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Directorate-General for Internal Policies

Directorate G - Impact Assessment and European Added Value

Cost of non-Europe of the Absence of an Unemployment Insurance Scheme for the Euro Area

Simulation exercise

IP/G/EAVA/IC/2013-138

Contents

1. Introduction.....	5
2. Existing situation	6
2.1 Brief summary of national systems.....	6
2.1.1 Design.....	6
2.1.2 Financing and expenditure	7
2.2 Coordination of existing national systems.....	8
2.2.1 EU regulation on the coordination of national systems.....	8
2.2.2 Other European systems of unemployment benefit coordination.....	10
2.3 European funds.....	10
2.4 The US system of unemployment insurance.....	13
2.5 Potential economic, political and social rationale for EU action on UB	17
2.5.1 The economic theory	17
2.5.2 Political and social rationale	20
2.6 Summary of existing proposals.....	21
3. Outline of main trade-offs and challenges	24
3.1 What situations should it cover? What should be the trigger?.....	24
3.1.1 Unemployment rate and short-term unemployment rate.....	25
3.1.2 Unemployment gap	26
3.2 What should be the fiscal rule for EUI and a country contribution?	27
3.2.1 A system balanced annually	27
3.2.2 A flexible system – no fiscal rule	27
3.2.3 Fiscal balance over the economic cycle	27
3.3 Should there be common EU standards for UB?	28
3.4 Additional technical issues.....	29
3.4.1 Participation: EU28 vs Eurozone	29
3.4.2 Revenues.....	30
3.4.3 Implications for other programmes.....	31
4. European Unemployment Insurance - simulation results	32
4.1 OPTION 1: Harmonised European unemployment benefit.....	34
4.1.1 The harmonised unemployment system with no fiscal rule (option 1a).....	35
4.1.2 The harmonised unemployment system with long-term country-level neutral budgetary position (option 1b)	41
4.2 The catastrophic unemployment insurance system.....	43
4.2.1 The catastrophic insurance scheme with no fiscal rule (option 2a).....	44
4.2.2 The catastrophic insurance scheme with long-term country-level neutral budgetary position (option 2b).....	49

4.3 Comparisons of options	52
4.3.1 Comparison of the options at the EU level	52
4.3.2 Comparison of the options for selected countries	53
Selected references.....	62

List of Figures, Tables and a Box

Figure 1. Out-of-work income maintenance and support, % of GDP, Average 2005-2011	8
Figure 2. Total unemployment insurance benefits paid by month and type of programme in US.	16
Figure 3. Country specific shocks in the Euro Area	19
Figure 4: Net contributors to EU Budget 2012, as % of GDP	20
Figure 5. Short-term unemployment in Europe.....	26
Figure 6. Tax wedge by family type in 2012.....	30
Figure 7. Revenue and expenditure at the EU level, % of GDP	40
Figure 8. Annual and cumulative balance at the EU level, % of GDP	40
Figure 9. Revenue and expenditure at the EU level, % of GDP	43
Figure 10. Annual and cumulative balance at the EU level, % of GDP	43
Figure 11. EUI annual revenues for each country, % of GDP.....	45
Figure 12. Revenue and expenditure at the EU level, % of GDP	48
Figure 13. Annual and cumulative balance at the EU level, % of GDP	48
Figure 14. Revenue and expenditure at the EU level, % of GDP	51
Figure 15. Annual and cumulative balance at the EU level, % of GDP	51
Figure 16. EUI revenues and expenditure paid by and to Spain under various options, as % of GDP.	52
Figure 17. EUI annual and cumulative balance of the EU under various options, % of GDP.....	53
Figure 18. EUI revenues and expenditure paid by and to Spain under various options, as % of GDP.	54
Figure 19. EUI annual and cumulative balance of Spain under various options, % of GDP.	54
Figure 20. EUI revenues and expenditure paid by and to Greece under various options, as % of GDP.	55
Figure 21. EUI annual and cumulative balance of Greece under various options, % of GDP.	55
Figure 22. EUI revenues and expenditure paid by and to Latvia under various options, as % of GDP.	56
Figure 23. EUI annual and cumulative balance of Latvia under various options, % of GDP.....	56
Figure 24. EUI revenues and expenditure paid by and to Ireland under various options, as % of GDP.	57
Figure 25. EUI annual and cumulative balance of Ireland under various options, % of GDP.....	58
Figure 26. EUI revenues and expenditure paid by and to the Netherlands under various options, as % of GDP.....	58

Figure 27. EUI annual and cumulative balance of the Netherlands under various options, % of GDP.	59
Figure 28. EUI revenues and expenditure paid by and to Austria under various options, as % of GDP.	59
Figure 29. EUI annual and cumulative balance of Austria under various options, % of GDP.	60
Figure 30. EUI revenues and expenditure paid by and to Germany under various options, as % of GDP.	60
Figure 31. EUI annual and cumulative balance of Germany under various options, % of GDP.	61
Table 1. Gross replacement rates (GRR)	7
Table 2. Number of applications received 2007 – 2013 (Up to 12 August 2013)	12
Table 3. European Social and Adjustment Funds	13
Table 4. Revenue and Expenditure Associated with Unemployment Compensation, FY2001 – FY2011	14
Table 5. Matrix of scenarios explored in the chapter:	32
Table 6. Comparison of proposed EUI with actual national unemployment insurance systems as of 2010	33
Table 7. EUI annual revenues by country, minimum, maximum and mean value, % of GDP	36
Table 8. EUI annual expenditure by country, minimum, maximum and mean value, % of GDP ...	37
Table 9. EUI average annual balance and cumulative balance by country, % of GDP	39
Table 10. EUI annual revenues by country, minimum, maximum and mean value, % of GDP	41
Table 11. EUI average annual balance and cumulative balance by country, % of GDP	42
Table 12. EUI annual expenditure by country, overall, since 2009 and the maximum value, % of GDP	45
Table 13. Annual balance overview	47
Table 14. EUI annual revenues by country, mean value, % of GDP	49
Table 15. EUI average annual balance and cumulative balance by country, % of GDP	50
Table 16. Matrix of scenarios explored	53
Box 1. Experience rating	15

1. Introduction

This report was commissioned by the European Parliament as one of the analytical resources to be used in discussion of possible creation and shape of European-level unemployment insurance.

Specifically, the Terms of Reference for the study stated: “The current economic crisis has revealed inside the Euro-zone deficiencies and/or inadequacies in social safety net and more specifically that national unemployment schemes are jeopardized in the current crisis, not allowing them to play their counter-cyclical role. Against this background and following the hearing organized by the Employment and Social Affairs Committee on 9 July 2013, the European Parliament has decided to commission a research paper on the Cost of Non-Europe (CoNE) of the absence of a minimum unemployment allowance. The basic concept arises from the idea that if a Member State is affected by slower growth for a period then, it is likely to have higher unemployment. Further problems are likely to arise since a prolonged crisis inevitably implies that an increasing number of people will be long-term unemployed. If the funding of the compensation paid to unemployment workers is Euro zone wide than, it is more likely that it comes from the more prosperous areas and better off citizens. It is thus a redistributive tool that could contribute to stabilisation. However at this stage several questions remain open namely; the extent, the coverage, the replacement rate the funding, and the access conditions to a minimum unemployment allowance, (just to mention few of them) and need to be clarified.”

The scope of the paper is as follows: “Analyse the basic characteristics of the unemployment benefits in EU MS, ascertain what are the prospects of introducing an unemployment insurance scheme for the Euro-zone; presenting in details the institutional dimensions of such instrument and, developing a simulation exercise (based on the information and data available the contractor will present at least three scenarios)”.

The resulting paper was drafted between November 2013 and January 2014 and is structured into three parts:

Chapter 2 analyses briefly the existing situation including a summary of the existing US unemployment insurance systems and a list of existing proposals for the European system

Chapter 3 outlines main trade-offs and challenges in designing such a system

Chapter 4 then presents results of our simulation of four scenarios

Additionally, it contains an executive summary, introduction and bibliography.

Given the existence of several high quality studies of the existing situation and even of trade-offs and challenges in designing a new European system (including, but not limited to, several excellent papers commissioned by the European Commission), we decided to focus on practical simulation. Therefore, Chapter 4 is a bulk of the paper and Chapters 2 and 3 are as succinct as possible.

The report was written by a research team from the Centre for European Policy Studies. Miroslav Beblavý was the lead author together with Ilaria Maselli. Matthias Busse and Elisa Martellucci provided research assistance and some drafting of the text. Daniel Gros provided intellectual oversight and several key ideas.

This is a draft version as of January 31, 2014. The final version is due on February 28, 2014 after the relevant Members of the European Parliament and the relevant EP staff have had a chance to comment on the draft. The draft version does not contain executive summary, which will be provided in the final version. The final version will also be proofread and edited by CEPS editors and the bibliography will be finalized.

2. Existing situation

2.1 Brief summary of national systems

Unemployment insurance schemes exist in a way or another in all European countries. However, none could claim that Europe is united on this front since as soon as one starts looking at figures, large differences emerge between national frameworks. To understand these differences, we look at the four main characteristics of unemployment insurance schemes:

- coverage ratios, meaning the share of unemployed workers covered by the insurance;
- coverage levels expressed as income replacement ratios, which is the share of the previous wage provided by the system;
- duration, normally accounted in terms of weeks or months;
- eligibility requirements, often expressed in numbers of weeks/months of contributions to the common fund.

As shown in this section, a great level of variation exists in Europe for each item. This is not the only source of diversity since, as a consequence of the different mix, expenditure on income support varies, together with the organisation of the insurance.

2.1.1 Design

Coverage ratios

Coverage ratios are defined as the percentage share of unemployed workers covered by the insurance. If in principle this is a simple measure, in practice no unequivocal numbers exists due to the different definitions of benefits and unemployment in different surveys.

Taking EU-SILC as a reference, it has been estimated that among euro area countries in 5 countries more than two-thirds of workers are covered by the insurance and namely in: Austria, Belgium, Finland, France and Germany. In Greece, Italy, Slovenia and Slovenia, instead, only one third of unemployed workers is entitled to receive benefits. Remaining countries are distributed somewhere in between one and two-thirds (EC 2013).

Coverage ratios estimated via the Labour Force Survey have a downward bias compared to EU-SILC but leave the ranking of countries practically unchanged (EC 2013).

Income replacement rates

The level of income protection is defined in most EU Member Countries as a percentage of the previous (gross¹) wage with percentages being often higher for lower earners. What is also differentiated by country is the reference period for this calculation, which ranges from 3 to 24 months (EC 2013).

According to EC estimates, taking as a reference a single person earning an average wage, gross replacement rates can range between 20% in the UK and Malta and more than 70% in Luxembourg, the Netherlands, Portugal and Slovenia, but with most countries in the range 40 to 60%.

¹ In three Eurozone countries the net is used: Austria, Germany and Finland. In Ireland and Malta it is a flat rate.

Table 1. Gross replacement rates (GRR)

GRR < 40	Austria	Ireland	Malta		
40 < GRR < 60	Slovakia	Spain	Germany	Finland	Cyprus
	Estonia	Belgium	Greece	Italy	France
GRR > 60	Netherlands	Portugal	Luxembourg	Slovenia	

Source: European Commission (2013).

Duration

The minimum common denominator is set by Slovakia and Malta which ensures benefits for no more than 6 months. Below one year there are also Austria and Cyprus (7), Italy (8), Ireland and Greece (10), Portugal (11). It reaches 12 months in Estonia, Germany, Luxemburg and Slovenia, 17 in Finland, 24 in Spain and France. It goes up to 38 months in the Netherlands and it is unlimited in Belgium (EC 2013).

Eligibility

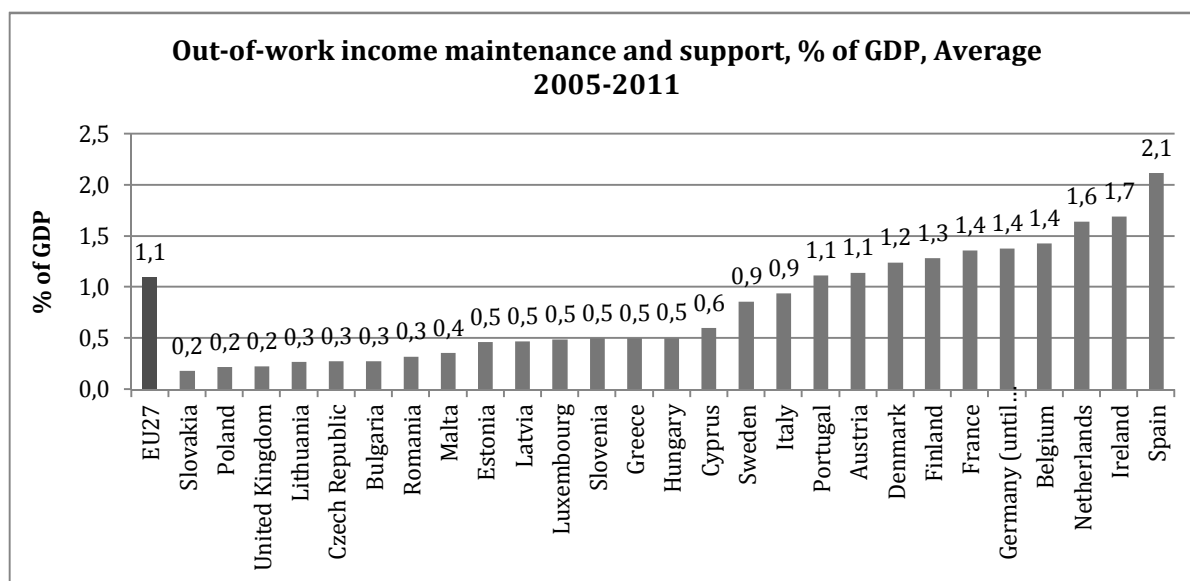
In order to be entitled to the benefit, the unemployed worker needs to contribute to the insurance during the time in employment. This qualifying period is often expressed in terms of months of contribution over a reference period. Both vary greatly among EU countries. They run from 6 months of contribution over the previous 24 in the UK to 12 months over the previous 18 in Belgium. Countries very strict on this ground are for instance, aside from Belgium, the Netherlands, Slovakia, Poland and Latvia. On the opposite side of the scale, next to the UK, can be found Spain, Ireland and France.

2.1.2 Financing and expenditure

Unemployment benefits system originates as an insurance to protect workers' income from the risk of unemployment due to the business cycle. In almost all European countries the contribution to the system is split between the employer and the employee. Only in Denmark the cost is entirely born by the insured, whereas in Czech Republic, Lithuania and Poland it is entirely financed by the firm (EC 2013). In most cases, such contribution turns out not to be sufficient to cover the expenditure on benefits and therefore the state intervenes to subsidise the system or to cover the deficits. This happens in all countries, with the exception of: Estonia, France, the Netherlands, Portugal, Bulgaria and Hungary, where no role is foreseen for the state.

All elements summed up, out-of-work income maintenance support (as officially recorded by Eurostat) amounts to slightly more than 1% of GDP in the EU with obvious variation due to the cycle. Once more, the average is hardly representative of the member countries since in many cases expenditure constitute less than 0.5% of GDP (namely in Slovakia, Poland, the UK, Lithuania, Czech Republic, Bulgaria and Romania) or more than 1.5% (in the Netherlands, Ireland and Spain).

Figure 1. Out-of-work income maintenance and support, % of GDP, Average 2005-2011



Source: Eurostat.

2.2 Coordination of existing national systems

Given the large variation across different national systems, one of the few fields where no attempt has been made in the past to reach a level of harmonisation is passive labour markets policies for the unemployed: none has ever dared to propose a minimum standard of income support in Europe to provide income security in case of unemployment. Yet a form of coordination exists even though it exclusively originates in the need to facilitate cross-country mobility and therefore de facto affects only a small share of workers in Europe.

The degree of social security coordination between the different national systems on European level is one of the key determinants of intra-EU labour migration. The EU regulation on the coordination of national systems and the European Social Charter contribute most in this regard on European level.

2.2.1 EU regulation on the coordination of national systems

The coordination of national unemployment benefits was for the first time in depth tackled in April 2004 via a subsection within the Regulation (EC) No 883/2004 on the coordination of social security systems. The aim of the provision in the regulation of 2004 was to ultimately improve the standard of living and conditions of employment through the simplification and advancement of the free movement of persons. Earlier, in 1971, the Council regulation (EEC) No 1408/71 had been put in place to ensure equivalent treatment and protection of social security benefits of all EU workers, irrespective of current residence in the EU and the employment. The new regulation is built on the fundament of the previous Council regulation of 1971.

The regulation does not transfer directly any powers from national to supranational level as it bases its influence on Article 308 TEC (now 352 TFEU). The regulation was not setting out to amend the nationally determined social benefit entitlements or the condition under which they are granted within each domestic framework, thus leaving domestic systems intact. Covered are various divisions of the social security system among them the unemployment benefits claimable within an EU Member State. The provisions in the regulation state that periods of employment spent in one EU Member States need to be taken into account when the person

moves to another EU Member States and thereby switching to another national social security system. The applicable legislation is the one of the Member States in which in person is pursuing 'a gainful activity'. With regard to unemployment insurance this means that Member State in whose system the person is currently paying into or receiving benefits must allow for the periods of insurance and the duration of employment (may it be regular employment or self-employment) which they have accomplished in other EU Member States "as though they were completed under the legislation it applies".

Furthermore, if a previously insured person becomes unemployed, thus having claims on unemployment benefits, and is applying for jobs in another Member State that person has the right to move to other Member States to facilitate the application while retaining his claim on unemployment benefit entitlements from the Member State of his/her previous employment for a minimum of 3 months which can be extended to six months if the institutions in charge deems it appropriate. The regulation only applies if the total entitlement period has not been exceeded during the job-seeking time spend abroad. In any case, after the imparted 3-6 months grace the credibility is no longer valid should the person not return to the Member State in which he is entitled to unemployment benefits.

Generally all employment benefits are claimed at the institution of the country where the person has worked last and was residing. If the two differ entitlements are to be claimed at the competent institution in the country of residence (i.e. being registered in another country while being physically present for at least 1 day per week). This regulation is targeted to the needs of "frontier workers" who regularly cross the border and prevents burden shifting among the neighbouring states. This rule only applies for full unemployment as partial unemployed is dealt with in the country of where part-time work carried out.

The regulation applies beside the EU Member States also to the EFTA countries Iceland, Norway, Liechtenstein and Switzerland. In the Annex to the regulation several references to predating bilateral agreements which need to be honoured and specific acts with regard to individual countries are made – these must, however, not impede framework described above.

Especially since the start of the Great Recession, such regulation raised the fear among policy-makers of the possibility to exploit the system (and not only), thereby giving raise to the so-called "welfare tourism" debate. The truth is that the fear of social welfare tourism with regard to unemployment benefits is very limited since a person is only entitled to the benefits that person has accumulated in the unemployment insurance fund in the country of employment. The fact that previous periods of work in another country are taken into account does not pose a significant threat to the social system of the last hosting country since the person has to have obtained a job in host country before having a claim thereafter. Hence, simply moving to another country without work will not induce transfers based on unemployment benefits.

There is of course the possibility to dummy firm or fake employment which could entitle 'labour' migrants to unemployment benefits, though the risk is low as they would have to show income to be entitled to a percentage of their previous salary. With regard to job-seeking abroad for the period of 3 (theoretically possible to be extended 6) months could create an incentive to cash in on purchasing power differences, i.e. a Euro spent in Luxembourg has less purchasing power than in Latvia. However, overall studies have not clearly shown substantial welfare tourism within in the EU (Guild et al, 2013). Jobseekers are likely to stay where they have already settled down or move to a region where they intend to find employment with their skill set rather than where their purchasing power is maximised for the next 3 months.

2.2.2 Other European systems of unemployment benefit coordination

European Code of Social Security

The European Code of Social Security was initiated as early as 1949 and was highly influenced by the 'Social Security Minimum Standards (Convention No 102) already published by the ILO in 1950. It is a product of the Council of Europe and therefore not part of the *acquis communautaire*. After years of negotiations, the 'code' was adopted by the Council of Ministers in 1964 and came into force two years later. The aim of the code and its protocol was to protect minimum standards of social security which must be adhered to within the signatory countries. Duration and quality of social benefits are regulated as to its minimum but each signatory can decide what services or extended durations that country provides in excess of the minimum. The protocol sets these minimum standards in a manner which allows the individual signatory to maintain the specificities it has taken to fit national circumstances.

With regard to unemployment benefits (article 19-24) the code defines the conditions under which the person whose contract has been terminated is entitled to unemployment benefits and it further states that benefits should be paid in periodical cash transfers. The protocol explicitly mentions that at least 50% of all employees must be covered by the insurance system in place. The code furthermore emphasizes that a jobseeker (whose work pay has previously been suspended) is entitled to unemployment benefits if she/he has been unable to find a 'suitable' work. The minimum duration is set at 13 weeks during any period of 12 months in the original code but it was enhanced to 21 weeks in the Addendum 2 of 2008. Overall, the code introduces an absolute minimum while leaving room for interpretation on issues such as 'suitable work' thus circumventing firm restriction with regard to details on domestic policy makers.

The European Social Charter

The European Social Charter introduced through Council of Europe treaty is another example of an instrument coordinating unemployment benefits and protecting social as well as human rights. The treaty was introduced in 1961 but has been amended in 1996 and came into force in 1999. The revised Charter is guarding the right to social security; among them benefit systems, which must not be discriminatory to any part of society. The Charter itself sets the framework within which unemployment insurance functions. Article 12 postulates the right to social security in general and making reference to the European Code of Social Security as 'to maintain the social security system at a satisfactory level at least equal to that necessary for the ratification of the European Code of Social Security'. The relevant article 24 deals with the rights of employees in case of termination of employment and but it does not specify any requirements to be made in case of unemployment, beside the reference to the European Code of Social Security. Complaints against violations can be brought before a special committee evaluating the accused infringements.

2.3 European funds

The Structural and Cohesion Funds represent the main financial instruments in Europe to foster economic, social and territorial cohesion in the EU.

One fund is particularly important when it comes to measures related to the labour market: the European Social Fund (ESF) which is based on multi-annual programmes. Among the "special instruments"- outside the multi-annual programming routine- the European Globalisation Adjustment Fund (EGF) was recently set-up. The reason behind these more flexible mechanisms

is to enable the EU to mobilise the necessary funds to react to unforeseen events such as crisis and emergency situations².

EGF and ESF measures are sometimes used to complement each other. While the EGF provides tailor-made assistance to redundant workers in response to a specific, large-scale mass redundancy event, the ESF supports strategic, long-term goals (e.g. increasing human capital, managing change)³.

The two funds therefore do not try to create an income support system for the unemployed, but rather to create complementary activation measures such as training, job-search assistance and occupational guidance.

European Social Fund

The ESF represents over 10 % of the total EU budget. For the period 2007 to 2013, the ESF budget amounted to EUR 75 billion – or close to EUR 10 billion per year.

ESF supports a number of actions to enhance access to employment such as (ESF Expert Evaluation Network, Final Synthesis Report on Access to employment, October 2012):

- The modernisation and strengthening of labour market institutions, in particular employment services.
- The implementation of active and preventive measures ensuring the early identification of needs with individual action plans and personalised support, such as tailored training, job search, outplacement and mobility, self employment and business creation,
- Specific action to increase the participation of migrants and reduce gender base segregation.

ESF funding is available through the Member States and regions. ESF programmes are implemented through individual projects run by participating organisations, such as public administrations, companies, NGOs and social partners active in the field of employment and social inclusion (European Commission, 2012).

In the next period (2014 to 2020), the ESF will continue to be the main EU instrument for investing in human capital.

European Globalization Adjustment fund

The EGF is one of the special instruments not included in the MFF, with a maximum amount from January 2014 to 31 December 2020 of EUR 3 billion. It may not exceed a maximum annual amount of EUR 429 million. EGF was initially established for the duration of the programming period 2007 – 2013 “to provide the Union with an instrument to demonstrate solidarity with, and give support to, workers made redundant as a result of major structural changes in world trade patterns caused by globalisation where these redundancies have a significant adverse impact on the regional or local economy”⁴. The EGF co-fund active labour market policy measures which aims to facilitate the re-integration of workers in areas, sectors, territories or labour markets suffering a shock of serious economic disruption⁵.

² http://ec.europa.eu/budget/mff/introduction/index_en.cfm

³ COM (2011) 608 final.

⁴ COM(2011) 608 final.

⁵ COM(2011) 608 final.

The Council and the European Parliament have recently agreed for the EGF to continue in the 2014 -2020 period (European Commission, 2013).

EGF shall apply to applications by the Member States for financial contributions to be provided to workers made redundant mostly:

- As a result of major structural changes in world trade patterns due to globalisation.
- As a result of a serious disruption of the local, regional or national economy caused by an unexpected crisis.

Until 2009 the threshold for the number of redundancies required to trigger access to EGF was 1000. The number it is now reduced to 500. This amendment was welcomed due to the particular features of countries where the industrial structure is composed of SMEs (GHK, 2011).

The measures financed under the EGF may include in particular⁶:

- a) job-search assistance, occupational guidance, advisory services, mentoring, outplacement assistance, entrepreneurship promotion, aid for self-employment and business start-up or for changing or adjusting activity (including investments in physical assets), co-operation activities, tailor-made training and re-training, including information and communication technology skills and certification of acquired experience;
- b) special time-limited measures, such as job-search allowances, employers' recruitment incentives, mobility allowances, subsistence or training allowances (including allowances for carers or farm relief services), all of which limited to the duration of the documented active job search or life-long learning or training activities;
- c) measures to stimulate in particular disadvantaged or older workers to remain in or return to the labour market

Since its creation in 2007, the EGF has dealt with a total of 110 cases. Spain is the Country that has requested EGF assistance for the greatest number of workers, followed by Italy, Germany and Ireland.

Table 2. Number of applications received 2007 – 2013 (Up to 12 August 2013)

	2007	2008	2009	2010	2011	2012	2013*
	8	5	28	29	24	10	6

* Note: up to 12/8/2013.

Source: EC report "title".

So, how important are the two funds?

As previously shown, the two funds together constitute more than 10% of the EU budget. But what is their incidence in Member States economies? Two considerations can be made in terms of size. The first is that the ESF and the EGF are hardly comparable. Even in Estonia, which is the country that benefited the most, the aid provided by the EGF amounts to only 0.01% of GDP. Therefore, even if very useful to deal with micro adjustments and with potentially a relevant support for a local economy, in macroeconomic terms it has a minor impact.

⁶ COM(2011) 608 final.

The ESF instead has not only a longer tradition but also bigger firepower. As indicated in Table 3, funds can go up to 0.78% of GDP⁷, in Portugal for example, during the last budget period.

Yet, the ESF cannot be considered a stabilising tool. As a matter of fact, it serves the opposite purpose: it is used to finance supply side measures for the labour market, such as active labour market policies and job centres, and therefore its impact is meant to improve the functioning of the labour market in the long-run.

Table 3. European Social and Adjustment Funds

	ESF allocated (2007-2013)		EGF allocated (2007-2011)	
	Million Euros	% of GDP	Million Euros	% of GDP
Czech Republic	4,451	0.43	0.3	0.00
Estonia	461	0.41	7	0.01
Ireland	750	0.06	10.1	0.00
Greece	5,133	0.34	2.9	0.00
Spain	11,271	0.15	43.7	0.00
Italy	14,475	0.13	66.2	0.00
Poland	11,773	0.47	400.3	0.00
Portugal	9,245	0.78	1.2	0.00
Romania	4,334	0.48	3.2	0.00

Source: <http://ec.europa.eu/esf/main.jsp?catId=443&langId=en> and EGF statistical portrait, page 69.

2.4 The US system of unemployment insurance

The Federal Unemployment Compensation (UC) program provides income support to workers that lose their job for up to a maximum of 26 weeks in most states. Approximately 130.3 million jobs are covered by the program. At the end of the week of August 17, 2013, 2.9 million unemployed workers received unemployment compensation with an average weekly compensation of \$307. Estimated expenditure on regular unemployment benefits in 2014 amounts to \$40.5 billion (Whittaker and Isaacs 2013).

In case of severe recessions and consequent high unemployment in the state, extended benefits can be launched, funded 50% by the state and 50% by the federal government (exceptionally 100% by the latter in the 2009 stimulus package).

The American system constitutes an obvious comparison for the potential European one given that the UC centralises part of the organisation but still allows each state the possibility of personalising certain features and requirements.

The UC is in fact a joint federal-state program financed by federal taxes under the Federal Unemployment Tax Act (FUTA) and by state payroll taxes under the State Unemployment Tax Acts (SUTA). The FUTA tax rate for employers is 6% of labour cost, but a credit of 5.4% is granted for employers coming from states that have a national system in place, which by now are all US states. The provision served as an incentive for all states to create an insurance as it constituted a minimum floor for employers coming from every state.

Most businesses are subject to state and federal unemployment taxes. An estimated \$6.7 billion in federal unemployment taxes (FUTA) and \$44.47 billion in state unemployment taxes (SUTA) should have been collected in FY2011 (Isaacs & Whittaker 2011⁸). Part of the former is used by

⁷ The allocated budget for 2007-2013 is divided by the cumulated GDP over the same period.

⁸ Unemployment Insurance: Programs and Benefits, Congressional Research Service.

each state to cover the administrative costs of its system and the other part finances the extended benefits when needed. It is worth noting that the employers' contribution is subject to experience ratings: firms that fire more also pay more.

Unlike in most European countries, the US version of unemployment insurance scheme is therefore fully financed by employers. The mechanism is based on the principle that those that fire more also need to contribute more to the fund. For the firms' side of the labour market, although not perfect, the system is organised as insurance: companies need to provide severance payment to workers and in order to do that insure themselves against the risk of firing a certain number of workers (see Box on experience rating for further details). The same is not true for employees who do not contribute to the fund. From their point of view the benefits rather qualifies as social assistance, in the form of income protection.

The system is administered by the U.S. Department of Labor (DOL). Federal law sets broad rules that the 53 state programs must follow. These include the broad categories of workers that must be covered by the program, the method for triggering the EB and EUC08 programs, the floor on the highest state unemployment tax rate to be imposed on employers (5.4%), and how the states will repay UTF loans. If the states do not follow these rules, their employers may lose a portion of their state unemployment tax credit when their federal income tax is calculated. The federal tax pays for both federal and state administrative costs, the federal share of the EB program, loans to insolvent state UC accounts, and state employment services (Isaacs & Whittaker 2011⁹).

Table 4. Revenue and Expenditure Associated with Unemployment Compensation, FY2001 – FY2011

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 ^a
UC revenue, total	27.8	27.5	33.2	39.3	41.8	43.0	41.2	39.4	37.8	44.7	51.4
FUTA tax	6.9	6.6	6.5	6.6	6.7	7.1	7.3	7.2	6.7	6.4	6.7
State UC taxes	20.8	20.9	26.7	32.7	35.1	35.9	33.7	32.2	31.1	38.3	44.7
UC outlays, total	28.1	50.9	54.3	42.5	32.6	31.7	32.7	43.0	119.7	156.1	129.5
Regular benefits	27.3	42.0	42.0	36.9	31.2	30.2	31.4	38.1	75.3	63.0	61.0
Extended benefits	^b	0.16	0.32	0.16	0.00	0.20	0.00	0.02	4.1	7.8	9.5
Emergency UC	—	7.9	11	4.1	—	—	—	3.6	32.7	72.1	55.4
Federal Additional Compensation	—	—	—	—	—	—	—	—	6.5	11.7	1.9
UCFE/UCFX ^c	0.5	0.5	0.6	0.8	0.8	0.8	0.7	0.7	1.0	1.3	1.5
Trade Benefits	0.3	0.3	0.4	0.5	0.6	0.5	0.6	0.6	0.1	0.2	0.2
Administrative costs	3.6	3.7	4.1	3.9	3.8	3.9	3.7	3.9	4.3	5.5	5.5

Source: U.S. Department of Labor, *UI Outlook*, January 2001-February 2011, and updates.

a. Estimated for 2011.

b. Less than \$5 million.

c. UC benefits for federal employees (UCFE) and former military servicemembers (UCFX).

Source: (Isaacs & Whittaker 2011¹⁰).

⁹ Unemployment Insurance: Programs and Benefits, Congressional Research Service.

¹⁰ Unemployment Insurance: Programs and Benefits, Congressional Research Service.

Maximum benefit levels vary enormously: from 133 dollar per week in Puerto Rico, to 625 in Massachusetts¹¹. States can get loans from the Federal Unemployment Account should they run low of funds, but the deficit needs to be cleared in the long run.

How was the system created? The origin of the system dates back to the mid-1930s. The Great Depression had made clear that an income support mechanism was necessary. As a consequence, a number of states started to investigate and make proposals in this direction. The main obstacle however remained the fear of employers to lose competitiveness with respect to the neighbouring states. This made necessary the intervention at the federal level. Witte (1936¹²) explains that “Throughout the history of the unemployment compensation provisions of the Social Security Act, there was general agreement regarding the necessity for federal legislation. It was recognized by everyone who believed in the desirability of unemployment insurance that little headway could be made unless employers in all states would be subject to the same (or substantially the same) costs, whether their respective states enacted unemployment insurance laws or not”.

Box 1. Experience rating

Unemployment insurance in the United States is financed via a tax for employers that amounts to 5.4% of labour cost. Such tax is not however a fixed amount for each employer since those that tend to fire less also pay less. This is called experience rating and it is based on the idea that the existence of unemployment insurance reduces the cost of firing and therefore an instrument is needed to eliminate the perverse incentive of increasing the number of redundant workers (Mongrain Roberts 2004).

Experience rating is defined as perfect when firms pay the full cost of their layoffs. The type applied in the US is imperfect since lower and upper bounds exists, meaning that firms less volatile in terms of employment end up subsidising the more volatile ones (Wang et al. 2002).

The tax is based on a formula and each US States is free to decide how to apply it. In more than half of them this is based on the reserve ratio. The second most common formula applied is the benefit ratio.

The reserve ratio is the ratio between the company's unemployment insurance account (contributions paid minus benefits) and the total gross wages. The reserve is cumulative over the lifetime of the company, whereas total wages refer to the last three years. As a result, the tax increases when more unemployed workers receive the benefit and decreases when higher contributions are paid into the fund. The benefit ratio is instead the ratio of benefits divided by total payrolls over the past three years: the more benefits are withdrawn by unemployed workers, the higher the tax for the employer.

The idea of experience rating is applied also at the national level: in case of lack of liquidity, a state can borrow from the federal funds. States are charged interest on loans that are not repaid by the end of the fiscal year in which they were obtained (2013). States facing troubles in financing their own insurance can therefore ask and obtain help from the federal fund but only in the form of a loan which needs to be repaid based on an agreement with the US Secretary of Labour. If it fails to restore the balance between revenues and expenditure of national funds in the medium run, the federal authority can raise firms' contribution.

Can the American system be a model for Europe?

A major concern related to the creation of a European unemployment insurance system is the incentive of moving to collect benefits in more generous countries, the so-called welfare mobility

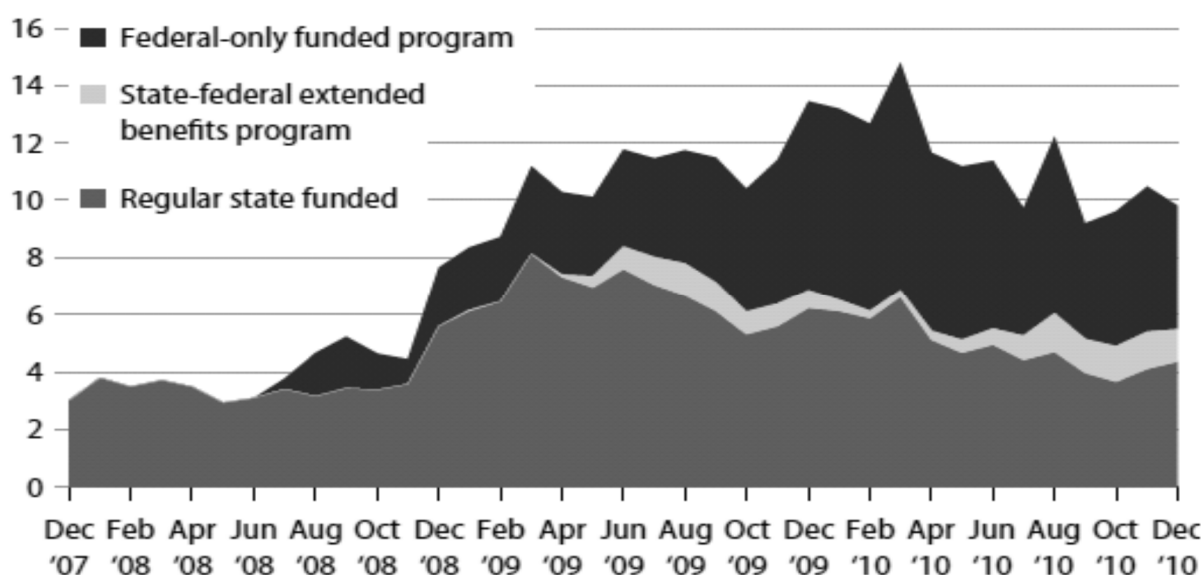
¹¹ 2011 data.

¹² Edwin Witte (1936), An Historical Account of Unemployment Insurance in the Social Security Act.

or welfare tourism. Does it happen in North America where a strong incentive to do that is given by the fact that there is a large dispersion in the weekly benefit granted by different states? In other words, can an unemployed Texan worker collect benefits in Massachusetts where he/she can receive up to \$674 per week? Eligibility rules of the Massachusetts government explicitly mention¹³ that „if you worked in another state, you should apply for unemployment insurance in that state“. There are residency requirements in place in individual states though as far as we were able to tell, there is no federal requirement. However, given the shape of the US system, states have incentives not to attract unemployed recipients of the benefit.

One of the added values of the federal system lies in the possibility to extend benefits exceptionally in case of severe recessions in one or more states, namely when the stabilisation tool is most needed. This happens via the extended and emergency benefits, with the former partially and the latter completely financed at the federal level. Extended benefits are the geographical redistributive part of the system.

Figure 2. Total unemployment insurance benefits paid by month and type of programme in US.



Source: Boushey Eizenga, 2011.

If in principle the rule constitutes a safe back up for a system that is not very generous (at least compared to European standards) this is something that could hardly be implemented in a European perspective. The reason is that such extensions requires quick decision making which is more difficult to implement in Europe given the multi-level governance and the necessity to apply a subsidiarity principle.

A less remarked but interesting aspect about the American system is its capacity to strike a balance vis-a-vis individual states over the cycle: each state can indeed borrow from the federal cash pot in hard times but these remain indeed loans and as such need to be returned. This in principle ensures that the objective of stabilising income when most needed is not missed, but at the same time avoids free-riding. If a state is unable to repay the loan, the employers' contribution is in fact automatically raised. This is, for instance, what happened recently in California whose fund currently runs a deficit of almost 10 billion dollars.¹⁴

¹³ <http://www.massresources.org/unemployment-eligibility.html>

¹⁴ http://www.edd.ca.gov/About_EDD/pdf/edd-uiforecast13.pdf

All in all therefore, the American system is particularly interesting, not only for the comparability of its labour market to the European one in terms of size and skills levels, but even more so because it the mix of three compromises/results:

- The stabilisation capacity based on the short-term support combined with the possibility for each state to borrow from the central cash pot if necessary.
- The creation of a common minimum standard, not in terms of provision where each state is free to set its optimal level of protection, but in terms of employers' contribution necessary to finance the policy.
- The experience rating which punishes companies that fire more.

2.5 Potential economic, political and social rationale for EU action on UB

The purpose of the unemployment insurance is, from the purely economic point of view, to provide a counter-cyclical stabilisation mechanism to the economy, and from the social point of view to alleviate the pain of unemployment by providing income security. Economic theory suggests that higher insurance can increase wages and extend the unemployment spell by raising the reservation wage, which is the lowest wage rate at which a worker would accept a job. Empirical evidence suggests that the exact design of such policy matters, in particular how benefits decrease with duration and to what extent they are complemented by active labour market policies (Blanchard, Jaumotte, Loungani 2013¹⁵). The exact design is important from the microeconomic point of view. But what about the macroeconomic aspects? In a monetary union especially they are at least as important to justify the adoption of such policy.

Three considerations are important in an international-macro perspective:

- The coordination issue
- Fiscal constraints
- the trigger of the policy – symmetric and asymmetric shocks.

To the purely economic ones, one needs to add the political and social concerns: the existence of a form of European solidarity and redistribution within the Continent.

2.5.1 The economic theory

(A)symmetric shocks and coordination failures

Problem arises in a monetary union when an asymmetric shock occurs. Textbook case¹⁶: asymmetric demand shock, negative in France and positive in Germany. As a consequence, unemployment increases in the former and goes down in the latter. Two mechanisms can potentially lead to automatic re-equilibration: wage flexibility and mobility of labour. How does unemployment insurance interfere with each? Will it facilitate or hinder wage flexibility and labour mobility? Would it change if the UI is organised at the European level?

In principle, an unemployment insurance scheme will hamper both adjustment mechanisms: the benefit will keep the reservation wage at a certain level, more or less high depending on the replacement rate compared to the previous wage. The national unemployment insurance will also limit cross-country mobility: not only it lowers the incentive to look for a job in general, but

¹⁵ "Labour Market Policies and IMF Advice in Advanced Economies during the Great Recession", IMF Discussion Note.

¹⁶ De Grauwe, Economics of Monetary Union.

even more so in another country because the unemployment workers may need to give up his/her benefit.

The latter problem would be solved should a European system be in place: unemployed workers could collect the benefits independently of the country they look for a job. With regard to the first issue, the reservation wage, it does not matter for the adjustment in the recession country, whether the benefit is paid at the national or European level.

But how likely are actually asymmetric shocks in Europe? The academic literature gives the impression that this is a steady issue in Europe. The remaining differences in the European economies (different specialization of production, different labour market regulations, different demographics and different national level macroeconomic policies, etc.) make economies react differently to external shocks. Asymmetric shocks therefore seem to be a matter of regularity while only the significance of these shocks varies.

The OECD (2010¹⁷) underlines that recent asymmetric shocks in Europe were mainly attributable to the catching up processes of certain economies. However, there are still considerable differences between the economies that could easily cause new imbalances. Even though the common currency has increased integration, there remain many potential sources of asymmetric shocks: These could be different demographic developments, asymmetric production trends, remaining inequalities in the regulation and flexibility of wages and prices and differences in employment protection. The OECD therefore recommends a Euro-zone wide coordination of such issues or far going structural reforms that may lower the risk of asymmetric shocks.

In a recent publication from the IMF¹⁸ it is argued that boom and busts occur very regularly in an unequal pattern across Europe and that this dispersion of national specific growth is not really showing a tendency to approach a common European level.

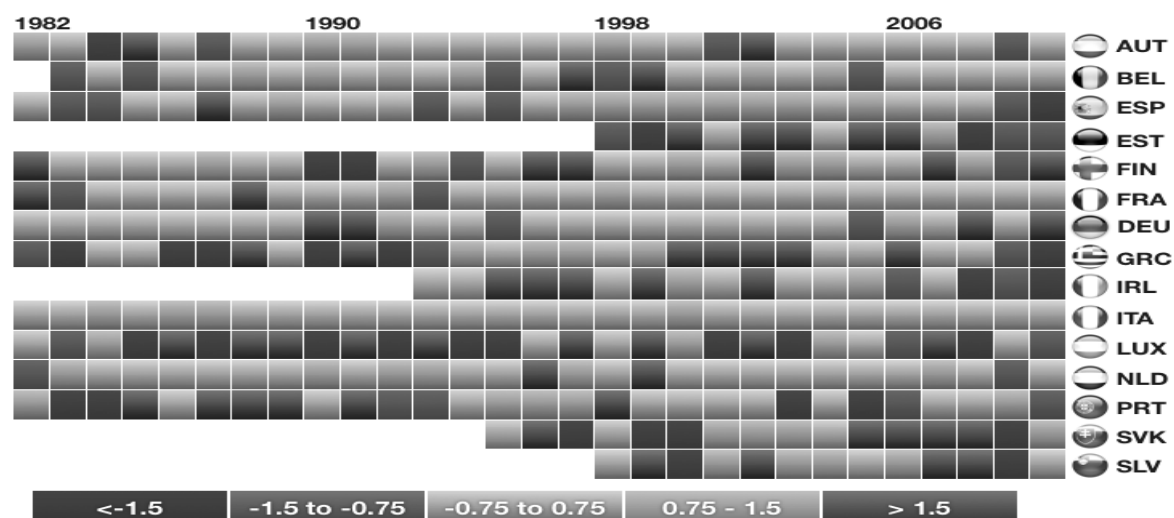
De Grauwe (2013¹⁹) observes that while monetary policy has been centralized, the rest of the macroeconomic policies remained in national hands, “producing idiosyncratic movements unconstrained by the existence of a common currency. Hence, there are few policy options to bring national booms and busts into line with any kind of European development. Even worse, the common interest rate that may be too low for booming countries and too high for countries in recession even exacerbates asymmetric developments. Therefore, at first the convergence process in Europe has to be finished. And already that process appears to be asymmetric itself”.

¹⁷ OECD Economic Surveys - Euro Area 2010, pp. 72 ff.

¹⁸ Allard et al (2013), Toward a Fiscal Union for the Euro Area, IMF Staff Discussion Note 13/09.

¹⁹ Design Failures in the Eurozone: Can they be fixed?, LSE Europe in Question Discussion Paper Series No.57/2013.

Figure 3. Country specific shocks in the Euro Area



SOURCE: OECD and IMF staff calculations

NOTE: The idiosyncratic growth shocks are derived as the part of the country-specific growth shocks that are not explained by euro area-wide growth shocks. Growth shocks (both for the euro area and individual countries) are computed as the residuals of the growth rate regressed over two lags.

Source: Allard et al (2013)

The case of symmetric shocks is more straightforward and poses fewer challenges to policy-makers. In case of recession in fact the main decision to take is whether to use the fiscal or monetary stimulus or a combination of the two. Yet, because of the specific nature of the European construction sub-optimal equilibria can be reached also in this case due to the fact that the former is decided at the national level and the latter by a supranational institution, the ECB, with an independent mandate. An EMU-wide (or Euro-wide) unemployment insurance could therefore solve the coordination problem by relying on a automatic stabiliser.

Budget constraints

Together with the risk of asymmetric shocks and coordination failures, a third macroeconomic argument may call for the need of EU/EMU-wide automatic stabilisers: tough budget constraints.

The euro-crisis showed that risk premia on sovereign debt can diverge significantly. Starting from 2010, it became not only difficult but also very expensive for sovereigns in the periphery of Europe to borrow on the market. High interest rates therefore make the financing of public expenditure, which can easily include expenditure on labour market policies in times of high unemployment rates, very expensive. A government that faces tough fiscal constraints may consequently be faced with the choice of cutting income support measures at the time when they are needed the most, that is when unemployment is soaring and vacancies are limited. Moreover there is a possibility for large shocks from becoming self-sustaining through pro-cyclical fiscal policy and negative feedback loop. Backstopping national systems could be a way of preventing such a feedback loop from developing.

The creation a supra-national fund (in whatever form) where countries and/or workers & employers contribute during sunny seasons could avoid such a trap. In this case in fact, the funding of passive labour market policies would come from a supranational authority and therefore it would not be a burden for the national budget as countries would have to contribute to it only during upswings.

2.5.2 Political and social rationale

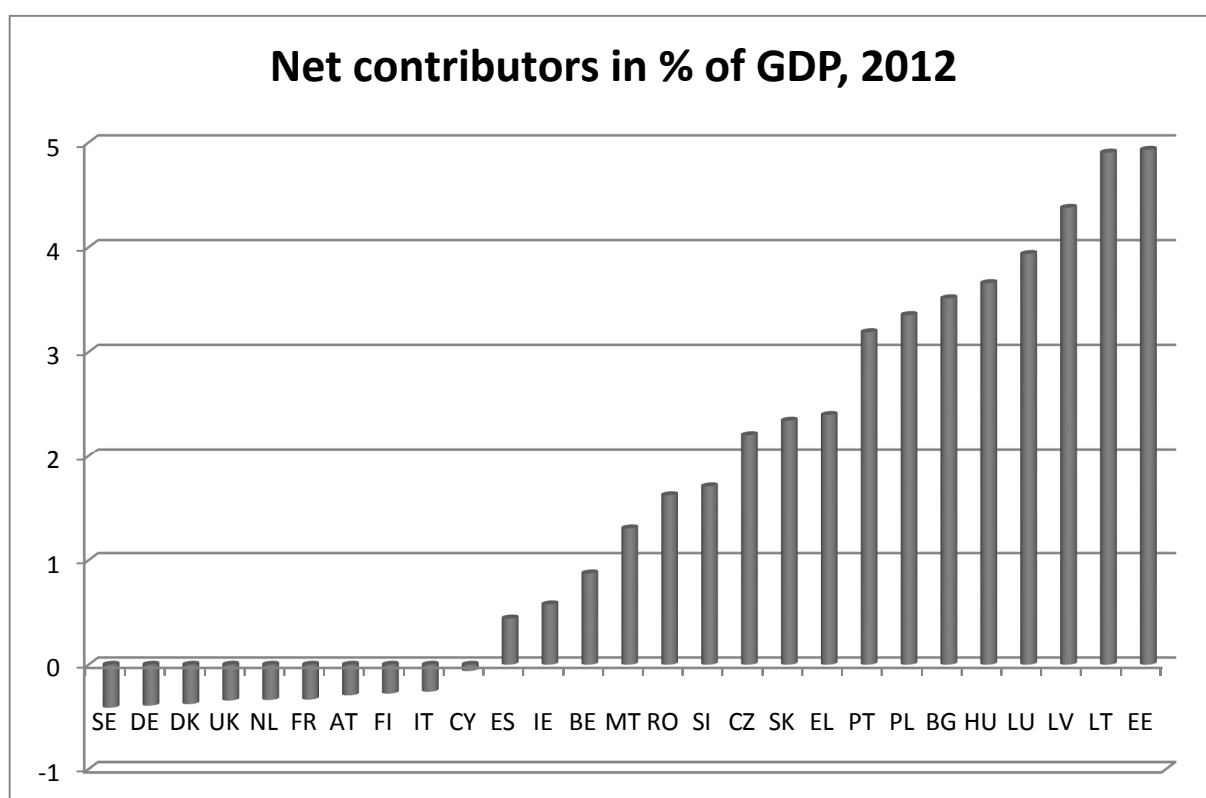
Demonstrating European solidarity in a visible and tangible way for EU citizens

The crisis and its aftermath has been a testing time for the European ideals and for the credibility of both national and European institutions in eyes of the European citizens. Introduction of an EUI system could demonstrate European solidarity in a way that is visible and tangible for European citizens (unlike some of the more abstract European interventions) on a permanent basis. Of course, desirability of such a step is a matter for political decision.

Permanent/long-term redistribution across EU

The European Union already has limited fiscal redistribution mechanisms though they are small and their redistributive roles is not explicitly geared towards reducing disparities between member states. On one hand, the national balance vis-a-vis the EU budget can be substantial for a small set of small and poor countries. The de facto list of net contributors and net beneficiaries also appears to be relatively stable

Figure 4: Net contributors to EU Budget 2012, as % of GDP



Source: European Commission 2013 EU, Budget Financial Report 2012

In this rationale, EUI would be an additional special case of a permanent or long-term redistribution mechanism between countries of the Union. Consultations during preparation of the paper made it clear that while a degree of persistency in EUI transfers might not be always avoidable, permanent or long-term redistribution is NOT one of the rationales for creating such a scheme. Indeed, it could be even seen as a problem to avoid if possible.

Desirability of common standards

Desirability of common standards in social policy is a contested issue in European affairs and is, in the end, a political choice. In the case of EUI, the issue of common standards can cut both ways though. One could argue for minimum standards in order to prevent social dumping and guarantee equal social rights. By the same token, one could argue for „maximum“ standards to prevent hysteresis and moral hazard.

Supporting labour mobility within the EU / eurozone

A relatively uncontested goal of EU policy is to stimulate labour mobility within the Union. It could, therefore, be a *prima facie* rationale for a joint unemployment insurance system. However, as explained in this chapter, the current EU for coordinating social security systems already ensures that:

- qualification periods from various countries are cumulated
- an unemployed can move to a different country and still receive unemployment benefits (up to 3 months, can be extended to 6 months)

The EU regulation could be beefed up on the second issue and thus stimulate mobility, but this could be done through amendment of the existing regulation if needed. So further support of labour mobility can be a consequence of EUI (if it strengthens equality of rights / portability), but not in an important way.

Consequently, all our proposals will address the shock absorber rationale as the principal rationale for EUI. However, to provide a variety on more contested issue, only some proposals will address the rationales of demonstrating European solidarity in a visible and tangible way for EU citizens and providing common standards. On the other hand, the proposals will not seek, as overriding rationales, to promote permanent/long-term redistribution across EU though potential persistent transfers are not an automatic no go. By the same token, we will largely leave the issue of supporting labour mobility within the EU/eurozone out of our analysis.

2.6 Summary of existing proposals

With the establishment of the EMU demands have been voiced for a common European unemployment insurance scheme, in one form or another, to provide a feasible mitigation of asymmetric shocks. These proposals varied from small fiscal budget freely used in domestic spending over funds based on the output gap to true mutual unemployment schemes. The selection of proposal below provides a broad overview of existing ideas which are directly or to some extent related to the EUI proposal.

❖ In 1993, Majocchi and Rey delivered a proposal within the MacDougall report advising to implement a “conjunctural convergence facility” once more mitigating asymmetric shocks. In contrast to other scheme, this system is not triggered automatically, thus being dependent on the evaluation of fellow member states to rule out idiosyncratic causes unrelated to external shocks. The fund would provide loans and grants to the struggling state which in turn could pay benefits or invest e.g. in additional training hence bringing down unemployment rates.

❖ At the same year Italianer & Vanheukelen (1993) developed the idea of stabilization mechanism based on the national deviations in the annual change of the unemployment rate to the EMU average. Unlike Majocchi & Rey (1993) the stabilization mechanism has automatic feature even though the authors propose to cap the receipts to 2% of GDP. They also propose a toned-down version in which the transfer are only triggered once a certain threshold is surpassed in order to only activate the mechanism in case of significant asymmetric shocks i.e. not smoothing small waves but rather “tsunamis”.

❖ Bajo-Rubio & Diaz-Roldan (2003) developed an European unemployment insurance system which functions on monthly bases as it takes the change over the past 12 months as the reference value to trigger the dispersion of benefits. It is redistribution scheme in which each country pays in (1% of tax revenues). Payment are made to those countries which experience a rise in their unemployment rate, however this mechanism is only set in action if at least one country is experiencing a drop in the unemployment rate, thus testifying to the source of the negative changes as an asymmetric shock. Each month the receiving member state uses the transferred funds to support the unemployed. Bajo-Rubio & Diaz-Roldan raise another rule which could be applied to reduce the risk of moral hazard by limiting the number of consecutive months in which a country is able to receive funds.

❖ Enderlein et al (2013) do not directly call for a European unemployment insurance fund but rather a Cyclical Adjustment Insurance Fund (CAIF) which is once more based on the output gap methodology. They are, however suggesting that the output gap as a main trigger could be complemented by indicators such as inflation rates and short-term (cyclical) unemployment. They have not included the unemployment indicator into their calculations since they state that “short-term unemployment is a problematic indicator as long as labour market institutions are in the realm of national legislation”. Of course the output gaps has its drawbacks as well and the net effect over the period 1999-2014 would have been very small (<0.25% of GDP).

❖ Sutherland (2012) proposes to create a true EU insurance fund which is build at EU level and paid in by employers or employees or alternatively an unemployment benefit system. The EU benefits would set a minimum standard for the member states which could, in severe cases of crisis, be complemented by supplements and extensions. National channels of raising contributions and distributing the benefits should be utilized to minimise administrative costs. The paper suggests to leave the decision by which means (e.g. tax) to collect the contribution up to each individual member state. The author does not provide a simulation of the impact of such a system concerning net benefits or details on neither coverage nor replacement rate.

❖ Delpla (2012) presents in this paper for the seminar 'EU level economic stabilizers' an unemployment insurance scheme for the Euro Area as one part of the toolkit in the wider European reform program. His unemployment benefits scheme differs from the rest since it is not a replacement or base for national ones but rather a supplement. The unemployed would only be entitled to the supplement if the European Labour Contract was adhered to and if the sum of national and EA benefits to not exceed the maximum threshold, thus preventing a transfer from less generous state to countries with highly generous system. The receipt would be paid for by annual contribution equal to 1% of GDP. Depla's system not only introduces the European component to the unemployment insurance scheme, as the others do, it furthermore attaches a social component by limiting the transfers contrary to income gaps.

❖ In their Bruegel Policy Contribution Pisani-Ferri et al (2013), pursue a European (EMU) unemployment insurance for the same reason as Dullien, i.e. a fiscal stabiliser. Contrary to Dullien, they propose set an insurance system levied on a corporate income tax fully covering the expenditures. An EA wide applied corporate tax rate of 12.6% is estimated to suffice to cover the average EA costs for unemployment insurance (1.8% of EA GDP). Unemployment benefits could be covered in full by this budget with each member state transferring revenues from the first 12.6% tax on corporate income. The distributional effect could potentially be significant since revenues collected for 12.6% tax may not domestically suffice to cover the x% of unemployment benefits – Pisani-Ferri et al. show that this would be the case for Ireland in 2010. In another exercise the authors calculate the magnitude of unemployment benefits in the new common system if receipts are dependent on a set base value (1.5% of GDP) plus a factor of the deviation of the individual unemployment rate from the EA. Consequently, Portugal (less generous national unemployment benefits system) would receive more financial resources than needed to cover the benefits, thus creating fiscal stimulus package, whereas Ireland would

experience the opposite. The common unemployment insurance is not covered directly in the paper but rather moved to the appendix and does not give details the extent to which benefits are covered on a supranational level.

❖ The most comprehensive and in-depth potential architecture of a European unemployment insurance system has been proposed by Dullien (2008, 2012, 2013) with the ultimate aim to absorb negative budgetary effects of short term unemployment caused by the business cycle or asymmetric shocks though not by structural unemployment. The insurance fund would be financed through a payroll tax and the payments as well contributions would be collected by the national agencies in order to use the existing framework and avoid additional bureaucratic costs. A minimal standard of unemployment benefits would be covered on the European level while each member state is free to choose the services/benefits that state provides, nationally, on top of the supranational coverage. He proposes a minimum of 12 weeks with a replacement rate of 50%. In his model he shows the theoretical impact such a system would have had on the crisis-ridden Spain after the burst of the housing bubble. The transfer, according to Dullien, could have mitigated almost 25% of the downturned in the immediate aftermath of the collapse. The issue of moral hazard is acknowledged but perceivably alleviated in his system since the EUI only covers a minimum far below the current replacement rate on national level, thus maintaining the incentive structure to implement labour market reforms. The EUI is envisaged to remain balanced in the long run without clear net receivers and net contributors. One element which is intended to prevent a one-way financial flow is to exclude seasonal unemployment within his scheme. Dullien's proposal has frequently been used as a basis for political demands of parties and other institutions (see Bonin 2013 or Brantner and Giegold, 2012).

❖ Gros et al 2014 (forthcoming) suggest the creation of a European re-insurance scheme for major deviations from long-term unemployment rates. The basic idea is to transfer funds to finance unemployment benefits from the centre to the periphery when unemployment is measurably higher than normal. The system therefore qualify as a catastrophic insurance for national unemployment benefits funds.

3. Outline of main trade-offs and challenges

In the first chapter of this report, we provided a general overview of existing passive labour market policies in Europe and compared them to the United States. We also listed existing EU contributions in the field and summarised political and economic argument behind the creation of a European Unemployment Insurance system. We concluded by summarising existing proposals.

As mentioned in the previous chapter, we look at two main proposals: the harmonised European unemployment benefit, developed by Sebastian Dullien and the catastrophic insurance scheme, proposal put forward by CEPS (Gros et al, forthcoming). The harmonised scheme consists of an insurance fund financed through a payroll tax (collected by national agencies) and spent for a minimum standard of unemployment benefits that applies in the same fashion to all European eligible workers. The idea of the catastrophic insurance propose a a radically different system based on re-insurance fund which will be used only in case of severe recessions, in light of the fact that 'business as usual' downturns are already well covered by existing policies.

This chapter is divided into two main parts. In the first, we look at three key policy dimensions related to a potential European unemployment insurance:

- Threshold and a ceiling for its activation: any system of unemployment insurance needs to define under what conditions it is triggered. This also means that an indicator needs to be chosen for this purpose.
- Common standards for the EU: should they be enforced? If so, what would they be?
- Fiscal rule: should the EUI have a balanced budget on annual basis, cyclically or not necessarily at all?

In the second part of this chapter, we discuss three additional technical issues:

- Participation: should it involve compulsorily all EU or euro area countries or be voluntary?
- Funding: how should it be organised? What is the source?
- Implications for other labour and EU policies: should the EUI also be concerned with active labour market policies? Is there any overlap with, for instance, the European Social and Globalisation Adjustment funds?

3.1 What situations should it cover? What should be the trigger?

Deciding under which circumstances the EUI should be activated, represents an important step in designing the European Unemployment Insurance. In fact, The EUI could either be applied with a "business as usual" approach or be activated only in exceptional circumstances. If the "harmonised option" would be put in place, it would be activated whenever a worker becomes unemployed for a given number of weeks. Conversely, the so-called catastrophic insurance" proposal would kick in only under, exceptional economic shocks such as severe recessions where public finances are putting under stress by a larger demand of unemployment benefits.

As experienced during the last crisis, expenditure on passive labour market policies climbed up to approximately 3% of GDP in Spain and Ireland, from respectively the 1.5 and 0.9% of 2007.

The setting-up of the “catastrophic” option would imply the adoption of a reference set of indicators. We analyse the possible options among the following list of indicators: the output gap, the unemployment rate, the unemployment gap and the unemployment ratio.

3.1.1 Unemployment rate and short-term unemployment rate

Unemployment rate is *prima facie* the most natural choice, because it is indeed meant for assessment of employment policies. In addition, it is a solid indicator, given that it is based on a head-count²⁰. However, it presents some issues

First of all, it is important to note that a significant part of unemployment rate is unrelated to short-term shocks and is of structural nature. The group of unemployed which measures it is made of two main groups: those whose unemployment duration is a small natural transition from a job to another and those with a longer one due to the fact that their skills do not match existing vacancies. The former has a short-term nature, whereas the latter is much more persistent and requires enormous effort to be curbed. A policy that does not take structural difference into account would, as a consequence, give rise to a rather unbalanced flow of funds over time. This is a problem as such if one focuses on the redistribution rationale rather than the cushioning of shocks rationale. However, since the cushioning argument appears to be among the key argument for the creation of EUI, we do not recommend using a headline unemployment rate.

For this reason we propose not to use the overall unemployment rate but the short-term one. This would be consistent with the fact that unemployment benefits generally do not cover the entire unemployment spell, but rather have a maximum length of eligibility²¹.

Short-term unemployment rate, defined as up to 12 months of unemployment was on average 4% during the period 2003-2012. In the following cases it exceeded 6%:

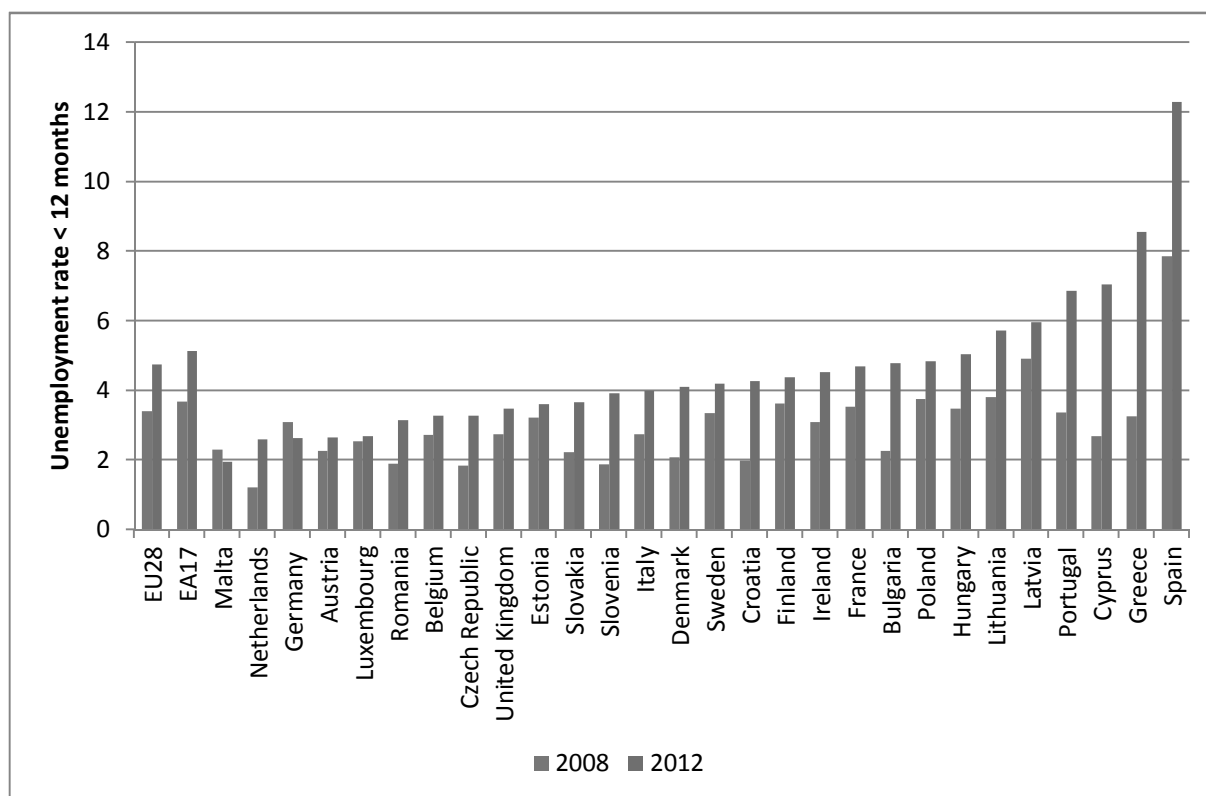
- In Greece in 2011-2012
- In Spain: before 2004, since 2008
- In Estonia in 2009-2010
- In Latvia between 2009 and 2012
- In Lithuania between 2009 and 2011
- In Poland up to 2004
- In Cyprus and Portugal: since 2012

Interestingly enough the list does not cover the Irish Great Recession.

²⁰ The head-count is not based on the entire working population: only a small share of it is interviewed in the labour force survey. But the methodology is solid and agreed at EU level via Eurostat.

²¹ Belgium, where unemployment benefits are provided until the worker finds a new occupation is an exception. In all countries during the past two decades system became less and less generous in order to create the incentive to reduce the length of the work to work transition.

Figure 5. Short-term unemployment in Europe



Source: Eurostat, Labour Force Survey.

3.1.2 Unemployment gap

Another option is to use distance from the national “norm”. In other words, EUI would be activated if the difference between actual unemployment and the norm exceeds a certain value.

The reference value could be either a long-term historical average or some a measure of structural unemployment like the NAWRU, the non-accelerating wage rate of unemployment. While these latter two options might appear similar, they are conceptually distinct. Moreover, each has obviously advantages and disadvantages.

Using historical average minimizes uncertainty or interpretation issues, but it brings a difficult trade-off. If the reference period is fairly short (5-10 years), then the „norm“ can be influenced upwards by a prolonged economic slump and thus limit the impact and rationale of EUI. If the reference period is longer than that, then it brings penalization for successful labour market reform during the crisis.

These issues could be resolved by using a measure of structural unemployment, like the NAWRU that would correct/augment the long-term average with a more nuanced assessment.

This options, also comes with a downside. More precisely, it introduces a degree of contestability and discretion due to the fact that the NAWRU is more difficult to estimate than the simple unemployment rate and as such, it is subject to ex-post revisions²².

²² A similar problem has been documented for the estimation and subsequent series of revisions for the output gap.

3.2 What should be the fiscal rule for EUI and a country contribution?

In the previous sections of this chapter we have analysed two key technical aspects that accompany the conception of a cross-national system of unemployment insurance: the trigger and the reference indicator. The next important step is consists in dealing with the fiscal side of the system. First of all, should a rule exist at all? Or should expenditure be balanced at an annual level? Is an intermediate option possible? Additionally, how should the system treat a country that is in persistent deficit vis-à-vis the system?

3.2.1 A system balanced annually

We start by analysing one extreme option: a system that is balanced every year. In other words, whatever is collected during the year is also redistributed across countries during the same year. As a consequence the system would not run any deficit but neither any surplus.

Such option would have one main attractiveness: it would avoid problems related to the capacity of the EUI to borrow in case of deficit: borrow, how much? On the market or from other governments?

But apart from this, the case for an annually balanced fund is weak, especially given the technical complications. Theoretically an annual distribution would be in principle possible but highly problematic in practice. Such an approach, in fact, would require permanent calibration of the system on an annual basis, leading to unpredictability and uncertainty at the national level, thus eliminating to some extent the very rationale for EUI.

A further argument against this option is the risk of symmetric shocks (e.g. Great Recession). Without the possibility to borrow or use reserves, the system would end up transferring resources between countries undergoing difficulties.

3.2.2 A flexible system – no fiscal rule

The second extreme option is the rule of not imposing a rule: the criterion of the EUI would not be subject to ex ante decision on its fiscal rule. Deficits and/or possibility to recur to extra funding, beside the national annual contributions, are therefore not ruled-out. The main advantage is the possibility to ensure the greatest flexibility to deal with a variety and different combinations of (symmetric and asymmetric) shocks including.

Yet, an open-ended commitment remains difficult to impose. On the one hand it would hardly be considered politically acceptable. On the other hand, it would imposes technical challenges in terms of consistencies with the existing EU 7-year budgetary framework.

3.2.3 Fiscal balance over the economic cycle

We consider as third an intermediate option in which the system would be balanced, but only over the economic cycle. In other words, the fund would be able to run surpluses annually but would need a fiscal balance over the medium term.

Such approach could be materialised in two ways:

- to each country corresponds an account in the Fund which has to be balanced over the medium term. In case of necessity – or severe unemployment – the Fund would intervene to contribute to the expenditure on unemployment benefits, but under the

condition that the loan is paid back based on an agreement with the central authority that manages the system.

- Alternatively, countries would be allowed to run deficits/surplus vis-à-vis the EUI, even over the medium term, as long as they have to balance each other out.

We recommend sticking to the first approach. The reason is that it strikes a fair compromise between two needs: being strongly anti-cyclical and limit the scope for permanent transfers across countries.

How to achieve the balance? This could be done on the revenue as well on the expenditure side. In the first case re-balancing would occur via an automatic increase of each countries' contribution after a certain number years of deficit. Alternatively, it could be achieved on the expenditure side by automatically limiting EUI transfers, again, after a certain time. The American experience strongly pushes in favour of the former: a balancing path based on an automatic increase of the national contribution. In the US in fact, as explained in Chapter 2, states can borrow from the federal account if needed meaning that they do not receive permanent transfers from the central account. Moreover, if they fail to repay the loan the federal system is authorised to increase the employers' contribution for that state in order to accelerate the speed of the rebalancing path.

3.3 Should there be common EU standards for UB?

As explained in Chapter 1, automatic stabilisers exist in all EU countries. Europeans can actually claim having invented them: the first law to set up a public compulsory unemployment insurance system was passed in Germany under Bismarck's government in the 1880s. Certainly, difference exists in terms of generosity and coverage ratios for example but somehow what is certain in Europe is that a form of income protection is granted to a majority of workers in case they become unemployed for reasons independent of their will. One may ask therefore: wouldn't it be easier to create a common European standard rather than creating a 28+1 system? This would leave the current system intact and avoid the creation of a new ad hoc bureaucracy.

There is more than one argument in favour of this option. Aside from simplicity, harmonisation would substantially increase Europe's visibility and support thanks to the creation of a strong and perceptible social standard. Harmonisation could happen *de jure*, via for example a regulation on minimum standards for unemployment benefits, or *de facto* by setting up a unified European benefit partially or completely replacing national systems. In either ways, common standards would need to be agreed for the key dimensions of unemployment insurance: coverage rates, replacement ratios, duration and eligibility. Similar to what was suggested by the European Commission (EC 2013), a possible standard could be: 75% of unemployed workers covered, with a replacement rate of at least 50% of gross wage for 1 year and common eligibility rules.

Yet, this standard is already very ambitious. Only in term of duration, the provision of such benefit for one year would impose a change in the system of 7 countries where the duration is between 6 and 11 months²³. Moreover, the experience with harmonisation under the Council of Europe instruments proved to be quite disappointing as it boiled down to an agreement on a very short minimum duration (21 weeks, from the initial 13) for 50% of employees.

Finally and most importantly, the creation of a common standard would achieve a minimum social goal but it would fail to accomplish the macroeconomic mission of creating a supranational stabilisation mechanism but not necessarily allowing transfers between countries.

²³ Slovakia and Malta (6 months), Austria and Cyprus (7), Italy (8), Ireland and Greece (10), Portugal (11).

3.4 Additional technical issues

Three cornerstones of the EUI system have been deeply analysed in the previous two sections: the trigger together with the indicator, common standards and the fiscal rule. In this last section we go through three additional points. The first is participation: is the EUI meant for all EU countries or euro zone? And is participation compulsory or voluntary? The second is funding: whether it should be pay-as-you-go or have a funded element. The third is the interaction between the unemployment insurance and other related labour market policies, as well as other EU existing programmes related to the social domain.

3.4.1 Participation: EU28 vs Eurozone

Another issue to be discussed in the conceptualisation of a supranational unemployment insurance mechanism is its membership. Which EU countries are entitled to participate? And should membership to the system be considered compulsory or voluntary? An answer to this question is possible but, again, not simple.

Statistically speaking, the larger the group the better: a bigger group of contributors/potential users would make the fund more solid by the simple law of large numbers. A large group of contributors would entail that over a long period of time, if shocks occur randomly, everyone will benefit from participation and therefore have an interest in joining. An EU-wide scheme would also be logical from a legislative point of view as the same rule would apply to all countries²⁴.

Nonetheless, we are aware that enhanced cooperation is possible and in case of lack of agreement among 28 countries it remains a valid option. In such case, the second best outcome would be an agreement between countries that are part of the monetary union. Such group needs to include member states that, as part of their accession agreement, are deemed to join the EMU (Sweden, Poland, Czech Republic, Hungary, Romania, Bulgaria and Croatia) plus Denmark and Lithuania given that it has a fixed peg with the euro.

On the issue of voluntary versus mandatory participation, economic theory would strongly recommend to put in place a mandatory system. Such system, independently on how it is organised technically, would work as a supranational insurance between existing national insurances. In case of voluntary participation, a problem of adverse selection would arise as only those with a higher probability of recurring to it will participate. To avoid this basic microeconomic type of trap therefore, we recommend a mandatory EU or euro zone-wide type of system.

One exception could be made, again borrowed from the American experience. In the 1930s when the American system was put in place, no country was obliged to set up a national unemployment insurance policy. Yet all countries did over time because wherever no system was in place, a payroll tax was imposed to employers in any case. This created a strong incentive for all states to set up their own system and collect that tax to finance a policy they could design.

A last issue to be considered on this front is whether conditionality should be applied in the use of funds. The possibility for the supranational authority to have a say on how common funds are used would help more reluctant countries to accept the creation of a common system, especially in a situation where there is a high cross-country heterogeneity in the provision of income support in case of unemployment. A distinction needs to be made based on the type of system. Under the harmonized European unemployment benefit, proposal, there would be no need to apply conditionality as the creation of a EUI would go hand in hand with a form of

²⁴ For this reason, we base our simulation on the assumption that all EU countries join the system.

harmonisation of national systems via the creation of a common minimum standard; whereas under the catastrophic insurance conditionality could be applied. We do not recommend its application, however, in light of the fact that it would not alter calculations on volume of fiscal transfers anyway, but only influences how these are used, we leave the discussion open.

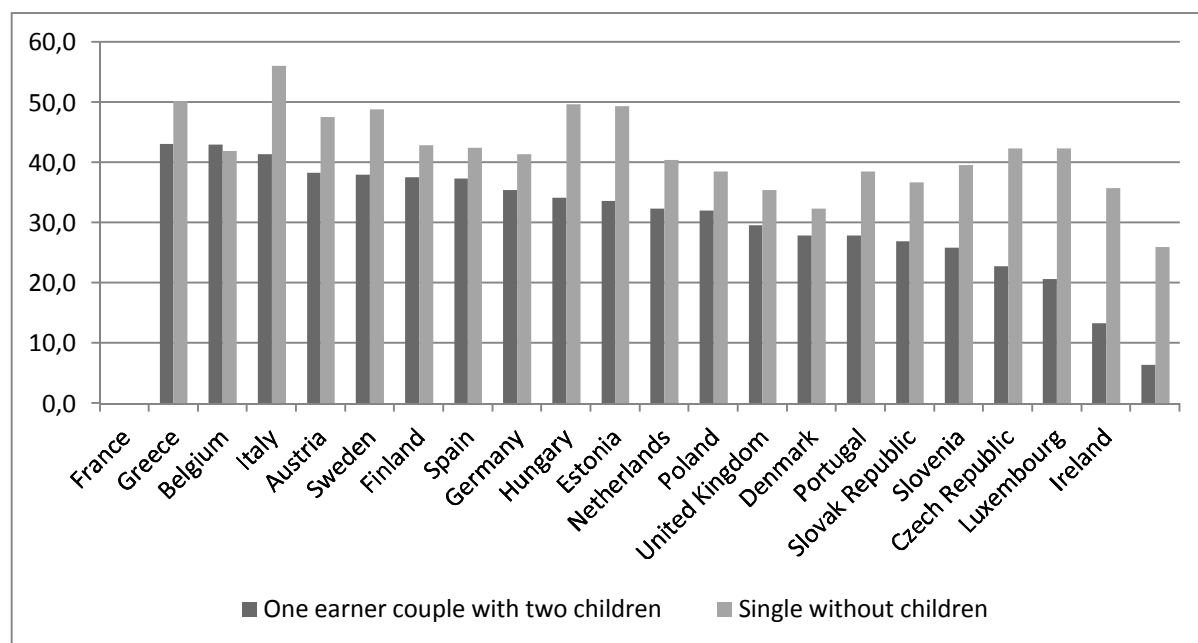
3.4.2 Revenues

For the sake of the design of sound public policies, the discussion on the revenue of the system deserves as much attention as its spending. We divide it into two sub-questions. The first concerns the type of taxation that should finance it. The second is whether the fund should be “pay-as-you-go” (PAYG) versus funded.

The necessary revenue to finance the EUI can be generated via three forms of taxation. One option is a dedicated tax on consumption or on labour. The second main alternative is a contribution from national governments’ not directly linked to a specific tax.

Given the heavy labour taxation in some member states, it is questionable whether additional labour taxation is advisable. Figure 6 shows that the tax wedge is particularly high in eurozone countries with high unemployment. Of course, one could argue that EUI labour taxation will only replace national one. However, EUI funded through labour taxation would generally tend to increase labour taxation at least in countries with high unemployment because the higher generosity of the common system as well as their higher unemployment would tend to lead to higher rates of taxation.

Figure 6. Tax wedge by family type in 2012



Sources: OECD Economic Outlook Volume 2012.

On the other hand, such option creates intuitive and robust proportion between benefits and contributions. For this reason we will base the simulation of the Dullien’s model on this type of financing.

A dedicated recurrent tax does not make sense for the catastrophic insurance model, where the benefits are highly irregular and fiscal relationship solely between the EUI and national

governments, so, in that proposal, we will propose to fund EUI through contributions by national governments not specifically linked to a certain tax.

In terms of pay-as-you-go vs funded system, the PAYG system would be based on:

- contribution equivalent to average LONG-TERM expected annual expenditure of the system
- such a system would need to make two decisions: what to make with surpluses and deficits
- in our model, we will assume that surpluses will be retained to cover future deficits and that deficits will be covered by a bridging loan

In other words, even PAYG system can deliver surpluses and deficits that lead to an accumulated fund or liability, but they are incidental and temporary.

On the other hand, a funded system would be based on:

- annual contribution that would be paid until a predetermined amount is accumulated
- contributions would be restarted only if contributions fell below the threshold again

The accumulation of funding would thus be by design.

PAYG is less costly than a funded system during the initial period as it does not seek to accumulate a pile of cash first. However, funded system can be more easily anticyclical both for individual countries and the system as a whole.

3.4.3 Implications for other programmes

Unemployment insurance at the national level funds not only passive labour market policy (i.e. unemployment benefits), but also active labour market policy measures. Therefore, a logical question is whether and how the European system should incorporate that.

For a variety of reasons, we do not recommend that the EUI incorporate active labour market policy financing. Given the role of other European financial instruments and the role of other European policy instruments, this would only add to complications. Therefore, our proposals are based on expectations that other programs would continue.

Nevertheless, the creation of a EUI raises the opportunity to revisit existing instruments at European level in the social domain and offers the possibility to re-discuss them in order to create a coherent system of European social policies. It was argued in chapter one that by no means neither the European Social Fund nor the Globalisation Adjustment Fund can overlap with the EUI. However, if put together they could create the backbone of European labour market policies, in a way that is consistent with flexicurity principles. The EUI would ensure income protection, whereas the ESF would focus on employment (or re-employment) protecting by contributing to the funding of active labour market policies. The GAF would then continue to be used to facilitate structural adjustments which hit more harshly special categories of workers, such as blue-collars and the low-skilled.

4. European Unemployment Insurance - simulation results

In this chapter we analyse in detail the two main existing proposals for the set up of a European system of unemployment benefits. We will show what size of expenditure and necessary revenues these two options would entail. Before moving to this and independently on the exact design, it is worth summarising the ideal characteristics of such system. There are obviously many trade-offs but considered that insurance schemes have been in place in Europe for more than a century, enough has been learned from experience to design an appropriate mechanism. In our opinion, ideally, the EUI should:

- Be organised in such way that each country has its funds balanced over the cycle
- Involve all EU member states
- Is based on mandatory participation

We present results of our Excel-based simulations of how the European unemployment insurance would work. We quantify 4 scenarios as shown in the following table. These scenarios present two radically different versions of the EUI and then tweak them. Option 1 is the harmonised European unemployment benefit, which would cover all eligible EU citizens and at least partially replace current national unemployment insurance. Option 2 is the catastrophic unemployment insurance for states, where national unemployment insurance systems would remain intact, but member states would get financial assistance from the EU system only if they experienced a big negative unemployment shock. For both options, we quantify a simple version (called a/) and a version with long-term country-level budgetary neutrality (called b/). The second option was added to allow avoiding transfer union if that is an important policy objective in setting up the system.

Table 5. Matrix of scenarios explored in the chapter:

	No long-term country-level budgetary neutrality	Long-term country-level budgetary neutrality
Harmonised European unemployment benefit	Option 1a	Option 1b
Catastrophic unemployment insurance	Option 2a	Option 2b

Source: Authors' elaboration.

We focused on two principles in setting up the options: simplicity and comparability. Simplicity means that we tried to keep the option design as simple as possible to allow readers to understand how the simulation works. Comparability means setting up both options and both approaches to country-level budgetary neutrality in a similar way and calibrating them similarly. This enables us to easily compare them and see similarities as well as differences.

The simulation is based on historical data, starting in 1999 and ending in 2012, which gives us 14 years of the simulation. For some countries, there are some missing values, but this does not materially influence results. Thus, the simulation shows how the EUI would have worked if these mechanisms would have existed at the time. Since it is an intellectual exercise, it includes

countries that joined in the 2004 and 2007 waves (and Croatia in 2013) as if they had been EU members at the time. The point is to show potential effects of EUI based on historical data as a counterfactual, not to simulate history. The decision to start in 1999 was based on a combination of data availability (particularly for the new member states) and the symbolism of euro zone start in 1999.

Calibration of the EUI expenditure (generosity) was based on findings in Chapters 2 and 3. Calibration of the EUI revenue was set up to achieve rough financial balance over the long run.

For each option, we show:

- The size of the contribution to the system
- The size of the contribution paid by the system to the country
- The annual balance at the country-level, i.e. the net stimulus provided by EUI
- The cumulative balance, i.e. long-term balance of each country vis-a-vis the EUI

On top of this, we also illustrate revenues, expenditures, annual and cumulative balance for the system as a whole.

From a methodological point of view, it should be emphasized that Excel-based simulation has advantages and limits. The key advantage is that we can simulate a variety of options at both the EU and country level with limited resources and quickly. It is suitable for calculation of revenues and expenditures and to give a flavour of how important the system would be compared to the existing national stabilisers.

On the other hand, it is not a general or partial equilibrium model that would show dynamic effects of such a system on the member states, nor for the EU economy as a whole. Nonetheless, what emerges from the simulation is that the size of the stimulus would in any case be not large enough to have material substantial second-order effects.

As a source of data, we used AMECO, the annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs.

For some countries, we had to simulate short-term unemployment data for some years. This was done by calculating share of short-term unemployment in overall unemployment for available years and then extrapolating for missing years from the overall unemployment.

Before presenting the fiscal effects of the simulation, let us now present comparison of the generosity of the simulated European unemployment insurance with current national systems. We present it here because we use the same level of generosity for both options though under Option 2 the national governments would NOT be required to spend the money in this way.

Table 6. Comparison of proposed EUI with actual national unemployment insurance systems as of 2010

	Gross replacement rate*	Gross replacement rate**	Coverage (% of LF)	Duration (in weeks)
Austria	0.40	0.32	0.68	30
Belgium	0.50	0.37	0.66	-
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
EUI	NA	0.40	0.75	24

*Ratio with denominator gross wages (Source: SPIN).

** converted to ratio with total compensation as denominator (Source: AMECO).

Source: European Commission and SPIN database.

As we can see, the proposed coverage ratio in the EUI system is above most non-euro zone member states with the exception of Sweden, the Czech Republic, Hungary and the United Kingdom (being equal to Latvian ratio). Within the euro zone, the group is split evenly with 8 below and 9 above the 75% coverage ratio.

The maximum duration of entitlements has been chosen at the lower threshold for the euro zone, neglecting the outlier Lithuania. The most controversial item, the replacement ratio, is set at 40% relative to total compensation. This is closer to the higher hand than to the lower one of the distribution, which within the EU is very heterogeneous.

4.1 OPTION 1: Harmonised European unemployment benefit

What in the simulation is called 'option 1' is the harmonised European unemployment benefit (see chapter 1 for a summary of existing proposals). The harmonised system applies automatically to every eligible unemployed person.

We quantify the following scenario: The joint European benefits system would

- Apply to short-term unemployed workers. Therefore our reference unemployed population does not include all unemployed workers, but those that have been so for less than one year. We set the maximum duration of benefit to 6 months.
- The coverage ratio is set at 75%, meaning that among those unemployed for less than a year, three quarters are eligible to receive benefits.

- The benefit is equivalent to 40% of the average monthly national nominal compensation. It should be noted that 40% of nominal compensation is not as low as it sounds since it is calculated not from a gross wage, but from nominal compensation, which includes also employer social security contributions.

The member state would be free to set legibility rules and replacement rate. If the cost would be less than the formula, the member state would receive the actual amount. If the cost would be higher than the formula, the member state would receive amount equivalent to the 75% * 40% formula. This would avoid difficult-to-achieve formal harmonization while ensuring that there would be de facto harmonization since member states would be incentivized to set up the system in a way that is close to the 75%*40% formula. In other words, more generous systems would be allowed but on top of the harmonised one.

$$\text{Gross Expenditure} = 0.75 U_{12\text{months}} \times 0.4 \text{ MNCE} \times 6 \text{ months}$$

Where U stands for unemployment and MNCE indicates the monthly nominal compensation per employee.

How would be the system financed? We choose as source of funding a dedicated labour taxation equivalent to 0.5% of nominal compensation. The rate was set up to roughly balance the system as shown in this chapter.

$$\text{Gross Revenue} = (LF - U) \times 0.5\% \text{ MNCE} \times 12 \text{ months}$$

As previously anticipated, we present two versions of such system. In the first (called 'option 1a) the system does not require a country-level neutral budgetary position. In other words, countries can be permanently in deficit or surplus vis-a-vis the system without any corrective mechanisms. This represents a truly European system, which essentially ignores boundaries in the fiscal sense and able to redistribute resources in case of shocks.

We correct such system in the so-called simulation 1b where each country needs to restore a neutral budgetary position. In which way? Fiscal neutrality would be achieved by doubling the contribution rate from 0.5% to 1% of the base for countries which have a cumulative deficit with the system of at least 1% of GDP. The double contribution rate would stop once the cumulative deficit declines below 1% of GDP²⁵.

The choice of the medium to long-run is due to the fact that a quicker adjustment would hinder the stabilisation capacity by imposing a fiscal effort to countries that are already facing difficulties due to high unemployment rates.

4.1.1 The harmonised unemployment system with no fiscal rule (option 1a)

As previously anticipated, for each of the four scenarios we show:

- system revenues by country (who pays how much in)
- system expenditure by country (who gets how much out)
- annual balance at the country-level, i.e. the net stimulus provided by EUI
- cumulative balance, i.e. long-term balance of each country with EUI
- revenues, expenditures, annual and cumulative balance for the system as a whole

We start with revenues by country as % of GDP for the period 1999-2012, which result from a contribution of 0.5% of nominal compensation of employees for each worker. Given that they

²⁵ Alternatively, the stop could be set to balance – 0% of GDP. This would not have much of an effect on the current simulation.

tend to be stable over time, we do not show the annual values, but only the minimum value achieved over the entire period, the maximum value and the mean.

The mean value oscillates between 0.24 and 0.36, with Luxembourg as the only exception. The total range for all countries and all years oscillates between 0.22% and 0.39% of GDP, again with Luxembourg as the only exception.

Given that the contribution mechanism is set up as the same percentage of nominal compensation, differences primarily reflect different shares of labour compensation in GDP. In that sense, it is mildly ant cyclical as it tends to decline in periods of high unemployment, but only to a limited extent.

The countries with highest contribution over the whole period are Netherlands (0.36%), Austria (0.33%), Belgium, France Romania, Slovenia and United Kingdom (all 0.31%). On the other end are Luxembourg (0.16%), Hungary and Lithuania (0.24%), Bulgaria, the Czech Republic, Ireland, Latvia and Poland (all 0.25%). Figures are presented in Table 7.

Table 7. EUI annual revenues by country, minimum, maximum and mean value, % of GDP

	min	max	mean
Belgium	0.3	0.32	0.31
Bulgaria	0.23	0.27	0.25
Czech Republic	0.23	0.26	0.25
Denmark	0.28	0.31	0.29
Germany	0.28	0.3	0.29
Estonia	0.24	0.29	0.26
Ireland	0.23	0.28	0.25
Greece	0.25	0.29	0.27
Spain	0.29	0.31	0.3
France	0.31	0.32	0.31
Croatia	0.28	0.31	0.29
Italy	0.27	0.31	0.29
Cyprus	0.27	0.3	0.28
Latvia	0.23	0.28	0.25
Lithuania	0.22	0.27	0.24
Luxembourg	0.14	0.18	0.16
Hungary	0.23	0.25	0.24
Malta	0.25	0.26	0.26
Netherlands	0.35	0.38	0.36
Austria	0.32	0.34	0.33
Poland	0.23	0.29	0.25
Portugal	0.28	0.3	0.29
Romania	0.27	0.39	0.31
Slovenia	0.3	0.33	0.31
Slovakia	0.22	0.25	0.23
Finland	0.27	0.3	0.28
Sweden	0.28	0.3	0.29
United Kingdom	0.3	0.32	0.31

Source: Authors' elaboration based on AMECO data.

Expenditure figures, as percentage of GDP, are presented in Table 8. Already a quick glance at the data shows that expenditure oscillates much more than the revenue and thus provides the main anti-cyclical element. It exceeds 0.5% of GDP in the worst year for Estonia (0.76%), Ireland (0.57%), Greece (0.73%), Spain (1.3%), Cyprus (0.58%), Latvia (0.89%), Lithuania (0.72%), Poland (0.66%) and Portugal (0.59%). However, only for Spain does this translate into mean expenditure over the period that is larger than 0.5% of GDP (0.71%). For the rest, increased expenditure is a temporary phenomenon, reflecting primarily though not exclusively the period of Great Recession.

Table 8. EUI annual expenditure by country, minimum, maximum and mean value, % of GDP

	min	max	mean
Belgium	0.18	0.3	0.25
Bulgaria	0.13	0.43	0.28
Czech Republic	0.13	0.28	0.21
Denmark	0.15	0.36	0.25
Germany	0.2	0.36	0.29
Estonia	0.13	0.76	0.36
Ireland	0.13	0.57	0.25
Greece	0.24	0.73	0.35
Spain	0.43	1.3	0.71
France	0.3	0.42	0.36
Croatia	0.16	0.44	0.33
Italy	0.18	0.35	0.24
Cyprus	0.16	0.58	0.27
Latvia	0.25	0.89	0.42
Lithuania	0.18	0.72	0.42
Luxembourg	0.07	0.15	0.11
Hungary	0.18	0.37	0.25
Malta	0.14	0.19	0.16
Netherlands	0.11	0.25	0.17
Austria	0.2	0.29	0.24
Poland	0.25	0.66	0.45
Portugal	0.16	0.59	0.29
Romania	0.14	0.3	0.22
Slovenia	0.16	0.38	0.26
Slovakia	0.15	0.46	0.3
Finland	0.28	0.46	0.37
Sweden	0.23	0.4	0.3
United Kingdom	0.19	0.34	0.24

Source: Authors' elaboration based on AMECO data.

Table 9 presents average annual and cumulative balance of each country vis-à-vis the system. The first column shows average annual balance for the whole period (1999-2012). The second column shows average annual balance for the period prior to the Great Recession (1999-2008). The third column shows the average annual balance for the Great Recession period and its aftermath (2009-2012).

We see that during the good times, only Spain and Poland had larger annual negative balance – 0.22% and 0.21% of GDP. By the same token, only the Netherlands had significant average annual surplus (0.21%). After 2009, Estonia, Greece, Spain, Latvia and Lithuania exceed average annual negative balance of more than 0.2% of GDP. During this period, no country has an average surplus of more than 0.2% of GDP.

However, even smaller surpluses or deficits can accumulate into larger totals over a period of more than a decade. If we set 1% of GDP as the threshold for triggering the increase in the contribution, then Greece, Spain, Latvia, Lithuania, Poland and Finland accumulate deficits of such magnitude that in option 1b turn trigger an increase in the contribution.

Malta, Netherlands and Austria instead cumulatively contribute more than 1% of 2012 GDP compared to what they pay in.

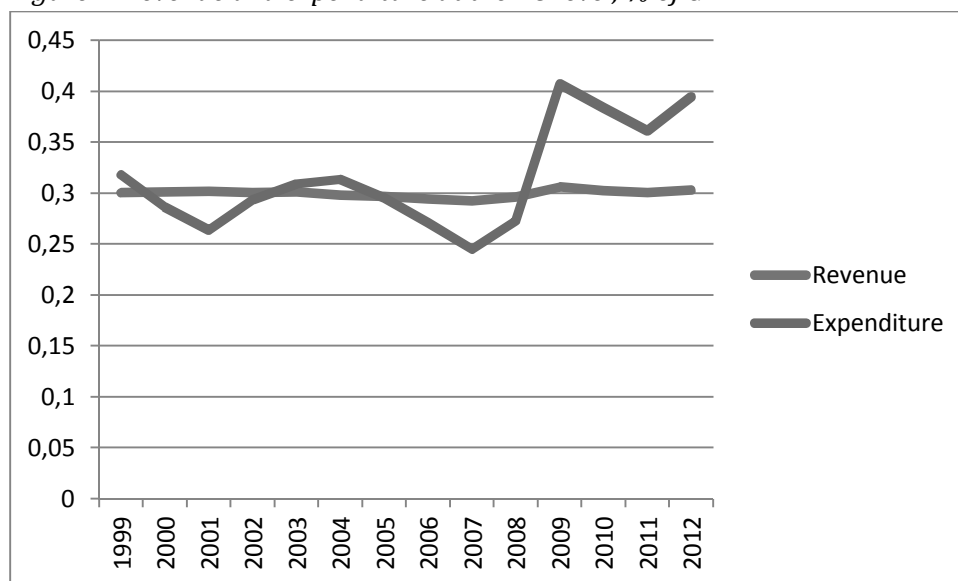
Table 9. EUI average annual balance and cumulative balance by country, % of GDP

	Average annual balance 1999-2012	Average annual balance 1999-2008	Average annual balance 2009-2012	Cumulative balance (% of 2012 GDP)
Belgium	0.06	0.08	0.03	0.70
Bulgaria	-0.03	-0.03	-0.03	-0.13
Czech Republic	0.03	0.05	-0.01	0.35
Denmark	0.04	0.08	-0.04	0.48
Germany	0.00	-0.02	0.05	0.07
Estonia	-0.10	-0.05	-0.25	-0.88
Ireland	0.00	0.07	-0.18	-0.03
Greece	-0.08	0.00	-0.28	-1.16
Spain	-0.41	-0.22	-0.88	-5.36
France	-0.05	-0.03	-0.08	-0.55
Croatia	-0.04	-0.04	-0.03	-0.30
Italy	0.05	0.06	0.01	0.59
Cyprus	0.02	0.07	-0.13	0.03
Latvia	-0.17	-0.10	-0.36	-1.70
Lithuania	-0.18	-0.11	-0.33	-1.57
Luxembourg	0.05	0.06	0.03	0.45
Hungary	-0.01	0.04	-0.13	-0.27
Malta	0.10	0.10	0.09	1.05
Netherlands	0.20	0.21	0.15	2.34
Austria	0.10	0.10	0.10	1.12
Poland	-0.20	-0.23	-0.11	-1.65
Portugal	0.00	0.07	-0.17	-0.15
Romania	0.09	0.12	0.02	0.73
Slovenia	0.06	0.09	-0.03	0.63
Slovakia	-0.07	-0.07	-0.06	-0.37
Finland	-0.09	-0.10	-0.08	-1.00
Sweden	-0.01	0.01	-0.07	-0.18
United Kingdom	0.07	0.09	0.01	0.87

Source: Authors' elaboration based on AMECO data.

We aggregate figures to present the overall balance at the EU level. Figure 7 shows revenues and expenditures for the whole system as % of GDP. We can see that while the revenues are essentially flat around 0.3% of GDP, expenditures oscillate much more – between 0.25% just prior to the Great Recession and 0.4% during most of it. Expenditure is therefore sensitive to the business cycle, in an anti-cyclical fashion as it is supposed to be, whereas revenues are rather constant.

Figure 7. Revenue and expenditure at the EU level, % of GDP

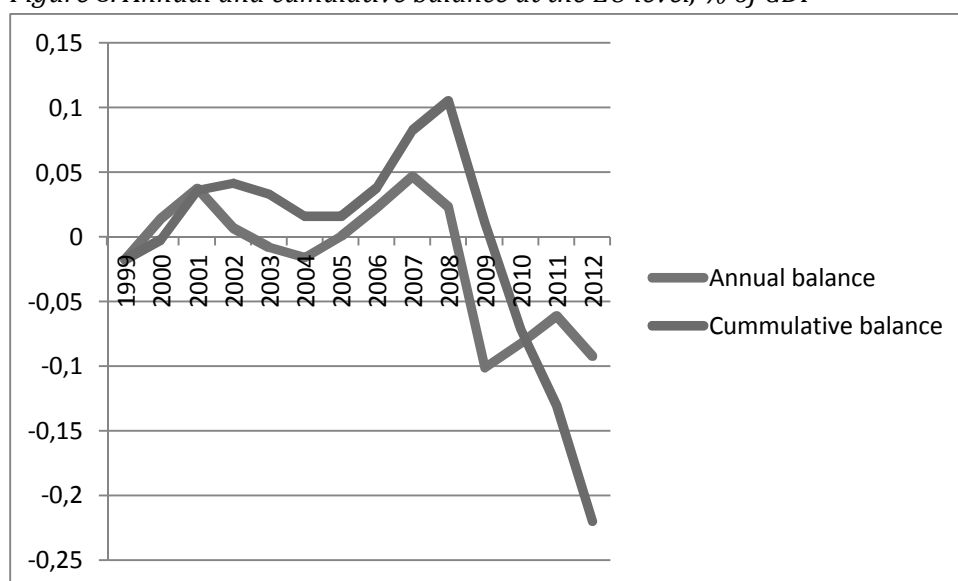


Source: Authors' elaboration based on AMECO data.

Figure 8 shows annual and cumulative balance at the EU level. The annual balance line is unsurprising as it is essentially the difference between revenue and expenditure in the first chart. It is mildly positive most of the years before the Great Recession and then it falls in the negative territory, showing annual deficits between 0.05% and 0.1% of GDP.

A more interesting piece of information is the cumulative balance of the whole system expressed as a percentage of a given year's GDP. Had the system been in place since 1999, the EUI would not have required additional financial injection after its start. Indeed, it would have accumulated reserves all the way up to 2008. However, the reserves would then all be spent in 2009 and the cumulative deficit would continue increasing during the 2010-2012 period. This raises the issue of additional financing needs of EUI under such circumstances. Given the system performance prior to 2009, there could be a reasonable expectation that the money would be recovered over the long run, but the interim period could be an extended one.

Figure 8. Annual and cumulative balance at the EU level, % of GDP



Source: Authors' elaboration based on AMECO data.

4.1.2 The harmonised unemployment system with long-term country-level neutral budgetary position (option 1b)

We now move from option 1a to option 1b. The two differ by a single but crucial element: we now have a system that aims to be balanced in the medium- to long-run for each member state. This entails that a state can run yearly deficit vis-à-vis the system in case of recessions, but needs to repay the loan in the medium-long-run. As a consequence, redistribution between countries is allowed but only temporarily.

The rebalancing is achieved by doubling the contribution rate from 0.5% to 1% of the base for countries, which have a cumulative deficit with the system of at least 1% of GDP. The double contribution rate would stop once the cumulative deficit returns again below 1% of GDP.²⁶

For this option, we do not provide expenditure data on the country basis since the expenditure is identical to Option 1a – the difference lays on the revenue side.

Table 10 shows revenues by country as percentage of GDP for the period 1999-2012. As with the previous option, we show the minimum value achieved annually, the maximum value and the mean. The bottom values remain the same as in Option 1a – if we take out Luxembourg, then 0.22% of GDP is the lowest any country pays in any year (Slovakia), and 0.23% of GDP as the lowest average contribution by a country (also Slovakia).

To repeat from 1a – given that the contribution mechanism is set up as the same percentage of nominal compensation, differences primarily reflect different shares of labour compensation in GDP. In that sense, it is mildly anti-cyclical as it tends to decline in periods of high unemployment, but only to a limited extent.

Table 10. EUI annual revenues by country, minimum, maximum and mean value, % of GDP

	min	max	mean
Belgium	0.3	0.32	0.31
Bulgaria	0.23	0.27	0.25
Czech Republic	0.23	0.26	0.25
Denmark	0.28	0.31	0.29
Germany	0.28	0.3	0.29
Estonia	0.24	0.29	0.26
Ireland	0.23	0.28	0.25
Greece	0.25	0.29	0.27
Spain	0.29	0.62	0.43
France	0.31	0.32	0.31
Croatia	0.28	0.31	0.29
Italy	0.27	0.31	0.29
Cyprus	0.27	0.3	0.28
Latvia	0.23	0.49	0.3
Lithuania	0.23	0.44	0.28
Luxembourg	0.14	0.18	0.16
Hungary	0.23	0.25	0.24
Malta	0.25	0.26	0.26
Netherlands	0.35	0.38	0.36

²⁶ Alternatively, the stop could be set to balance – 0% of GDP. This would not have much of an effect on the current simulation.

Austria	0.32	0.34	0.33
Poland	0.23	0.53	0.32
Portugal	0.28	0.3	0.29
Romania	0.27	0.39	0.31
Slovenia	0.3	0.33	0.31
Slovakia	0.22	0.25	0.23
Finland	0.27	0.3	0.28
Sweden	0.28	0.3	0.29
United Kingdom	0.3	0.32	0.31

Source: Authors' elaboration based on AMECO data.

Where it gets different and interesting of course is with regard to maximum values. Given their accumulated deficit of more than 1% of GDP at some point, Spain, Latvia, Lithuania and Poland have to contribute more for a period of time. For Spain, this applies to year 2005 and the period from 2008 on. Latvia has to double its contributions in 2010 and afterwards, Lithuania in 2011 and 2012. For Poland, the relevant period is 2003-2006. In 2013, they would be joined by Greece, which hit a cumulative deficit of 1.16% of GDP in that year. This also shows the disadvantage of the balancing system. The 1% benchmark provides breathing space when a country pays regular contributions but receives much higher benefits, but if there is a sustained spell of high unemployment, the doubled contributions can erase the anti-cyclical impact in those later years.

The annual and cumulative balance numbers do not change for most countries, meaning that they do not cross the 1% soil. Both their revenues and expenditures stay the same compared to Option 1a. However, for the 4 countries mentioned above, the need to contribute more improves their balance vis-à-vis the system.

Table 11. EUI average annual balance and cumulative balance by country, % of GDP

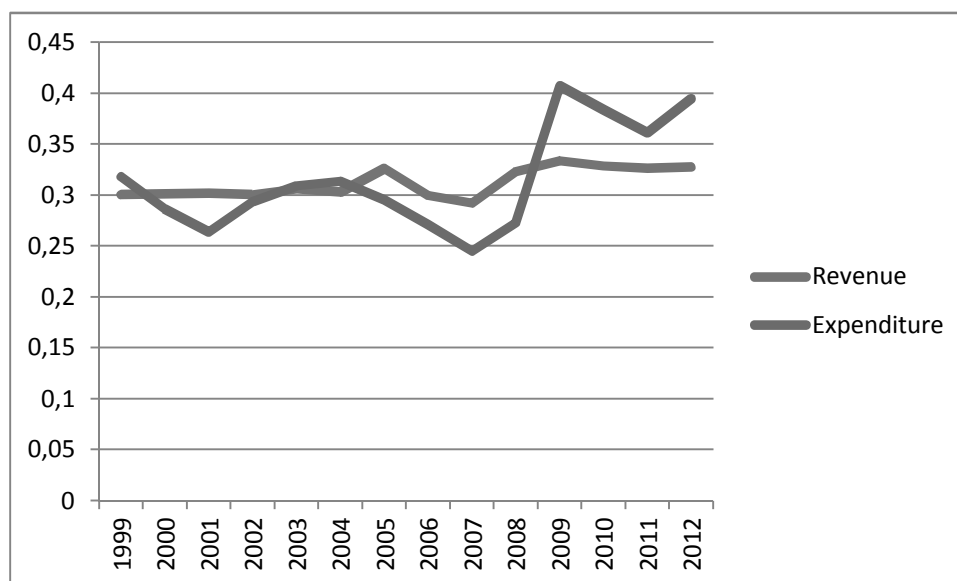
	Average annual balance 1999-2012	Average annual balance 1999-2008	Average annual balance 2009-2012	Cumulative balance (% of 2012 GDP)	OPTION 1a cumulative balance (% of 2012 GDP)
Spain	-0.28	-0.16	-0.58	-3.54	-5.36
Latvia	-0.12	-0.10	-0.19	-1.06	-1.70
Lithuania	-0.14	-0.11	-0.22	-1.14	-1.57
Poland	-0.13	-0.13	-0.11	-1.06	-1.65

Source: Authors' elaboration based on AMECO data.

The increased revenue ensures that, during good times, no country has an average annual deficit of 0.2% of GDP or more (in Option 1a, Poland and Spain fulfilled this). It also ensures that the cumulative balance is cut from 5.36% of GDP to 3.54% of GDP for Spain and from the 1.5-1.7% range to the 1-1.2% for the 3 others. Of course, the decrease would further continue in the years 2013 and later.

The increased revenue for certain countries also increases system-wide revenues in certain years as we can see in the following chart. Compared to Option 1a, the expenditure profile stays the same, but we see a slight increase in revenue in early to mid-2000 due to higher Spanish and Polish contributions and then much higher contribution starting from 2009 on.

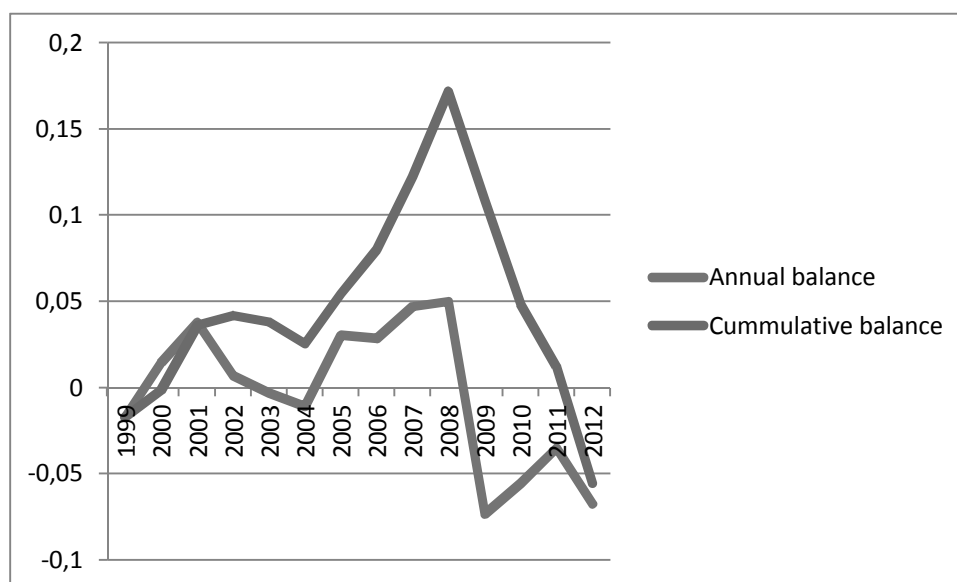
Figure 9. Revenue and expenditure at the EU level, % of GDP



Source: Authors' elaboration based on AMECO data.

This leads to higher annual surpluses in the good times and smaller annual deficits during the Great Recession as Figure 10 shows. It also makes the system much more solvent – despite the Great Recession, it would be only in 2012 when it would require additional injection.

Figure 10. Annual and cumulative balance at the EU level, % of GDP



Source: Authors' elaboration based on AMECO data.

4.2 The catastrophic unemployment insurance system

We call Option 2 the catastrophic unemployment insurance. The insured identity is not the single worker at risk of unemployment, as in Option 1, but states, or, more precisely national insurance funds. The basic idea is to transfer funds to finance unemployment benefits from the centre to the periphery when unemployment is measurably higher than normal.

In our simulation, the assistance is triggered when the unemployment rate is higher than NAWRU by 2 percentage points in a certain country. The choice of the trigger is arbitrary and smaller values could be chosen²⁷. However, such value is consistent with the idea of the catastrophic system intervening only in exceptional circumstances – in other words major increase in the unemployment rates.

The pay-out is a subsidy to national budget equivalent to sum of all unemployment benefits for a 6-month benefit period calculated on the same basis as Option 1 (40% of nominal compensation, 75% of unemployed of less than 1 year covered). The pay-out would not be conditional – gross transfers from EUI can be used as national governments see fit (though of course if conditionality were imposed, this would have no impact on the fiscal calculations that follow).

The insurance would be funded by member states' contributions. These would amount to 0.1% of GDP annually until 0.5% of EU GDP is accumulated. Then contributions would stop and would be restarted if the fund fell again under 0.5% of the Union's output.

On the expenditure side, we model the following rule: if difference between the annual unemployment rate and NAWRU in each country is higher than 2%, then the country in question receives a pay-out equal to 75% of unemployed workers (below 12 months) multiplied by 40% of their average nominal compensation.

$$\text{if } U_{t,i} - \text{NAWRU} > 2 \Rightarrow \text{Country pay} - \text{out}_{i,t} = 0.4 \text{ MNCE} \times 0.75 U$$

As with Option 1, we present results for the two versions of this second option. In the first (Option 2a), no fiscal rule is applied. In other words, countries can be permanently in deficit or surplus vis-à-vis the system without any corrective mechanisms. This represents a truly European system, which essentially ignores boundaries in the fiscal sense, and also a real insurance based on the idea that such shock is randomly distributed.

In the second version (Option 2b) countries are required to maintain a neutral budgetary position. The system would aim to be balanced in the medium- to long-run for each member state. This would be achieved by setting an additional contribution of 0.2% of GDP payable annually for countries which have a cumulative deficit with the system of at least 1% of GDP. The additional contribution is due every year regardless of whether the regular contribution is being paid and would stop once the cumulative deficit declines below 1% of GDP.²⁸

4.2.1 The catastrophic insurance scheme with no fiscal rule (option 2a)

As with Options 1a and 1b, we show detailed results of our simulation. This includes:

- system revenues by country (who pays how much in)
- system expenditure by country (who gets how much out)
- annual balance at the country-level, i.e. the net stimulus provided by EUI
- cumulative balance, i.e. long-term balance of each country with EUI
- revenues, expenditures, annual and cumulative balance for the system as a whole

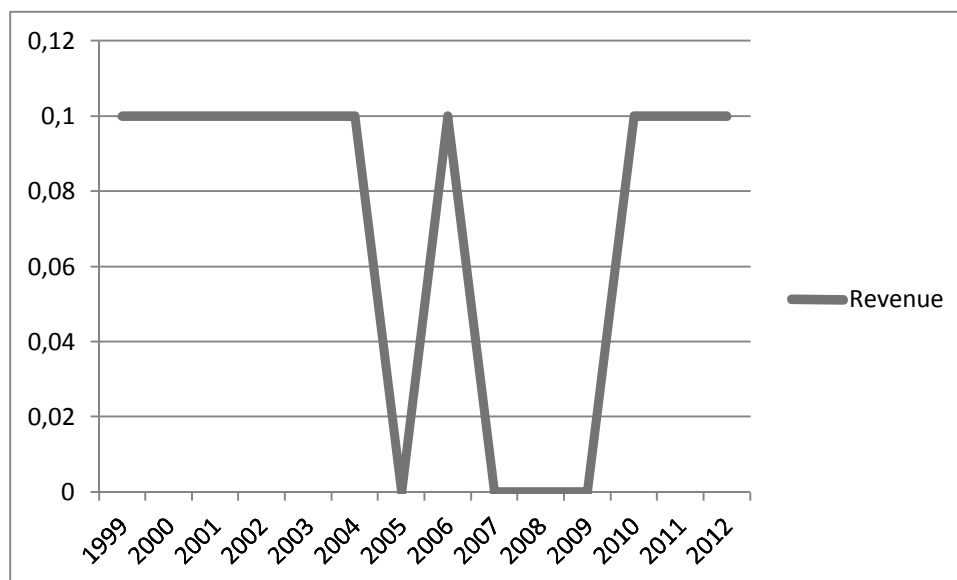
Revenues are easily counted in this case since every country pays the same – 0 or 0.1% of GDP depending on the aggregate balance of the fund. Between 1999 and 2004, all countries pay to gradually build up the fund. Then between 2005 and 2009, we see the stop-and-start mechanism

²⁷ Values bigger than NAWRU + 2 would instead make no sense as they would apply to an extremely limited number of cases.

²⁸ Alternatively, the stop could be set to balance – 0% of GDP. This would not have much of an effect on the current simulation.

of contributions and at the same time only minor or no pay-outs. The situation changes in 2010, contributions restart on a sustained basis to replenish the fund.

Figure 11. EUI annual revenues for each country, % of GDP



Source: Authors' elaboration based on AMECO data.

The clear difference between the two scenarios is that the contribution demanded for the catastrophic insurance is much smaller compared to the harmonised system. We see that the mechanism is indeed much smaller – on average 0.07% of GDP annually and that included building up the fund. In years since the 0.5% GDP was reached (2006), it would have been only 0.05% of GDP on average.

The pay-outs are much more varied and many member states would not have received any during the period since their unemployment rate stayed below the trigger. However, countries that receive a pay-out receive support that is comparable in size to the harmonised scheme. As a consequence:

- the stabilising effect of the catastrophic insurance is bigger due to the fact that a similar premium is received for a smaller annual contribution
- the same goal is achieved for a smaller cost with the catastrophic insurance scheme

We provide in Table 12 detailed information on the annual expenditure, dividing the pre and post-crisis periods.

Table 12. EUI annual expenditure by country, overall, since 2009 and the maximum value, % of GDP

	Total pay-out 1999-2012	Total pay-out 2009-2012	Highest annual pay-out
Belgium	0.00	0.00	0.00
Bulgaria	0.80	0.00	0.43
Czech Republic	0.00	0.00	0.00
Denmark	0.36	0.36	0.36
Germany	0.00	0.00	0.00
Estonia	1.46	1.46	0.76
Ireland	1.76	1.76	0.57
Greece	1.94	1.37	0.73
Spain	4.75	4.75	1.30

France	0.00	0.00	0.00
Croatia	0.00	0.00	0.00
Italy	0.00	0.00	0.00
Cyprus	0.00	0.00	0.00
Latvia	2.43	2.43	0.89
Lithuania	3.66	2.26	0.72
Luxembourg	0.00	0.00	0.00
Hungary	0.00	0.00	0.00
Malta	0.00	0.00	0.00
Netherlands	0.00	0.00	0.00
Austria	0.00	0.00	0.00
Poland	2.27	0.00	0.66
Portugal	0.00	0.00	0.00
Romania	0.00	0.00	0.00
Slovenia	0.00	0.00	0.00
Slovakia	0.89	0.00	0.46
Finland	0.00	0.00	0.00
Sweden	0.00	0.00	0.00
United Kingdom	0.00	0.00	0.00

Source: Own elaboration based on AMECO data.

The countries receiving more than 1% of GDP overall are: Estonia (1.46%), Ireland (1.76%), Greece (1.94%), Spain (4.75%), Latvia (2.43%), Lithuania (3.66%) and Poland (2.27%). The vast majority of pay-outs for these countries occurred since 2009, but there are exceptions (Lithuania 2000-2002, Poland 2002-2005, Greece 1999-2000).

If we look at total balance, we get a similar though more sophisticated picture. Only for Spain is the total annual average balance more than 0.2% of GDP (0.27%) and only for Latvia and Lithuania is it more than 0.1% (0.1% and 0.19% respectively). This illustrates how the system is less likely than Option 1 to produce significant long-term beneficiaries even without additional contributions (which will be added in Option 2b). By design, it is impossible for any country to be a net payer of the order of magnitude of 0.2% of GDP and more for any sustained period of time.

However, during the Great Recession and its aftermath, Estonia, Ireland, Greece, Spain, Latvia and Lithuania all received on average more than 0.2% GDP annually more than they paid in. Spain (4%), Latvia (1.52%) and Lithuania (1.95%) also accumulated a total negative cumulative balance of more than 1% of GDP by 2012. No country accumulates more than 1% of GDP of cumulative surplus though Portugal and some other countries come close. The Portuguese case also demonstrates one disadvantage of this option – a country with consistently poor performance can be in a situation where its deviation from its „normal“ is never large enough to warrant assistance and it ends up as a net payer despite its significant suffering.

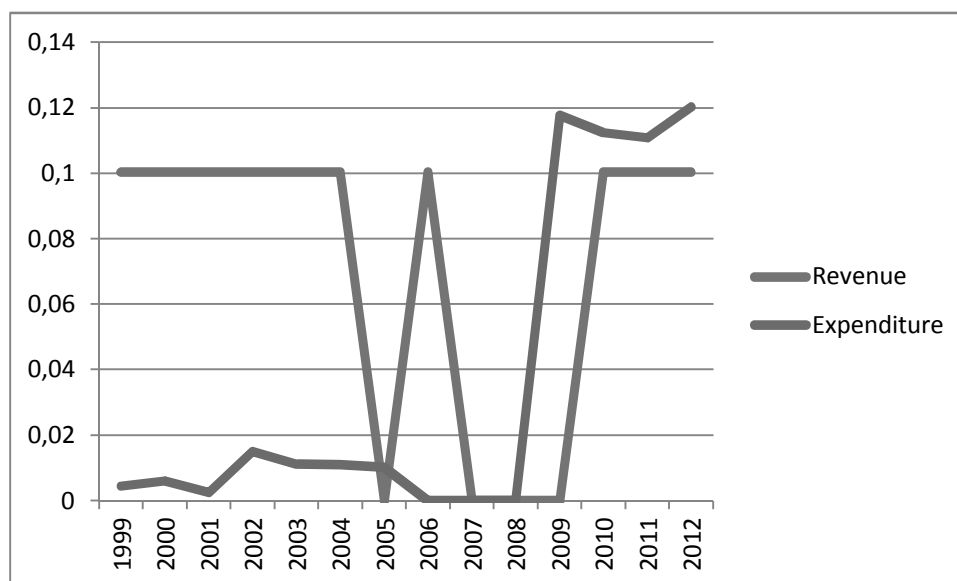
Table 13. Annual balance overview

	Average annual balance 1999-2012	Average annual balance 1999-2008	Average annual balance 2009-2012	Cumulative balance (% of 2012 GDP)
Belgium	0.07	0.07	0.08	0.80
Bulgaria	0.01	-0.01	0.08	0.28
Czech Republic	0.07	0.07	0.08	0.67
Denmark	0.05	0.07	-0.01	0.48
Germany	0.07	0.07	0.08	0.85
Estonia	-0.03	0.07	-0.29	-0.58
Ireland	-0.05	0.07	-0.36	-0.88
Greece	-0.07	0.01	-0.27	-0.91
Spain	-0.27	0.07	-1.11	-4.00
France	0.07	0.07	0.08	0.83
Croatia	0.07	0.07	0.08	0.76
Italy	0.07	0.07	0.08	0.88
Cyprus	0.07	0.07	0.08	0.75
Latvia	-0.10	0.07	-0.53	-1.52
Lithuania	-0.19	-0.07	-0.49	-1.95
Luxembourg	0.07	0.07	0.08	0.70
Hungary	0.07	0.07	0.08	0.79
Malta	0.07	0.07	0.08	0.76
Netherlands	0.07	0.07	0.08	0.84
Austria	0.07	0.07	0.08	0.80
Poland	-0.09	-0.16	0.08	-0.59
Portugal	0.07	0.07	0.08	0.90
Romania	0.07	0.07	0.08	0.58
Slovenia	0.07	0.07	0.08	0.80
Slovakia	0.01	-0.02	0.08	0.29
Finland	0.07	0.07	0.08	0.81
Sweden	0.07	0.07	0.08	0.75
United Kingdom	0.07	0.07	0.08	0.90

Source: Own elaboration based on AMECO data.

At the EU level, the system is much more volatile on both the revenue and the expenditure side than Option 1 as befits a catastrophic insurance system. The following chart shows that revenues for the whole system are identical to national-level revenues shown above. Expenditures are quite low during the ‘good times’, with small pay-outs of less than 0.02% of EU GDP between 1999 and 2008 and a few years of no pay-outs. Since 2009, the system would be paying out between 0.11 and 0.12% of EU GDP annually.

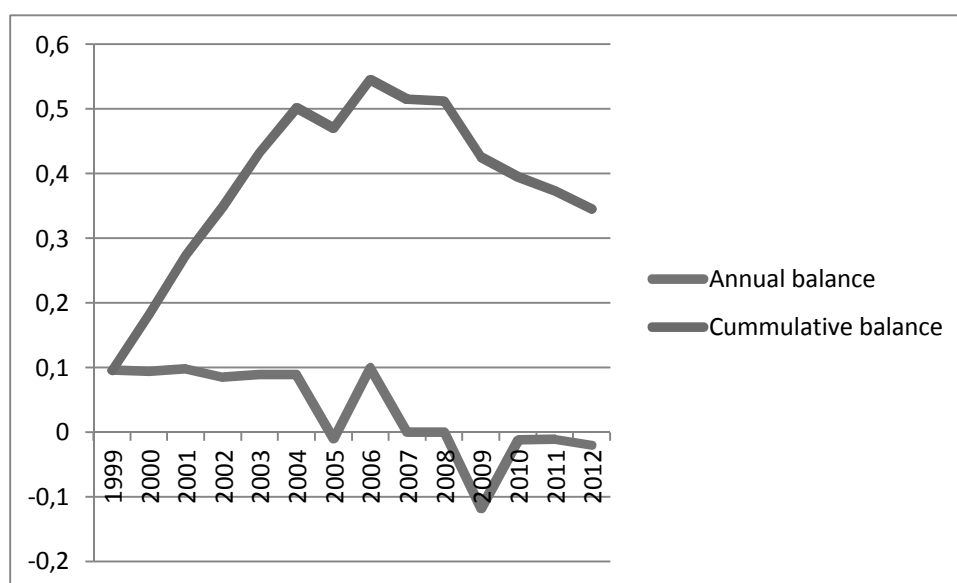
Figure 12. Revenue and expenditure at the EU level, % of GDP



Source: Own elaboration based on AMECO data.

The annual balance of the system is determined by interaction between the start-and-stop revenue system and catastrophic event-based payouts. In early years, it is mostly in surplus of close to 0.1% of GDP as member states pay to build up the fund and do not get much in return. Since then, with the exception of 2009, the balance is zero or close to zero as significant pay-outs is balanced or nearly balanced by restart of the contributions. As a result, the cumulative fund balance shows the initial build up to 0.5% of GDP, then stagnation, then a sharp cut in 2009 and since then a gradual mild erosion as pay-outs are somewhat larger than the restarted contributions.

Figure 13. Annual and cumulative balance at the EU level, % of GDP



Source: Own elaboration based on AMECO data.

4.2.2 The catastrophic insurance scheme with long-term country-level neutral budgetary position (option 2b)

Option 2b is identical to Option 2a but with the added need for country-level neutral budgetary position. The system would aim to be balanced in the medium- to long-run for each member state. This would be achieved by setting an additional contribution of 0.2% of GDP payable annually for countries which have a cumulative deficit with the system of at least 1% of GDP. The additional contribution is due every year regardless of whether the regular contribution is being paid and would stop once the cumulative deficit declines below 1% of GDP.

This would mean that, unlike in Option 2a, countries would not all have equal average contributions over a longer period. As shown in the next table, most would still pay 0.07% of GDP on average (due to the fact that the contribution of 0.1% would not be payable in every year), but Spain, Latvia, Lithuania and Poland would pay more – 0.1%.

Table 14. EUI annual revenues by country, mean value, % of GDP

Country	Average contribution
Belgium	0.07
Bulgaria	0.07
Czech Republic	0.07
Denmark	0.07
Germany	0.07
Estonia	0.07
Ireland	0.07
Greece	0.07
Spain	0.1
France	0.07
Croatia	0.07
Italy	0.07
Cyprus	0.07
Latvia	0.1
Lithuania	0.11
Luxembourg	0.07
Hungary	0.07
Malta	0.07
Netherlands	0.07
Austria	0.07
Poland	0.1
Portugal	0.07
Romania	0.07
Slovenia	0.07
Slovakia	0.07
Finland	0.07
Sweden	0.07
United Kingdom	0.07

Source: Own elaboration based on AMECO data.

We do not provide expenditure data on the country basis since the expenditure is identical to Option 2a – the difference is on the revenue side.

What changes is the balance, of course, for the 4 countries that would have to pay additional revenue. By 2012, Latvia and Lithuania would be close to rebalancing their relationship with the system and Poland would have already rebalanced it. On the other hand, the ongoing unemployment crisis in Spain and its severity would mean that even higher contributions would not have changed much its fiscal relationship with the system b 2012.

Table 15. EUI average annual balance and cumulative balance by country, % of GDP

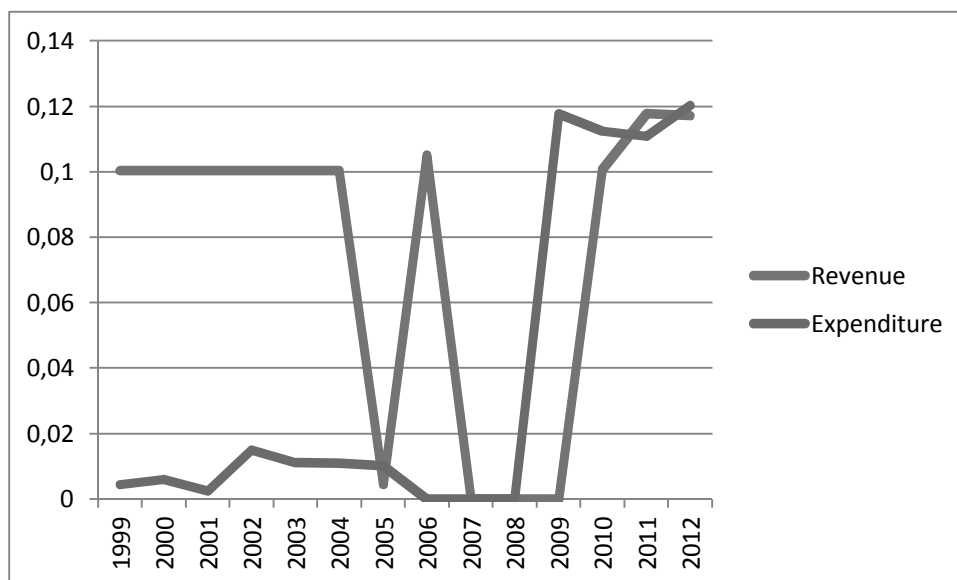
	BALANCE 1999-2012	BALANCE 2009-2012	BALANCE 1999- 2008	Cumulative balance	OPTION 2A Cumulative balance (% of 2012 GDP)
Belgium	1.0	0.3	0.7	0.80	0.80
Bulgaria	0.2	0.3	-0.1	0.28	0.28
Czech Republic	1.0	0.3	0.7	0.67	0.67
Denmark	0.6	-0.1	0.7	0.48	0.48
Germany	1.0	0.3	0.7	0.85	0.85
Estonia	-0.5	-1.2	0.7	-0.58	-0.58
Ireland	-0.8	-1.5	0.7	-0.88	-0.88
Greece	-0.9	-1.1	0.1	-0.91	-0.91
Spain	-3.4	-4.1	0.7	-3.60	-4.00
France	1.0	0.3	0.7	0.83	0.83
Croatia	1.0	0.3	0.7	0.76	0.76
Italy	1.0	0.3	0.7	0.88	0.88
Cyprus	1.0	0.3	0.7	0.75	0.75
Latvia	-1.0	-1.7	0.7	-1.14	-1.52
Lithuania	-2.1	-1.4	-0.7	-1.39	-1.95
Luxembourg	1.0	0.3	0.7	0.70	0.70
Hungary	1.0	0.3	0.7	0.79	0.79
Malta	1.0	0.3	0.7	0.76	0.76
Netherlands	1.0	0.3	0.7	0.84	0.84
Austria	1.0	0.3	0.7	0.80	0.80
Poland	-0.9	0.3	-1.2	-0.32	-0.59
Portugal	1.0	0.3	0.7	0.90	0.90
Romania	1.0	0.3	0.7	0.58	0.58
Slovenia	1.0	0.3	0.7	0.80	0.80
Slovakia	0.1	0.3	-0.2	0.29	0.29
Finland	1.0	0.3	0.7	0.81	0.81
Sweden	1.0	0.3	0.7	0.75	0.75
United Kingdom	1.0	0.3	0.7	0.90	0.90

Source: Own elaboration based on AMECO data.

Looking at the revenues and expenditures at the system level, the results are similar to Option 2a: highly volatile revenues and expenditures as befits a catastrophic insurance. The differences are on the revenue side and they relatively small – we can see that, after 2010, the overall

revenue gradually rises from standard 0.1% of GDP to 0.12% as some countries pay additional contributions.

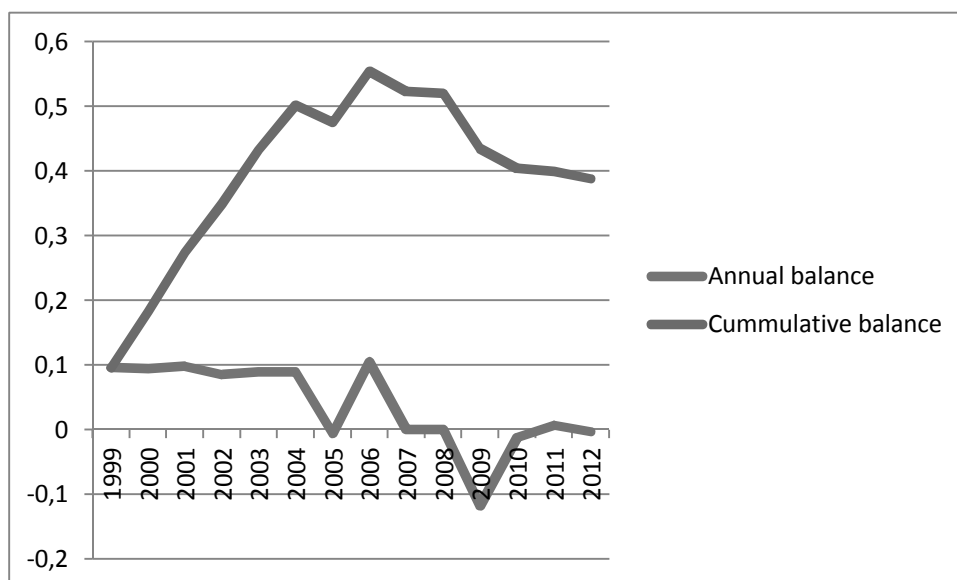
Figure 14. Revenue and expenditure at the EU level, % of GDP



Source: Own elaboration based on AMECO data.

Looking at the fund balance, the additional revenue is sufficient to stabilize the fund at 0.4% of GDP during the Great Recession and its aftermath, but the difference is fairly small.

Figure 15. Annual and cumulative balance at the EU level, % of GDP



Source: Own elaboration based on AMECO data.

Overall, at the system level we see that the additional rules paid by countries with deep deficits can be important for the country fiscal relationship vis-a-vis the system, but do not make much difference for the system as a whole. On the other hand, such statements are based on rerunning a historical situation where none of the truly largest economies (France, Germany, Italy, UK) were eligible for the pay-out on a sustained basis.

4.3 Comparisons of options

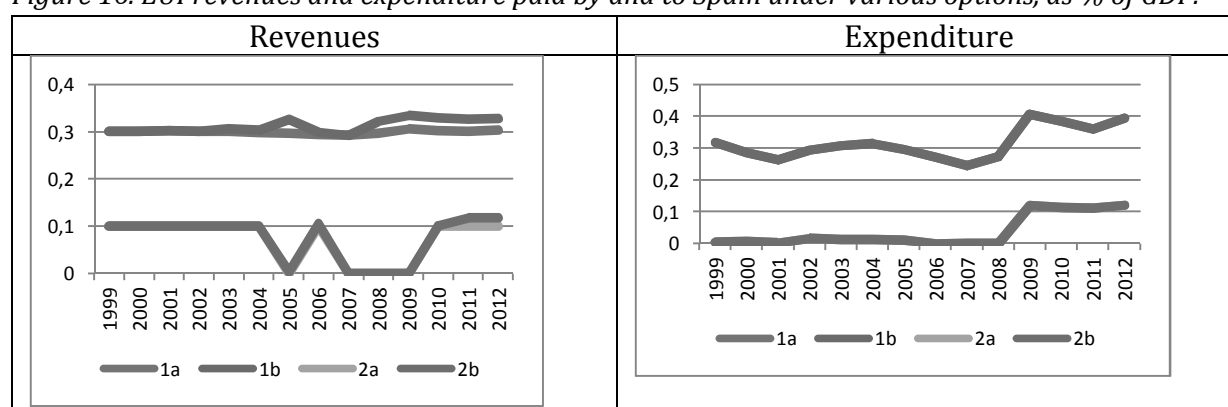
In this section, we compare the four options to better present their similarities and differences to the reader. We start with the EU level and then proceed to present the simulation for several of the member states as an illustration.

4.3.1 Comparison of the options at the EU level

We start with revenues. The following chart shows stark differences between Options 1 and 2. Option 2 – despite initial 5-year period to build up the fund - is much less costly than Option 1 since it is a form of catastrophic insurance for the member states whereas Option 1 is a form of permanent redistribution. Of course, Option 1 unlike Option 2 can replace the national schemes to some extent so this does not imply that the overall public revenue and expenditure in member states + EU would be increased. It could simply be transferred from member states to the supranational level.

In the 14-year period we simulate, differences between a/ and b/ option appear to be relatively small for Option 2, but more significant for Option 1, where the need to rebalance a country relationship with the system if the accumulated deficit exceeds 1% of GDP leads to a more sustained increase in revenues.

Figure 16. EUI revenues and expenditure paid by and to Spain under various options, as % of GDP.

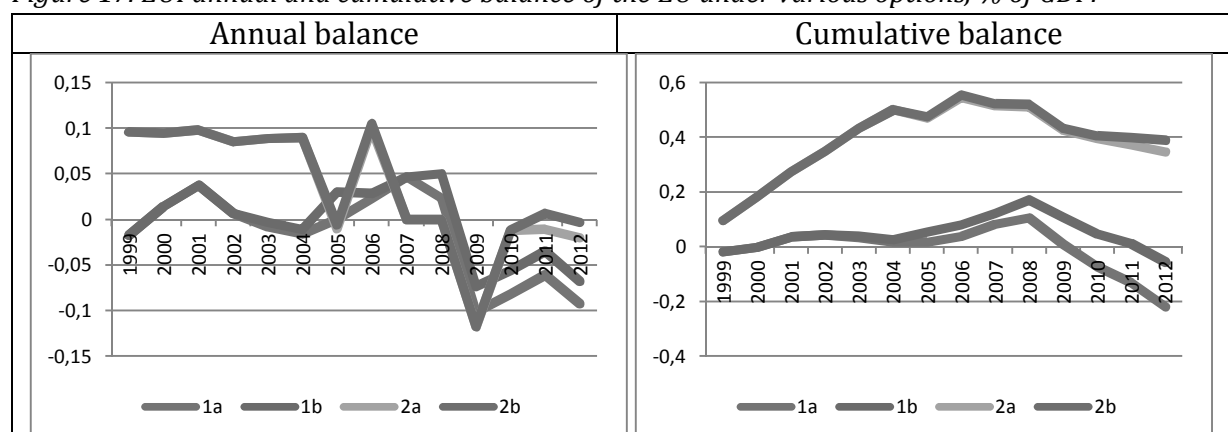


Source: Own elaboration based on AMECO data.

Expenditure does not differ between a/ and b/ as the difference is on the revenue side. Therefore, we can only compare expenditure overall under Options 1 and 2. What we can see in the chart is the same as in the revenue chart, only more pronounce. The catastrophic insurance option lies essentially dormant (helping an individual member state here and there) until the Great Recession when it kicks into action. Expenditure for Option 1 is also effectively anticyclical at the EU level – expenditure ranges from 0.25% of GDP to 0.4%, but it has a baseline component which distributes significant amounts even in the best of times.

The most complicated chart so far is the comparison of annual balances. In good times, Options 1 and 2 are both neutral as assistance to individual countries is not sufficiently large to significantly influence the overall system balance. The only exception is the initial build-up of funding under Option 2. However, in difficult times after 2009, both options initially go deeply into deficit in 2009. Afterwards, their reactions differs. At one end of the range, Option 2b quickly regains balance at the EUI level, while at the other end, Option 1a continues with deficit of 0.05% to 0.1% of GDP until 2012. Therefore, preferability of various options at the EU level depends also on what policy-makers view as a preferable approach.

Figure 17. EUI annual and cumulative balance of the EU under various options, % of GDP.



Source: Own elaboration based on AMECO data.

Different annual balances translate also into different cumulative balance. For Option 2, the differences between a/ and b/ lead to a small cumulative difference. The real difference is between Option 1 and 2, where Option 1 goes into cumulative deficit, which becomes a system-wide deficit under both a/ and b/ by 2012 (though the b/ option, by increasing revenue, makes the deficit much smaller). The calibration of various options is, of course, only an illustration, but it shows that, for Option 1, policy-makers would need to have a financial backstopping facility of some kind (e.g. extraordinary contribution or loans).

4.3.2 Comparison of the options for selected countries

In this part of the report, we present comparison of the four options for individual member states. To facilitate the reader, we reproduce in this section the table that summarises the four scenarios we analyse: the harmonised European unemployment benefit system and the catastrophic unemployment insurance, each with two different fiscal rules.

We focus on two groups, where the results are likely to be of interest - countries most suffering from the Great Recession and countries that are likely to be long-term net payers. Specifically, we look at Spain, Greece, Latvia, Ireland, the Netherlands, Austria and Germany. We present the four options for each of these countries together with the annual and cumulative balance.

Table 16. Matrix of scenarios explored

	No long-term country-level budgetary neutrality	Long-term country-level budgetary neutrality
Harmonised European unemployment benefit	Option 1a	Option 1b
Catastrophic unemployment insurance	Option 2a	Option 2b

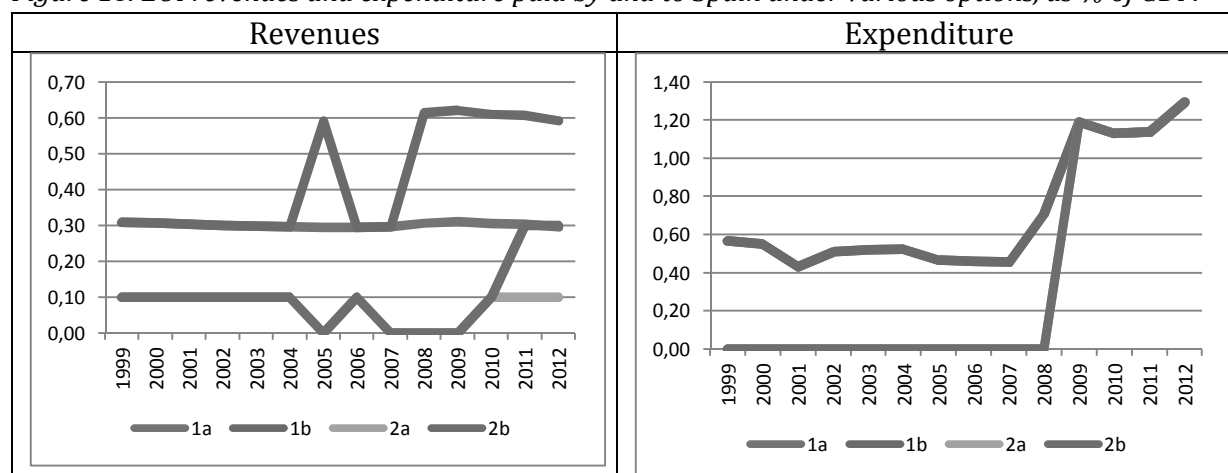
Source: Own elaboration.

Spain

Spain is the heaviest user of EUI under all options. It is therefore not surprising that, with the balancing requirement of option b/, this leads also to higher payments into the system. Under

Option 1b, it reaches approximately 0.6% after 2008. With Option 2b, it is milder, but still Spain would be paying 0.3% of GDP, 3 times higher than most other member states since 2011.

Figure 18. EUI revenues and expenditure paid by and to Spain under various options, as % of GDP.

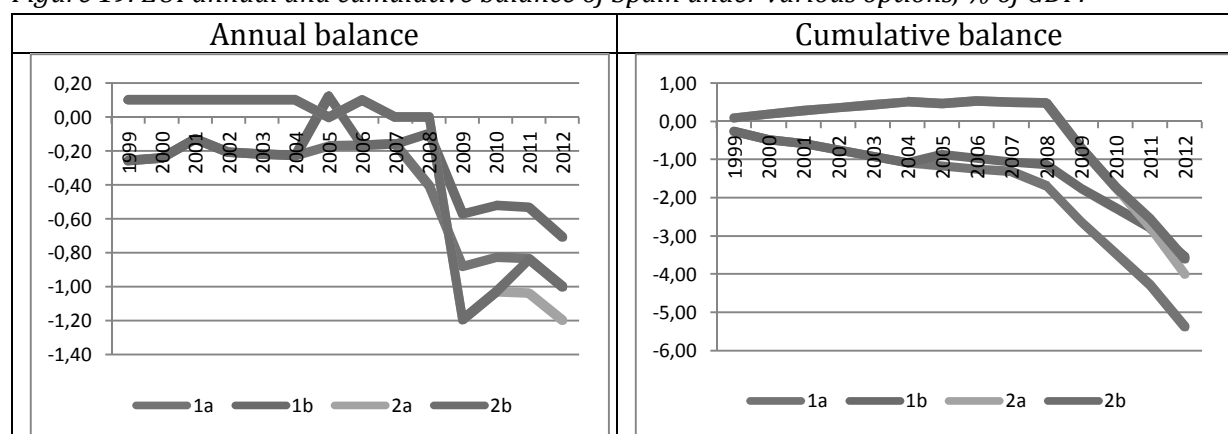


Source: Own elaboration based on AMECO data.

What Spain would get from EUI differs dramatically during the good times, but less so during the bad times. Until 2008, the catastrophic insurance would not pay Spain anything since its situation is not dramatic enough. Under the harmonised system instead, Spain would get 0.4 to 0.6% of GDP, significantly more than other member states even prior to the Great Recession. However, during the recession and its aftermath, the EUI expenditure of both systems converges up to a very high level, approximately 1.3% of GDP reflecting the dramatic deterioration in the Spanish unemployment.

The heavy Spanish reliance on EUI is also demonstrated by its annual balance, which is negative even during the good times under harmonised system though not for catastrophic insurance. It becomes very negative during the Great Recession though the balance depends heavily on the Option chosen. It ranges from approximately 0.6% of GDP annually under the catastrophic insurance with a tighter fiscal rule to 1-1.2% annually under the harmonised system with no budgetary neutrality.

Figure 19. EUI annual and cumulative balance of Spain under various options, % of GDP.



Source: Own elaboration based on AMECO data.

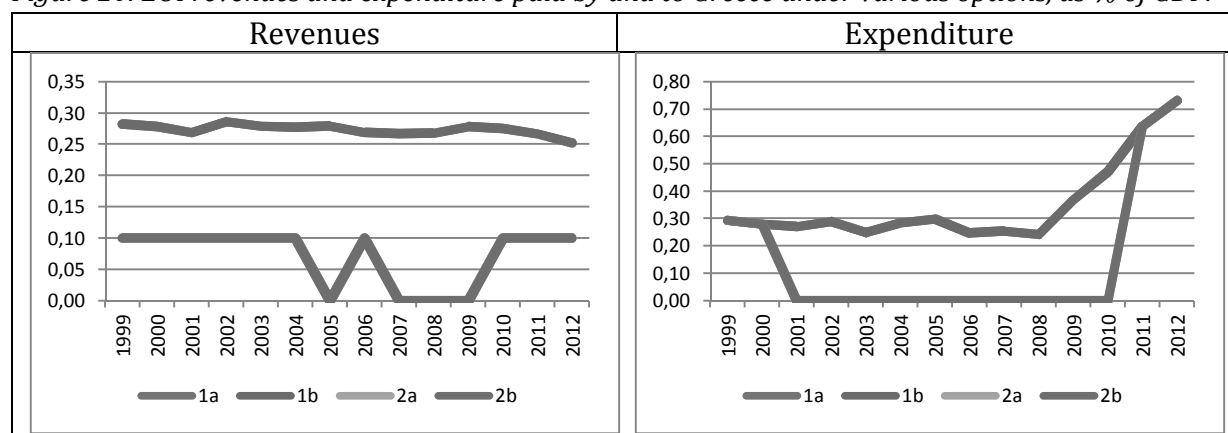
Consequently, the cumulative balance of Spain with the system worsens throughout the entire period (if one discounts the initial fund-building period in Option 2). By the end of 2012, it

would have been between 3.5% and 4% of GDP in the red in all options except for 1a, where it would be even higher (around 5% of GDP).

Greece

Greece pays standard revenues into the system despite its repeated use since it did not cross the 1% accumulated deficit threshold by 2012 (but it would in the following years) We can see a gradual decline in revenues as its employment decreases during the crisis.

Figure 20. EUI revenues and expenditure paid by and to Greece under various options, as % of GDP.

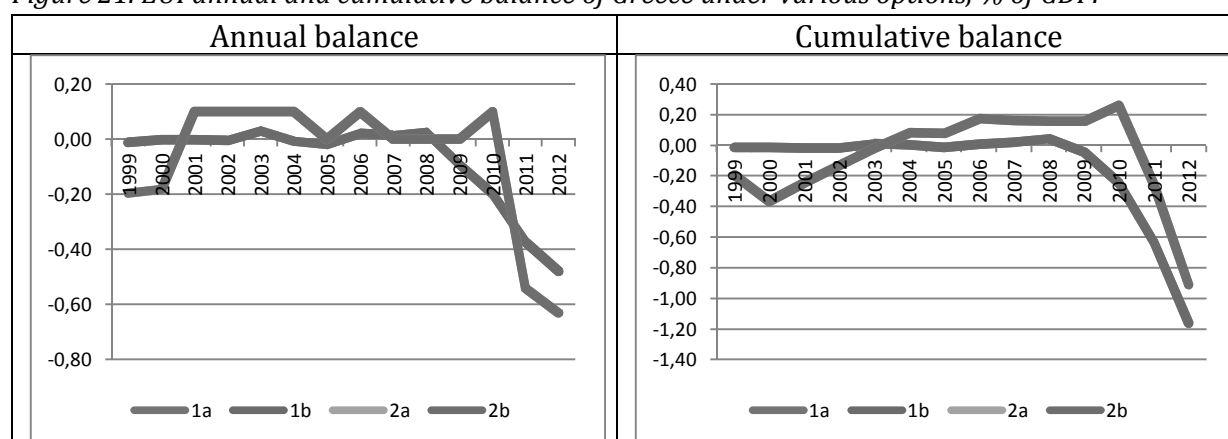


Source: Own elaboration based on AMECO data.

Greece's pay-out from EUI would reach high levels of 0.6-0.7% of GDP annually during the Great Recession under both options, but it would arrive later under Option 2.

Greece's annual balance turns dramatically negative during the Great Recession as one would expect, reaching 0.5% to 0.6% of GDP annually. The main difference between the two options in terms of annual balance is when and how much. The catastrophic insurance would kick in later but with a stronger stimulative effect, due to lower revenues paid into the EUI.

Figure 21. EUI annual and cumulative balance of Greece under various options, % of GDP.



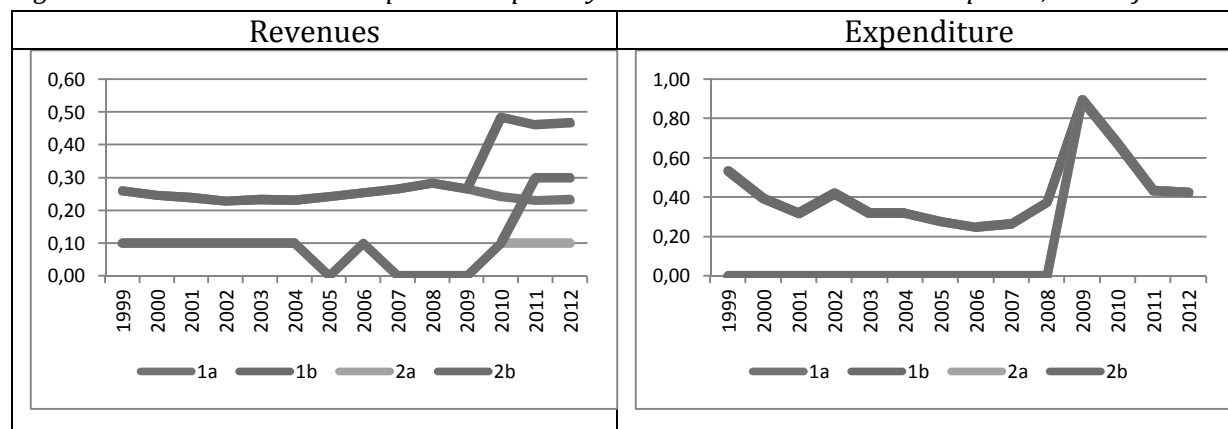
Source: Own elaboration based on AMECO data.

Cumulative balance of Greece vis-à-vis the system turns sharply negative during the Great Recession and its aftermath. There is no difference between a/ and b/ options (with or without rebalancing) and even the difference between the two systems proposed is not dramatic - approximately 0.2% of GDP on a cumulative basis.

Latvia

Latvia is an example of the country where the balancing requirements might make a dramatic difference. As a heavy user, it would have to, under both options, pay in much more since 2010, but the difference is between roughly 0.25% of GDP under 1a and 0.5% of GDP under 1b. For Option 2, it is similar: 0.1% for 2a and 0.3% for 2b.

Figure 22. EUI revenues and expenditure paid by and to Latvia under various options, as % of GDP.

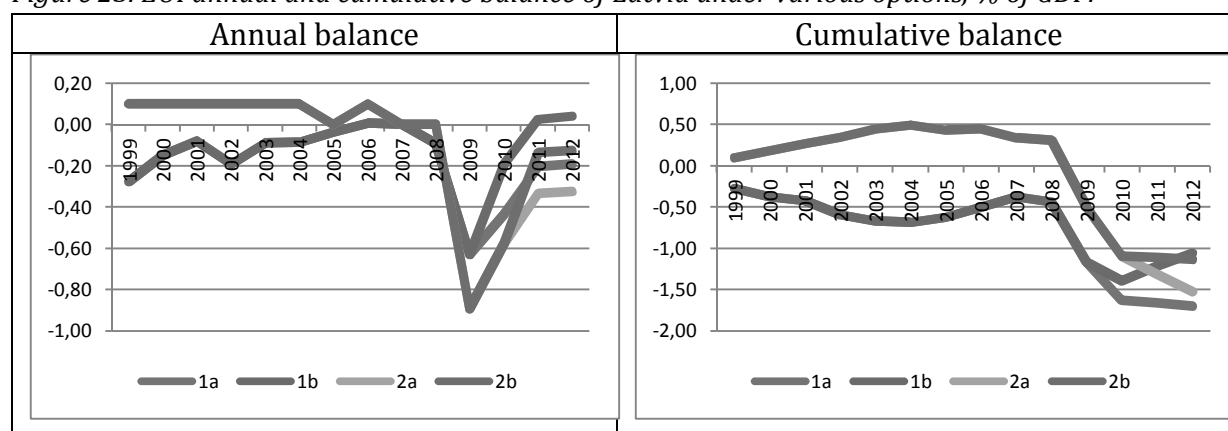


Source: Own elaboration based on AMECO data.

On the expenditure side, Latvia illustrates well that the catastrophic insurance (Option 2) comes with limitations since it is essentially a binary mechanism - activated or not. In early 2000s, when Latvia suffered from high unemployment, Option 2 would not help because the difference was not dramatic enough and the benchmark value started from a high historical level. Option 1 provides a more calibrated assistance and expenditure by EUI gradually declines from a high level. On the other hand, in the Great Recession, both options perform very similarly in terms of pay-outs because the shock was severe.

The annual balance of Latvia-EUI financial relationship has similar pattern under all options - worsening dramatically in 2009 and then recovering. What distinguished the various options is how quickly and to what extent do they bring the relationship back to annual balance. Option 1b is the quickest while 2a is the most gradual return, with deficit of more than 0.3% of GDP even in 2012.

Figure 23. EUI annual and cumulative balance of Latvia under various options, % of GDP.



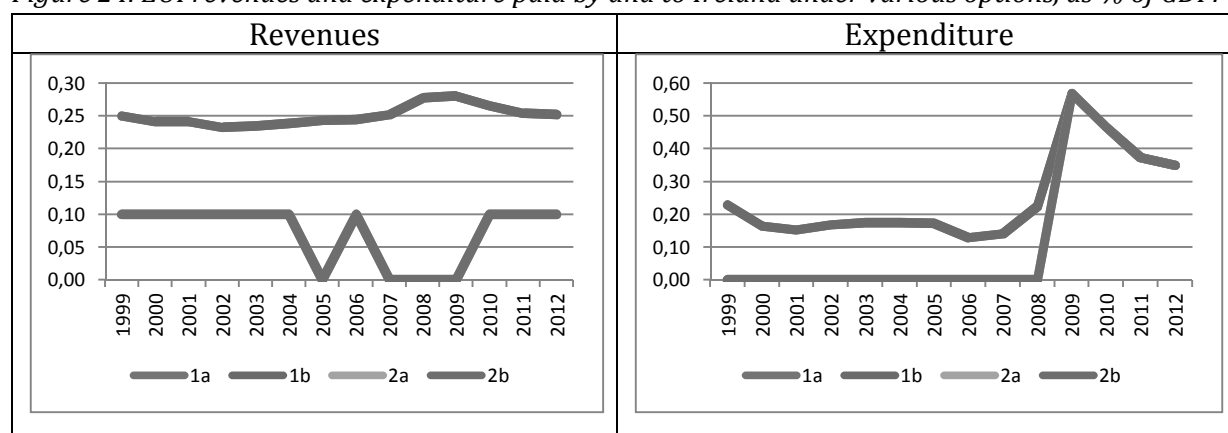
Source: Own elaboration based on AMECO data.

The difference in annual balance development understandably shows in the cumulative balance, where the Latvians accumulate significant deficit, but its size differs. The differences are significant – between 1% and 1.5% of GDP by 2012. Options 1b and 2b bring the cumulative balance almost back to 1%, while 2a has the highest cumulative deficit.

Ireland

Irish employees produce under the harmonised scheme an annual revenue with minor fluctuations around 0.25% of GDP. Under the catastrophic insurance instead, the contribution remains fixed at 0.1% and drops to 0 once the balance reaches 0.5% of GDP. Expenditure co-moves in the two systems: it is essentially 0 for the catastrophic insurance and less than 0.2% for the harmonised scheme up to 2008. Afterwards, with the start of the Great Recession it suddenly peaks to 0.6% and then starts decreasing again to reach 0.35% in 2012. Such increase is a natural consequence of the abrupt deterioration in unemployment figures that increase four-fold in less than one decade.

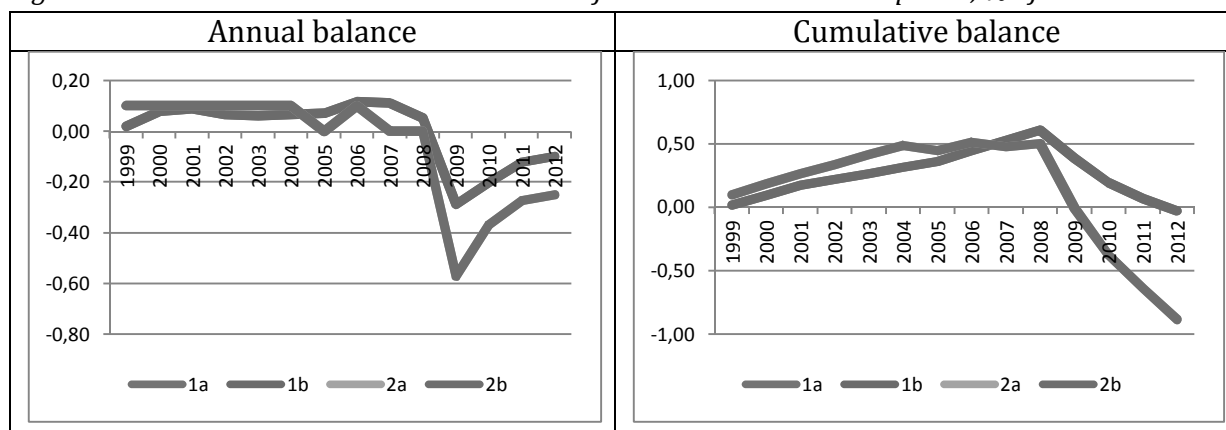
Figure 24. EUI revenues and expenditure paid by and to Ireland under various options, as % of GDP.



Source: Own elaboration based on AMECO data.

The annual balance remains positive until 2008 and then turns suddenly negative, up to -0.3% of GDP for the harmonised case and -0.6% for the catastrophic insurance, with the latter therefore providing a stronger relief to public finance in the case of the extreme need. All in all, the cumulative balance remains close to zero in the harmonised EUI, whereas it reaches -0.9% of GDP for the catastrophic insurance. Had the latter system been in place right not, therefore, Ireland would have been very close to the need of readjustment for the next years to restore the balance in the medium-term.

Figure 25. EUI annual and cumulative balance of Ireland under various options, % of GDP.



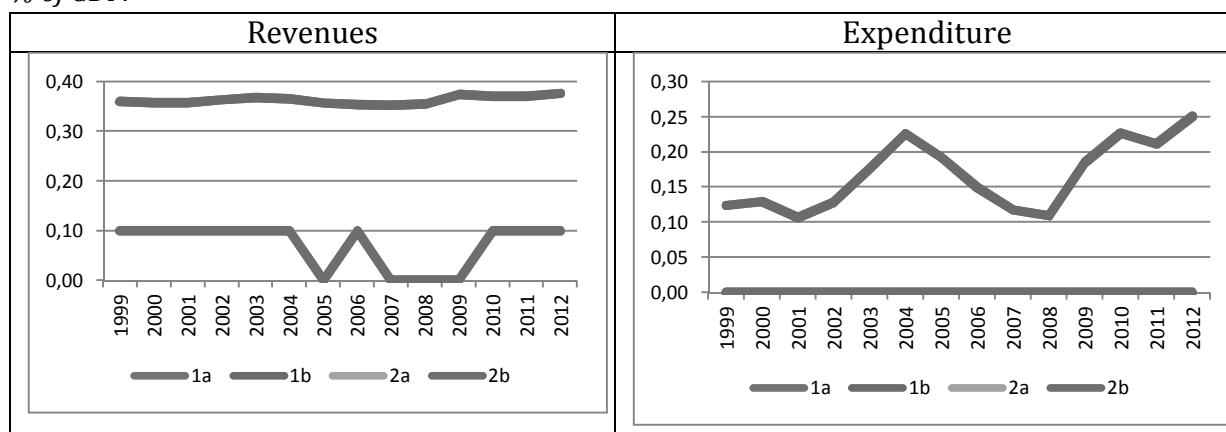
Source: Own elaboration based on AMECO data.

All in all, the Irish case illustrates well the conceptual difference between the two systems simulated: the harmonised scheme protects against all downturns up to a certain level, whereas the catastrophic insurance only intervenes in extreme cases, but with a more than proportional support.

The Netherlands

On the revenue side, Dutch workers generate annually a stable income of 0.35-0.38% of GDP during the period 1999-2012 for the harmonised scheme and 0.1% for the catastrophic insurance. The latter is never used during the period analysed due to the fact that shocks fall in the 'business as usual' category. The harmonised scheme, instead, follows an upward trend due to the fact that the number of unemployed workers doubles after reaching a minimum in 2001 (from 205,700 to 469,000) and despite the positive performance observed just before the start of the Great Recession.

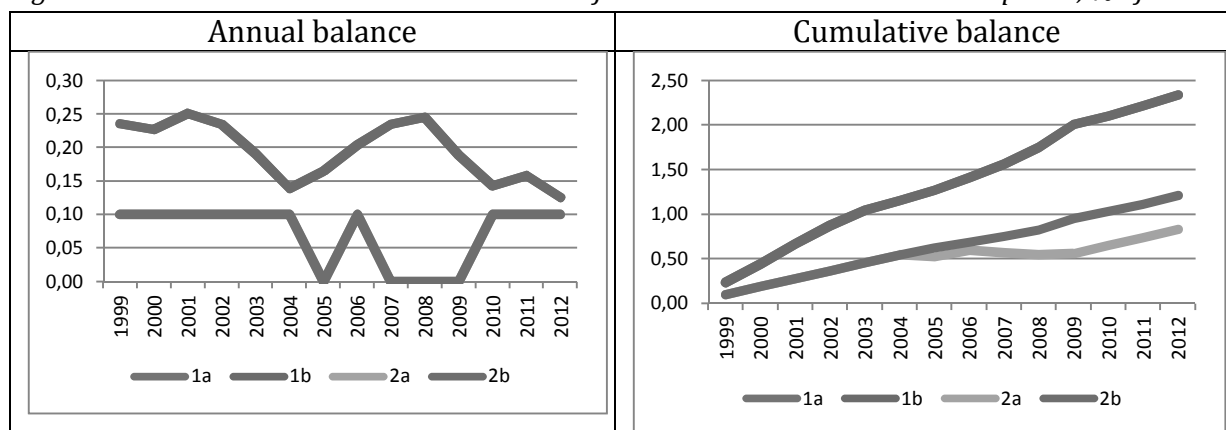
Figure 26. EUI revenues and expenditure paid by and to the Netherlands under various options, as % of GDP.



Source: Own elaboration based on AMECO data.

The annual balance strongly reflects the unemployment cycle in the harmonised system but in cumulative terms as a result of the well performing Dutch labour market, the Netherlands would cumulate a balance of 1.2%.

Figure 27. EUI annual and cumulative balance of the Netherlands under various options, % of GDP.

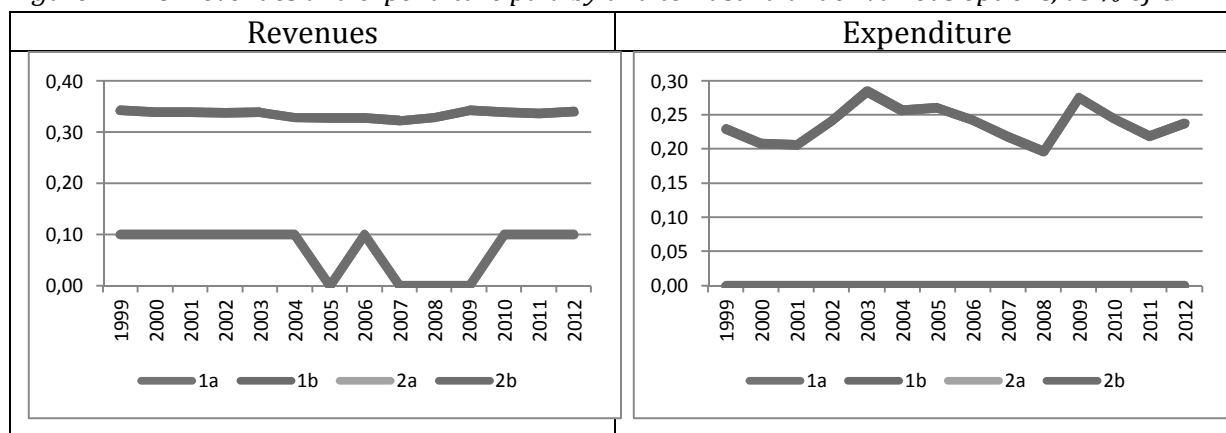


Source: Own elaboration based on AMECO data.

Austria

The Austrian case is simple and straightforward. In terms of revenue, it produces 0.33-0.34% of GDP every year in the harmonised system and 0.1% for the catastrophic insurance, exception made for years where the contribution stops. Expenditure under the latter is 0 between 1999 and 2012: unemployment remains rigorously below the trigger of NAWRU+2%.

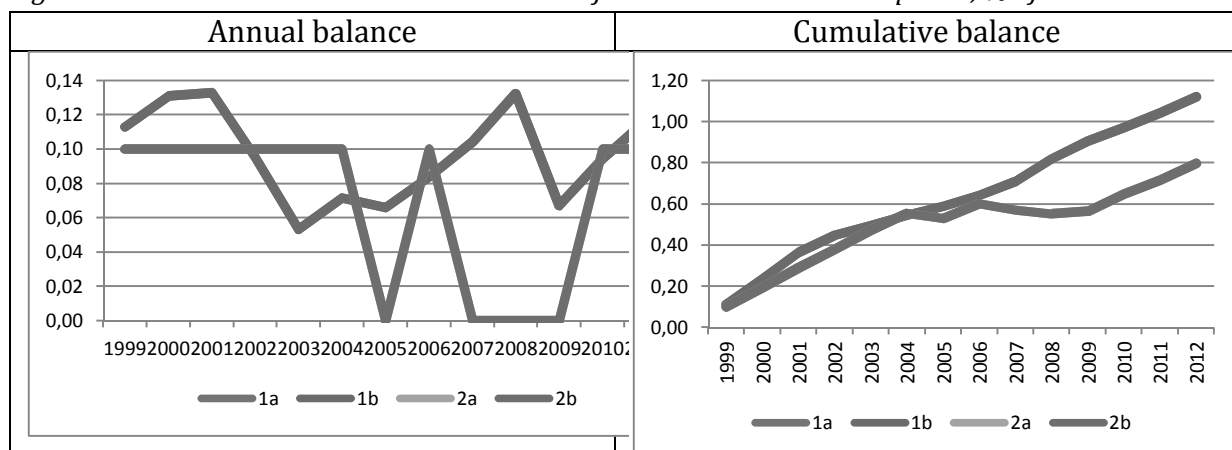
Figure 28. EUI revenues and expenditure paid by and to Austria under various options, as % of GDP.



Source: Own elaboration based on AMECO data.

As a consequence of the well-performing labour market, every single year, Austria keeps a positive balance vis-à-vis the system, which translates in a cumulative balance of at least 0.8% of GDP in 2012.

Figure 29. EUI annual and cumulative balance of Austria under various options, % of GDP.



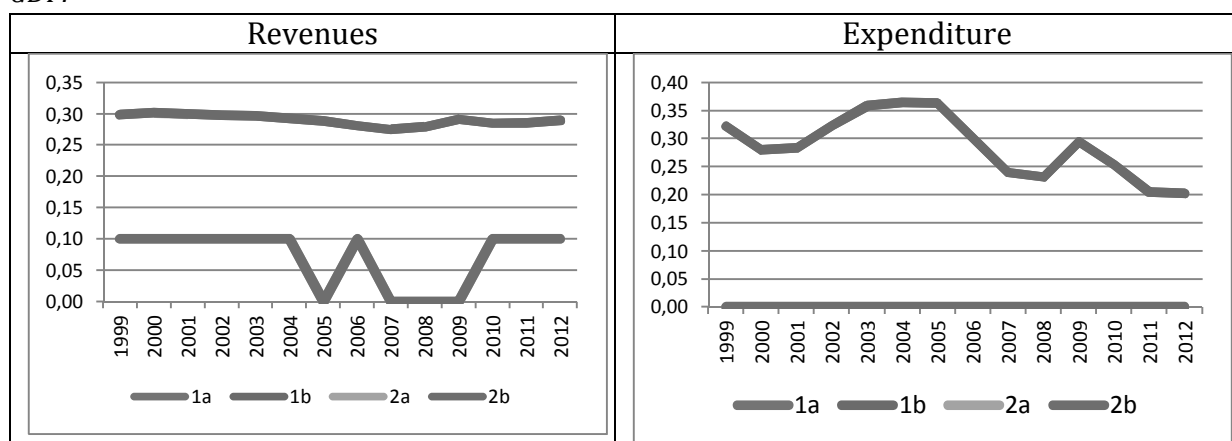
Source: Own elaboration based on AMECO data.

Germany

In both options Germany generates stable annual revenues. It amounts to 0.3% of GDP in the harmonised system and 0.1% in the catastrophic insurance – exception made for years where the contribution stops.

On the expenditure side, the German performance is strongly positive: no use of the catastrophic insurance is made between 1999 and 2012, while in the harmonised unemployment benefit system it shows an overall declining trend due to the good performance of the labour market, after a peak in 2003-2005. During the analysed period in fact, the unemployment rate drops from 8.6 to 5.5% and so would have done the expenditure on the harmonised unemployment benefits, from 0.32 in 1999 to 0.2% of GDP in 2012.

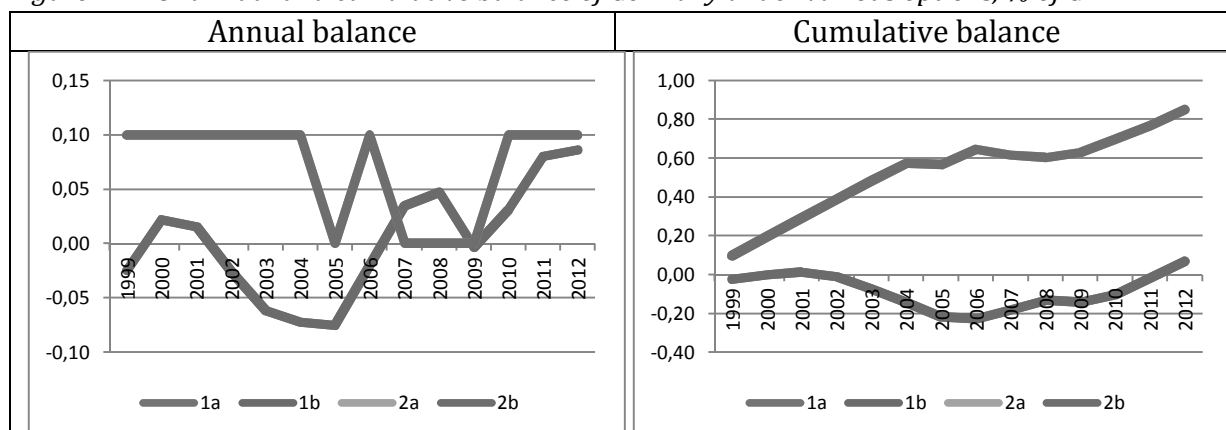
Figure 30. EUI revenues and expenditure paid by and to Germany under various options, as % of GDP.



Source: Own elaboration based on AMECO data.

The overall balance remains positive at the end of the simulated period, yet with large differences between the two systems. The harmonised European unemployment benefit scheme ends up very close to zero after an alternation of positive (2000-2001 and 2007-2012) and negative contributions (1999 and 2002-2006). Whereas, with the catastrophic insurance Germany remains a net contributor over the entire period due to the fact that ups and downs of the unemployment rates exist but are in the range of a normal business cycle.

Figure 31. EUI annual and cumulative balance of Germany under various options, % of GDP.



Source: Own elaboration based on AMECO data.

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