. In addition, the authors find that *ex post* adjustments are highly correlated between countries. Despite these considerations, we follow the majority of earlier studies on this topic and therefore select the unemployment rate for the indicator.

The subsequent decision to be taken is whether to use the short-term or total unemployment rate for the indicator. The literature suggests that the short-term unemployment rate is a better indicator than the total unemployment rate (Dullien, 2013; Vetter, 2014; Beblavý and Maselli, 2014; Beblavý et al.,

¹¹ In the jargon of this study, ‘reinsurance’ refers to V4. In other parts of this work, however, it may be considered a synonym for ‘equivalent’.

¹² Note that in the modelling exercises of Dolls and Lewney (2017) and Jara et al. (2017), this issue is addressed as follows. As a first step, information is obtained from Eurostat on the number of the unemployed with different durations (this is based on the Labour Force Survey). From this, the share of the short-term unemployed and the share of the short-term unemployed with a duration of 3-12 months are calculated. One has to keep in mind, however, that in the anonymised Labour Force Survey, the categories of the unemployed by duration are broader (e.g. less than 6 months, 6-11 months).

¹³ See Italianer and Vanheukelen (1993), Dullien (2007, 2012, 2013), Vetter (2014) and Beblavý and Maselli (2014).

2015a). In addition, the above-mentioned literature also emphasises that the difference from a norm should be considered rather than the level of the unemployment rate itself. In this way, one could avoid the situation in which some countries turn into net payers into the scheme whereas other countries become net beneficiaries.

With regard to the *threshold*, again there are several elements to keep in mind. The first is the question of the ‘norm’, i.e. what should the threshold be based on? In their paper, Beblavý and Maselli (2014) propose to use a moving average of the country’s short-term unemployment rate (in a 10-year reference period) as the norm. This approach avoids having to use a historical average within a reference period that can be too short (and hence too dependent on the cycle) or too long (when it becomes more difficult to appreciate structural improvements). Other studies use the yearly growth of unemployment, but this approach results in a rather volatile indicator that is highly dependent on the level of unemployment one year earlier. Beblavý and Maselli (2014) note that these issues could be resolved by using a measure of structural unemployment for the indicator, such as the non-accelerating wage rate of unemployment (NAWRU). Yet the NAWRU is more difficult to estimate than the simple unemployment rate and is subject to *ex post* revisions (similar to the output gap). For this reason, we prefer to use a moving average as the norm on which the indicator is defined. Following Beblavý and Maselli (2014), we consider 10 years to be a reference period, to deal with the trade-off between sensitivity to prolonged economic slumps and outdated data.

The next question concerns what is the difference from this norm that is required to trigger the system. Here, the literature points to two possibilities: expressing this difference in terms of standard deviations or in terms of percentage points. We summarise all the possible combinations in Table 11 below:

- the short-term unemployment rate vs total unemployment rate (indicator), and
- fixed percentages vs standard deviations (threshold).

Table 11. Overview of different options for the trigger

	Fixed percentage	Standard deviations
Short-term unemployment rate	Option a	Option b
Total unemployment rate	Option c	Option d

Source: Authors’ elaboration.

We focus on the period 2000–14. The reason is twofold. On the one hand, this allows us to look backward: series of short-term unemployment start to be complete from 1996 onwards and therefore selecting 2000 as the starting point means that the supposed 10-year average counts at least four data points. On the other hand, the 2000–14 period includes both the crisis and the pre-crisis phase. This implies that not only can we see how many times the trigger would have been pulled in the recent crisis years, but also how many times and, importantly in which countries, the trigger would have been activated in other periods of economic downturn. For Germany, for example, this reveals that the trigger would also have been pulled in the years 2003–05, when the country was going through a severe crisis.

To provide further support for our analysis, we present two correlation tables that cover the four options listed in Table 11. In both tables, the period 2000–14 is considered for the EU-27 (Croatia is

excluded because of data availability issues).¹⁴ Table 12 shows the correlations between the different series in terms of values (e.g. what the value of the short-term unemployment rate is plus 1% and the extent to which is it correlated with the value of the short-term unemployment rate plus two standard deviations). Table 13 illustrates the correlations between the different series in terms of the number of times the trigger is pulled. Both tables suggest that the correlations generally are high. Table 14 presents a brief discussion of the correlations in Table 13. In the remainder of this section, we frequently refer to these tables.

Table 12. Correlations between the different series (unemployment rate values, 2000–14)

		STU						TU					
		0.1%	0.1SD	1%	1SD	2%	2SD	0.1%	0.1SD	1%	1SD	2%	2SD
STU	0.1%	1											
	0.1SD	0.99	1										
	1%	1	0.99	1									
	1SD	0.98	0.99	0.98	1								
TU	2%	1	0.99	1	0.98	1							
	2SD	0.96	0.96	0.96	0.99	0.96	1						
	0.1%	0.84	0.85	0.84	0.85	0.84	0.84	1					
	0.1SD	0.85	0.85	0.85	0.85	0.85	0.84	0.99	1				
TU	1%	0.84	0.85	0.84	0.85	0.84	0.84	1	0.99	1			
	1SD	0.86	0.86	0.86	0.87	0.86	0.87	0.99	0.99	0.99	1		
	2%	0.85	0.85	0.85	0.85	0.85	0.84	0.99	0.99	0.99	0.98	1	
	2SD	0.85	0.85	0.85	0.88	0.85	0.88	0.96	0.97	0.96	0.99	0.96	1

Note: STU refers to short-term unemployment, TU to total unemployment and SD to standard deviation.

Source: Authors' elaboration based on Eurostat (Labour Force Survey) data.

Table 13. Correlations between the different series (number of times the trigger is pulled, 2000–14)

		STU						TU					
		0.1%	0.1SD	1%	1SD	2%	2SD	0.1%	0.1SD	1%	1SD	2%	2SD
STU	0.1%	1											
	0.1SD	0.99	1										
	1%	0.35	0.28	1									
	1SD	0.69	0.67	0.63	1								
TU	2%	0.20	0.13	0.79	0.43	1							
	2SD	0.45	0.36	0.87	0.72	0.73	1						
	0.1%	0.75	0.74	0.49	0.69	0.34	0.48	1					
	0.1SD	0.81	0.80	0.49	0.70	0.31	0.47	0.97	1				
TU	1%	0.44	0.38	0.86	0.62	0.62	0.73	0.69	0.65	1			
	1SD	0.61	0.58	0.75	0.88	0.55	0.74	0.79	0.80	0.82	1		
	2%	0.21	0.16	0.87	0.51	0.74	0.72	0.40	0.33	0.87	0.62	1	
	2SD	0.33	0.26	0.86	0.69	0.70	0.89	0.46	0.46	0.80	0.77	0.77	1

Note: STU refers to short-term unemployment, TU to total unemployment and SD to standard deviation.

Source: Authors' elaboration based on Eurostat (Labour Force Survey) data.

¹⁴ Note that the data series that were used to come up with these correlation tables are also used for the various graphs that are available in appendix II of this report. In this appendix, more details are presented on the cut-off values that were ultimately selected. These cut-offs are 0.1%, 1% and 2%.

Table 14. Description of correlations between the different series (number of times, 2000–14)

		STU						TU					
		0.1%	0.1SD	1%	1SD	2%	2SD	0.1%	0.1SD	1%	1SD	2%	2SD
STU	0.1% 0.1SD	Very high correlations											
	1% 1SD	Correlations are higher for SD than for % points		High correlations									
	2% 2SD	Correlations are higher for SD than for % points (largest difference in table)		Correlations are higher for SD than for % points		High correlations							
TU	0.1% 0.1SD	Using the same cut-off, correlations between STU and TU are over 0.74		Correlations reasonably high, especially for SD		Much lower correlations, as these are very different (other data series, big difference in cut-off)		Very high correlations					
	1% 1SD	Correlations reasonably high, especially for SD		Using the same cut-off, correlations between STU and TU are over 0.86		Correlations reasonably high, especially for SD		Correlations are higher for SD than for % points		High correlations			
	2% 2SD	Much lower correlations, as these are very different (other data, big difference in cut-off)		High correlations		Using the same cut-off, correlations between STU and TU are over 0.73		Smallest correlations within TU series		High correlations		High correlations	

Note: STU refers to short-term unemployment, TU to total unemployment and SD to standard deviation.

Source: Authors' elaboration.

Box 1. How triggers are defined in related studies

Different approaches have been used to define triggers in the EUBS literature. Below, we present an overview of some of the most prominent studies. From this overview, it is clear that many studies recur to the unemployment rate.

Dullien (2013) defines the trigger in three different ways for the three simulation scenarios:

- an unemployment rate above 7%, an increase above 1 percentage point over past 12 months;
- an unemployment rate above 5%, an increase above 1 percentage point over past 12 months;
- and an unemployment rate above 7%, an increase above 15% over past 12 months.

Italianer and Vanheukelen (1993) suggest the following trigger:

- an increase of the unemployment rate over past 12 months that is positive and greater than the average increase over the other members of the European Union.

Beblavý and Maselli (2014) design the trigger in the following way:

- the difference between the unemployment rate and NAWRU exceeds 2%.

Beblavý et al. (2015a) analyse three different EUBS, with the following triggers:

- the short-term unemployment rate exceeds the sum between its 10-year average and one-tenth of its 10-year standard deviation;
- the short-term unemployment rate exceeds the sum between its 10-year average and its 10-year standard deviation; and
- the short-term unemployment rate exceeds the sum between its 10-year average and two times its 10-year standard deviation.

5.1.1. Why do we opt for short-term instead of total unemployment?

The first choice to be made concerns which indicator is preferable between short-term and total unemployment rates.

Despite the high correlation between these two series (as illustrated in Table 12), we prefer short-term unemployment.

Our choice is motivated by both economic and political arguments. From the purely economic point of view, several studies argue that short-term unemployment is more sensitive to the economic cycle, whereas total unemployment also includes structural unemployment. Given that the purpose of the insurance is to create a shock-absorption mechanism in case of recession, short-term unemployment is better suited to doing that, also because it is more volatile (see for instance, Dullien (2013), Vetter (2014), Beblavý and Maselli (2014) and Beblavý et al. (2015a)).

Moreover, despite the high correlation between the short-term and total unemployment rates shown in Table 12, the two series can diverge. This can result in situations in which the short-term unemployment rate of a country is decreasing when the country starts to stabilise after a shock, while the total unemployment rate at this point can stay at its level or even increase further. This can happen, for instance, in case of hysteresis. The six graphs in Figure 4 present examples of countries where this issue occurs. In Spain, Greece and Italy, we observe that after the early phases, the total unemployment rate continues to increase even when the short-term unemployment rate remains stable.

Figure 4. Example countries characterised by a period in which the short-term unemployment rate falls while the total unemployment rate remains the same or rises



Source: Authors' elaboration based on Eurostat (Labour Force Survey) data.

From the political point of view, total unemployment, on the other hand, has the advantage that it is simple and easier to explain and communicate to a wider public, which is accustomed to reading about these figures in the press. While that may be true, we nevertheless regard the advantage as not strong enough given that the argument of one country financing the unemployed of another could easily be used by populist Eurosceptic parties. In this study, we follow the above-mentioned literature and use

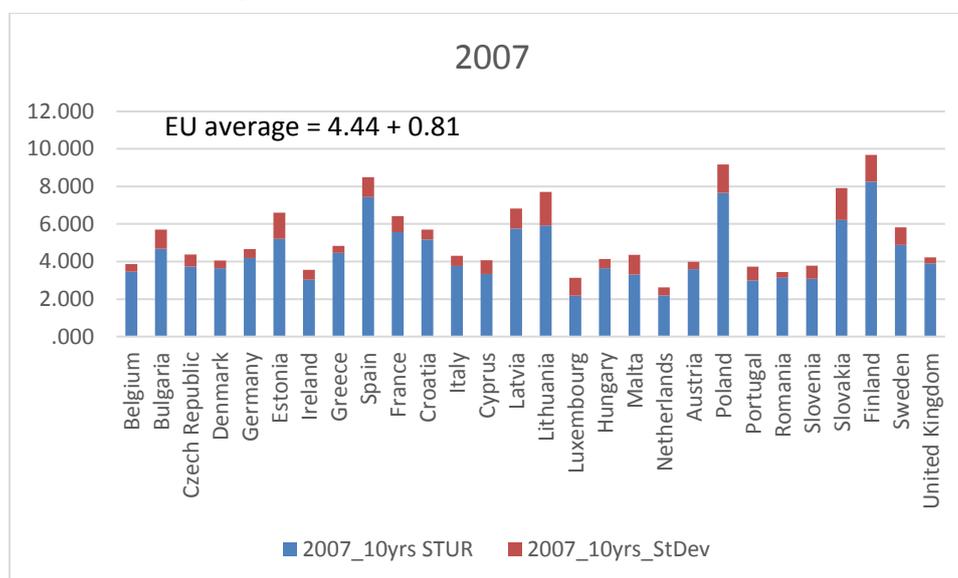
the short-term unemployment rate (the ratio of individuals unemployed for less than one year to the size of the labour force) as the indicator of unemployment throughout this section.¹⁵

Please note that the entire analysis in this study is based on annual data, but we do recommend using quarterly data in practice, should an EUBS be set up anytime in the future. In a number of macro simulations, either monthly (Italianer and Vanheukelen, 1993; Dullien, 2013) or yearly (Beblavý and Maselli, 2014) unemployment rates are used. We also use yearly data in our study, which is partly driven by methodological and data limitations. Annual data, however, should not be used in the EUBS because this would result in a scheme that responds rather slowly to changes in unemployment. Monthly data would allow a much faster reaction, but these data do not differ much from quarterly data and most economic indicators are collected quarterly. We therefore prefer to make use of quarterly, short-term unemployment rates. Italianer and Vanheukelen (1993) and Dullien (2013) exploit the yearly difference to eliminate seasonality in the data. We suggest working with seasonally adjusted data instead. These data are routinely produced by Eurostat and allow computing the average that we use as the norm on a larger sample size.

5.1.2. How high is the average short-term unemployment rate and how large is the standard deviation?

In 2007, the 10-year average, short-term unemployment rate was 4.44% in the EU. The average standard deviation over the same period was 0.81. Seven years later, the short-term unemployment rate was 4.8% with a standard deviation of 1.22. More details on the 10-year average, short-term unemployment rate and its standard deviation for both years and each country are provided in Figure 5 and Figure 6 below.

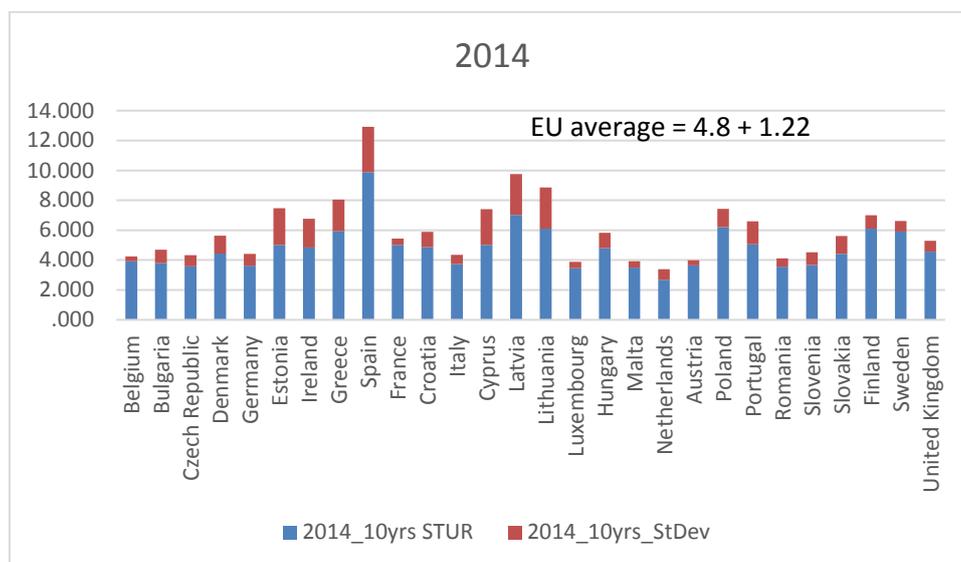
Figure 5. 10-year average, short-term unemployment rate and standard deviation in 2007



Source: Authors' elaboration based on Eurostat (Labour Force Survey) data.

¹⁵ Notice that in most variants except V7, the EUBS starts paying benefits only after 3 months of unemployment, so very short-term unemployment is not covered by the EUBS in this sense. However, when defining the trigger, we find it important to have an indicator that reacts quickly to the economic cycle, so we prefer to use short-term unemployment from 0 to 11 months.

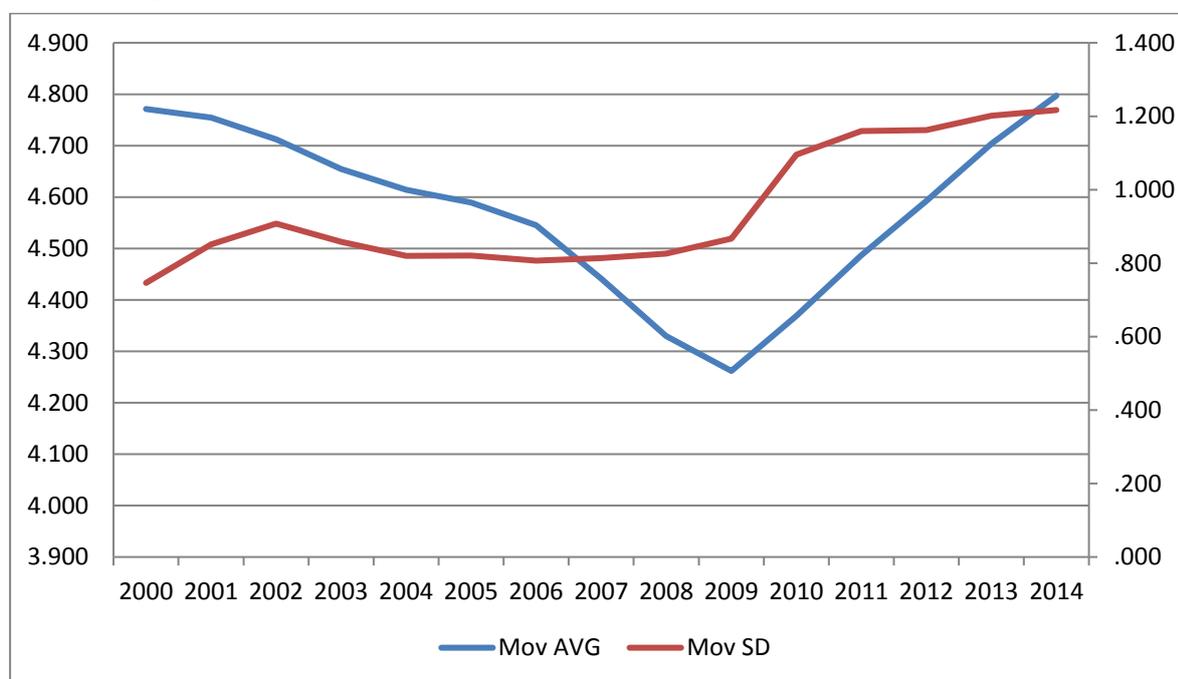
Figure 6. 10-year average, short-term unemployment rate and standard deviation in 2014



Source: Authors' elaboration based on Eurostat (Labour Force Survey) data.

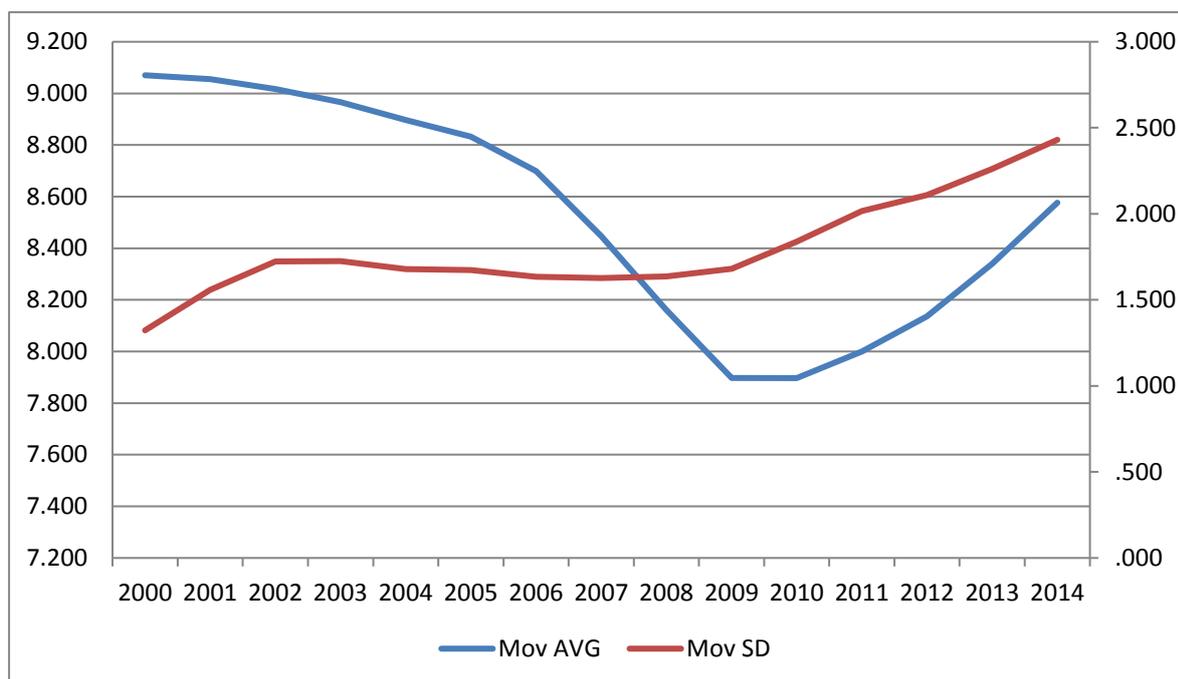
Figure 7 and Figure 8 illustrate the 10-year moving average and standard deviation of short-term unemployment (Figure 7) and total unemployment (Figure 8) in the EU-28.

Figure 7. Annual 10-year moving average and standard deviation of short-term unemployment in the EU-28 during 2000–14



Source: Authors' elaboration based on Eurostat (Labour Force Survey) data.

Figure 8. Annual 10-year moving average and standard deviation of total unemployment in the EU-28 during 2000–14



Source: Authors' elaboration based on Eurostat (Labour Force Survey) data.

5.1.3. Why do we propose using percentage points instead of the standard deviation approach and how do we select the cut-off points?

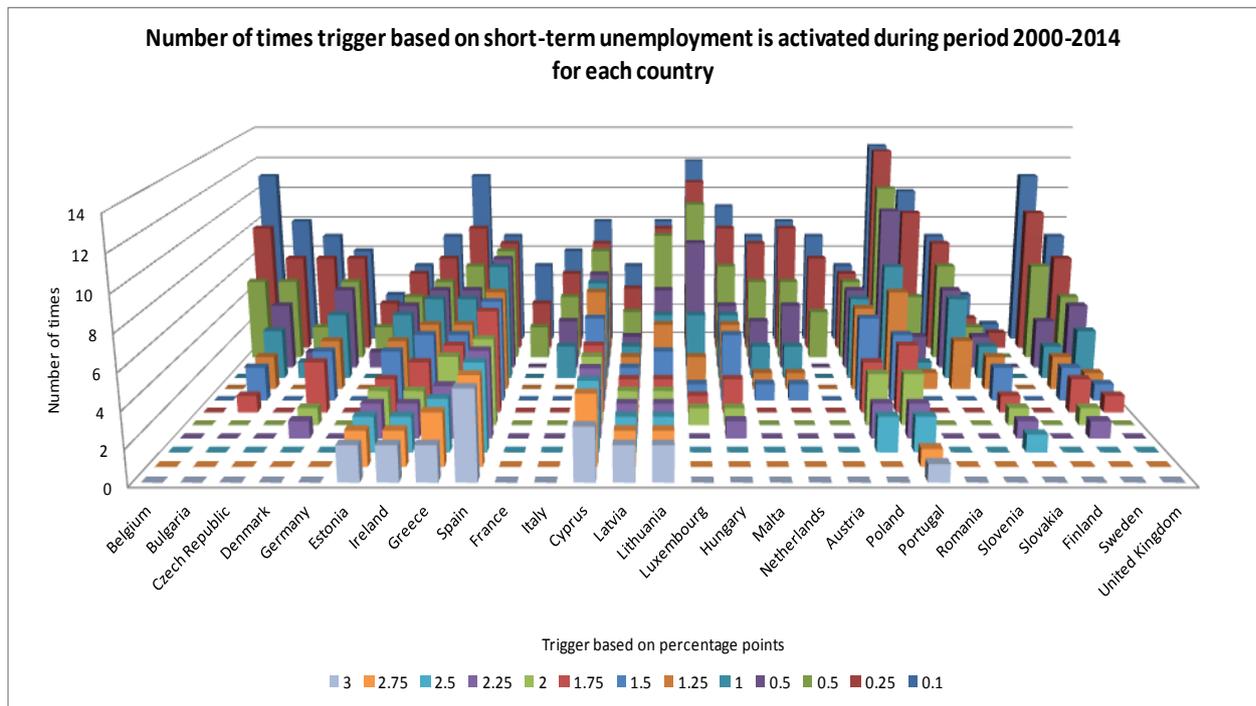
Our preference is fixed percentages rather than standard deviations. For the pure scientific sake, standard deviations would be more appropriate. Yet, this might result in a case in which two countries in a given year have the same short-term unemployment rate, but only one of them qualifies. Such a situation would be politically unacceptable and has to be avoided. Using a fixed percentage is a more transparent mechanism. As can be observed in Table 12, the series are so highly correlated that choosing one or the other makes very little difference.

The second step consists of defining the cut-off points for the rainy day, stormy day and reinsurance scenarios. Our understanding from the project ToR is the following:

- the rainy-day fund needs to be triggered easily,
- the stormy day fund would have a higher trigger, and
- the reinsurance is meant for significant shocks.

We start with a wide range of cut-off points: 0.1, 0.25, 0.5, 0.75, 1, 1.25, 1.5, 1.75, 2, 2.25, 2.5, 2.75 and 3. Then we check how often they would trigger the fund.

Figure 9. Number of times the trigger (based on percentage points) is activated during 2000–14 for each country and for different cut-off values



Source: Authors' elaboration based on Eurostat (Labour Force Survey) data.

The challenge is to define fixed percentages that mirror as much as possible the desired values in terms of standard deviations. What are these?

- One should be sufficiently small to be activated often and operational on a nearly continuous basis.
- One should be sufficiently large to trigger only in cases of major events.
- One should be somewhere in the middle between the two extreme cases.

Our choices are to a certain extent discretionary but with solid roots in the figures. In defining the cut-off, we start from the middle case, the stormy day.

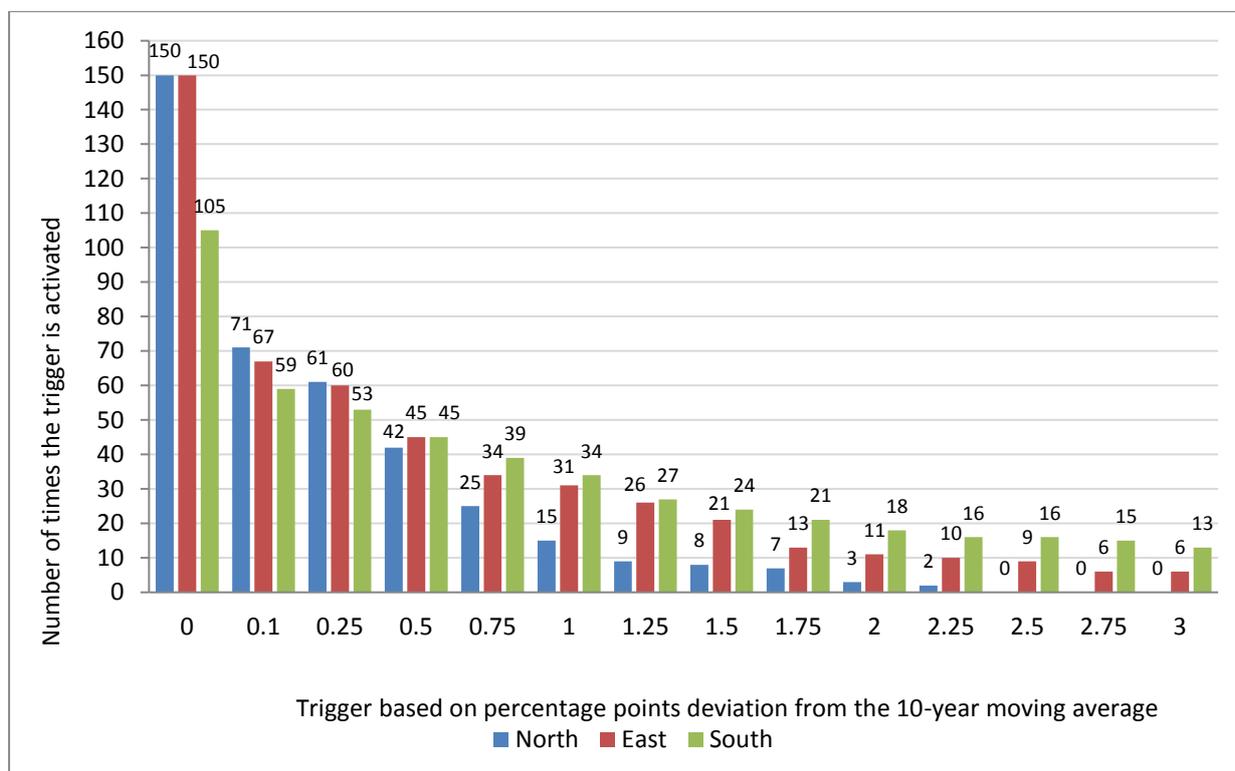
Looking at Figure 9 and Figure 10, one can notice that the long list of cut-off points considered indicates three possible cases (further details on these cut-off points are provided in appendix II):

- A *lower-hand trigger*. Set at 0.1 or 0.25, the number of cases is very similar since the figures are sufficiently low.
- In the EU-27, the trigger is pulled 197 times between 2000 and 2014 when the cut-off is set at 0.1 percentage point, 174 times when the cut-off is set at 0.25 percentage points and 132 times when the cut-off is set at 0.5 percentage points. We find that setting a low cut-off value is particularly important for countries in the north and west of Europe, in comparison with countries in the south and east of the continent. Sensitivity analysis suggests that in all countries the trigger is pulled at some point during the period 2000–14 when the cut-off value is 0.1, whereas Finland would no longer benefit when the cut-off is 0.5. With an even higher cut-off level, of for instance 0.75, in four countries (Austria, Belgium, Finland and France) the trigger

would never be pulled during 2000–14 and in five other countries it would be pulled only once or twice.

- *A higher hand trigger.* For this trigger, values above 2 should be excluded since they make the number of cases too small, such that countries from the north never benefit from the system.
- When the cut-off value is set at 2.5, the trigger is activated only 25 times in the EU-27 between 2000 and 2014. For cut-off values of 2.75 and 3, this number drops further to 21 times and 19 times. Only a very small number of countries could benefit from the scheme in this case – when the cut-off value equals 2.75 or more, only Estonia, Ireland, Greece, Spain, Cyprus, Latvia, Lithuania and Portugal qualify to benefit. Within the range of 1.75-2.25, the differences in terms of which countries could benefit and how many times the trigger is activated for each country are small (see Figure 9). The value of ‘2’ therefore seems a good candidate as a cut-off value for the reinsurance scenario.
- *A middling value.* Here a value in between 0.5 and 1.75 should be selected. We prefer 1 because it is very close to the average standard deviation, which is equal to 0.94 on average in Europe during 2000–14.

Figure 10. Number of times the trigger (based on short-term unemployment) is activated during 2000–14 in the north, east and south (trigger based on percentage points)



Source: Authors' elaboration based on Eurostat (Labour Force Survey) data.

Figure 10 presents the number of times the trigger is pulled during the period 2000–14 for a range of cut-off values in three regions: the *north* (Austria, Belgium, Germany, Denmark, Finland, France, Luxembourg, the Netherlands, Sweden and the UK), *east* (Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia and Slovakia) and *south* (Cyprus, Greece, Italy,

Ireland, Malta, Spain and Portugal). The three columns on the left of the figure present the benchmark, i.e. how many times the trigger would have been activated if no cut-off had been applied (a cut-off equal to zero). For the north and east country groups, in which there are 10 countries in each group, over the 15-year period this would be 150 times. In the south, this number would be equal to 105 times. When a cut-off of 0.1 is used, the trigger is active 71 times in the north, 67 times in the east and 59 times in the south. In comparison with the benchmark, this corresponds to 47.3%, 44.7% and 56.2% of the cases respectively. When the cut-off is set at 0.25, these percentages decrease to 40.7%, 40% and 50.5%. For a cut-off at 0.5, the pattern begins to reverse: in this case the trigger is activated less in the north (28%) than in the east (30%). The countries in the east and south of Europe are still entitled to benefits at relatively high cut-off levels, whereas this does not apply to the north.

5.1.4. Conclusions on the trigger

For a trigger, we suggest using the *short-term unemployment rate* as an indicator and the 10-year moving average plus τ percentage points as a threshold. The trigger is pulled when the value of the indicator is higher than that of the threshold. The value of τ depends on the scenario: we suggest using 0.1 for the rainy day scenario, 1 for the stormy day scenario and 2 for the reinsurance scenario. Based on the data shown in the previous pages, we draw the conclusions below.

Choosing fixed percentages instead of standard deviations does not lead to substantially different results. The two series are highly correlated, independently for the three cut-off points chosen, as evidenced by Table 12 and Table 13.

- The correlations between the trigger based on short-term unemployment using percentage points (standard deviation) and the trigger based on total unemployment using standard deviation (percentage points) for the same cut-off are also quite high (from 0.62 to 0.81).
- The correlations between the series based on short-term and total unemployment are high for the same cut-off, when the trigger is based on percentage points as well as for triggers based on standard deviation (over 0.73 for percentage points and over 0.79 for standard deviation). We can firmly confirm our preference for a threshold based on fixed percentages.
- We select three triggers: 0.1%, 1% and 2%.
- A lower trigger entails that all countries benefit from the system. A higher trigger benefits the south and east of Europe more, where unemployment rates appear to be more prone to large shocks (see Figure 10).

5.1.5. Payout disbursed when the trigger is pulled

When the trigger is pulled for country i , the amount that should be transferred from the EUBS to this country remains to be decided. We define this amount on the basis of the same parameters as in the baseline option defined in the project ToR. In other words, for the quarter in which the trigger conditions are satisfied, country i will receive from the EUBS an amount equivalent to the disbursement that would be needed to finance a UBS covering unemployed citizens who worked at least 3 out of the last 12 months, for a duration of 9 months, at a 50% replacement rate, with capping set at 150% of the median national wage.

5.2. Basic pay-in

Another important feature of an EUBS is the financing of the scheme. To be able to pay out unemployment benefits, either indirectly through payments to the national governments or directly to the unemployed workers, the supranational fund has to acquire a sufficient amount of funding. This section therefore focuses on how the supranational fund would be financed. We consider who contributes to the supranational fund, how these contributions are calculated, how they could be collected and so on. The section also presents the pay-in formulas, which are adjusted in later sections to incorporate the experience rating and claw-back mechanisms.

The contributions of the countries to the supranational fund are determined as outlined below.

For the equivalent EUBS: Each country contributes $x\%$ of its GDP every quarter (multiplied by any national extra coefficients as detailed elsewhere in the analysis), until this cumulates to $z\%$ of EU GDP, at which point countries stop their contributions to the supranational fund. If the balance drops below $z\%$ of EU GDP, contributions restart (start-and-stop). In these equations, x is equal to 0.1% and z is equal to 0.5%.

*Basic pay – in = $x * GDP_{i,t}$ until $z \%$ of GDP_{EU} is attained; x is a percentage in this equation*

For the genuine EUBS: Each worker and employer contributes $a/2\%$ of the gross salary every month (so that the total sum of the contribution is equal to $a\%$ of the gross salary) and multiplied by any national extra coefficients as detailed elsewhere in the analysis. The value of x is derived from the models and is set to be revenue-neutral.

*Basic pay – in = $x * gross\ salary$; $x = \frac{a}{2}$ and it is a percentage in this equation*

The values of parameters x , z and a were validated by the simulations undertaken for the project.

In their study, Beblavý and Maselli (2014) devote a lot of attention to the revenue side of an EUBS. A first issue that they explore is what type of taxation could be used to finance the supranational fund. The authors examine three mechanisms: a dedicated tax on consumption or labour, or a contribution from national governments that is not directly linked to a specific tax. For the genuine EUBS, they propose to use a payroll tax because this generates a clear link between the benefits and the contributions of the scheme. A disadvantage of this tax is that it potentially raises the tax wedge on labour costs, which is already high in many EU countries. Moreover, when the payroll tax is linear, it potentially undermines to some extent non-linear social-security contribution systems (e.g. in which low wages are subject to lower social contributions) that exist in some countries. In their simulations, Beblavý and Maselli (2014) set the pay-in to the harmonised EUBS equal to 0.5% of nominal compensation. This rate was selected because it roughly balances the system. For the reinsurance model, the authors suggest a funding mechanism that is based on a contribution by governments rather than a dedicated tax.

A second issue that Beblavý and Maselli (2014) address is whether the supranational fund should be *pay-as-you-go* or *funded*. The pay-as-you-go system could result in surpluses and deficits, since the contributions are proportional to the average, long-term, expected annual expenditure. In this pay-as-you-go system, surpluses are used to cover potential future deficits. The funded system, in contrast, is based on a yearly contribution to be paid until a predetermined amount of funds is gathered. In this case, the pay-in used in the simulations is equal to 0.1% of GDP, which has to be paid annually until 0.5% of EU GDP is collected. Pay-in is restarted if the supranational fund falls below the 0.5% cut-off. In

another recent paper, Beblavý et al. (2015a) use the same parameters to set up the pay-in and also propose to halt it when 0.5% of EU GDP is attained. In equivalent systems where the trigger is not too low, it would function as a start–stop system.

In a series of related studies, Dullien (2007; 2012) develops a basic unemployment insurance scheme that is financed through a contribution from employees or employers (or both). In the basic case, his simulation results suggest that the average annual financing volume would reach €54 billion, which could be financed with a payroll tax of 1.75%. When extended benefits are possible, the size of the scheme would go up to €62 or 64 billion, which could be financed through a payroll tax of 2.02% and 2.04% respectively (depending on whether extended benefits are triggered for individual countries or at the level of the EMU). Based on their simulations, Dolls et al. (2014) conclude that the average benefits granted during 2000–13 (about €49 billion annually) could be covered by a contribution rate of 1.6% on employment income (a uniform rate across countries). In this scenario, Austria, Germany and the Netherlands would have paid the largest net contributions while Latvia and Spain would have received the largest net benefits.

This leads us to the following proposal.¹⁶

The financing of the equivalent EUBS studied in this research project works as follows: each country contributes $x\%$ of its GDP every quarter (multiplied by national extra coefficients as detailed elsewhere in the analysis), until this cumulates to $z\%$ of EU GDP, at which point countries stop their contributions to the supranational fund. If the balance drops below $z\%$ of EU GDP, contributions restart (start-and-stop). The logic of holding the $z\%$ in reserve is to avoid or at least decrease large additional contributions by member states precisely during the period of economic malaise. The likelihood of the negative balance obviously decreases with higher x and higher z .

In other studies, we have previously suggested that $x = 0.1$ and $z = 0.5$. The appropriateness of these coefficients was confirmed by the simulation exercises.

The financing of genuine EUBS works in a similar, but not identical way: each worker and employer contributes $a/2\%$ of the gross salary every month (so that the total sum of the contribution is equal to $a\%$ of the gross salary) and multiplied by national extra coefficients as detailed elsewhere in the analysis.

We propose that the parameter (a) is set to balance the fund on average. This implies that the fund would be in deficit in approximately half of the years in which it would operate and in surplus during the other half. If parameter (a) is set to a higher level, then – depending on the calibration – it would both create reserves and decrease the percentage of years in which the fund would run an annual deficit. Still, to prevent an infinite aggregation of reserves, there would need to be a start–stop mechanism similar to the one proposed above for the equivalent schemes, which would make it very complicated for the member states and individuals involved. Revenue-neutral contribution rates x are represented in Table 15 (derived from the results of Dolls and Lewney (2017)). They range from 0.35 for V8 to 1.36 for V7 for the EA-19 case and from 0.36 for V8 to 1.34 in V7 for the EU-27 case.

¹⁶ One important note here, which also applies to the pay-out, is that we do not account for discounting. In the current circumstances, this seems to be a straightforward approach. One may argue, however, that in times of high inflation or high interest rates (or both), discounting is important. For more details on how this issue is tackled in the simulations, we refer to Dolls and Lewney (2017) and Jara et al. (2017).

Table 15. Revenue-neutral contribution rates x (as a % of employment income)

Variant	EA-19	EU-27
V5	0.84	0.82
V6	0.44	0.50
V7	1.36	1.34
V8	0.35	0.36
V9	0.59	0.58
V10	1.01	0.99
V11	0.81	0.80
V12	0.78	0.77
V13	0.84	0.82
V14	0.80	0.78
V15	0.87	0.84
V16	0.84	0.82
V17	0.84	0.82
V18	0.84	0.82

Note: The revenue-neutral contribution rates are a percentage of employment income without experience rating or claw-back. They balance the supranational fund at the EA-19/EU-27 level over the period 1995–2013.

Source: Dolls and Lewney (2017).

5.3. Experience rating and claw-back

Experience rating and claw-back are two mechanisms that link the EUBS pay-in to the use of the scheme. Their aim is to prevent long-term redistribution among countries. The bulk of the 18 EUBS variants that are being considered in this report come with experience rating and claw-back. The remaining schemes have either an experience rating mechanism or a claw-back. None of the 18 variants lacks both.

Experience rating ties the pay-in to the supranational fund to the likelihood of using it, either by taking into account how often the fund is used (in the case of the equivalent EUBS variants) or by linking the pay-in to a country's past unemployment record (in the case of the genuine EUBS variants). Claw-back has a similar purpose, but achieves it at a slower pace. Claw-back ensures that there are no long-term imbalances vis-à-vis the supranational fund by doubling the pay-in (in the case of equivalent schemes) or by raising a supplementary contribution of 0.2% of GDP annually (for genuine variants) from countries with a negative balance vis-à-vis the fund that exceeds 1% of GDP after three years. Claw-back remains active until the balance drops below the 1% of GDP cut-off.

In the remainder of this section, we present an in-depth analysis of how experience rating and claw-back can be designed and explain why we made certain design choices. To provide the reader with an idea of how experience rating and claw-back are modelled in this report, we provide a brief overview below. More technical details are covered in the subsequent sections.

	Experience rating	Claw-back
Equivalent system	<p>A single coefficient applies to all contributions (i.e. the pay-in) from a given country at a given time:</p> <p>Coefficient = $1 + 0.025 * F_{i,t-40...t-1}$</p> <p>$F_{i,t-40...t-1}$ is equal to the number of times that the system was activated for a given country during the last 40 quarters ($t-40, \dots, t-1$). The system is activated when the unemployment in a given quarter exceeds by 0.1%, 1% or 2%, in the rainy day, stormy day and reinsurance equivalent EUBS, respectively.</p> <p>The coefficient's range is (1, 2). The maximum value 2 applies when the system has been used in all 40 previous quarters (or when claw-back is activated – see the next cell in the table).</p>	<p>In the equivalent system, experience rating and claw-back are substitutes and the claw-back coefficient is essentially the maximum value that experience rating can take.</p> <p>It takes the form of a single coefficient applying to all contributions (i.e. the pay-in) from a given country at a given time:</p> <p>Coefficient = 2</p> <p>Claw-back applies after three years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1% of GDP.</p>
Genuine system	<p>A single coefficient applies to all individual contributions (i.e. the pay-in) from a given country at a given time:</p> <p>Coefficient = $\frac{\overline{UR}_{i,t-40...t-1}}{\overline{UR}_{EU,t-40...t-1}}$</p> <p>The coefficient is the ratio of the 10-year national average of headline short-term unemployment over the 10-year average of headline short-term unemployment for the whole EU.</p> <p>The coefficient would be updated every three years.</p> <p>The coefficient's range is (0, ∞).</p>	<p>A specific contribution by national governments is set as a % of GDP.</p> <p>Our suggestion for the contribution is = 0.2% GDP annually.</p> <p>It applies after three years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%.</p> <p>The proposal contains two alternatives:</p> <ul style="list-style-type: none"> - an automatic imposition of the claw-back, and - the ability of the Council to suspend operation of the claw-back.

5.3.1. Background analysis on experience rating and claw-back

Experience rating

Experience rating is one of the features that are present in the majority of the 18 potential EUBS examined in this section. The mechanism of experience rating ensures that the contributions of the payers into the supranational fund (i.e. the pay-in) are based on their past experience with unemployment. The idea behind this concept is to differentiate contributions to the supranational fund on the basis of the likelihood of recurring to it. By linking the pay-in to the supranational fund to the extent to which the fund is used, the scheme avoids permanent redistribution from countries with low unemployment to countries with high unemployment.

In the EUBS literature, the term 'experience rating' often refers to countries, but it can also apply to employers, as is the case in the US system. In the US, contributions are collected among employers through a payroll tax, which is higher for companies that have laid off more workers in the past. In a similar way, countries where the short-term unemployment rate is higher or more volatile may be asked to pay a higher contribution, relative to their GDP, than other countries. Experience rating is therefore

the *ex ante* remedy against moral hazard and it is built in such a way as to increase the contribution to the supranational fund of those countries that are more likely to benefit from it.¹⁷

Claw-back

Claw-back aims to reduce potential, long-term negative (positive) net contributions by a member state by increasing (decreasing) that member state's pay-in to the supranational fund. The idea of a claw-back mechanism was introduced in several early studies on unemployment insurance, such as that by Lin (1998). In these studies, however, the concept referred to the possibility for national governments to claim back transfers that have been mistakenly operated in favour of some recipients. In the more recent literature on EUBS, claw-back serves as a way to address the issue of non-neutral net contributions at the country level. In our proposal, the claw-back is activated after three years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund and it remains active until this balance declines below the 1% level.

Claw-back mechanisms have been thoroughly analysed in recent work by Beblavý and Maselli (2014), Dolls et al. (2014) and Dullien (2014). We will use their simulation results as a guideline for the design of the claw-back in our proposal. In his work, Dullien (2014) proposes a system by which country contribution rates are changed by 0.3% of GDP, upwards if their net contribution has been negative for two consecutive years or downwards if it has been greater than 1% of GDP for two consecutive years. The system is further characterised by a floor to the minimal contribution, which implies that a country's contribution to the supranational fund can never be lower than 0.1% of GDP. Dullien's (2014) simulation results indicate that a claw-back reduces the risk of non-neutral net contributions, although it limits the stabilisation capacity of the EUBS, at least in long-lasting recessions. Dolls et al. (2014) develop a mechanism by which the contribution of each country to the supranational fund is adjusted every three years. The new contribution is computed so that, if the country continues to receive the same amount of benefits as in the last triennium, the net balance will be reduced by 100% in the next three years (or by 50% in the alternative option that the authors explore). Quite surprisingly, the results of their

¹⁷ The concept of experience rating has been widely examined in the economic literature. Many of these studies deal with the US system of experience rating in which the employers' tax rate depends on their layoff history. In the system, experience rating is introduced to counteract the fact that an unemployment benefit system lowers the costs of firing workers (Mongrain and Roberts, 2005). Theoretical work argues that experience rating is "perfect" when firms pay the full costs of their layoffs (Beblavý and Maselli, 2014). In this case, the introduction of unemployment insurance is not translated into higher levels of unemployment (Topel and Welch, 1980). The US system of experience rating is nevertheless incomplete (not perfect), since upper and lower bounds exist. As a result, firms with higher levels of employment volatility will be subsidised by firms with lower volatility levels (Wang and Williamson, 2002). This incompleteness may also have other implications. In an early theoretical study, Feldstein (1976) concluded that a large fraction of temporary layoffs can be attributed to imperfect experience rating. Later empirical work by Card and Levine (1994) confirms these results. These authors find a strong negative association between the rate of temporary layoff unemployment and the degree of experience rating. They estimate that "a move to complete experience-rating would reduce the temporary layoff unemployment rate by about 1.0 percentage point (or roughly 50 percent) in the trough of a recession, and by about the same amount in the lowest demand months of the year" (Card and Levine, 1994, p. 27). In a number of more recent studies, using a variety of different models, the conclusion (again) is that a higher experience rating leads to lower unemployment rates (see l'Haridon and Malherbet, 2009) or reduces the amplitude of recessions (Albertini, 2011). Finally, Ratner (2013) also reports a strong negative relation between experience rating and job flows: a 5% increase in the former is associated with a decrease of the latter by 1.4% on average and a drop of the unemployment rate of 0.21 percentage points on average.

simulation indicate that neither option is very effective in reducing the risk that some countries will be net payers or contributors in the medium term.

Our proposal is most closely related to the paper by Beblavý and Maselli (2014), who compare two types of EUBS: harmonised European unemployment benefits (proposed by Dullien, 2007) and unemployment reinsurance (see Beblavý et al., 2015a). The first type consists of an insurance fund financed through payroll taxes and spent on unemployment benefits covering all eligible workers. The second type, which is based on a reinsurance fund, is only activated in the event of severe recessions. For each type, Beblavý and Maselli (2014) consider two options: no long-term country-level budget neutrality (option a) and long-term country-level budget neutrality (option b). The latter, option b, can be interpreted as a claw-back mechanism. This claw-back is set into motion when countries reach a cumulative deficit vis-à-vis the system of at least 1% of GDP and is stopped when the deficit falls below this cut-off. In the harmonised unemployment benefit system, a country's contribution to the supranational fund is doubled from 0.5% to 1% of GDP until the cumulative deficit is lower than the 1% cut-off. In the reinsurance scenario, a country is subject to a supplementary contribution of 0.2% of GDP when the claw-back is activated.

Beblavý and Maselli (2014) present simulation results for the revenues and expenditures of the schemes, as well as for the annual and cumulative balance of each country vis-à-vis the system. As the harmonised unemployment system with long-term budget neutrality (type 1, option b) best matches our proposal, we only discuss these simulation results here. During the period 1999–2012, the mean expenditure by country ranged from 0.11% of GDP (Luxembourg) to 0.71% of GDP (Spain). For nine countries, the maximum expenditure exceeded 0.5% of GDP (Cyprus, Estonia, Greece, Ireland, Latvia, Lithuania, Poland, Portugal and Spain). In the same period, the mean revenues varied between 0.16% of GDP (Luxembourg) and 0.43% of GDP (Spain). The average contributions paid by countries into the system were the smallest in Hungary (0.24% of GDP) and Slovakia (0.23% of GDP), when Luxembourg is not considered. The lowest contributions were paid by Bulgaria, the Czech Republic, Ireland, Latvia, Lithuania, Hungary, Poland (all at 0.23% of GDP) and Slovakia (0.22% of GDP), again excluding Luxembourg. By contrast, the highest contributions paid in any given year during 1999–2012 were found in Spain (0.62% of GDP), Latvia (0.49%), Lithuania (0.44%) and Poland (0.53%).

These high contributions are a result of the annual and cumulative balances of these countries vis-à-vis the system. If there was no claw-back mechanism in the system, the average annual balance would be negative in 11 countries between 1999 and 2008, with Spain (-0.22% of GDP), Lithuania (-0.11%) and Poland (-0.23%) having the largest negative balances. In the years 2009–2012, this number would rise to 19 countries. In this case, large negative average annual balances are found in Estonia (-0.25% of GDP), Greece (-0.28%), Spain (-0.88%), Latvia (-0.36%) and Lithuania (-0.33%). Note that the average annual balances in the 28 countries thus generally appear to be quite small. The cumulative balance is negative and larger than 1% of GDP in Greece (-1.16% of 2012 GDP), Spain (-5.36%), Latvia (-1.70%), Lithuania (-1.57%) and Poland (-1.65%). As only 5 of the 28 countries reach a negative cumulative balance of over 1% of GDP during 1999–2012, this is a rather rare event, although one has to keep in mind that this period is relatively short.

However, if the system does include a claw-back mechanism, the claw-back would be activated in the countries with a deficit of more than 1% of GDP. This is reflected in rising contributions, as is clear from the fact that the highest revenues are found in these countries. As a result, the average annual balances of the countries change: during the period 1999–2008 the balances would be at -0.16% of GDP in Spain, -0.10% in Latvia, -0.11% in Lithuania and -0.13% in Poland; between 2009 and 2012 the balances would

be -0.58% of GDP in Spain, -0.19% in Latvia, -0.22% in Lithuania and -0.11% in Poland. This results in a cumulative balance (expressed as a percentage of 2012 GDP) of -3.54% in Spain, -1.06% in Latvia, -1.14% in Lithuania and -1.06% in Poland. These cumulative balances are still above the 1% of GDP cut-off, but are much lower than when the system does not have a claw-back. For Spain the difference is between 5.36% and 3.54% of GDP.

Difference between experience rating and claw-back

It is useful to look at the distinction between experience rating and claw-back. This distinction seems of a more practical than a conceptual nature, even to the point that in some papers it is difficult to understand precisely how the two mechanisms differ (e.g. Dolls et al., 2014).

Both experience rating and claw-back aim at adjusting the contribution of a country (or payer) to the EUBS, so that the net contribution is closer to zero in the medium to long term than it would be without these features. The main difference between the concepts is that experience rating is, in principle, set up to make these adjustments *ex ante*, whereas claw-back adjusts the contributions *ex post*. Andor (2014, p. 188) puts it in the following way:

Experience rating means that the contributor versus beneficiary profile of each member state in the scheme is monitored, and the contribution or drawdown parameters can be adjusted at the beginning of each period so as to bring the member state closer to a projected balance with the scheme over the medium term. Claw-back, on the other hand, neutralises net transfers *ex post*, meaning that member states are allowed to be net beneficiaries for several years, but then their contribution and/or drawdown rates are modified so as to compensate for the net transfers that had occurred.

In our proposal, which is discussed in more detail below, the claw-back mechanism is activated after three years of being a net beneficiary.

The time dimension, however, is not strong enough to mark such a distinction between the two correcting mechanisms. Moreover, it gave rise to confusing interpretations in the above-mentioned literature. Also in our case, in fact, even though experience rating operates *ex ante* (or rather *de facto* in real time), while claw-back operates *ex post*, both mechanisms have an *ex post* dimension to them in the sense that the adjustments of countries' contributions to the supranational fund in both cases are based on historical data. The difference between experience rating and claw-back is, in essence, qualitative: i) the indicator that triggers the mechanism (unemployment outcomes in the case of experience rating and financial outcomes in the case of claw-back); and ii) claw-back is defined on the basis of a (financial) *objective function*, and is thus more 'stringent' in terms of the result it produces.

As is clear from the definitions presented above, changes in the adjustments of the contributions would be more frequent in a system with experience rating than in a system with claw-back (one 'period' typically corresponds to one quarter when talking of a UBS). Another difference between experience rating and claw-back is that the former tends to be associated with the country's historic records in terms of unemployment, and not necessarily that of net contributions. An experience rating mechanism can therefore be thought of as a mechanism according to which the net contribution of a country is updated frequently (every quarter) on the basis of the historical series of short-term unemployment within each country. Conversely, a claw-back mechanism is updated less frequently (for example, every three years or more) and is based on the historical records of the net contributions to the EUBS.

In 14 of the options considered in this study, experience rating and claw-back are present at the same time (the exceptions are options V1, V4, V16 and V17). This results in an 'overlap' between options with

similar goals. In addition, including both features in an EUBS also means that the countries' contributions will have to be computed according to a complex set of rules.

So why is experience rating or claw-back (or both) needed? Assuming that exogenous risks are uniform across EU countries, any observed difference in the occurrence of unemployment risks is due to 'behaviour'. Eliminating moral hazard with adjustment mechanisms would eliminate the possibility for any country to be a net beneficiary of the scheme on average. For this reason, among the 18 options considered, there is not a single option with neither experience rating nor claw-back. V16 only has claw-back and V17 only has experience rating, but all other variants are characterised by both mechanisms.

The idea behind these correcting mechanisms is to minimise moral hazard and avoid the risk of a permanent transfer across countries. It is nonetheless important to note that in every form of unemployment insurance a certain degree of transfer exists: from workers with a lower risk of unemployment to low-skilled workers in less developed areas. The more one relies on experience rating in the genuine EUBS variants, the less 'genuine' these schemes become, from the point of view of the individual European citizen. The fact that none of the variants considers eliminating such adjustments constitutes a shortcoming because it implies that no 'true' insurance system will be modelled, in which the citizens will insure themselves at a European level without differences by nationality. Such a variant would also be useful to compare how experience rating and claw-back perform against the no-correction variant.

In addition, one could argue that the need for experience rating or claw-back is not self-evident. Even if redistribution is not taken into consideration, if the EUBS is designed with the purpose of protection against tail risk (i.e. very large unemployment shocks), then the risk of moral hazard is minimal, since no government would be likely to survive a sky-rocketing unemployment rate, independently from receiving European funds.

Despite these considerations, the legal analyses performed as part of this project suggest that experience rating and claw-back are essential for the legal feasibility of a scheme. In fact, at the EU level, a legal base is found within the existing EU framework in Art. 352 of the Treaty on the Functioning of the European Union (TFEU) for the equivalent EUBS and in a combination of Arts 175 and 352 TFEU for the genuine EUBS. In both cases, the legal base falls within the scope of Art. 125 TFEU, which is also known as the 'no bail-out' clause. Under this clause, the EU may grant financial assistance to member states on the condition that this encourages labour market reforms. Experience rating and claw-back are essential tools to ensure the latter. At the same time, this implies that any EUBS without experience rating and claw-back would violate the no bail-out clause (and call for a modification or removal of the clause in order to be implemented).

Conclusions from the policy analysis

There are five conclusions from the analysis.

First of all, experience rating and claw-back need to be analytically examined together, but they need to serve separate functions in order to avoid duplication and fulfil multiple policy objectives. Experience rating is an *ex ante* instrument that should adjust the contribution rate of participants in a given country to the level of its utilisation of the system. Claw-back should be an *ex post* instrument that should guarantee that the long-term relationship of any given country with the system is not in (excessive) deficit.

Second, there is the need to distinguish and differentiate policy design between the equivalent and genuine systems.

Genuine systems require ongoing contributions and pay-outs to individuals, so differences in the long-term average of short-term unemployment rates between countries need to be included, as they result in a different net balance of countries with the system. In other words, if country x has a long-term average of short-term unemployment of 2.3% and country y has 5.3%, then the EUBS needs to be calibrated to take this into account and experience rating is the best instrument to do that.

On the other hand, equivalent systems are only activated when a country is in trouble **relative** to its **own** past performance. Therefore, the issue of comparative difference in the long-term average of short-term unemployment rates is not relevant there.

This means that experience rating needs to be set up differently for the genuine and equivalent systems. This does **not** impinge on simplicity requirements, since in reality **only one or the other** would be adopted, so different approaches reflecting different natures of the underlying systems entail complexity for policy-makers and analysts in making decisions about which system to adopt, but **not** for users/institutions in implementation.

Third, there is a need to distinguish between temporary and permanent shocks in policy design while acknowledging that such a distinction is impossible to make *ex ante*.

It is essentially unknowable at the time of the shocks to what extent the shock is temporary/permanent and what the policy reaction will be (which has a large influence on how the shock will feed into long-term growth). Even such pure exogenous shocks as the oil shock of 1973 had very different long-term effects on developed economies depending on their policy reactions. Additionally, the employment effects even of identical shocks can differ among countries and even the straightforward linkage between, for example, the output gap and unemployment, is subject to change in individual countries over time and cycle. **Therefore, making this distinction is better suited to claw-back as the *ex post* instrument.**

As part of that, the system should be designed to avoid the policy yo-yo that can arise for a country in severe and long-term difficulties if the EUBS first delivers substantial and sustained assistance, thus building up a high level of country deficit vis-à-vis the EUBS. In the medium term, this can lead to a rapid increase in the gross country contribution to the EUBS to ensure that not only is there no continuation of an annual deficit, but also to pay back the balance. Such a policy yo-yo can be limited by a combination of a gradual, but rapid rise in the experience rating and a gradual claw-back procedure with an option to suspend it or slow it down. For these reasons, the policy analysis is based on an experience rating that takes into account unemployment developments over the last 10 years and a claw-back procedure that starts after 3 years.

Fourth, one should acknowledge that this policy design, where decision-making on key variables is centralised and homogenised as proposed in this document, limits the ability of individual member states to manage the expenditure on the EUBS. They would not be able to pay a less generous European benefit. However, they would be able to top it up. And, at the same time they would remain free to decide on the national benefits.

Fifth, unlike the US system, our policy analysis does not contain experience rating at the firm level. In the US system, a firm's contributions are dependent on its history – if its employees make more use of the system, contributions increase. It should be noted that such firm-level coefficients are **not** forbidden or excluded in the analysis, but they would be left to member states' discretion. This is due to the tender

design. Additionally, given the varying nature of labour market regulation and industrial relations in the EU member states, it does not seem appropriate that there should be a uniform regulation on this aspect of the labour market regulation system. In only five EU countries – Croatia, Italy, the Netherlands, Lithuania and Poland – is the NUBS solely financed by employers' contributions. In most countries, there is a mix of employer and employee financing and in a few cases (e.g. Denmark) the NUBS is only financed by workers.

5.3.2. Experience rating – Proposal

Experience rating reflects the fact that member states have different long-term averages of (short-term) unemployment rates as well as the fact that the way shocks feed through into short-term unemployment is also different. It needs to have the following characteristics:

- simple and robust;
- rapidly reacting, automatic and non-discretionary;
- reflect differences between member states in both long-term and short-term trends;
- lead in general to a balance of the member state contributions and pay-outs; and
- counter-cyclical.

Nevertheless, our proposals in this respect so far are based on two observations, which we believe to be valid even after our discussions with external experts and the European Commission:

- the EUBS system needs to be, to the maximum extent possible, non-discretionary; and
- the EUBS needs to work in real time and provide a rapid response to shocks.

Therefore, the question is how to reconcile the feedback received in the past months with these observations. One part of the answer is better calibration of the experience rating, which should take into account the fact that countries have different long-run averages of short-term unemployment rates and that the long-run average can change within an individual country owing to various factors.

Another part is to examine, historically, whether massive permanent shocks led to overshooting in terms of growth and whether there is an argument for smoothing changes towards the new growth path even if the shock is permanent. If that were the case, then the real issue would be whether to allow for 'writing off' part of the EUBS claw-back if the shock proves to be permanent and GDP is lower for a significant period of time.

As indicated above, one element to consider in the analysis of a potential EUBS is the nature of the shocks that hit the European economies. In this regard, a distinction can be made between temporary and permanent shocks. Temporary and permanent shocks potentially interact with the EUBS in different ways, which is also reflected in the relation between the shocks on the one hand and experience rating and the claw-back mechanism on the other.

The distinction between temporary and permanent shocks and their impact on the economy can further be examined on the basis of the following theoretical scenarios. In a country hit by an **adverse permanent shock**, unemployment increases while GDP falls. The country's economy, however, does not necessarily adjust towards a new equilibrium because the EUBS is based on unemployment rates in the last 40 quarters and the scheme's transfers stimulate aggregate demand. To the extent that these transfers keep actual unemployment below the new NAIRU (the non-accelerating inflation rate of unemployment), gross nominal wages and prices will go up (i.e. the Phillips curve effect), which in turn raises the unemployment benefit level and induces additional transfers. Such price increases may

further result in a loss of competitiveness and higher unemployment. In this scenario, the country's capacity to repay can be strongly affected; this is where the interplay between the shock and the experience rating and claw-back becomes relevant. If the country is allowed to pay reduced net contributions to account for the gravity of the shock (e.g. by reducing the experience rating coefficient or postponing the claw-back), other countries are in fact subsidising the delayed adjustment to this new equilibrium. Alternatively, when this is not allowed, the country's capacity to repay could result in a further decrease of GDP and additional transfers from the supranational fund. The scenario of a **temporary shock** is very different from this one, in the sense that this type of shock is not expected to affect the country's capacity to repay (in the long run, assuming no hysteresis effects). The transfers from the supranational fund to the country are more limited. Unemployment will likely remain above its long-term equilibrium, which lowers wages and stimulates labour demand. In this scenario, experience rating may suffice to keep the country's net GDP balance within the bounds of 1% of GDP (claw-back is not activated), or both mechanisms may quickly bring the country back below this cut-off.

Still, these theoretical scenarios do not necessarily correspond to reality. A first element that supports this point is that although the economy would adjust more quickly towards a new equilibrium in the absence of unemployment benefits (in the case of a permanent shock), there is a wide body of literature that points to downward rigidities in Europe.¹⁸ A recent example of this is the case of Spain, where wages even increased in 2009. Not having a UBS can thus make a recession harder than necessary.

A second element to consider is that severe shocks often result in a free-fall: GDP plummets, much more than necessary ('overshooting'). Such major economic downturns often are not anticipated, which impedes the assessment of their expected size, duration and transmission through the economy.

Another important caveat to keep in mind is that at the time of the shock, it is essentially unknowable whether the shock is of a temporary or permanent nature. Indeed, shocks do not become permanent immediately. A further factor that comes into play in this discussion is what the policy reaction to the shock will be, which again is unknowable when the shock hits. As noted above, the policy response has a large influence on how the shock will feed into long-term growth. An example of this is the purely exogenous oil shock in 1973, which had very different long-term implications for the developed economies depending on their policy responses. Furthermore, the employment effects of identical shocks can differ among countries and the clear-cut linkage between, for example, unemployment and the output gap, is subject to change in individual countries over time and cycle. With these considerations in mind, we propose that the EUBS should work in real time, provide a rapid response to the shock and be non-discretionary, to the maximum extent possible.

For equivalent systems, we propose that the experience rating is implemented as a single coefficient applying to all contributions from a given country at a given time. The value of the **coefficient is determined as follows**:

$$1 + 0.025 * F_{i,(t-40,\dots,t-1)}$$

where $F_{i,t-40\dots t-1}$ is equal to the number of times that the system was activated for a given country during the last 40 quarters ($t-40,\dots,t-1$). The system is activated when unemployment in a given quarter exceeds by 0.1% (or 1% or 2%), in the rainy day, stormy day and reinsurance equivalent EUBS, respectively. The coefficient's range is (1, 2). The maximum value 2 applies when the system has been

¹⁸ See Du Caju et al. (2015), Abbritti and Fahr (2013), Schmitt-Grohé and Uribe (2013), Behr and Potter (2010) and Babecky et al. (2010).

used in all 40 previous quarters (or when claw-back is activated). If we adjust the basic pay-in formula for equivalent schemes to take into account the experience rating, it would look as follows:

$$Pay - in = x * GDP_{i,t} * (1 + 0.025 * F_{i,(t-40,\dots,t-1)})$$

The short-term unemployment rate is directly related to the economic cycle and to the expenditure of the EUBS. As the activation of the trigger is also determined by a country's short-term unemployment rate, there is a clear link between the use of the supranational fund on the one hand and the contributions that a country has to pay on the other hand.

One has to be aware, however, of the 'inter-temporal inconsistency' that experience rating incites: a country would see its pay-in increasing at the time when it experiences a recession, arguably needing more help. Such 'inconsistency' would decrease the usefulness of the scheme, since it would aggravate the budget pressure on a country experiencing a crisis. For this reason, we suggest using the long-term average of the short-term unemployment rate (i.e. based on the previous 40 quarters). In this way, the country's pay-in would go up immediately, but slowly (by only a small amount), so that it remains a net beneficiary. Another potential solution to this problem is to make sure that the adjustment is lagged: the adjustment of the pay-in could, for example, be calculated on the basis of quarters $t-40$ to $t-20$. In this example, a country that receives benefits in 2015 would only see its pay-in to the supranational fund change in 2020.

Note that the value of 0.025 in the equation represents the proportional increase of the country contribution due to *experience rating*. This value is obtained as follows: we first define a ceiling for the maximum contribution of a country relative to the base rate, as it seems inequitable to allow a difference among countries that is too large. We design the experience rating system in such a way that no country can be asked to pay more than twice as large a contribution rate than the base rate. This gives us a value equal to $1/40 = 0.025$. Hence, the contribution of a country will experience an increase equal to 0.025 of the base rate for each quarter in which it received transfers from the supranational fund in the last 40 quarters. Similarly, it will experience an increase equal to 0.1 of the base rate for each year it received transfers if the system is calibrated on a yearly basis (1/10).

For genuine systems, we propose that the experience rating is a single coefficient applying to all individual contributions from a given country at a given time. The coefficient would have this value:

$$\frac{\overline{UR}_{i,t-40,\dots,t-1}}{\overline{UR}_{EU,t-40,\dots,t-1}}$$

where the coefficient is the ratio of the 10-year national average of headline short-term unemployment over the 10-year average of headline short-term unemployment for the whole EU. It would be updated every 3 years and its range is $(0, \infty)$. In other words, if country x had a long-term average of 6% and the EU as a whole 4%, the coefficient would be 1.5. Determining the coefficient on the basis of the 10-year average of national and EU short-term unemployment would ensure delayed feed through from the unemployment rate to the experience rating to avoid pro-cyclicality of the EUBS. Importantly, we propose that in the genuine schemes, experience rating should be implemented from the start (i.e. from the first year in which the scheme is implemented). If we adjust the basic pay-in formula for genuine schemes to take into account the experience rating, it would look as follows:

$$Pay - in = x * gross\ wage * \left(\frac{\overline{UR}_{i,t-40,\dots,t-1}}{\overline{UR}_{EU,t-40,\dots,t-1}} \right)$$

Through this approach, not only the countries' past performance but also its performance relative to the other countries in Europe is taken into account. Notice that from the point of view of an insured European citizen, the introduction of country-level experience rating in a genuine system implies that a worker will pay a different price for his/her unemployment insurance than a citizen in another country, but he/she receives benefits that are defined in an identical way.

We propose a fixed experience rating for a period of three years to provide stability to contributions paid by tens of millions of businesses and hundreds of millions of workers in the EU. Unlike the equivalent system, where only governments are involved and a frequent updating of the experience rating is administratively easy, employers and employees cannot reasonably be asked to change their contribution rates every quarter or even every year. Therefore, a three-year period appears to be a reasonable compromise between stability and an accurate reflection of different situations in member states.

We propose that the financing of the system is equally divided between employers and employees for the sake of the simulations. This is the solution adopted by several countries, although given the heterogeneity of European models, different options do exist.

The experience rating is symmetrical in the sense that contributions by member states can be both larger and smaller than the basic pay-in depending on their unemployment rates. The tender specification states (p. 6) that with experience rating, contributions “to the supranational scheme differ by Member State and are related to the past history of (short-term) unemployment of that Member State (with some rule for updating)”. This is consistent with a symmetrical approach, but it is also an option with which the expert team is most aligned. The symmetrical approach means that no member state should accumulate larger and larger positive imbalances vis-à-vis the EUBS fund and thus is an important instrument to reassure governments and the public that there will be no large-scale permanent transfers. If the symmetry were removed for experience rating, there would be a strong pressure to add it for claw-back as an alternative, which would be against the tender specification, but – more importantly – much more disruptive and discrete in operation.

5.3.3. Claw-back – Proposal

Claw-back is essentially a safety valve in the system that exists to provide a guarantee to member states that regardless of circumstances, member states' contributions and pay-outs should roughly balance over the long run. Like the experience rating, claw-back should be simple, robust and counter-cyclical (or at least not pro-cyclical). Counter-cyclicity requires both a *delayed* and a *gradual* application of the claw-back. To ensure the counter-cyclicity, the analysis has proposed a period of three years before the claw-back is implemented. This delayed implementation is important to ensure inter-temporal consistency. This is a concern that has also been raised by some of the 28 experts consulted for the feasibility analyses at the member state level. If claw-back were activated sooner, it would imply a substantial burden on member states that are still in recession or in the early stages of recovery. This would also affect the credibility of the claw-back mechanism.

One issue not considered before is whether claw-back should be automatic or discretionary. In other words, should claw-back mechanisms be initiated automatically if conditions are met or should they be dependent on a decision of an authority (probably a political authority)? Given the terms of reference, it should generally be automatic since the purpose of the claw-back is to ensure that no country is a major long-term net beneficiary of the mechanism, which the experience rating itself does not necessarily guarantee (or guarantees only over a very long-term period of 20–30 years). That being

stated, this analysis argues for a well-structured possibility of limitations to claw-back based on a discretionary decision by a political authority (e.g. the Council of Ministers).

Such a possibility would allow a better *ex post* distinction of permanent and temporary shocks. As already argued, the difference is only clear *ex post* and the possibility of a claw-back reduction could mitigate situations in which a permanent shock leads to a combination of lower long-term output and high long-term spending on unemployment insurance. It could be tied to structural reforms (or their outcomes) and thus incentivise better performance following shocks – the opposite of moral hazard. It would not necessarily undermine the ‘no transfer’ guarantee of the claw-back, as the experience rating should (more gradually) lead to a similar outcome and the suspension of claw-back could be temporary. One caveat in the scenario in which a claw-back could be postponed or cancelled, however, is that this has implications for the legal feasibility of the scheme. This would violate the no bail-out clause in Art. 125 TFEU. As can be read in Beblavý et al. (2017):

Combining experience rating with claw-back mechanisms and minimum requirements with regard to activation policies leads to an overall system that sets enough incentives for national labour policies to reform their labour markets. If therefore an EUBS provides for experience rating, claw-back and minimum requirements with regard to activation policies, it can be considered as not violating Article 125(1) TFEU. It is also worth mentioning at this point that the EUBS should not include any kind of mechanism to ease these three elements in case of an economic crisis.

The economic impact of excluding the claw-back becomes visible in the simulations for V17 (this appears to be one of the EUBS variants with the highest redistributive effects). The claw-back is asymmetric in this proposal in the sense that it is activated for countries that ‘owe’ funds to the EUBS, but not for those that have large positive balances. There are two reasons for this. First, the tender states (p. 6) that claw-back is “an ex-post mechanism aimed at preventing excessively lasting transfers from the scheme towards particular Member States” – so that asymmetry was built into the work from the start. Additionally, it should be noted that since experience rating is symmetric, countries with a pattern of less use will pay less to the supranational fund; they will just not be entitled to receive additional funding back.

For equivalent systems, experience rating and claw-back are substitutes and the claw-back coefficient is essentially the maximum value that experience rating can take. It takes the form of a single coefficient applying to all contributions by a given country at a given time where the coefficient = 2. It applies after three years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1% of GDP.

For clarity, we remind the reader that the ‘coefficient’ is depicted by $1 + 0.025 * F_{i,t}$ in the pay-in formula. Note that the value of this coefficient is equal to 2 when F is equal to 40 (implying that the scheme is used in all past 40 quarters). The pay-in formula would then look like this:

$$Pay - in = x * GDP_{i,t} * 2$$

For genuine systems, we suggest that the claw-back is paid by member state governments (which then determine the financial source) rather than by employers and employees. Our suggestion is for an annual 0.2% GDP contribution that would start to be paid after three years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund and would continue to be paid until the balance drops below 1% of GDP. The appropriateness of this value has been confirmed in the simulations performed as part of this project.

The reason for this proposal is that if a claw-back is activated, the country is likely to still be in a prolonged bout of unemployment or just recovering from it. Employers and employees from such a country would already be paying higher contributions after the three-yearly revision of the experience rating. An additional automatic and significant increase of labour taxation under such circumstances because of a temporary surge in unemployment benefits is not an advisable policy. It would also add to the technical complexity of the system for employers and employees.

The figure 0.2% of GDP was chosen based on a combination of the following:

- it is the penalty under the stability and growth pact for violation of preventive or corrective rules; and
- given that the average annual size of the gross contributions/payments from the EUBS can be estimated in the range of 0.1 to 0.4% of GDP (depending on the version of the system), it should be sufficient in all but the most extreme circumstances to bring the imbalance below 1% of GDP within a few years.

5.3.4. Stylised examples of the joint operation of experience rating and claw-back

This section presents some stylised examples and shows how experience rating and claw-back would operate under such circumstances. The reason for doing that is to make it easier for the reader to imagine how the proposed system would operate in practice. These stylised examples are based on simple calculations and do not replace actual simulations that will be undertaken as a part of this project. We present four possible cases:

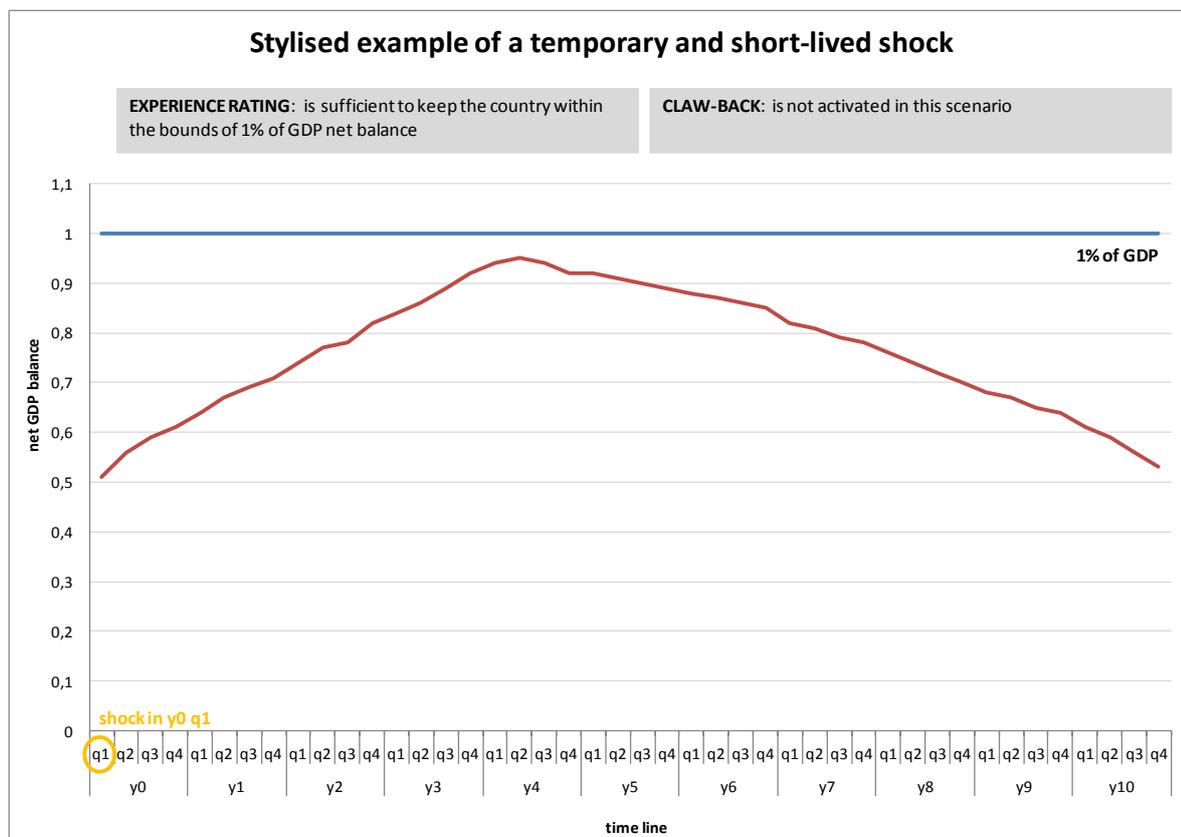
- *A temporary and short-lived shock that hits the economy.* This shock increases the short-term unemployment rate and hence raises the country's use of the EUBS. The experience rating is active; the claw-back mechanism is never activated. As the shock is of a temporary and short-lived nature, the experience rating suffices to keep the country within the bounds of a negative cumulative balance vis-à-vis the supranational fund of 1% of GDP. This scenario therefore singles out what the impact of the experience rating could be.
- *A temporary but longer lasting shock.* As the shock is longer lasting in this scenario, both the experience rating and the claw-back are active. Claw-back is activated after a period of three years of a negative cumulative balance exceeding 1% of GDP. When the claw-back is activated, the balance quickly falls to below the 1% level, after which claw-back is stopped. This scenario thus has the objective of showing how experience rating and claw-back could operate together.
- *A severe temporary or permanent shock.* Given the severity and duration of the shock, in such a scenario both the experience rating and claw-back would become operational. However, in our proposal we mentioned that the claw-back mechanism could be suspended for some time, to avoid impeding the economic recovery of countries hit by such shocks (as stated above, suspension would be subject to the approval of the Council, in the case of the genuine EUBS). This scenario illustrates a case where experience rating is active from the start, but insufficient. Claw-back should therefore be activated after three years of a negative cumulative balance larger than 1% of GDP but is not because it is suspended for two years. After this period, claw-back becomes active and quickly lowers the cumulative balance.
- *A severe temporary or permanent shock.* This scenario is similar to the previous one. The main difference is that we show that suspensions of the claw-back could also mean that in the end the

mechanism is never activated at all. This happens because the experience rating manages to reduce the negative cumulative balance to the 1% level after a sufficiently long period. In summary, in this scenario the experience rating is the sole mechanism that is operational.

In each scenario, we start off with a shock that hits the economy in the first quarter of year zero. In each graph, we start from a situation in which the country already has a cumulative negative balance vis-à-vis the supranational fund that takes a value of 0.5% to 0.6% of GDP. This number was chosen in a purely arbitrary way, solely for illustration purposes. Still, in the simulation exercises of Beblavý and Maselli (2014) (which cover genuine and reinsurance schemes), the negative cumulative balance of several countries does in fact reach the 0.5% of GDP level or even surpasses it (examples are Estonia, Greece, Latvia, Lithuania and Poland). In the first scenario, we start from a shock that is small, temporary and short-lived. An example of such a shock could be the economic downturn in the US in 2001, which has been described as short and shallow (Kliesen, 2003). The downturn lasted for about eight months. Note that in the graphs presented below, we explore the potential impact of the shock of the cumulative balance of the country vis-à-vis the supranational fund through time; the length of the shock is not represented in the figures.¹⁹ In Figure 11, we show a potential scenario that may have resulted from a small, temporary and short-lived shock. In this scenario, the experience rating on its own is likely to suffice to keep the country within the bounds of 1% of GDP net balance, so the claw-back would not be activated. This outcome is desirable from the system's point of view. In the graph, the country's negative net balance increases from the first quarter of year zero until the second quarter of year four, after which the balance starts to go down. The country is going through an economic recovery phase.

¹⁹ Furthermore, one has to be aware that these graphs were created for the purpose of elucidating how the interaction between experience rating and claw-back could work, which means that the timeline presented is likely to be longer than it would be in reality. Yet this has allowed us to generate sufficiently large graphs that would illustrate our point.

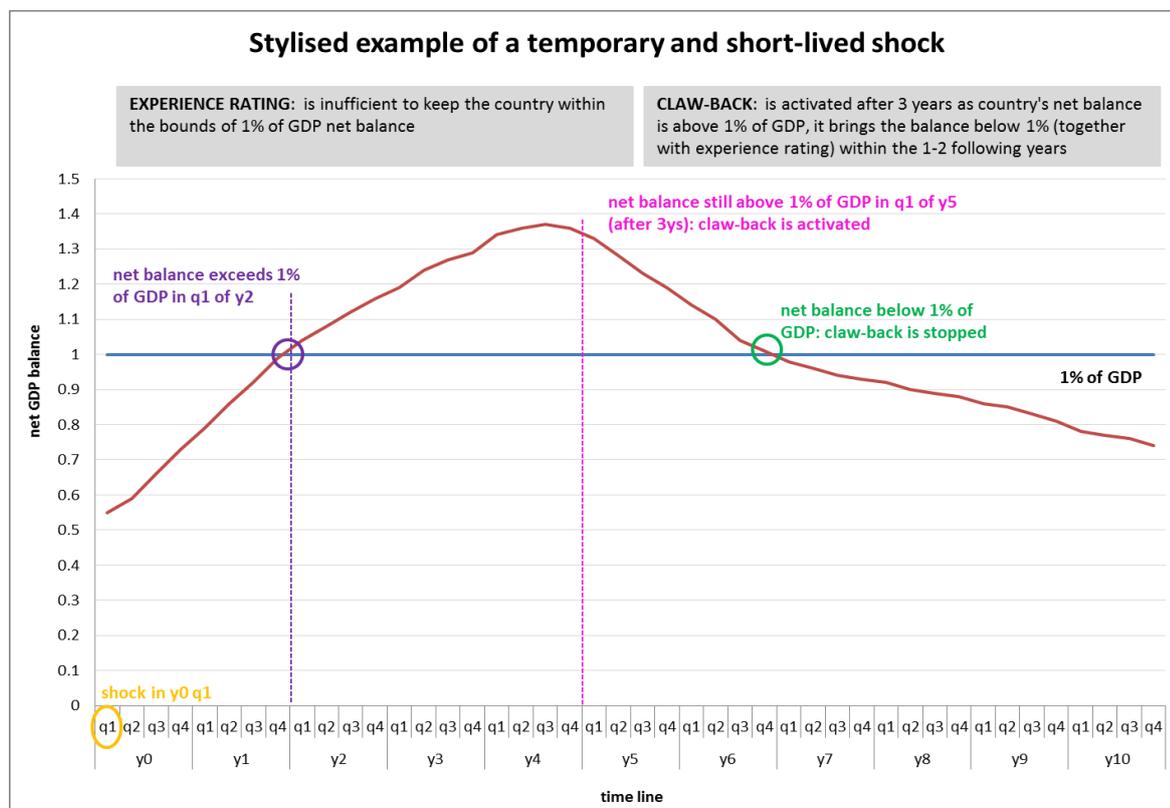
Figure 11. Stylised example of a temporary and short-lived shock, in which the experience rating by itself is sufficient to keep the country within the bounds of 1% of GDP net balance



Source: Authors' elaboration.

A second possibility is that the shock that hit the economy was small and temporary, but longer lasting. To clarify what 'longer lasting' could mean in this case, we draw on the literature. For the US, Labonte and Makinen (2002) find that the average length of a recession during the post-World War II period is equal to 11 months. Some examples for the US that meet this criterion are the recession of April 1960 to February 1961 (10 months, with a GDP contraction of 1.6%) and the recession of December 1969 to November 1970 (11 months, with a GDP contraction of 0.6%) (Labonte and Makinen, 2002). In these cases, the downturn lasted longer than the average, but the impact on GDP could be described as relatively limited. We use this scenario as an example of what could happen if the shock were small, temporary and longer lasting, but causing the claw-back to become operational. If the shock were temporary, but longer lasting, the increasing experience rating might bring the net balance below 1% of GDP or it might be somewhat above the threshold after three years. In that case, claw-back would be activated and this, together with the experience rating, would be likely to reduce the country's net balance below the 1% of GDP threshold in the following one to two years. This outcome is desirable from the system's point of view. This scenario is depicted in Figure 12. The claw-back is activated after three years (in the first quarter of year five), which reduces the cumulative deficit to less than 1% of GDP in the last quarter of that year.

Figure 12. Stylised example of a temporary and short-lived shock, in which the experience rating by itself is insufficient and the claw-back is activated



Source: Authors' elaboration.

The final scenario that we explore is what would happen if the shock were permanent, or even temporary but very severe. In the first two scenarios, we also considered temporary shocks, but assumed that their impact on the real economy remained limited. One element that needs further clarification, therefore, is how we differentiate between non-severe (small/mild) and severe temporary shocks. In the case of a severe shock, we assume that although the shock is temporary, it does have a strong impact on GDP and unemployment. To shed more light on this issue, we again refer to the work of Labonte and Makinen (2002) on the US. According to Labonte and Makinen (2002), the most severe recession in their sample is the double-dip crisis of the early 1980s. Between January 1980 and July 1980, GDP contracted 2.2% while the maximum unemployment rate was 7.8%. Shortly afterwards, between July 1981 and November 1982, GDP contracted 2.9% and the maximum unemployment rate reached 10.8%. Another severe recession was that between November 1973 and March 1975. Then, GDP contracted by 3% and the maximum unemployment rate was 9%. The depth or severity of a recession can thus be evaluated on the basis of its impact on GDP growth. For the US, for example, GDP fell by 27% during the Great Depression and unemployment peaked at 25%. In more recent recessions, the impact on GDP and unemployment has never reached these levels. In the Great Recession, for instance, the numbers are 4.3% and 10% for the US, respectively.

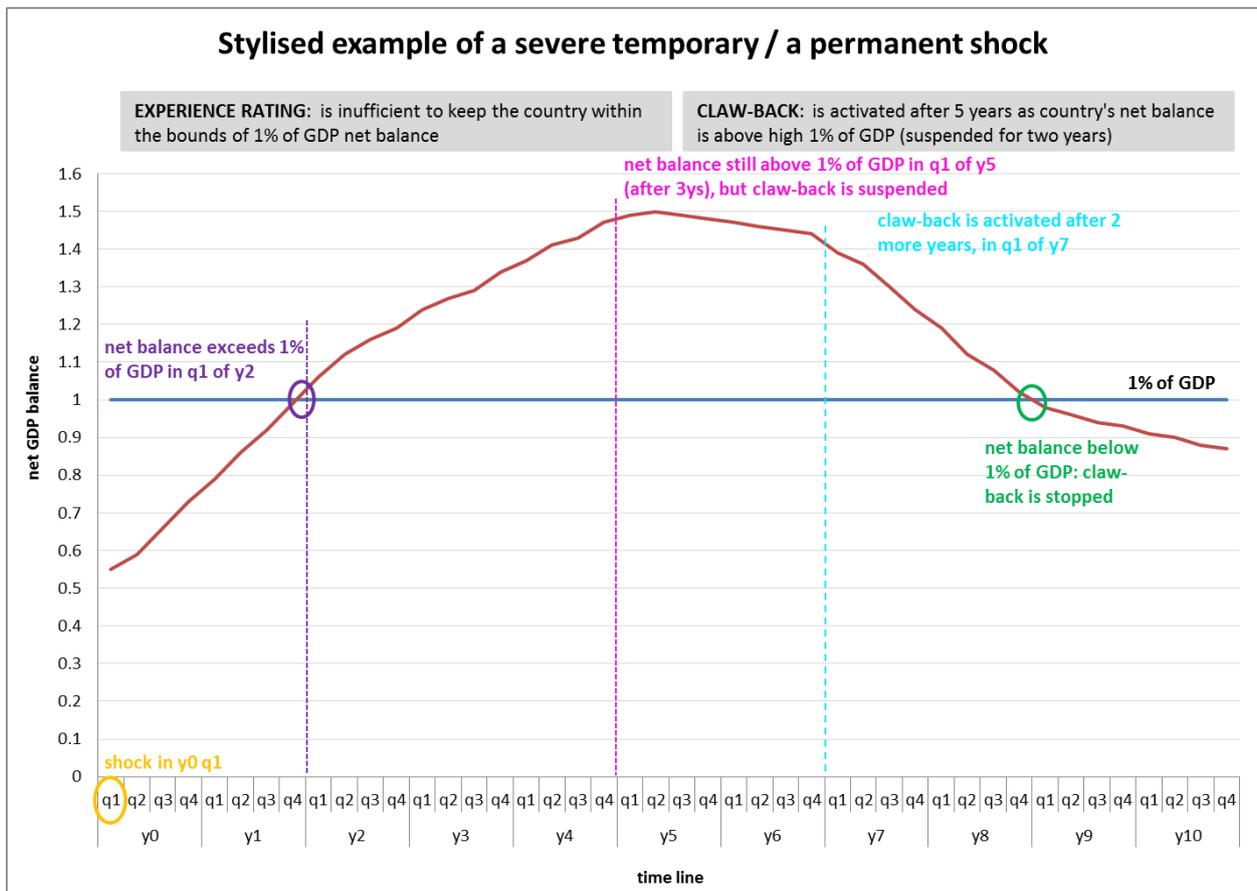
One can imagine that in such a case, a country might find itself high above the cumulative balance of 1% of GDP, the threshold for claw-back, while at the same time it would be under significant fiscal stress. Here a well-structured mechanism would be initiated for deciding whether all or part of the claw-back is suspended if needed. The decision would be political in the end, meaning that it would be taken by the Council, but it should be based on a proposal by the Commission and on the following estimates:

- the severity and permanent nature of the shock, and
- the reforms undertaken or committed by the country to counter the effect of the shock.

However, one has to be aware of the potential legal implications of such a suspension (see above). Suspension of the claw-back would not suspend the experience rating, so the country would likely continue being a net payer for some time to come. This is likely to bring member states frequently below the 1% of GDP threshold anyway.

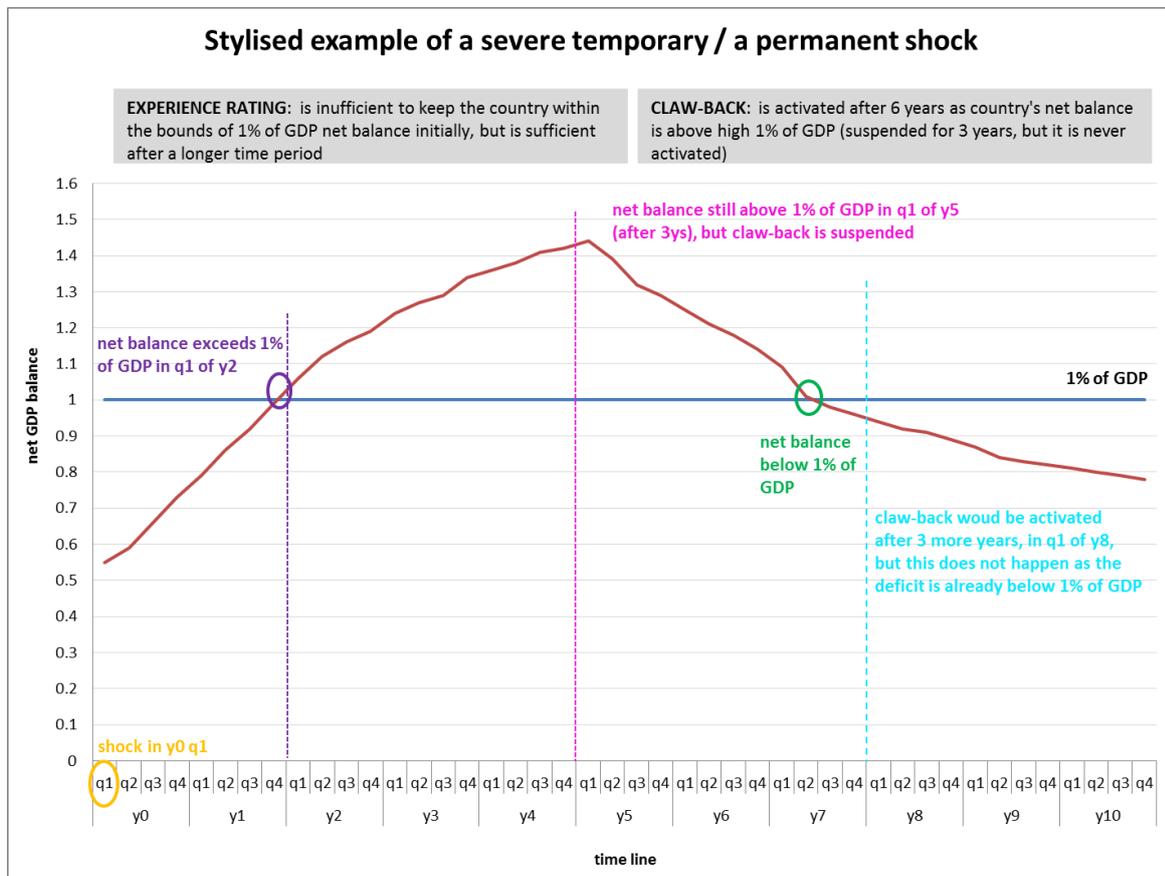
The final two stylised examples in Figure 13 and Figure 14 below present the case of a severe temporary or permanent shock. Some historical examples matching such shocks are the Great Depression of the 1930s and the transition of Eastern Europe in the 1990s. In both stylised examples, we consider what might happen if the claw-back mechanism does not become active after three years, as it would normally do, but is suspended instead. The scenario in Figure 13 presents a case in which the claw-back is activated after five years in the first quarter of year seven (it is suspended for two years), then quickly reduces the country’s cumulative net balance to 1% of GDP. The scenario in Figure 14 shows a case in which the claw-back initially is suspended for three years (which means that it would become active in the first quarter of year eight), but it is never activated as the experience rating suffices to bring the cumulative balance of the country back to the 1% of GDP threshold. We again emphasise that these figures are presented here to make it easier for the reader to understand how experience rating and claw-back could operate under different – hypothetical – circumstances. They are based on simple calculations and cannot be considered substitutes for the simulations undertaken by Dolls and Lewney (2017) and Jara et al. (2017).

Figure 13. Stylised example of a severe temporary or a permanent shock, in which the experience rating by itself is insufficient, but the claw-back is not activated and remains suspended for two more years



Source: Authors' elaboration.

Figure 14. Stylised example of a severe temporary or a permanent shock, in which the experience rating by itself is insufficient, but claw-back is not activated and remains suspended for three more years



Note: This example implies that the claw-back is never activated as the experience rating closes the gap in this period.

Source: Authors' elaboration.

5.4. Debt-issuing possibility

In the case of debt-issuing, when the global balance of the EUBS becomes negative, the fund can bring it to 0 by borrowing on the market.

If debt-issuing is not possible, then the resources needed to avoid a negative financial position of the EUBS will be contributed by the member states, in proportion to their GDP.

The proposal is the same for both the equivalent and genuine schemes.

There are three options for dealing with a potential annual imbalance in the EUBS as a whole:

- issuing debt to cover the imbalance;
- adjusting some of the variables of the scheme to achieve balance (the replacement rate, eligibility and so on); and
- requiring some additional contributions by the member states to cover the shortfall (notice that in this case the member state may in turn need to borrow the resources to pay these contributions to the fund).

The authority to issue debt can be capped *ex ante*, which would be politically more acceptable, but would also necessitate provisions for dealing with imbalances exceeding the cap (reducing benefits or special contributions by member states).

One issue that should influence the possibility and the extent of the debt-issuing is the type of shock one finds in the EU/euro area. If shocks are asymmetric, then the case for issuing debt is weaker due to the fact that at any point in time there will always be a group of countries that contributes and a group that borrows from the fund.

According to Allard et al. (2013), a surprising number of asymmetric shocks have hit European countries since the establishment of the European Union. Moreover, common shocks are also likely, as the 2008–09 crisis and its aftermath made very clear. Hence, while an EUBS without borrowing powers can be appealing given that it offers the possibility to insure countries against asymmetric shocks, additional benefits could be generated by a debt-issuing EUBS.

Without debt, the system must be able to deal with the lack of backstopping through a combination of the remaining two options. Given the institutional complexity of the EU, the solution should be automatic and predetermined rather than left to discretion. It is likely that balancing the EUBS' reserves by reducing the level or duration of individual entitlements during a crisis would lead to bad social outcomes, and that it would hit the economy in a moment of crisis. In light of these considerations, we suggest that in the cases where debt-issuing is not foreseen the solution comes from paying an additional contribution.

For the equivalent EUBS, there are two options if the supranational fund balance goes below 0. If it is allowed to borrow, it borrows from the financial market; if not, it increases the contributions of the member states, proportional to their GDP to achieve an annual balance. In other words, member states would pay extra contributions as needed to keep the supranational fund afloat.

For the genuine EUBS, there are three options if the supranational fund balance becomes negative.

If it is allowed to borrow, it does so from the financial market. Debt-issuing is possible if the supranational fund can borrow money from the capital markets in order to cover short-term imbalances.

If the supranational fund is not allowed to borrow, there are two options:

- increasing individual contributions in all member states by a temporary coefficient; and
- asking for a special contribution of the member states, proportional to their GDP, which the member states would be allowed to raise as they see fit.

Since the fund's depletion is likely only when a major symmetric shock hits and increasing individual contributions by a temporary coefficient is equivalent to an increase in labour taxes across all member states, this does not appear to be an optimal policy combination. Therefore, we propose that the funding mix for a special contribution would be determined by the member state governments.

This option should also be used for any build-up of the fund reserves at its start.

The technical aspects of both options (borrowing and special member state contributions) are expanded in more detail in Repasi (2017). The legal, political and technical challenges connected to implementing either option are likely to be substantial, but are not tied to policy analysis of the 18 EUBS options as such.

5.5. Basic EUBS

According to the tender specifications, in a basic genuine EUBS, the supranational fund pays out the unemployment benefits according to the predefined replacement rate to the unemployed person for a predefined number of months. Each country is free to increase the paid amount or the duration at its own expense.

Virtually every study on EUBS (with the exception of Delpla, 2012) has recommended this type of EUBS (see the next section).

5.6. Top-up EUBS

According to the tender specifications, in a top-up genuine scheme, every eligible unemployed person is guaranteed a given replacement rate and duration. If the national UBS is generous enough to cover these costs, then the supranational fund does not contribute to the unemployment benefit of the unemployed citizens. If, however, the national UBS does not meet the minimal duration and replacement rate requirements, then the supranational fund supplements the payments of the national fund by the necessary amount to meet these requirements. As such, this type of scheme might be better understood as filling the gap between the supranational and the national allowance rather than topping up.

The two schemes are similar in one respect: both impose minimal standards for the requirements and generosity of unemployment benefits, and leave countries free to implement more generous systems at their own cost. One key difference concerns which countries receive money from the supranational fund: in the basic scheme, every country can be a beneficiary; in the top-up scheme, countries with a UBS more generous than the standard cannot be beneficiaries. Another important difference is in terms of the cost of the supranational scheme. The amount of contributions to finance the basic EUBS at the supranational level would be much higher than the contributions needed to finance just the top-up scheme, as the latter involves paying only for those countries with less generous UBS.

Hence, in a top-up scheme, countries have an incentive to reduce the generosity of their UBS, as noticed by Delpla (2012). In game theory terms, we may say that the top-up scheme is not strategy-proof, in the sense that individual countries do not have an incentive to choose what they think is the optimal level of generosity for their UBS. Nevertheless, this problem may be mitigated if there is a claw-back or any other provision that brings the long-term financial position of countries close to neutrality.

The majority of papers in the literature that discuss in some depth the functioning of the European insurance scheme suggests the basic option (Beblavý and Maselli, 2014; Dullien, 2012, 2013). The only paper suggesting something that can be considered a top-up scheme is Delpla (2012). However, the author's proposal is somewhat more complex, as it is based on the idea that workers, when taking a job, may decide to sign a European labour contract instead of the national one. The European labour contract would be the same as the national one except for a few provisions, among which is a higher level of unemployment benefits (although the paper is not very clear in this respect).

Please note that in the modelling exercise, V6 is the only one that can just be modelled in the forward-looking analysis. The reason is that EUROMOD does not contain the historical policy rules of national unemployment benefit systems (spanning the period 1995–2013), which is why their simulation is not possible in the backward-looking analysis.

5.7. Cyclical variability

The cyclical variability of an EUBS is the extent to which some of the parameters defining the EUBS (for example, the replacement rate or the duration) are a function of variables related to the economic cycle. In this research project, cyclical variability is defined as a dichotomous variable, such that it is only present in V15.

We propose to define cyclical variability as an extension of the unemployment benefits for a maximum period of 6 months, in addition to the normal provision, as long as the short-term unemployment rate in the previous quarter is higher than the 10-year average, short-term unemployment rate plus 3%. These benefits would be financed from the general EU budget.

It is argued in Beblavý et al. (2015a) that in the American system,

one of the added values of the federal system lies in the possibility to extend benefits in exceptional cases of severe recessions in one or more states, i.e. when the stabilisation tool is most needed. This takes place via the extended and emergency benefits, with the former partially and the latter completely financed at the federal level.^[20] Extended benefits are the geographically redistributive part of the system. (...) The possibility to top up national systems whenever there is no sign of recovery in the economy is certainly an interesting feature. Such decisions, however, can be taken in the United States relatively quickly. For additionality to be implemented in the EU, automated decision-making would be necessary given the intrinsic slow nature of decision-making at the European level.

As explained in detail by Whittaker and Isaacs (2014), in the US the Extended and Emergency Benefits programme is “permanently authorized and applies only to certain states on the basis of state unemployment conditions”. The emergency benefits need to be explicitly authorised by Congress, which did so eight times in the past: in 1958, 1961, 1971, 1974, 1982, 1991, 2002 and 2008 (ibid). The Department of Labor produces trigger notices indicating which states qualify for both the extended benefits and the emergency benefits, and it provides the beginning and ending dates of payable periods for each qualifying state (ibid). The total maximum number of weeks an unemployed worker is eligible for benefits is between 40 and 93 weeks – that is, between 10 and 23 months.

In light of these considerations and taking into account the differences between the EU and the US, we propose that, in V15, cyclical variability is implemented in a non-discretionary manner as a part of *ex ante* defined conditions. For a non-discretionary decision, it is therefore necessary to define a triggering variable. For this, we propose the short-term unemployment rate, consistent with the selection of the trigger in the equivalent system (see section 5.3 for a discussion of why the short-term unemployment rate is superior to other indicators).

One could imagine two forms of cyclical variability: longer benefits and higher benefits. We lean towards the former following the rationale of the US system, in which it is the lack of vacancies that makes it necessary to help the economy and the unemployed worker in the transition towards a better phase of the cycle, more than the generosity of the system. As a result of this discussion, we recommend that benefits are extended for a maximum period of 6 months, in addition to the normal provision as long as the short-term unemployment rate in the previous quarter is higher than the 10-year average, short-

²⁰ During the recent Great Recession, the US federal government paid 100% of the cost for Extended Benefits and the Emergency Unemployment Compensation 2008.

term unemployment rate plus 3%. These benefits would be financed from the general EU budget. Had cyclical variability been in place since 2000 in this form, it would have been activated 19 times in the EU, all of them after 2008. This is consistent with the idea of extending the benefits in case of major downturns.

The additional proposal is to link cyclical variability also to European rather than national cycles and therefore to be activated in case of an EU-wide major downturn. We propose, as a definition of a deep shock, a recession (defined as two consecutive quarters of negative growth) in *half+1* of the member states simultaneously. Also in this case, unemployment benefits would be granted to the short-term unemployed workers for up to 6 additional months.

With these considerations in mind, we reach the following proposal. At the policy level, we propose to have two forms of cyclical variability: one tied to the national level and one tied to the EU level. In both cases, cyclical variability is not automatic, and only occurs in exceptional situations. At the EU level, cyclical variability would have to be granted. At the national level, member states should have the option to ask for an extension of benefits if this were needed.

We refrain from proposing an automatic, cyclical variability mechanism for a variety of reasons. First of all, the duration of the benefits is already relatively long, unlike in the US. Second, in instances where benefits were extended automatically, this would imply that countries would have to pay back more in the future (which is an additional burden). Moreover, the mechanism is likely to interfere with the labour market institutions of the member states and with the idea of a ‘non-transfer’ Union.

Note that the EU-level cyclical variability will not be part of the modelling exercises, given that it should only be used in highly exceptional circumstances. National-level cyclical variability will be modelled, and in this case we assume that any country that would ‘qualify’ for an extension of unemployment benefits would indeed make use of it.

5.8. Duration

The duration is the number of months during which the unemployment benefit is paid out. Throughout the ToR, there seems to be the assumption that the replacement rate will not vary by month, although this is not necessarily the case in the NUBS.

According to the tender specifications, the benefits are paid from the beginning of the fourth month after losing employment to the end of the twelfth month in the baseline EUBS, from the beginning of the first month to the end of the twelfth month in option V7, and from the beginning of the fourth month to the end of the sixth month in option V8.²¹

Within the eurozone, in 2010, the duration was longest in Belgium (with no upper limit) and shortest in Malta and Slovakia (6 months). Meanwhile, in about half the countries the duration was between 8 and 12 months (European Commission, 2013). It seems reasonable to expect that the EUBS maximum duration would be between 6 and 12 months. The latter maximum duration would imply that the duration of the unemployment benefits would have to be extended in almost half of the countries. In

²¹ The ToR does not specify if “month 3” means the point at which the third month after losing employment ends (and the fourth month begins – which is our interpretation) or the point at which the third month after losing employment begins. However, the inclusion of “month 0” in V1 makes this point clear, since the unemployment month cannot start before the beginning of the first month.

contrast, if the maximum duration were set at 6 months, then no country would need to extend the UBS duration.

Most simulation studies set the maximum duration at 12 months (Dullien, 2007, 2012, 2013; Beblavý and Maselli, 2014; Dolls et al., 2014). The micro-simulation study by Jara and Sutherland (2014) proposes a slightly different scheme, in which benefits can be paid out until M12, but starting from M4, so that the duration is actually 9 months, but the payment is postponed compared with the UBS proposed in the rest of the literature and existing in every European country. This is in line with the way duration is specified in the tender (except in V7). According to Strauss et al. (2013), this excludes benefits for very short-term unemployment (such as unemployment while changing jobs) or for seasonal unemployment. This is an important point. A waiting period of 3 months at the beginning of unemployment means that many will first receive benefits from the national schemes, and then switch to the EUBS. In several countries, the national schemes will be restarted when the EUBS has stopped, or alternatively the social assistance system comes into play. This is operationally and administratively difficult and it is likely to be associated with considerable fluctuations in the benefit amounts. The feasibility analyses therefore suggest starting the EUBS in M0. At the same time, this has to be weighed against the fact that the EUBS is not necessarily intended to cover very short-term fluctuations and seasonal unemployment, which are not directly related to the functioning of the EMU.

Economic literature has usually argued, on the basis of both theoretical models and of empirical results, that the longer the duration of benefits, the lower the incentives of the unemployed to look for jobs (see Card et al., 2007, for a review). This has usually been an argument in favour of shorter benefit durations. However, as the results by Card et al. (2007) indicate, the effect of benefits duration on job search may be much weaker than previously thought.

5.9. Replacement rate

The replacement rate is the proportion of the reference wage that will be paid out as an unemployment benefit, so that the unemployment benefit equals the reference wage times the replacement rate.

The replacement rate is 50% (in the baseline variant), 35% (in V9) or 60% (in V10), and it is applied to the gross wage. In the next section, we suggest that national governments can convert the reference wage to the net wage by using an appropriate conversion ratio.

A replacement rate can imply a very different benefit level, depending on whether the reference wage is gross or net. Given that most countries and simulation studies use the gross wage as the reference wage, it is convenient to refer to gross wages in this report as well. Across the EU, “gross replacement rates vary greatly between 80 per cent in Luxembourg and 13 per cent in the United Kingdom. Gross replacement rates are on average somewhat higher in eurozone countries, around 50 per cent, as compared to slightly below 40 per cent in countries outside the common currency” (Esser et al., 2013, p. 9).

Micro-simulation studies on EUBS usually set the replacement rate at 50% (Jara and Sutherland, 2014; Dolls et al., 2014). Macro simulation studies cannot compute the benefit at the individual level through a replacement rate, but usually decide on a replacement rate and they translate this decision into assumptions on the UBS costs. Again, usually the choice falls on a replacement rate of about 50% (Dullien, 2007, 2012, 2013), although Beblavý and Maselli (2014) choose a slightly lower replacement rate (40%).

Replacement rates fixed at this level seem to be a reasonable compromise between the social demand for mechanisms that stabilise household income in difficult economic times, and the risk of distortionary incentives that over-generous unemployment benefits may have on the job search effort of the unemployed (Krueger and Mueller, 2010). Hence, we choose 50% of the gross wage as the replacement rate for our EUBS scheme.

5.10. Reference wage

The reference wage is defined as the average wage in the last x months (where x may be equal to 1), either net or gross.

The reference wage is the last gross monthly wage.

However, we propose that national governments have the option to convert this to the net wage in such a way that the replacement rate for the net wage would be equivalent to a 50% replacement rate for the gross wage for the average worker. We also suggest that national governments in countries with flat-rate unemployment benefits could convert the benefit into a flat-rate benefit if the flat-rate benefit is equivalent to 50% of the gross average wage.

In 2013, 11 out of 17 eurozone countries used the gross wage as the reference wage, and 3 used the net wage (Austria, Finland and Germany). For the other 3 countries (Ireland, Malta and Greece) the distinction was not relevant, because the benefits are flat-rate or structured in a way similar in some respects to a flat-rate scheme (Esser et al., 2013). Micro-simulation studies (Jara and Sutherland, 2013; Dolls et al., 2014) usually compute benefits using the gross wage as a reference. In macroeconomic simulation studies, it is usually not explicitly mentioned whether the EUBS would use gross or net wages as the reference wage. One exception is Beblavý and Maselli (2014), who use total compensation, meaning the gross wage plus employer social security contributions. These authors make the interesting case that the gross wage is not ideal for a supranational UBS, because it includes social contributions paid by the employee but not by the employer. Hence, the gross wage can be changed by national legislation by moving a part of the social contribution from the employer to the employee (or vice versa), while leaving both net wages and social contributions unchanged. This is not possible with nominal compensation, which includes social contributions paid by both the employee and the employer. As a result, the nominal compensation would seem more robust to strategic decisions of the governments aiming at maximising the revenues from the EUBS. Despite this argument, we choose the gross wage as the reference wage, following the majority of authors and countries.

The second element that defines the reference wage is the period over which it is calculated. This can be very different across the EU, ranging from the Netherlands, where the reference wage is the last salary, to Lithuania, where the average wage over the last 3 years is used instead (Esser et al., 2013). Simulation studies often do not explicitly mention the salary period over which the reference wage is computed. Usually, the reference wage is equal to the most recent wage (e.g. Jara and Sutherland, 2014), although in some cases it is equal to an average over more periods (12 months in the study by Dullien, 2007).

In general, there are no compelling arguments for choosing a particular value for x (the number of months for which the reference wage is the average). If x is low, the reference wage will typically be higher, so the replacement rate will have to be lower to guarantee the same level of benefits compared with a scheme where x is higher. Furthermore, if x is low, there will be an advantage for those workers

who enjoyed large salary growth in the last months or years. As salary increases are higher among younger workers, this means that, from a generational point of view, a low value of x tends to advantage the younger generation. We choose $x=1$, following the choice of many studies and countries, and because of the improved intergenerational equity outcome.

There are also no compelling arguments for choosing between the net or the gross wage. As the income tax system is progressive in most countries, using the net wage as the reference wage seems to be more progressive, as there are greater differences in gross rather than in net wages. Still, this depends on whether unemployment benefits are taxed or not. If they are taxed, then an element of progressivity is introduced even if the gross wage is used as a reference. Across Europe, there are countries that tax unemployment benefits and collect social contributions from them, countries that do not and countries that apply special forms of taxation (Esser et al., 2013). We choose the gross wage because it is consistent with the choice of most countries and papers in the literature.

National conversion of the reference wage from gross to net

Some countries use the net wage as the reference wage, meaning that the whole operational system (including data collection and processing) of their UBS works on the basis of net wages. We believe that it would be difficult for these countries to adjust to using gross wages as the reference. One solution to this problem could be that the national system defines a new replacement rate to be applied to the net wage. The new replacement rate could be chosen (in agreement between the European Commission and the member states) in such a way that the unemployment benefit received by the average worker remains the same as that using the EUBS replacement rate and the gross wage as the reference. This will not affect the simulations carried out in the context of our research project, because it is supposed to imply only minor variations in the level of the benefits received by individuals.

5.11. Eligibility

Eligibility rules determine which unemployed citizens qualify for unemployment benefits. They define some minimum requirements for EUBS coverage, which in turn affect the incentives in place for individuals and the stabilisation effect of the EUBS. We call this ‘narrow eligibility’, as it concerns the entitlement conditions for the unemployed to qualify for unemployment benefits, and it is therefore different from Venn (2012), who includes activation policies.

According to the tender specifications, eligible workers will be those who became unemployed after working (not necessarily consecutively) as employees for 3 (full-time equivalent) months out of the last 12 in the baseline specification, 3 months out of the last 6 in option V11, and 12 months out of the last 24 in option V12.

Eligibility rules indirectly determine the coverage rate, defined by Esser et al. (2013) as the number of insured persons as a percentage of the labour force (hence a proxy for the proportion of unemployed individuals who qualify for benefits). The coverage rate is about 75% both in the eurozone and in the EU as a whole (Esser et al., 2013). At the same time, the rate can be very different from country to country, ranging from full coverage (95% or more) in Finland, Ireland, Greece, Luxembourg and Sweden, to less than 60% in Spain, Slovakia, Italy, Poland and Romania. This depends on which minimum conditions are set in place to be eligible for unemployment benefits. For example, Romania has a very low coverage rate because the self-employed are excluded from the UBS, and a large proportion of the Romanian workforce is self-employed. Hence, including having worked as an employee as a minimum condition for eligibility may reduce the potential of the EUBS to tackle economic shocks by excluding a

large proportion of workers from the insurance mechanism, as already noticed by Strauss et al. (2013). In other cases, such as Italy or Spain, a low coverage rate may partly be due to restrictive minimum conditions in terms of the number of months that the insured worker must have worked in the past months. In Italy and Spain this number is 12, as in option V12, which may be expected to produce a relatively low coverage rate as a result.

The coverage rate of a potential EUBS is difficult to determine a priori, because it must be computed once the eligibility rules have been defined. Macro simulation studies of the EUBS circumvent this problem by defining a 'pick-up rate', i.e. by supposing that the eligibility rules will be such that the coverage rate will be equal to the pick-up rate that they use in the simulation. For example, Beblavý and Maselli (2014) assume a pick-up rate of 75%, Pisani-Ferry et al. (2013) assume that the pick-up rate will be the same under the EUBS as it is in the current NUBS, and Dullien models the pick-up rate as a function of short-term unemployment.

One particularly important eligibility rule determines how many months the citizen must have worked in a specified period prior to becoming unemployed, in order to receive unemployment benefits. For example, at the moment of becoming unemployed, a citizen may be required to have worked at least 3 out of the last 12 months to qualify for unemployment benefits (this is the baseline option specified in the tender). Hence, this eligibility rule is defined by an employment record needed to qualify (in terms of number of months – 3 in the previous example) and a reference period used to assess the employment record (12 in the previous example). The ratio between these two gives the implicit minimum share of months/time worked needed to qualify (25% in the previous example). In the literature reviewed in this section, the relevant variable for eligibility is always the proportion of months worked in a given reference period, and the additional requirement that these months have been worked consecutively (as is the case in the national legislation of some countries) is never mentioned. Therefore, when referring to the number of months worked during a reference period, we do not mean consecutive months. Finally, it is to be decided whether these months should be worked full-time or not. A number of countries rely on the full-time equivalent number of months (Strauss et al., 2013). We choose this indicator for the amount of time worked, because it does not exclude part-time employees a priori, but at the same time it excludes those workers who have worked for a relatively long period but only a very limited number of hours.

Within Europe, there is considerable variation in this respect. The implicit minimum share ranges from 14% (France) to 75% (Latvia), although this share is between 40 and 60% for almost half of the countries. The reference period ranges from 3 months (Slovakia) to 60 (Spain), with a large majority of countries somewhere in between 18 and 36 months. Also, in the existing literature there is variation with respect to the eligibility requirements for the EUBS. For example, Jara and Sutherland (2014) maintain the national, implicit minimum share unaltered for every country, whereas Dolls et al. (2014) require that the unemployed individual has not had any labour income in the last 12 months, hence setting the implicit minimum share very close to 0.

A second important set of eligibility rules determine which categories of workers are covered. For example, these rules determine if self-employed or agricultural workers are eligible to receive the benefits. Micro-simulation studies of EUBS usually include the self-employed in the scheme (Jara and Sutherland, 2014; Dolls et al., 2014). Indeed, there is no theoretical argument for excluding self-employed workers from the UBS, and Strauss et al. (2013) write that including the self-employed has the potential to increase the stabilisation effect of the EUBS. We would recommend including the self-employed workers of all European countries in the EUBS, at least for the purposes of our simulation.

Yet, including the self-employed in the EUBS may be difficult for administrative reasons, as these workers are not necessarily in the main national unemployment schemes, and instead have access to different schemes. This would undermine the basic idea of an EUBS that is implemented at minimal cost by relying on the existing national administrative structures for collecting payments and operating transfers (an idea proposed by virtually all the literature on the topic; see e.g. Dullien 2007, 2012, 2013; Andor, 2014; Beblavý and Maselli, 2014; Vetter, 2014). The feasibility of including the self-employed in the EUBS should be assessed in light of political and administrative considerations.

The question of eligibility is in reality more complicated than what has been suggested so far. For example, many countries define qualifying periods by reference to insurance or contribution payments, rather than employment. They also tend to specify certain periods that are assimilated into employment for this purpose, such as child-rearing. Furthermore, some member states exempt certain people from the qualifying period or allow the reference period to be extended in some cases. For the simplicity of the analysis, we define eligibility in such a way that these arrangements would not apply for establishing entitlement to the EUBS.

5.12. Capping

An unemployment benefit is capped if it cannot exceed a given proportion of the national average wage. For example, if the reference wage of an unemployed citizen is €3,000 and the replacement rate is 70%, then the expected unemployment benefit is €2,100. Alternatively, if the average national wage is €1,000 and there is a capping at 150% of the average national wage, then that individual will receive €1,500.

According to the tender specifications, capping is set at 150% of the average national gross wage in the baseline EUBS, at 100% in option V13, and at 50% in V14.

Capping exists in a number of UBS, such as those of the US and Greece (Dullien, 2007). Dullien (2007) puts forward that, although the literature for the US suggests capping the unemployment benefits at two-thirds of the average national wage, in Europe it would be more appropriate to cap them at 50% of the national wage. The reason is that a European limit of two-thirds of the average national wage would mean that many European countries would have to increase the limit that they choose in their national legislation. Delpla (2012) suggests capping benefits at €2,000 euro-area wide (with the possibility of introducing lower caps for countries where wages are lower than the European average). This would be equal to around 100% or 75% of the average European wage, depending on whether the author referred to the net or gross wage.

In terms of the efficacy of the stabilisation mechanism, it seems that per euro spent on the UBS, more consumption is generated if the cap is low, because the propensity to consume is higher when the income is low. For example, if households are cash-constrained and the cap is set at a very low level, say €500, then it is likely that almost every euro spent as a transfer to the household will be spent on consumption. From a social point of view, however, introducing a low cap may cause disappointment in those households that will see their lifestyle dramatically worsening as a consequence of unemployment. Also, if the cap is set very low, the financial flow towards the economy hit by a recession may be too low for stabilisation purposes.

6. Convergence, minimum requirements, accession criteria and opt-ins/opt-outs

This section is dedicated to a number of questions that often arise when the idea of a European unemployment benefit scheme is discussed. All questions are related, at least to some extent, to the design of the scheme and are thus treated here. Some of these issues have also been considered in earlier research on an EUBS.

6.1. EU vs EA?

The first question is whether a common unemployment benefit scheme should be introduced for the EU-28 or only for the euro area. This question, in essence, is of a political nature. Within this project, we therefore do not recommend one option over the other but instead provide an overview of the arguments in favour or against each of them. We nonetheless make the case for **compulsory participation**, to avoid adverse selection. The key question therefore becomes this: For which group of countries should participation be compulsory, the EU or the EA? For the latter, would that imply that other EU member states could also join the scheme if they wanted to do so?

In recent years, much attention has focused on the completion of the EMU. To establish this goal, many have called for a supranational automatic stabiliser for Europe. The 2015 Five Presidents' Report is the latest high-level document in which the need for such a stabiliser is emphasised (Juncker et al., 2015). The lack of a fiscal capacity in the EMU has widely been recognised as an important threat to the sustainability of the system. This evidence seems to suggest that the case for a stabilisation tool is particularly strong for the euro area. A similar conclusion is attained on the basis of the Communication on the social pillar of the EMU, published on 8 March 2016 (European Commission, 2016). Moreover, the banking union also concerns eurozone countries, with the possibility for the remaining EMU countries to step in, in light of the fact that non-members of the euro area would also benefit from greater stabilisation in the event of an economic shock.

While we have argued that participation in the EUBS should be compulsory, we do have to point out that the consequences of an approach based on voluntariness are not studied in this project. Such an approach, in which countries would be free to decide whether to participate in an EUBS, would bring specific issues and problems with it (also in relation to the idea of accession criteria, as indicated below). Yet during our consultations with experts and networks carried out as part of the project, the question of '*opt-outs*' was raised on several occasions. We therefore present a brief assessment of the implications of an opt-out (at the start of the EUBS or when it is already in place) here.

In principle, there are two opt-out modalities, which could even be combined:

- involuntary, or
- voluntary.

Involuntary opt-out at the start of the EUBS functions in the same way as accession criteria (on which more details are provided in the next section). Accession criteria may provide member states that do not want to join the EUBS an easy way out: depending on the criteria, they can indefinitely postpone their participation by not complying with the criteria (i.e. no explicit opt-out is needed). Involuntary opt-out during the EUBS functioning comes down to a temporary or permanent suspension of membership in the scheme. Since the EUBS is a fiscal instrument, there is no insuperable technical obstacle to temporary suspension. From a broader political and economic perspective, there could be two possible arguments for temporary suspension:

- if the member state very seriously breached its duties under the relevant legislation (e.g. not transferring resources, not providing data, etc.); or
- if the member state's economic situation were such that its continuing participation could threaten the viability of the entire EUBS.

In both cases, there are alternative remedies – the use of courts or fines in the former, backstopping the scheme in the latter. In the latter case, the potential negative political and economic fallout would be that the rest of the Union cut off a member state precisely when it is in a situation whereby it is most fragile and vulnerable, which could also undermine the stabilisation that the EUBS could bring for severe economic disruptions. Voluntary opt-out either at the start or during the functioning of the EUBS would bring problems of adverse selection. At the same time, this might make the EUBS more politically palatable for countries that would otherwise not agree to participate and potentially block the whole undertaking. The possibility of not entering the mechanism but irreversibility once a member state does enter therefore has some merits, primarily of a political nature. Opt-out during the course of the scheme, in contrast, does not appear to have any such merits and would give rise to severe complications in terms of payment of the balance (either negative or positive) and create conditions for a variety of highly strategic approaches by member states.

From the legal point of view, a European unemployment benefit scheme could be implemented either within or outside of the current EU legal framework. In case of the former, one has to be aware that in principle an EU legal act binds all 28 member states, except for explicit opt-outs in such a legal act. In case of the latter, the scheme could be adopted under the rules of enhanced cooperation. Then, the EUBS must be compulsory for at least 9 member states and it cannot undermine the internal market or economic, social and territorial cohesion.

6.2. Accession criteria

Closely related to the previous topic is the issue of accession criteria. It can be read in the Five Presidents' Report (Juncker et al., 2015) that the creation of a risk-sharing facility comes only after a certain degree of economic convergence: "Such a step should be the culmination of a process that requires, as a pre-condition, a significant degree of economic convergence, financial integration and further coordination and pooling of decision-making on national budgets, with commensurate strengthening of democratic accountability. This is important to avoid moral hazard and ensure joint fiscal discipline."

Labour markets and welfare systems are highly heterogeneous in Europe and deliver very different results in terms of efficiency and equity. There is no doubt that further convergence in both economic reality and policy-making would make the functioning of the EUBS (or related mechanisms) easier and more politically palatable. A further convergence of policies would most probably have some impact on the capacity of national economies to absorb shocks and the size and pattern of net transfers, thus reducing the risk of moral hazard.

Nevertheless, the desirability of convergence should not be confused with the desirability of establishing some sort of Maastricht-type of criteria that countries would have to fulfil in order to enter the system. Such criteria are neither necessary nor desirable for several reasons. First, the EUBS would be designed to avoid permanent net transfers between countries. The existence of correction mechanisms like the experience rating and claw-back would be such that countries that use the system more would also contribute more to it. In a similar manner, smokers pay a higher premium for their life insurance. The experience rating and claw-back are found to be effective – there is no country that is a permanent net

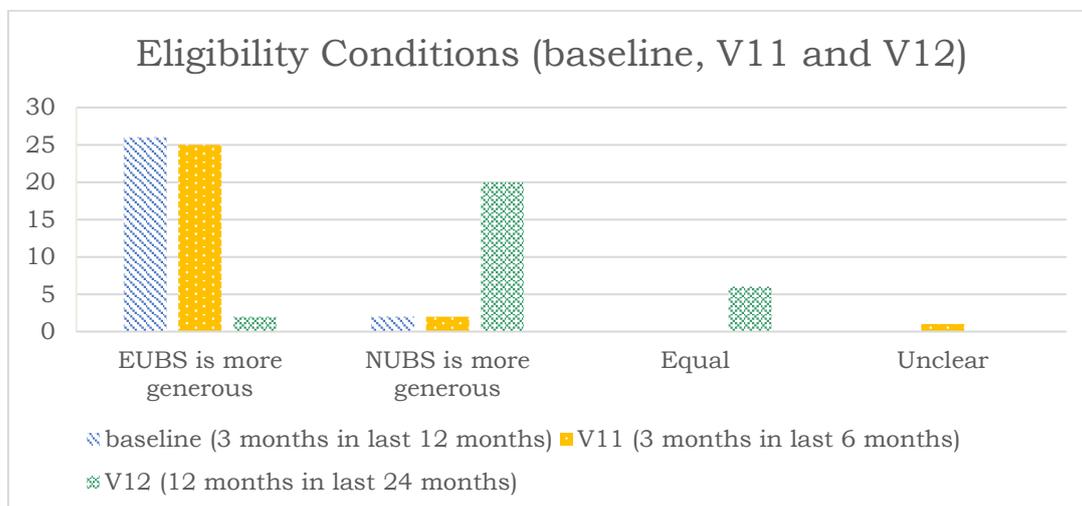
beneficiary or contributor across all 18 variants. This means that the insurance works, despite the cross-country differences, and it does not need convergence criteria. Second, this argument is further reinforced by the analysis of the normality of shocks, which shows that unemployment shocks generally are normally distributed in Europe. The third argument against convergence criteria is related to the political economy of the system. Adverse selection issues would require that the EUBS is compulsory for all member states (as also indicated above). Creating convergence criteria could give reluctant member states the possibility of delaying indefinitely their participation without an explicit opt-out.

6.3. Convergence and minimum requirements

6.3.1. Convergence

We briefly introduced the subject of convergence in the previous paragraph but, given its importance in the current policy debate, we go more in-depth here. Besides stabilisation, a common unemployment benefit scheme may contribute to convergence. More specifically, an EUBS may spark an enhancement of national unemployment insurance schemes. It could, even without formal obligations, encourage member states to align their national systems with the European system to ensure smooth transitions between the schemes. The European system generally would be more comprehensive than what is currently guaranteed in the member states. For example, the eligibility conditions in the baseline EUBS would be easier to meet than those in 26 of the national systems (Figure 15). The EUBS would cover a larger portion of unemployed workers, compared with the national schemes.

Figure 15. Number of countries where eligibility conditions would be more, less or equally stringent in the EUBS (in comparison with the NUBS)



By the time the EUBS expires, after nine months in the baseline scenario, unemployed workers would again be in the hands of the national unemployment benefit system. This transition would typically be accompanied by a jump that, depending on the country, would be large or small, and nearly always entail workers being entitled to lower benefits (if not zero). In many countries, unemployed workers would fall back on social assistance instead (or first on unemployment insurance and later on social assistance). This jump would be an undesirable outcome, from the economic as well as from the administrative point of view.

While the EU cannot force countries to adjust their systems, one can easily imagine that the creation of an EUBS would trigger a convergence of national schemes towards the European scheme, to facilitate transitions between the safety net of the European scheme and their own.

Another way to achieve convergence would be to impose minimum requirements. European minimum requirements on the quality of unemployment benefits and the quality of activation of the national insurance schemes could be introduced. Such minimum requirements would serve twin goals: improving national schemes' stabilisation capacity and mitigating institutional moral hazard. More details on this are presented in the next section.

6.3.2. Minimum requirements for national schemes

This section introduces the idea of minimum requirements in the analysis of the 18 potential EUBS. As stated in the project ToR, both the equivalent and genuine EUBS could be linked to some minimum requirement(s) for NUBS and activation policies. Such minimum requirements could, for example, be related to the eligibility conditions of the scheme – which shape the quality of unemployment benefits (e.g. linked to contributory conditions or vesting period, and covering part-time employment and self-employed individuals). A careful analysis of minimum requirements in the context of the EUBS can therefore be a valuable exercise.

In this respect, these are the two most important questions: What is the rationale behind the creation of minimum standards? What aspects of the labour market policy should they concern? The rationale for the creation of standards is based on one main argument – the need to ensure that every national system reaches a minimum stabilisation capacity. This implies that minimum requirements are applied to features of the EUBS, such as eligibility and generosity. Yet, for technical as well as political reasons, the EUBS is likely to be accompanied by a substantial decentralisation of eligibility conditions to member states (this also becomes clear in the legal and operational analyses conducted for the project). These two necessities clash with each other.

As far as the stabilisation capacity is concerned, we show in Table 16²² that national systems present extremely different features, expressed in terms of gross replacement rates, coverage ratios and duration of the benefits. As becomes clear in the modelling exercises for this project, EUBS coverage ratios are generally higher than those of the national schemes.²³ There are several factors that may contribute to this result. Examples are stringent requirements on work history, the exclusion of part-time workers whose number of hours of work are below a certain threshold or strict eligibility tests related to the nature of unemployment.

²² Given that the input data for this exercise are largely covered in other parts of the project, we refer to Coucheir et al. (2017). However, this report contains a brief comment on minimal requirements for national schemes that is important in terms of simulations performed by Dolls and Lewney (2017) and Jara et al. (2017).

²³ Our initial concern about the coverage of the 18 EUBS, especially in the case of the genuine schemes, was refuted by the results of Dolls and Lewney (2017) and Jara et al. (2017). Initially, we argued that the EUBS could be ineffective when its coverage is low, e.g. when only 40% of the short-term unemployed are actually entitled to benefits. A low level of coverage could stem from several factors, such as non-coverage of the self-employed. To prevent the EUBS from only having limited coverage, and subsequently a limited stabilisation capacity, we proposed that at least 75% of the short-term unemployed should be covered in each country (and that countries had to ensure this number was reached – if consistent undershooting occurred, member states would have to adjust eligibility conditions). Dolls and Lewney (2017) and Jara et al. (2017) suggest that this target can easily be reached in the different member states. We therefore no longer propose the 75% rule.

Table 16. Comparison of proposed EUBS with actual, national unemployment insurance systems, as of 2010

	Gross replacement rate*	Nominal compensation replacement rate**	Coverage (% of labour force)	Duration (in weeks)
Austria	0.40	0.32	0.68	30
Belgium	0.50	0.37	0.66	indefinite
Bulgaria	0.60	0.52	0.66	40
Cyprus	0.63	0.55	0.79	26
Czech Republic	0.56	0.43	0.91	26
Denmark	0.52	0.47	0.72	105
Estonia	0.50	0.37	0.74	50
Finland	0.54	0.44	1.00	100
France	0.57	0.42	0.61	104
Germany	0.42	0.34	0.67	50
Greece	0.58	0.45	1.00	50
Hungary	0.34	0.27	0.87	40
Ireland	0.47	0.44	1.00	50
Italy	0.50	0.37	0.53	34
Latvia	0.55	0.46	0.75	40
Lithuania	0.34	0.26	0.67	21
Luxembourg	0.83	0.71	0.95	50
Malta	0.20	0.18	0.88	26
Netherlands	0.75	0.59	0.83	44
Poland	0.24	0.20	0.54	26
Portugal	0.65	0.50	0.76	78
Romania	0.27	0.22	0.43	26
Slovakia	0.46	0.35	0.57	26
Slovenia	0.70	0.60	0.80	26
Spain	0.63	0.49	0.58	102
Sweden	0.57	0.43	0.96	62
United Kingdom	0.13	0.11	0.86	26

* The gross replacement rate is a ratio with a denominator of gross wages (Source: SPIN).

** This rate is converted into ratio with the total compensation as the denominator (Source: AMECO).

Sources: European Commission and SPIN database.

The minimum requirements may concern not only the quality of unemployment benefits, as already discussed, but also the quality of activation. Those relevant to the latter are crucial to prevent moral hazard. The analysis of the experience of countries with multi-tiered unemployment insurance schemes prepared by Vandenbroucke and Luigjes (2017) highlights that such minimum requirements play a major role. Many countries have stringent activation policies, which are motivated by a concern for individual and institutional moral hazard (or from a broader perspective, embody the quality of social

rights). In a multi-tiered unemployment system, a higher level of government may set standards or minimum requirements as these are labelled in Vandenbroucke and Luigjes (2017) for the lower level of government (when activation is their responsibility). As explained by Vandenbroucke and Luigjes (2017), “minimum requirements can be the result of specific inter-institutional agreements (as in Belgium, with regard to activation), or of a consensus established among the lower level governments (as in the Swiss case, with the non-binding guidelines issued by the inter-cantonal cooperation conference)”. Even though Vandenbroucke and Luigjes (2017) suggest that minimum requirements for activation play a major role in many countries (e.g. Austria, Belgium and Denmark), the level of detail and the strictness of the requirements or standards differs on a case-by-case basis. The introduction of an EUBS, genuine or equivalent, should be accompanied by a better coordination of activation policies across countries.

To introduce minimum requirements, however, a strong political consensus would be required. As indicated above, these issues could be avoided by allowing for opt-outs, but this would undermine the stabilisation capacity of the scheme. Another point relates to the legal and operational dimensions and the degree to which member states are free to design their own schemes (stabilisation vs subsidiarity). These issues are also discussed elsewhere in this report. A final point is that strong minimum requirements would go a long way towards strengthening the stabilisation capacity of national schemes, which currently are very different and weak. On the other hand, minimum requirements are politically and economically unrealistic without a backstop and an external funding source. Still, and especially when needed the most, national governments may have the incentive to scale down their national schemes in order to save funds.

7. Summarising the results of the project into 18 fiches

In this section, we reflect on the 18 policy options for an EUBS that are at the heart of our study. While exploring the potential design of an EUBS has been one of the tasks to be carried out in our project on the “Feasibility and Added Value of a European Unemployment Benefit Scheme”, other tasks have focused on putting these 18 potential schemes to the test. The work of Coucheir et al. (2017) and Repasi (2017), for example, explores the legal and operational options and constraints that each of the 18 EUBS variants would face, while Dolls and Lewney (2017) and Jara et al. (2017) analyse their economic value added. In this section of the report, we combine the insights gained from these authors and their work with our work on the design of the schemes into a set of fiches – one for each variant.

Each **summary fiche** shows the *features* of the variant examined and briefly outlines its *economic* and its *legal and operational impacts*. A fiche is composed of an easy-to-handle table, which in turn comprises four sub-sections. All fiches are based on a common template, which makes it easy to compare different variants. In the remainder of this section, we first discuss the template of the fiches in more detail. Then, **the 18 fiches are displayed**.

More details on the 18 summary fiches

As indicated above, the main goal of the summary fiches is to provide a clear and concise overview of the key features for each of the variants, the results of the economic assessment and those of the legal and operational assessment. A summary fiche (i.e. the overview table) is therefore structured into four sub-tables, each one dedicated to a single topic:

- The first sub-table is labelled ‘**general remarks**’. This sub-table lists the main strengths and weaknesses of the variant.
- The second sub-table is titled ‘**features**’. This sub-table summarises the main features the variant comprises. The features that are discussed include the *type* of scheme, the *trigger*, *basic or top-up*, the *duration*, the *replacement rate*, *eligibility*, *capping*, *cyclical variability*, *experience rating*, *claw-back*, *debt-issuing possibility*, and the *reference wage* applied in the scheme.
- The third sub-table is labelled ‘**economic impact**’. This sub-table presents the results of the *micro-economic and macroeconomic simulations*, discusses the *value added* of the variant and addresses the *risk of moral hazard*. For the micro-economic simulations, the fiche includes a discussion of distributional issues. For the macroeconomic simulations, the variant’s macroeconomic stabilisation as a percentage of GDP and net transfers are considered. The value added of the scheme is analysed in terms of its impact on labour mobility, on structural reforms and on the confidence of markets and economic agents in the economic future of the EMU.
- The fourth sub-table is called ‘**legal and operational impacts**’. This sub-table consists of two main parts. In the first part, *the variant’s compatibility with the national laws and practices of the member states* is evaluated. This part covers the legal side, the operational side, the role of the social partners, the ease and speed of implementation, and potential interactions with other branches of social policy. The second part deals with the *compatibility of the variant with the EU legal framework*. This part deals with the legal and operational aspects.

In the second sub-table, three columns are shown. The *first column* describes the feature of interest (e.g. replacement rate). The *second column* comprises a summary or overview of this feature. More

specifically, this column indicates how the feature has been set up or designed (e.g. the replacement rate is set at 50% of the last gross wage). The *third column* contains the main results or a country analysis (e.g. a replacement rate of 50% is low compared with the current rate in country x but high in comparison with the current rate in country y). In the case of the equivalent schemes, for example, the third column would present how many times the trigger would be pulled and in which countries it would be activated most, least or not at all.

The final two sub-tables of the fiche also show these three columns, in addition to a *fourth column* that holds a colour code (red, yellow or green). The idea behind this colour code is to visualise the information provided in the first three columns in a clear and intuitive way. This allows the reader to quickly gain more insight into the economic and the legal and operational impacts of the variant considered. In the fourth column, green implies that the impact is positive (e.g. the variant has a large stabilisation capacity) or that potential negative effects are mitigated (e.g. only a limited risk of moral hazard), while red reflects the opposite situation (e.g. a small stabilisation capacity or a large risk of moral hazard). Yellow represents cases that fall between these extremes, for instance those that are potentially problematic for some countries (e.g. a sufficient stabilisation capacity in the most advanced economies but not in the east).

Fiche V1 – Equivalent EUBS variant, stormy day scenario

General remarks	Summary/overview
Main strengths	This scheme performs very well in stabilisation terms (especially post-recession); the trigger strikes a balance between an EUBS that works continuously and one that only functions in severe crises; there is a high level of redistribution; there are few legal or operational barriers; it is easy and fast to implement
Main weaknesses	It would breach Art. 125(1) TFEU; there is no experience rating, so claw-back becomes more relevant and there are fewer tools to mitigate moral hazard

Features	Summary/overview	Country analysis/results
Type	Equivalent	–
Trigger	The trigger is activated when the short-term unemployment rate exceeds its moving average of the last 40 quarters plus 1 percentage point	The trigger is activated 80 times during 2000–14, in all years and in 22 countries; it is never activated for BE, DE, FR, AT or FI; IE, EL, ES, CY, PL, PT and SI benefit 5 times or more
Basic or top-up	N/A	N/A
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	No	Violates the no bail-out clause, but the redistributive impact is more visible
Claw-back	Yes; the pay-in is doubled after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such; activated in FI (2000, 2001), LT (2013) and PI (2005–07); the pay-in is equal to 0.2% of GDP in these years (backward-looking); forward-looking: claw-back is activated in countries directly hit by macroeconomic shocks, when the shock is asymmetric (as in scenarios C and D); claw-back is activated the most in the case of a symmetric shock of a prolonged duration (scenario B)

Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Backward-looking: accumulated net contributions in 2013 are 0%-1% of GDP in the EA-19 Forward-looking: accumulated net contributions are generally positive under different hypothetical shocks (0.5% to 1% of GDP) except in a prolonged symmetric shock (scenario B), -1.2% of GDP in the EA-19	Backward-looking forward: 10 EA-19 member states are net contributors and 9 EA-19 member states are net recipients; few member states are permanent net contributors/recipients Forward-looking: member states directly affected by macroeconomic shocks usually end up as net recipients; the number of net recipients increases in the case of symmetric shocks; no country is a permanent net recipient; Forward-looking: equivalent schemes would have a very small effect on poverty and inequality reduction because the transfers are not targeted directly at households and the macroeconomic impact is very small on employment	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0%-1.1% of GDP across EA-19 member states	It performs well, especially in the post-2007 recession period, and clearly contributes to stabilisation (reduces volatility in GDP growth rates); Forward-looking: the same holds in the case of hypothetical shocks, the scheme performs especially well in post-recession periods	
2) Net transfers	Net EUBS receipts: -0.1% to 0.2% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	

Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by a trigger and has claw-back, but no experience rating	
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Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	Few issues	No constitutional issues; a few fiscal issues may be ahead	
Incompatibilities in eligibility conditions	N/A	N/A	
Incompatibilities in replacement rates	N/A	N/A	
Incompatibilities in durations	N/A	N/A	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Easy to implement	Issues lie ahead but they seem manageable	
4) Speed of implementation	Fast implementation	Constitutional changes may take some time	
5) Potential interactions with other branches of social policy	N/A	No legal or insurmountable operational barriers, especially if this is left to the discretion of member states; the equivalent case in particular is not problematic	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (Art. 352(1) TFEU)	It violates the no bail-out clause in Art. 125(1) TFEU because the scheme does not have experience rating; to implement it, the no bail-out clause has to be dropped or modified (i.e. a Treaty change)	
2) Operational side	Few complications	The operational side is largely left to the member states	

Fiche V2 – Equivalent EUBS variant, rainy day scenario with debt-issuing

General remarks	Summary/overview
Main strengths	It performs very well in stabilisation terms; there are no permanent net contributors/recipients; there are few legal or operational barriers; it is easy and fast to implement
Main weaknesses	The scheme has a very low trigger; forward-looking analyses: under symmetric shocks, particularly of a long duration, the financing mechanism appears to be insufficient to cover the costs of unemployment; the fund ends up with a large deficit

Features	Summary/overview	Country analysis/results
Type	Equivalent	–
Trigger	The trigger is activated when the short-term unemployment rate exceeds its moving average of the last 40 quarters plus 0.1 percentage point	The trigger is activated 197 times during 2000–14, in all years and all countries; BE, EL, LU, PT, RO and SE benefit 10 times or more; DE, EE, FR, LV, PL, SK and FI benefit 5 times or less; Forward-looking: the trigger is activated continuously and for most countries under symmetric shocks particularly of a long duration (activated in 26 out of 27 countries when the economy is hit)
Basic or top-up	N/A	N/A
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; the pay-in is equal to 0.1% of GDP times $(1+0.025 * F(i,t-40, \dots, t-1))$ (this coefficient equals the number of times the scheme was activated in the last 40 quarters and is in the range of [1, 2])	Does not pose any legal or operational barriers as such; the coefficient reaches 2 because of experience rating in LU and PT (as funds are activated often)

Claw-back	Yes; the pay-in is doubled after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such; claw-back is active in FI and PT; Forward-looking: claw-back is activated in most countries in the case of symmetric shocks, particularly when these are of a long duration
Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are 0%-1% of GDP in the EA-19 Forward-looking: accumulated net contributions are generally negative; there is a high deficit in the case of prolonged symmetric shocks (scenario B), -3.6% of GDP in the EA-19	Net contributors: 9 EA-19 member states; net recipients: 10 EA-19 member states; no member state is a permanent net contributor/recipient; Forward-looking: member states directly affected by macroeconomic shocks usually end up as net recipients; the number of net recipients increases in the case of symmetric shocks; no country is a permanent net recipient	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-1.2% of GDP across EA-19 member states	It performs well and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.1% to 0.2% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	

Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by a trigger, claw-back and experience rating	
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Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	Few issues	No constitutional issues; a few fiscal issues may be ahead	
Incompatibilities in eligibility conditions	N/A	N/A	
Incompatibilities in replacement rates	N/A	N/A	
Incompatibilities in durations	N/A	N/A	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Easy to implement	Issues lie ahead but they seem manageable	
4) Speed of implementation	Fast implementation	Constitutional changes may take some time	
5) Potential interactions with other branches of social policy	N/A	No legal or insurmountable operational barriers, especially if this is left to the discretion of member states; the equivalent case in particular is not problematic	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (Art. 352(1) TFEU)	It does not violate the no bail-out clause in Art. 125(1) TFEU	
2) Operational side	Few complications	The operational side is largely left to the member states	

Fiche V3 – Equivalent EUBS variant, rainy day scenario without debt-issuing

General remarks	Summary/overview
Main strengths	It performs very well in stabilisation terms; there are few legal or operational barriers; it is easy and fast to implement; there are no permanent net contributors/recipients
Main weaknesses	There is no debt-issuing possibility (which reduces the capacity to deal with large symmetric shocks); it has a very low trigger

Features	Summary/overview	Country analysis/results
Type	Equivalent	–
Trigger	The trigger is activated when the short-term unemployment rate exceeds its moving average of the last 40 quarters plus 0.1 percentage point	The trigger is activated 197 times during 2000–14, in all years and all countries; BE, EL, LU, PT, RO and SE benefit 10 times or more; DE, EE, FR, LV, PL, SK and FI benefit 5 times or less
Basic or top-up	N/A	N/A
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; the pay-in is equal to 0.1% of GDP times $(1+0.025 * F(i,t-40, \dots, t-1))$ (this coefficient equals the number of times the scheme was activated in the last 40 quarters and is in the range of [1, 2])	Does not pose any legal or operational barriers as such
Claw-back	Yes; the pay-in is doubled after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such; activated in FI in 2001–03
Debt-issuing possibility	No, if resources are needed to avoid a negative financial position of the scheme, the supranational fund can call for contributions	No debt-issuing, so extra contributions would be needed; a stark increase in pay-ins takes place during 1995–98 in the euro area and 1995–97 and 2013 in the EU, yet

	from the member states, in proportion to their GDP	there are no corresponding jumps in the experience rating or claw-back
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are 0%-1% of GDP in the EA-19	Net contributors: 11 EA-19 member states; net recipients: 8 EA-19 member states; no member state is a permanent net contributor/recipient	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-1.2% of GDP across EA-19 member states	It performs well and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.1% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	There are similarities with the Australian UBS, which is characterised by low eligibility criteria, low generosity and high controls to promote activation; there is redistribution because more prosperous areas contribute more; the scheme is conditioned by a trigger, claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	Few issues	No constitutional issues; a few fiscal issues may be ahead	
Incompatibilities in eligibility conditions	N/A	N/A	

Incompatibilities in replacement rates	N/A	N/A	
Incompatibilities in durations	N/A	N/A	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Easy to implement	Issues lie ahead but they seem manageable	
4) Speed of implementation	Fast implementation	Constitutional changes may take some time	
5) Potential interactions with other branches of social policy	N/A	No legal or insurmountable operational barriers, especially if this is left to the discretion of member states; the equivalent case in particular is not problematic	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (Art. 352(1) TFEU)	It does not violate the no bail-out clause in Art. 125(1) TFEU	
2) Operational side	Few complications	The operational side is largely left to the member states	

Fiche V4 – Equivalent EUBS variant, reinsurance scenario

General remarks	Summary/overview
Main strengths	There is a higher level of redistribution; there are few legal or operational barriers; it is easy and fast to implement; it performs well in stabilisation terms (especially in the post-2007 recession period)
Main weaknesses	There is no legal base within the existing EU framework; no debt-issuing possibility (which reduces the capacity to deal with large symmetric shocks); there is a very high trigger; there is no claw-back, so there are fewer tools to mitigate moral hazard; the scheme is less credible than the other equivalent EUBS

Features	Summary/overview	Country analysis/results
Type	Equivalent	–
Trigger	The trigger is activated when the short-term unemployment rate exceeds its moving average of the last 40 quarters plus 2 percentage points	The trigger is activated 32 times during 2000–14, in all years except for 2003 and the period 2005–08 and in 14 countries; it is never activated for BE, BG, CZ, DE, FR, IT, MT, NL, AT, RO, SI, FI or UK; EL, ES, CY, PL and PT benefit at least 3 times
Basic or top-up	N/A	N/A
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; the pay-in is equal to 0.1% of GDP times $(1+0.025 * F(i,t-40, \dots, t-1))$ (this coefficient equals the number of times the scheme was activated in the last 40 quarters and is in the range of [1, 2])	Does not pose any legal or operational barriers as such; hardly any effect due to the low number of times the fund is activated
Claw-back	No	Violates the no bail-out clause, but the redistributive impact is more visible
Debt-issuing possibility	No, if resources are needed to avoid a negative financial position of the scheme, the supranational fund can call for contributions	Activated so little that no additional pay-ins are required.

	from the member states, in proportion to their GDP	
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT, EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are 0%-1% of GDP in the EA-19	Net contributors: 14 EA-19 member states; net recipients: 5 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-1.1% of GDP across EA-19 member states	It performs well, especially in the post-2007 recession period and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.1% to 0.0% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by a trigger and experience rating, but no claw-back	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	Few issues	No constitutional issues; a few fiscal issues may be ahead	
Incompatibilities in eligibility conditions	N/A	N/A	
Incompatibilities in replacement rates	N/A	N/A	
Incompatibilities in durations	N/A	N/A	

2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Easy to implement	Issues lie ahead but they seem manageable	
4) Speed of implementation	Fast implementation	Constitutional changes may take some time	
5) Potential interactions with other branches of social policy	N/A	No legal or insurmountable operational barriers, especially if this is left to the discretion of member states; the equivalent case in particular is not problematic	
Compatibility with the EU legal framework			
1) Legal side	No legal base	It does not meet the 'conditionality' requirement in Art. 122(2) TFEU because the scheme has no claw-back; thus, a Treaty change would be needed	
2) Operational side	Few complications	The operational side is largely left to the member states	

Fiche V5 – Genuine EUBS variant, most basic form

General remarks	Summary/overview
Main strengths	It has a decent performance in terms of stabilisation
Main weaknesses	This is the baseline case, so it incorporates some unfavourable characteristics that other EUBS do not have (e.g. a high cap and a 3-month waiting period); it requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such
Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such; activated in LT in 2013, MT in 2007–08 and PL in 2006

Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 4 EA-19 member states; net recipients: 15 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-0.7% of GDP across EA-19 member states	It performs decently and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.2% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many operational barriers lie ahead, but they are not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system,	

		liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of the member states; it is more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It does not violate the no bail-out clause in Art. 125(1) TFEU	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V6 – Genuine EUBS variant, top-up scheme

General remarks	Summary/overview
Main strengths	This is a smaller scheme, requiring lower contributions
Main weaknesses	It is the most problematic scheme of all the 18 variants and entails severe issues with respect to the political feasibility; legally and operationally it is very complicated at the level of the member states and theoretically the stabilisation capacity is low; it is consistently ranked last

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Top-up: if necessary, the supranational fund supplements payments of the national funds to guarantee a given replacement rate and duration to every eligible person	Requires less funding, but there are severe issues related to game-ability and political feasibility; member states with generous NUBS contribute but do not benefit; it is not a basic provision
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such
Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such

Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 5 EA-19 member states; net recipients: 14 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-0.8% of GDP across EA-19 member states	It performs decently and contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.1% to 0.2% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	There are similarities with the Austrian UBS, where the top-up is meant to favour low-wage earners; the scheme is conditioned by claw-back and experience rating; without minimum requirements, the top-up encourages member states to lower their replacement rates – which is yet another form of institutional moral hazard	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	Very severe issues	No constitutional issues yet legal changes would be needed in all member states; it would be extremely complicated from an	

		administrative perspective; it would entail severe political feasibility issues	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It does not violate the no bail-out clause in Art. 125(1) TFEU	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation; it would be administratively and politically difficult	

Fiche V7 – Genuine EUBS variant, benefit duration of 12 months

General remarks	Summary/overview
Main strengths	This scheme has the largest stabilisation capacity of all the genuine EUBS, with a large positive impact on GDP; it is a very generous scheme, so there is a high redistributive impact; there is no 3-month waiting period; it avoids administrative difficulties and jumps in benefit amounts; it is the most favourable genuine EUBS
Main weaknesses	It requires many legal amendments and raises operational barriers; it is a larger scheme

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 12 months	–
Duration	12 months: benefits are paid from the start of the 1 st month after losing employment to the end of the 12 th month (M0-M12)	This scheme has the longest duration of all the options
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such; Forward-looking (applies to all genuine schemes): it gives rise to the political question of whether it should start ‘blind’ with respect to unemployment history and accumulate experience gradually, or it should incorporate the known history that includes the recent recession and thus require higher contributions from the countries that have been hardest hit; Even with blind starts, the initial unemployment conditions of member states have an important effect on

		experience rating; EL, CY and ES would have coefficients significantly higher than 1, while among others DE and AT would have coefficients significantly lower than 1
Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such
Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	<p>Backward-looking: accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19</p> <p>Forward-looking: the scheme generally ends up with a small deficit under different scenarios; the accumulated net contributions are -0.6% to -0.1% of GDP</p>	<p>Backward-looking: 4 EA-19 member states are net contributors; 15 EA-19 member states are net recipients; few member states are permanent net contributors/recipients</p> <p>Forward-looking: member states directly affected by macroeconomic shocks usually end up as net recipients; the number of net recipients increases in the case of symmetric shocks; few member states are permanent net contributors/recipients;</p> <p>Forward-looking: in terms of within-country distributional effects, the EUBS would have a positive effect on poverty and inequality reduction; on average, poverty would be reduced by 0.35 percentage points in the presence of the EUBS, while inequality measured by the Gini coefficient would be reduced by around 0.15 percentage points, in the year when short-term unemployment rises in most countries;</p> <p>Compared with other genuine schemes, variant 7 would have a larger effect on poverty/inequality reduction than variants for which the duration of the unemployment benefit is less than 12M;</p> <p>The higher the amount of the benefit (more generosity), the higher would be the effect on poverty/inequality reduction;</p>	

		The less stringent the eligibility conditions, the higher would be the effect of the EUBS because of the extension in coverage	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-1.0% of GDP across EA-19 member states	It performs very well, with the highest impact of all the genuine EUBS and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.3% to 0.2% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many operational barriers lie ahead, but they are not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with many countries, key feature is	This scheme avoids administrative difficulties, as the eligible unemployed immediately receive EUBS benefits (there is	

	start at first month, very favourable scheme	no switch from NUBS to the EUBS) and after the EUBS stops (the NUBS only restart in a few countries; its avoids the switch to NUBS and then to social assistance)	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It does not violate the no bail-out clause in Art 125(1) TFEU	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V8 – Genuine EUBS variant, benefit duration of 3 months

General remarks	Summary/overview
Main strengths	This is a smaller scheme yet it has a decent performance in terms of stabilisation
Main weaknesses	The very short duration results in more frequent transitions between the EUBS, NUBS and social assistance; operationally it is difficult to manage; there are huge jumps in the benefit amounts; it has the lowest stabilisation capacity of all the genuine EUBS variants; there is no legal base within the existing framework; it requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 3 months	–
Duration	3 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 6 th month (M3-M6)	This duration is the shortest of all the 18 options and is very short in comparison with most countries (except for CY, CZ, HU, LT, MT, SK and the UK)
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such
Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such

Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT, EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 3 EA-19 member states; net recipients: 16 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.0%-0.2% of GDP across EA-19 member states	It performs poorly, with weak stabilisation (the weakest of all genuine EUBS)	
2) Net transfers	Net EUBS receipts: 0% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many operational barriers lie ahead, but they are not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	

Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Very short in comparison with most member states	In 23 countries, the NUBS would restart in all or some cases after the EUBS stops; there would be more changes between schemes and thus it would be very difficult from the administrative point of view	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	There is no legal base within the existing framework as it does not contribute to social cohesion	A Treaty change would be needed	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V9 – Genuine EUBS variant, replacement rate of 35%

General remarks	Summary/overview
Main strengths	This scheme is in line with many NUBS
Main weaknesses	There is a huge dispersion between the replacement rate and capping (adverse effects); there are political feasibility issues; it undermines active labour market policies; the stabilisation capacity is limited; there is no legal base within the existing framework; it requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	35% of the reference wage (the gross wage is the default option)	This is the lowest replacement rate of all the 18 options and considerably lower than most rates used
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such
Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such

Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 4 EA-19 member states; net recipients: 15 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.0%-0.5% of GDP across EA-19 member states	It performs poorly, with weak stabilisation (the second weakest of all genuine schemes)	
2) Net transfers	Net EUBS receipts: -0.1% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	There are similarities with the Australian UBS, which is characterised by low eligibility criteria, low generosity and high controls to promote activation; concerning redistribution, more prosperous areas contribute more; the scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many operational barriers lie ahead; it would be politically very difficult given the adverse	

		effects; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	The EUBS rate is much lower than in most EU countries, yet similar with respect to the calculation method and basis	Substantially higher rates are used in most member states; combined with the high capping, it has the adverse effect of providing higher/lower benefits to high-/low-income earners than the NUBS	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	There is no legal base within the existing framework as it does not contribute to social cohesion	A Treaty change would be needed	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V10 – Genuine EUBS variant, replacement rate of 60%

General remarks	Summary/Overview
Main strengths	This scheme provides a high replacement rate yet is still in line with that of most NUBS; it is a generous scheme, so it performs well in terms of redistribution; it has the second highest stabilisation capacity of all the genuine EUBS
Main weaknesses	It requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	60% of the reference wage (the gross wage is the default option)	It has the highest replacement rate of all the options, in line with the rates used in most countries (only four countries use consistently higher rates, DK, LU, NL and SE)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such

Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such
Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 4 EA-19 member states; net recipients: 15 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-0.8% of GDP across EA-19 member states	It performs very well and clearly contributes to stabilisation (the second best of the genuine EUBS) (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.2% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many	

		operational barriers lie ahead, but they are not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It does not violate the no bail-out clause in Art. 125(1) TFEU	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V11 – Genuine EUBS variant, eligibility after having worked 3 out of the last 6 months

General remarks	Summary/overview
Main strengths	It has a decent performance in terms of stabilisation
Main weaknesses	This EUBS has a very short reference period and large discrepancies vis-à-vis the NUBS reference periods; there are administrative difficulties; it requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 6 months (3M out of 6M)	This is the shortest period of all the options; it is easy to qualify for this scheme (which is less stringent than the existing scheme in 25 of the member states, for those with a recent work history, though overall it is less easy than the baseline)
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such
Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative	Does not pose any legal or operational barriers as such

	balance vis-à-vis the supranational fund until the balance declines below 1%	
Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 4 EA-19 member states; net recipients: 15 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-0.7% of GDP across EA-19 member states	It performs decently and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.2% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many operational barriers lie ahead, but they are	

		not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within an extremely short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation, for people with a recent work history, otherwise it is more difficult), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of the member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It does not violate the no bail-out clause in Art. 125(1) TFEU	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V12 – Genuine EUBS variants, eligible after having worked 12 out of the last 24 months

General remarks	Summary/Overview
Main strengths	This scheme has a decent performance in terms of stabilisation
Main weaknesses	It is more difficult to qualify for this scheme than for most NUBS; it has a lower than average coverage; it does not contribute to social cohesion; it requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 12 (full-time equivalents) out of the last 24 months (12M out of 24M)	This period is the longest of all the options; it is more stringent than most NUBS and therefore has no legal base (the NUBS are generally less stringent and easier to qualify for in 20 countries)
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such
Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such

Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 4 EA-19 member states; net recipients: 15 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-0.6% of GDP across EA-19 member states	It performs decently and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.3% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many operational barriers lie ahead, but they are not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	

Incompatibilities in eligibility conditions	The EUBS is more in line with NUBS conditions	The EUBS is generally more difficult to qualify for, thus qualifying fewer people (which translates into lower coverage and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible at the member state level	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of the member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It does not violate the no bail-out clause in Art. 125(1) TFEU	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V13 – Genuine EUBS variant, benefits capped at 100% of the national average wage

General remarks	Summary/overview
Main strengths	This EUBS option performs well in terms of stabilisation, with capping more in line with NUBS (it avoids the adverse effects of an excessively high cap and has more political support)
Main weaknesses	It requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 100% of the average national gross wage	The cap is lower than in most other options; it may result in a higher propensity to consume but could also result in a worse lifestyle, yet much more in line with reality in most countries and preferable to the baseline, which likely has adverse effects
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such
Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative	Does not pose any legal or operational barriers as such

	balance vis-à-vis the supranational fund until the balance declines below 1%	
Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 4 EA-19 member states; net recipients: 15 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-0.6% of GDP across EA-19 member states	It performs well and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.2% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many operational barriers lie ahead, but they are	

		not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of the member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal/operational issues	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It does not violate the no bail-out clause in Art. 125(1) TFEU	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V14 – Genuine EUBS variant, benefits capped at 50% of the national average wage

General remarks	Summary/overview
Main strengths	This scheme performs well in terms of stabilisation, with capping much more in line with NUBS (it avoids the adverse effects of an excessively high cap and has more political support)
Main weaknesses	There is no legal base within the existing framework; it requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 50% of the average national gross wage	This cap is lower than in all the other options; it may result in a higher propensity to consume but could also result in a worse lifestyle, yet more in line with (although lower than) reality in most countries and preferable to the baseline, which likely has adverse effects
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such

Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such
Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 5 EA-19 member states; net recipients: 14 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-0.5% of GDP across EA-19 member states	It performs well and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.2% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many	

		operational barriers lie ahead, but they are not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of the member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	There is no legal base within the existing framework as it does not contribute to social cohesion	A Treaty change would be needed	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V15 – Genuine EUBS variant, cyclical variability

General remarks	Summary/overview
Main strengths	This scheme could provide stabilisation when needed the most
Main weaknesses	It interferes with labour market institutions; it clashes with trends towards shortening unemployment durations; there are political feasibility issues along with risks of moral hazard and a transfer Union; it requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	Yes; an additional 6M of benefits in the case of a deep shock in the EU (defined as a recession in half + 1 of the member states simultaneously, where a recession is 2 consecutive quarters of negative growth) plus an additional 6M of benefits if the national short-term unemployment rate is more than 3% of its 10-year average (triggered if requested by the country)	This is the only variant with cyclical variability; there are no legal or operational barriers; it could be a substantial burden when countries are still in recession or recovering; in the simulations, it is used by CY in 2013, EE in 2010 and 2011, EL in 2012 and 2013, IE in 2010, LT and LV in 2010 and 2011, PT in 2013 and ES in every year in 2010–13
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such

Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such
Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 4 EA-19 member states; net recipients: 15 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-0.8% of GDP across EA-19 member states	It performs well and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.2% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	There are similarities with the US UBS, where a balance is attained between stabilisation and redistribution, characterised by cyclical variability through Extended and Emergency Benefits and minimum requirements; the scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
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Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues, although cyclical variability as such does not pose many challenges	No constitutional issues yet legal changes would be needed in all member states; many operational barriers lie ahead, but they are not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of the member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It does not violate the no bail-out clause in Art. 125(1) TFEU	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V16 – Genuine EUBS variant, no experience rating

General remarks	Summary/overview
Main strengths	This scheme would have a high redistributive impact; it performs well in stabilisation terms
Main weaknesses	It would breach Art. 125(1) TFEU; there is no experience rating, so claw-back becomes more important and there are fewer tools available to mitigate moral hazard; it requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	No	Violates the no bail-out clause, but the redistributive impact is more visible
Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such; activated in ES (2000–02, 2012–13), LT (2001, 2005, 2012, 2013), PL (2004–2007) and SK (2004, 2005) more frequently than in V5 because there is no experience rating
Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such

Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage
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Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 10 EA-19 member states; net recipients: 9 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.0%-0.7% of GDP across EA-19 member states	It performs well and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.2% to 0.2% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	There are similarities with the Belgian UBS, which is characterised by a high risk of moral hazard due to the generosity of the scheme and the large differences in unemployment rates between the regions, and in which there is structural redistribution across the regions, resulting in political tensions and attracting much attention to the issue of moral hazard; the scheme is conditioned by claw-back	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many	

		operational barriers lie ahead, but they are not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of the member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It violates the no bail-out clause in Art. 125(1) TFEU because there is no experience rating; a Treaty change would be needed to implement the scheme	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V17 – Genuine EUBS variant, no claw-back

General remarks	Summary/overview
Main strengths	This EUBS option would have a high redistributive impact; it has good stabilisation capacity
Main weaknesses	It would breach Art. 125(1) TFEU; there is no claw-back, so there are fewer tools to mitigate moral hazard; it requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such
Claw-back	No	Violates the no bail-out clause, but the redistributive impact is more visible
Debt-issuing possibility	Yes; the supranational fund can borrow money from capital markets to cover short-term imbalances	Does not pose any legal or operational barriers as such

Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT and EL) instead if it is equivalent to 50% of the average gross wage
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Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19	Net contributors: 4 EA-19 member states; net recipients: 15 EA-19 member states; few member states are permanent net contributors/recipients	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-0.7% of GDP across EA-19 member states	It performs well and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.2% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	
2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by experience rating	

Legal and operational impacts	Summary/overview	country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many operational barriers lie ahead, but they are not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within	The EUBS is generally easier to qualify for, thus qualifying more people (which	

	a short reference period compared with NUBS	translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of the member states; it would be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It violates the no bail-out clause in Art. 125(1) TFEU because there is no claw-back; a Treaty change would be needed to implement the scheme	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

Fiche V18 – Genuine EUBS variant, no debt-issuing

General remarks	Summary/overview
Main strengths	This scheme has a good performance in terms of stabilisation
Main weaknesses	It has no debt-issuing possibility (reducing its capacity to deal with large symmetric shocks); it requires many legal amendments and raises operational barriers

Features	Summary/overview	Country analysis/results
Type	Genuine	–
Trigger	Continuous; the supranational fund is activated by any job loss that fulfils the eligibility requirements	–
Basic or top-up	Basic: the supranational fund pays out unemployment benefits according to the predefined replacement rate to an eligible unemployed person for 9 months	–
Duration	9 months: benefits are paid from the beginning of the 4 th month after losing employment to the end of the 12 th month (M3-M12) Forward-looking: 12 months (M1-M12)	Baseline case; most member states seem to offer benefits for 6 to 12 months, but a lot depends on the case; CY, CZ, HU, LT, LV, MT, SK and the UK are generally less generous
Replacement rate	50% of the reference wage (the gross wage is the default option)	Baseline case; it is broadly in line with the rates in most countries (only DK, LU, NL and SE have consistently higher rates)
Eligibility	Workers who became unemployed after having worked, not necessarily consecutively, as employees for 3 (full-time equivalents) out of the last 12 months (3M out of 12M)	Baseline case; the EUBS is less stringent than NUBS in 26 member states
Capping	Unemployment benefits cannot exceed 150% of the average national gross wage	Baseline case; the cap is very high in comparison with caps in the majority of countries; adverse effects (high-income earners are proportionally better off)
Cyclical variability	No	Baseline case; this is in line with the majority of countries (exceptions are AT, ES, LT and PL)
Experience rating	Yes; a coefficient equal to the ratio of the 10-year average, short-term unemployment rate for the country over the 10-year average, short-term unemployment rate for the whole EU is applied to all individual contributions from a country (the coefficient is updated every 3 years and is in the range of [0,∞])	Does not pose any legal or operational barriers as such; Forward-looking (for genuine EUBS): it gives rise to the political question of whether it should start 'blind' with respect to unemployment history and accumulate experience gradually, or it should incorporate the known history that includes the recent recession and thus require higher contributions from the countries that have been hardest hit; Even with blind starts, the initial unemployment conditions of member states have an important effect on

		experience rating; EL, CY and ES would have coefficients significantly higher than 1, while among others DE and AT would have coefficients significantly lower than 1
Claw-back	Yes; a contribution paid by governments equal to 0.2% of GDP annually applies after 3 years of more than 1% of GDP cumulative negative balance vis-à-vis the supranational fund until the balance declines below 1%	Does not pose any legal or operational barriers as such
Debt-issuing possibility	No; if resources are needed to avoid a negative financial position of the scheme, the supranational fund can call for contributions from the member states, in proportion to their GDP	Additional contributions are needed in the EU in 1995–99 (1998 for the euro area case) and 2013; claw-back becomes less important than in other variants
Reference wage	Last gross monthly wage	Countries may use the last net monthly wage (AT, FI and DE) or flat-rate benefit (IE, MT, EL) instead if it is equivalent to 50% of the average gross wage

Economic impact	Summary/overview	Country analysis/results	Code
Results of micro simulations			
1) Distributional effects	Backward-looking: accumulated net contributions in 2013 are -0.34%-0.07% of GDP in the EA-19 Forward-looking: accumulated net contributions are between 0.01% and 0.15% of GDP under different scenarios	Backward-looking: 4 EA-19 member states are net contributors; 15 EA-19 member states are net recipients; few member states are permanent net contributors/recipients Forward-looking: member states directly affected by macroeconomic shocks usually end up as net recipients; the number of net recipients increases in the case of symmetric shocks; few member states are permanent net contributors/recipients; In terms of within-country distributional effects, the effects on poverty and inequality reduction would be very similar to those of variant 7, because the additional payments required due to the no-debt constraint are not made through employee contributions	
Results of macro simulations			
1) Macroeconomic stabilisation as a % of GDP	The highest annual boost is 0.1%-0.7% of GDP across EA-19 member states	It performs well and clearly contributes to stabilisation (reduces volatility in GDP growth rates)	
2) Net transfers	Net EUBS receipts: -0.2% to 0.1% of GDP in 1995–2013 in the EA-19	–	
Value added of the scheme			
1) Labour mobility	Limited impact	–	

2) Structural reforms	The EUBS does not run counter to structural reforms	On the condition that there are mechanisms to prevent permanent transfers; structural reforms and fiscal policy are not substitutes	
3) Markets' confidence	Small positive impact	–	
4) Citizens' confidence	Impact unclear	Likely a positive impact in countries with high unemployment and a negative impact if perceived as a step towards a 'transfer Union'	
Risk of moral hazard	Inevitable – a price to pay to reap the benefits of insurance	The scheme is conditioned by claw-back and experience rating	

Legal and operational impacts	Summary/overview	Country analysis/results	Code
Compatibility with the national laws and practices of member states			
1) Legal/operational issues	More severe issues	No constitutional issues yet legal changes would be needed in all member states; many operational barriers lie ahead, but they are not insurmountable if there is enough flexibility for member states; most of the changes would be needed in member states with a Ghent system, liberal welfare system or less generous system	
Incompatibilities in eligibility conditions	The EUBS has a very short employment period within a short reference period compared with NUBS	The EUBS is generally easier to qualify for, thus qualifying more people (which translates into higher coverage rates and stabilisation), with limited operational issues	
Incompatibilities in replacement rates	Broadly in line with most EU countries, also with respect to the calculation method and basis	Consistently higher rates in DK (90%), LU (80%), SE (75%) and NL (70%); sometimes slightly lower/higher rates depending on the case (e.g. in EE, ES, SI and PT)	
Incompatibilities in durations	Broadly in line with most EU countries	CY, CZ, HU, LT, MT, SK and the UK are generally less generous	
2) Role of social partners	Involved in the design and management of NUBS and can also play a role in the EUBS	Design: a strong role in AT, BE, BG, DE, FI, FR, LU, NL, PT and SI (a medium role in 10 other countries); management: BE, DK, FI and SE (a medium role in 8 other countries)	
3) Ease of implementation	Difficult to implement, yet not impossible	Most of the difficulties ahead would be in countries with a very different NUBS: member states with a Ghent system, liberal welfare system or less generous system	
4) Speed of implementation	Implementation would take time, given the many changes needed	The slowest implementation would be in member states with a very different NUBS (Ghent system or liberal welfare system)	
5) Potential interactions with other branches of social policy	Interactions with social assistance and other branches (pensions, sickness, etc.)	No legal or insurmountable operational barriers, especially if this is left to the discretion of the member states; it would	

		be more difficult in the genuine than in the equivalent scheme	
Compatibility with the EU legal framework			
1) Legal side	The legal base is within the existing framework (a combination of Arts 175(3) and 352(1) TFEU)	It does not violate the no bail-out clause in Art. 125(1) TFEU	
2) Operational side	It involves more complications than the equivalent scheme, but is still feasible	There would be more interactions between the EUBS and NUBS, data and information exchange, and supervision of national implementation	

8. Concluding remarks

With the Great Recession still in mind, policy-makers have relaunched the search for a supranational automatic stabilisation mechanism for the EMU that, similar to the powerful automatic stabilisers that can be found in many member states, would serve as an important instrument to prevent economic shocks and mitigate their impact on employment and incomes. One of the potential stabilisation mechanisms under consideration is a common European unemployment insurance scheme. While this idea was first discussed in the 1970s, literature on the topic still is rather limited.

This report, which has been prepared as part of a comprehensive study on the “Feasibility and Added Value of a European Unemployment Benefit Scheme”, has aimed at contributing to this literature. Specifically, it has shed light on how an EUBS could be designed by exploring 18 EUBS variants, which are sub-divided into genuine and equivalent schemes. For each of these 18 variants, the report has explored different design features, some of which can also be found in national unemployment benefit schemes (e.g. the replacement rate or benefit duration), while others are more specific to the EUBS context (e.g. claw-back or cyclical variability). The report has sought to highlight the strengths and weaknesses of each of the 18 EUBS variants, drawing on other work that has been carried out as part of the project (Beblavý et al. (2015b), Coucheir et al. (2017), Dolls and Lewney (2017), Jara et al. (2017) and Vandenbroucke and Luigjes (2016) are the most prominent examples). This information is summarised into 18 fiches, one for each scheme. The report has further stressed key policy issues, such as convergence, minimum requirements and accession criteria, which could substantially affect the design and implementation of the schemes. In this way, we aspire to inform policy-makers on the factors to take into consideration when designing an EUBS, if they decide to do so.

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Appendix I. Glossary

In this glossary, we give a summary definition of the features that characterise each equivalent and genuine scheme.

Basic EUBS. In a basic genuine EUBS, the supranational fund pays out the unemployment benefits according to the predefined replacement rate to the eligible, unemployed persons for a predefined number of months. Each country is free to increase the paid amount or the duration at its own expense.

Capping. An unemployment benefit is capped if it cannot exceed a given proportion of the national average wage. For example, if the reference wage of an unemployed citizen is €3,000 and the replacement rate is 70%, then the expected unemployment benefit is €2,100. Alternatively, if the average national wage is €1,000 and there is a capping at 150% of the average national wage, then that individual will receive €1,500.

Claw-back. Claw-back is a mechanism that reduces a potential, long-term negative (positive) net contributions by a member state by increasing (decreasing) the amount that the member state has to pay into the supranational fund. For example, say that the Netherlands comes to be a net beneficiary of the supranational fund after a number of years in which the system is in place, meaning that this country has paid into the system less than what it has received. Then, the Dutch contribution to the supranational fund would be increased as a result.

Cyclical variability. This term refers to the extent to which some of the parameters defining the EUBS (for example, the replacement rate or the duration) are a function of variables related to the economic cycle. An example of an unemployment benefit scheme exhibiting a certain degree of cyclical variability is that of the US, where if the recession is particularly severe, there are several options for providing unemployed citizens with 'extended benefits' (i.e. increasing the duration of the unemployment benefits).

Debt-issuing possibility. Debt-issuing is possible if the supranational fund can borrow money from the capital markets in order to cover short-term imbalances.

Duration. In this report, duration refers to the number of months during which the unemployment benefit is paid out. In the project tender, there seemed to be the assumption that the replacement rate would not vary by month, although this is not necessarily the case in the NUBS.

Eligibility. Eligibility rules determine which unemployed citizens qualify for unemployment benefits. One particularly important eligibility rule determines how many months the citizen must have worked in a specified period prior to becoming unemployed, in order to receive unemployment benefits. For example, at the time of becoming unemployed, a citizen may be required to have worked at least 3 out of the last 12 months to qualify for unemployment benefits (this is the baseline option specified in the tender). Eligibility conditions define some minimum requirements for EUBS coverage, which in turn affect the incentives in place for individuals and the stabilisation effect of the EUBS.

Equivalent EUBS. Equivalent EUBS are those in which financial transfers from the supranational fund occur only from and towards member states, and not directly towards unemployed individuals. The transfers may still reach unemployed individuals indirectly, through a process whereby the supranational fund pays the national state, which in turn directs the funds towards its unemployed citizens.

Experience rating. In a system with experience rating, the payers into the system contribute to a different degree depending on their past experience with unemployment. For example, in the US, where the payers are the employers, the tax due to finance the unemployment benefit scheme is higher for companies that have laid off more workers in the past. In a similar way, countries where the short-term unemployment rate is higher or more volatile may be requested to pay a higher contribution, relative to their GDP, than other countries.

Genuine EUBS. Genuine EUBS are those in which financial transfers from the supranational fund directly target unemployed individuals.

Reference wage. The reference wage is defined as the average wage in the last x months (where x may be equal to 1), either net or gross.

Replacement rate. The replacement rate is the proportion of the reference wage that will be paid out as an unemployment benefit, so that the unemployment benefit equals the reference wage times the replacement rate.

Top-up EUBS. In a top-up genuine scheme, every eligible unemployed person is guaranteed a given replacement rate and duration. If the NUBS is generous enough to cover these costs, then the supranational fund does not contribute to the unemployment benefits of the unemployed citizens. If, however, the NUBS does not meet the minimal duration and replacement rate requirements, then the supranational fund supplements the payments of the national fund by the necessary amount to meet these requirements. (Notice that this implies that countries with a generous system pay into the EUBS, but are less likely to receive any contributions.)

Trigger. The trigger is the condition determining when financial transfers from the supranational fund towards a particular country should occur. A trigger is defined by the choice of an indicator and of a threshold. When the indicator for a particular country exceeds the threshold, then the supranational fund pays the country the agreed claim.

Appendix II: Additional details on the selection of the cut-off points in the design of the trigger

This appendix complements our discussion of the trigger in section 5.2, as it presents six figures to further illustrate the differences between a threshold based on percentage points and one based on standard deviations. For each of the cut-off points that we selected (0.1, 1 and 2), we provide two graphs. The first graph shows the values of the short-term unemployment rate when the cut-off is added (e.g. the short-term unemployment rate plus 0.1% vs the short-term unemployment rate plus 0.1 times the standard deviation). The second graph reveals the number of times the trigger is pulled in both cases.

10-year moving average + 1 (percentage points or standard deviation)

In Figure 16, we compare what the average values of a short-term unemployment rate plus 1% vs plus 1 standard deviation. In most cases these values are similar. Moreover, the two series are highly correlated (the correlation coefficient equals 0.98). The value of 1 is our ‘stormy day’ scenario.

In Figure 17, we use the same values to count how many times the scheme would be triggered by each of the two options. The number of events is the same in 10 out of 27 countries. It differs by 1 event in 5 countries. When the differences are larger, such as for Belgium, Germany, France, Austria and Portugal, the standard deviation-based scheme generally triggers more easily. In some cases, the trigger is not activated at all (e.g. Belgium, Germany, France, Austria or Finland). Note that even in the years before 2000, the trigger would not have been activated in Belgium, Germany or Austria (neither when the percentage-points approach is used, nor in the case of standard deviations). In France, it would have been triggered in 1993 and 1994 for the percentage-points approach as well. In Finland, the trigger would have been pulled each year during 1994–98 when the percentage-points approach is used and during 1994–97 when the standard-deviations approach is taken.

Figure 16. Values for the trigger based on short-term unemployment during 2000–14 (1 percentage point vs 1 standard deviation)

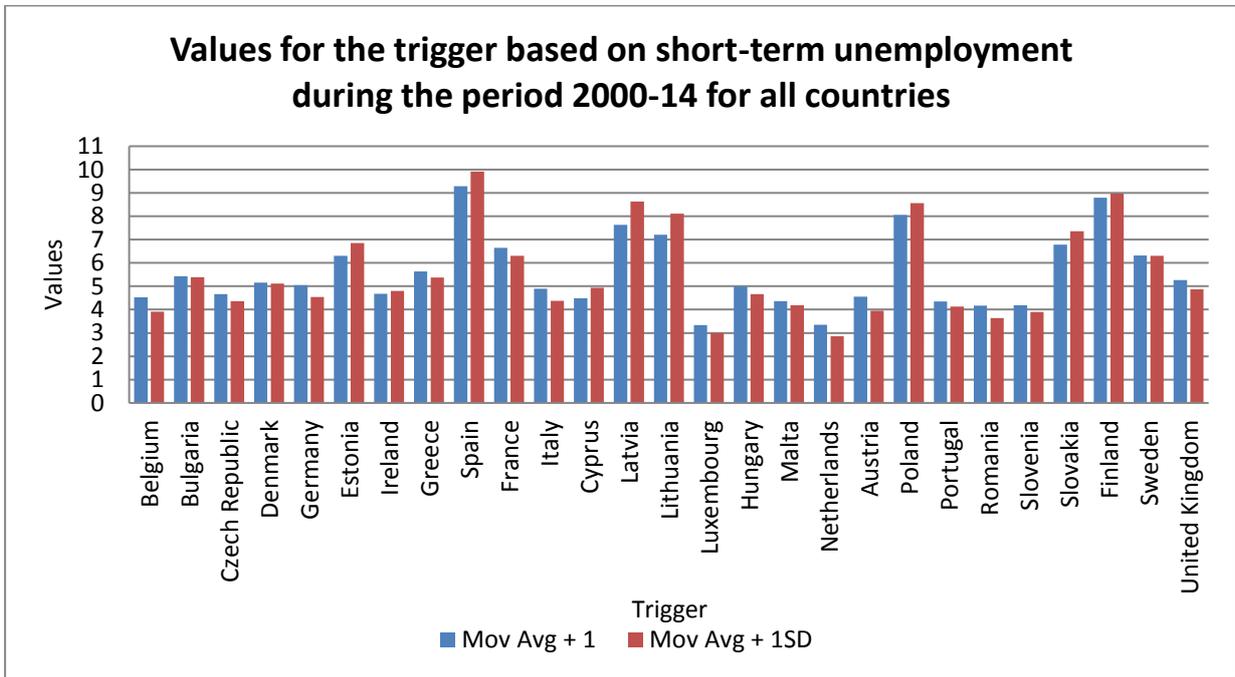
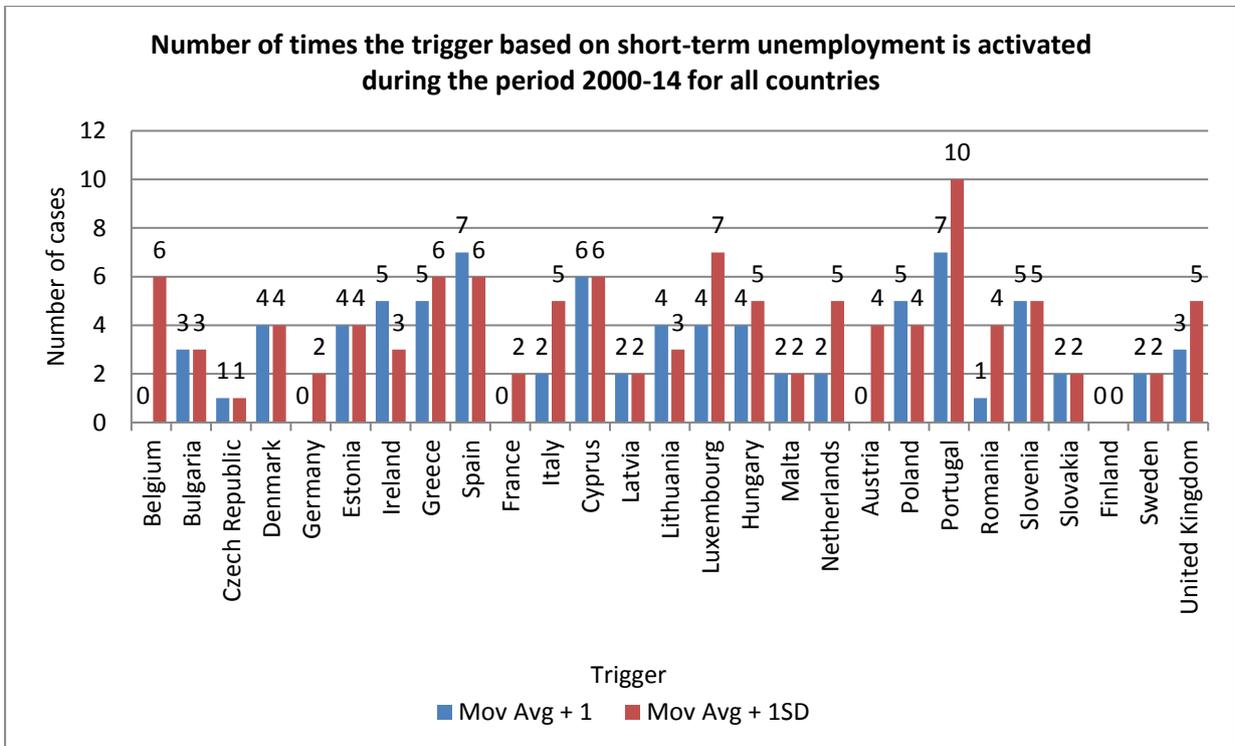


Figure 17. Number of times the trigger is activated during 2000–14 (1 percentage point vs 1 standard deviation)



We then repeat the same exercise with 0.1 and 2 standard deviations. These values can be considered proper cut-off points respectively for the ‘rainy day’ fund (0.1) and for the ‘reinsurance’ (2).

10-year moving average + 0.1 (percentage points or standard deviation)

Figure 18 and Figure 19 show the values and the number of times the trigger is pulled when 0.1 is used as a value instead of 1. This value covers our rainy day scenario. Figure 18 again shows that in terms of values, both approaches yield similar results. The pattern detected in Figure 19 is similar to that found before. The graph also illustrates that in this case the trigger is activated many times and it is activated at least once in every country. Interestingly, by setting the trigger this low, all countries benefit from the scheme. Many shocks are covered.

For some countries, a very high trigger would still enable them to benefit, whereas for other countries the possibility to benefit is much lower. This is also clear from the analysis based on a value of 2 (percentage points or standard deviations) below.

Figure 18. Values for the trigger based on short-term unemployment during 2000–14 (0.1 percentage point vs 0.1 standard deviation)

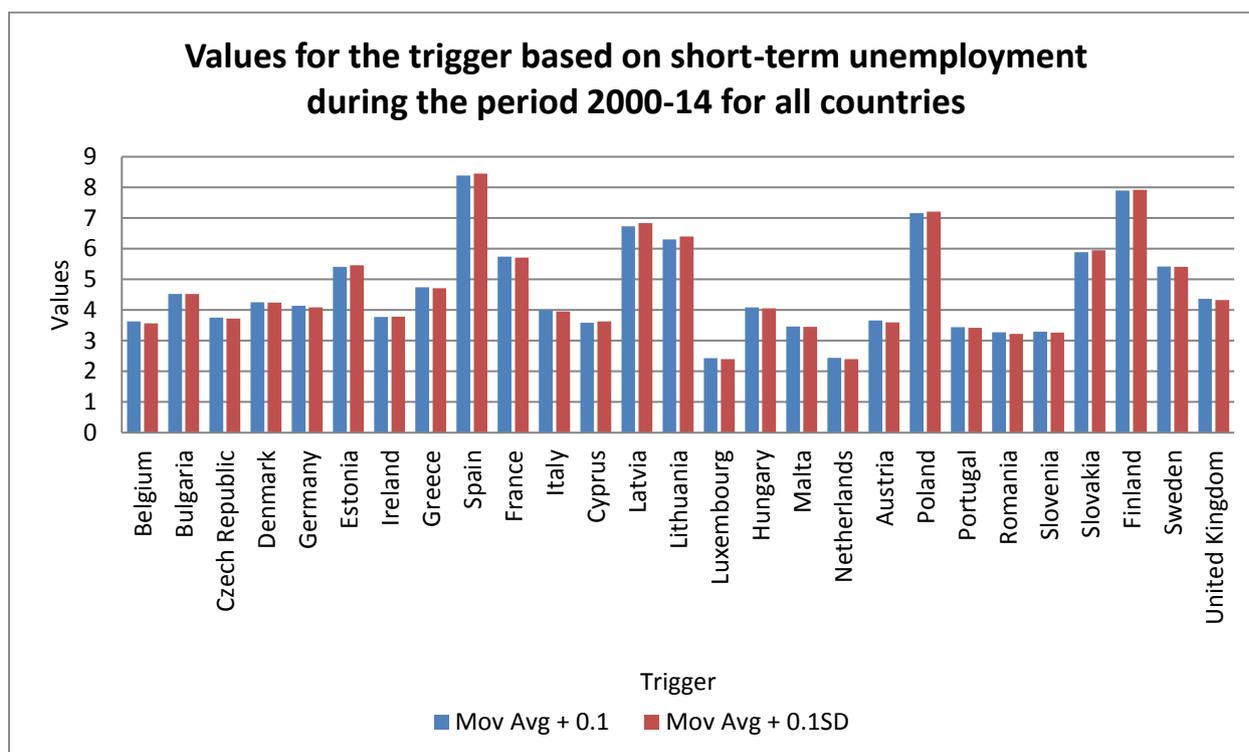
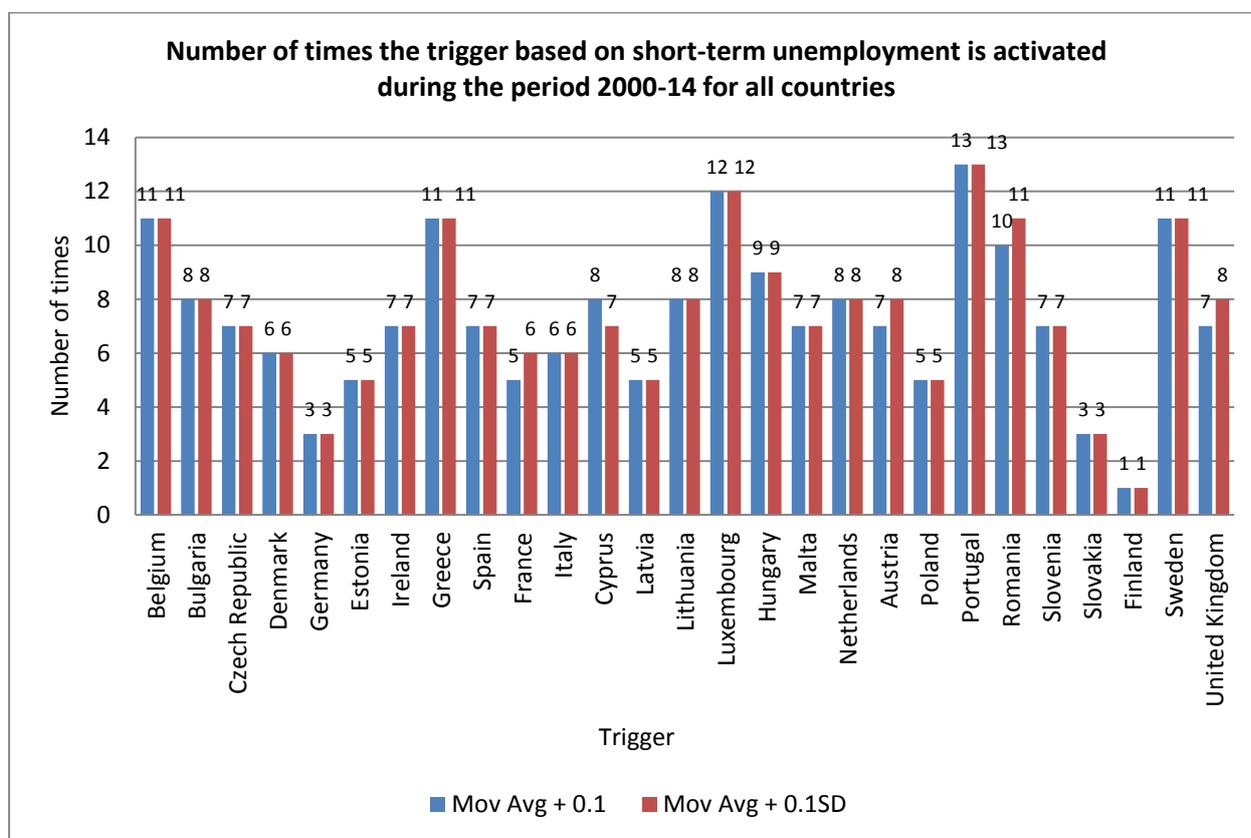


Figure 19. Number of times the trigger is activated during 2000–14 (0.1 percentage point vs 0.1 standard deviation)



10-year moving average + 2 (percentage points or standard deviation)

The final scenario that we consider is reinsurance, and the results are displayed in Figure 20 and Figure 21. In this case, the differences in values appear to be somewhat larger than before, but for many countries they remain quite close. The number of times the trigger is activated, however, has gone down substantially. When the trigger is based on percentage points, it is activated only 32 times during 2000–14 in the EU-27. When it is based on the standard deviation, this number increases to 44. Several countries cannot benefit in any of the cases in any of the years. Other countries, especially in the east and south of Europe, still qualify. Although many of them appear to qualify for benefits in both cases, some countries only benefit when the trigger is based on the standard deviation (as was noted before). Many of the countries that can benefit when the cut-off is set at ‘2’ will still benefit if it is much higher (e.g. 3). This is also clear from Figure 9, which presents an overview of different cut-offs for each of the countries in the period 2000–14.

Figure 20. Values for the trigger based on short-term unemployment during 2000–14 (2 percentage points vs 2 standard deviations)

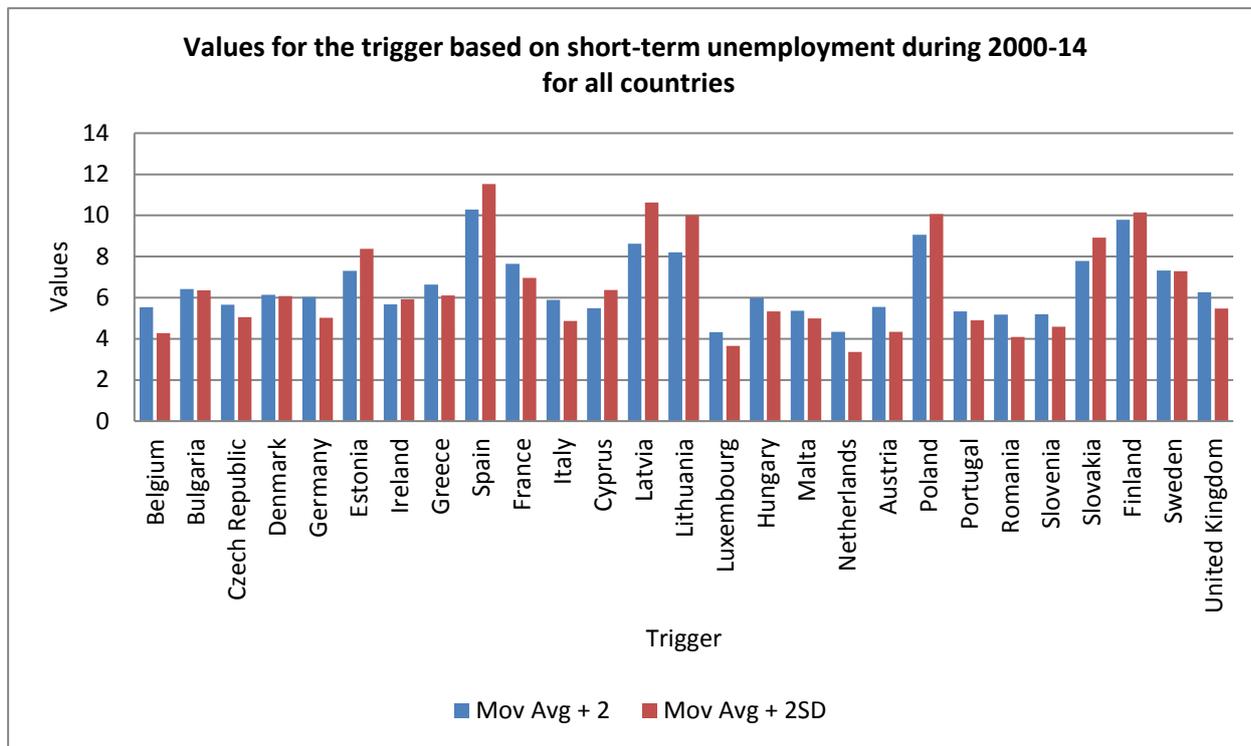
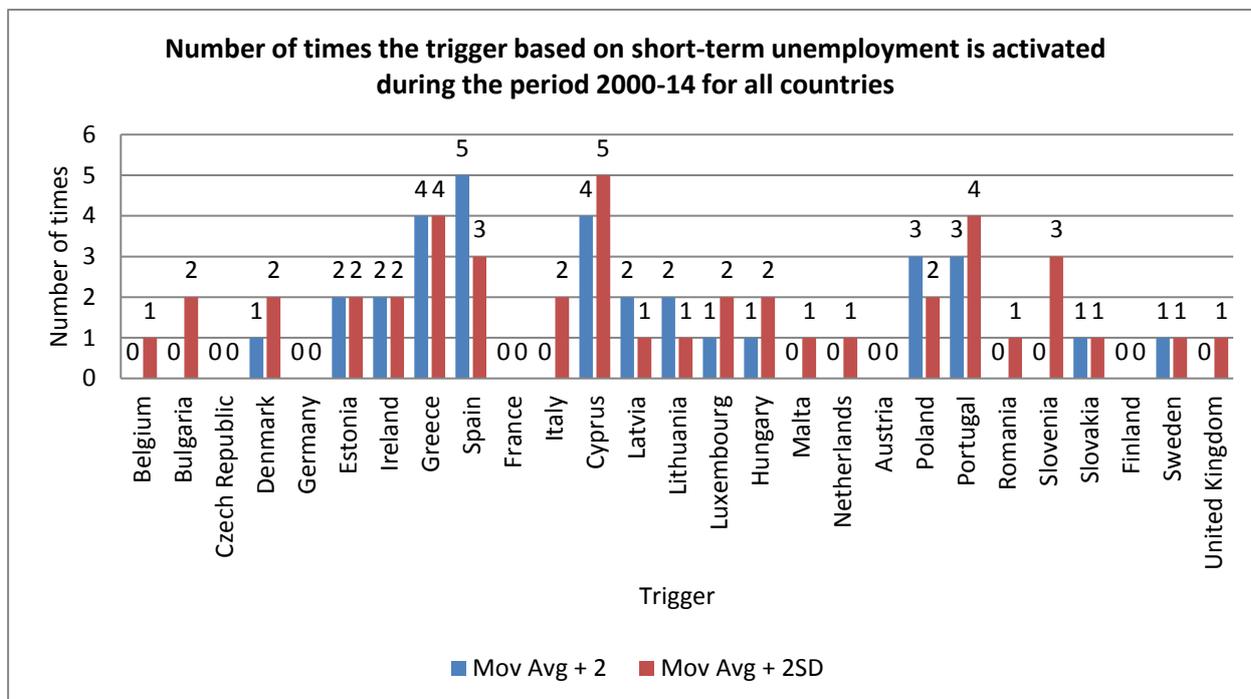


Figure 21. Number of times the trigger is activated during 2000–14 (2 percentage points vs 2 standard deviations)





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