An Unemployment Insurance Scheme for the Euro Area: Evidence at the Micro Level

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Abstract:

We run counterfactual simulations based on micro data to analyze the effectiveness of a basic euro area unemployment benefit scheme to act as an insurance device in the presence of asymmetric macroeconomic shocks. We find that such a scheme could be implemented with a relatively small annual budget. Over the period 2000-2013, average benefits would have amounted to roughly 49 billion euros per year financed by a uniform contribution rate across member states of 1.6 per cent on employment income. The scheme would have provided significant income stabilization at the beginning of the recent economic crisis, but this effect would have diminished the longer the crisis lasted. Our results show that a small number of member states would have been net contributor or net recipient in each year of our simulation period. Country-specific contribution rates that balance the budget in each member state over the simulation period range from 0.75 per cent in the Netherlands to 3.3 per cent in Spain. We find that, relative to the benchmark of a uniform and time-invariant contribution rate, clawback mechanisms do not systematically lead to smaller accumulated net balances.

JEL Codes: F55, H23, J65

Keywords: European fiscal integration, unemployment insurance, automatic stabilizers

1   Introduction

The Great Recession and the resulting European debt crisis revived a debate about deeper fiscal integration in the Economic and Monetary Union (EMU). One main reason is that the EMU is considered as an atypical monetary union because monetary policy is decided at the central (European) level while fiscal policy is carried out at the sub-central (member state) level (Bordo et al. 2013). There is a growing literature on potential insurance effects if the EMU were more fiscally integrated (Fatás 1998, Forni and Reichlin 1999, Bargain et al. 2013, Dolls et al. 2013, Dullien 2013, Enderlein et al. 2013, Feyrer and Sacerdote 2013, Furceri and Zdzienicka 2013, IAB 2013). The question of how to optimally design insurance mechanisms and the political economy of fiscal unions has also gained renewed interest in the more theoretical literature (Evers 2012, Farhi and Werning 2013, Luque et al. 2014). While the main argument in favor of integrated fiscal mechanisms in the euro area (EA)[1] is that they should act as insurance devices in the presence of asymmetric macroeconomic shocks, the main concerns in the debate relate to negative incentive effects inducing national governments to refrain from structural reforms and permanent transfer flows within the currency union.

In this paper, we run a counterfactual experiment based on household micro data and assess the effectiveness of a basic euro area unemployment insurance scheme which partly replaces national systems to work as an automatic stabilizer. We build on previous work (Dolls et al. 2014) and extend their analysis in several directions. In particular, we extend the simulation period to cover the whole period since the start of the euro in 1999, run various sensitivity checks regarding the coverage and generosity of the scheme and explore the effects of experience rating and claw-back mechanisms. To the best of our knowledge, this paper is the first which provides micro data estimates of the redistributive and stabilizing effects of an unemployment insurance scheme for the euro area.[2] Our micro-data based counterfactual experiment allows us to take individual household heterogeneity across and within Eurozone countries into account. This is of particular importance when assessing the automatic stabilization effects of an euro area unemployment insurance scheme.

Our main results are as follows. We find that a basic euro area unemployment insurance scheme with a replacement rate of 50 per cent, a maximum duration of benefit receipt of 12 months and a broad coverage of all new unemployed with previous

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[1] In the following we equivalently use "EA", "EMU" and "Eurozone" to refer to the current 18 member states of the European Currency Union and thus, only to those EMU members who have already introduced the Euro.

[2] Jara and Sutherland (2014) also use micro data to analyze to what extent an EMU-unemployment insurance system would top-up national unemployment insurance systems in the euro area in terms of coverage and income protection. Their analysis is conceptually different from ours as they compare stabilization gaps of existing national systems which would be filled by the centralized unemployment insurance scheme while we focus on the economic effects of the latter ignoring potential top-ups of national unemployment insurance systems. Both studies are thus complementary to each other.

employment income could be implemented with a relatively small annual budget. Over the period 2000-2013, average benefits would have amounted to roughly 49 billion euros per year financed by a uniform contribution rate across member states of 1.6 per cent on employment income. While the scheme does not lead to permanent redistribution per se as only short-term (rather than structural) unemployment is insured at the central level, our simulations show that a small number of member states would have been net contributor or net recipient in each year of our simulation period. Largest net contributors are Austria, Germany and the Netherlands with average yearly net contributions of 0.2-0.42 per cent of GDP, while Latvia and Spain are the larget net recipients (average yearly net benefits of 0.33 and 0.53 per cent of GDP). We find that household incomes would have been stabilized in particular at the beginning of the recent economic crisis. Our measure for automatic stabilization, the income stabilization coefficient, indicates that 36 per cent of the unemployment shock in 2009 would have been absorbed by the scheme in the Eurozone. However, this effect would have diminished the longer the crisis lasted as the share of (non-eligible) long-term unemployed was rising in the majority of member states. Schemes with lower coverage ratios and generosity levels generate smaller cross-country transfers, but also reduce desired insurance effects. Country-specific contribution rates that would have balanced the budget in each member state over the period 2000-2013 range from 0.75 per cent in the Netherlands to 3.3 per cent in Spain. The spread becomes larger if budgets are required to be balanced in each single year and range from 0.46 per cent in Luxembourg to 5.8 per cent in Latvia. However, revenue-neutrality can be imposed only *ex-post* when accumulated net benefit payments and changes in the tax base are known. Therefore, we explore to what extent net balances can be restricted *ex-ante* by pre-specified rules and analyze two different claw-back mechanisms, i.e., regular adjustments of country-specific contribution rates. We find that they do not systematically lead to smaller net balances relative to the benchmark of a uniform and time-invariant contribution rate.

The paper is structured as follows. In section 2, we describe the framework of our analysis, i.e. the data and the empirical approach. Results are presented in section 3. Section 4 concludes.

2 Data and methodology

2.1 Data: EU-SILC and EUROMOD

Different methodological approaches for an analysis of the economic effects of an unemployment insurance system for the euro area are possible. While previous research has mainly used aggregated macro level data (Dullien 2013, IAB 2013), we rely on representative household micro data for the EA18 and use EUROMOD, a static tax-benefit calculator for the European Union countries, for counterfactual simulations. The key

advantage of using a micro data approach in the present context is that it enables us to account for heterogeneity in various characteristics of the populations in different countries which macro data approaches cannot capture. EUROMOD input-data are mainly based on the European Union Statistics on Income and Living Conditions (EU-SILC) released by Eurostat (Eurostat 2012). The simulated components include most direct taxes (especially income taxes on all sources of income including tax credits, payroll taxes and social insurance contributions) and benefits (e.g. welfare benefits, social assistance and some transfers based on previous contributions, e.g. unemployment benefits).[3]

2.2 Simulation experiment

An important feature of EUROMOD is that it allows for counterfactual ex-ante simulations. In our empirical analysis, we introduce an unemployment insurance scheme for the euro area and ask what would have happened if such a scheme had been introduced from the start of the euro in 1999. In a first step we reweight our base year household micro data such that labor market conditions (unemployment rate, earnings and size of labor force) correspond to the levels observed in the starting year of our simulation period.[4] In the next step, given that there are no harmonized panel data available for the EA18 we simulate a sample of repeated cross sections for each euro area member state reflecting changes in total unemployment, short-term unemployment, earnings and the size of the labor force for the period 2000-2013.[5] In each year of our sample period, unemployment shocks are modelled such that unemployment rates and the share of short-term unemployed data precisely follow observed trends. We are thus able to identify unemployed household members who would have been eligible to the common unemployment insurance system.

Our results should be interpreted in a partial equilibrium context and in the light of the following simplifying assumptions. We do not take into account general equilibrium effects, potential migration responses, changes in hours worked or different patterns of entries and exits to the labor force which could follow the introduction of a common unemployment insurance system in the euro area. Moreover, we abstract from potential moral hazard of national governments which could have adverse labor market effects. There is considerable uncertainty and controversy about the magnitude of these effects and modelling all these responses would add significant complexity to our analysis.

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[3]Sutherland and Figari (2013) provide more detailed information on EUROMOD and the underlying input data.

[4]See Immvervoll et al. (2006), Bargain et al. (2012) and Dolls et al. (2012) for similar applications of the reweighting approach.

[5]Earnings growth along the intensive margin is modelled in order to account for changes in the tax base of the euro area unemployment insurance system. Growth rates in nominal compensation per employee, unemployment rates and the size of the labor force are obtained from the AMECO database, information on short-term unemployment from Eurostat.

3 Economic effects of an unemployment insurance system for the euro area

A common unemployment insurance system for the euro area could be designed in various ways. In this study, we focus on a scheme which provides a basic level of insurance as first proposed by Deinzer (2004) and Dullien (2007, 2013). Such a scheme would partly replace national unemployment insurance systems which could top up benefits from the euro area system. Hence, there would be room for diversity across member states as existing differences with regard to replacement rates and benefit duration could be maintained by additional transfers from national unemployment insurance systems.

We run counterfactual simulations for the period 2000-2013 for the current 18 member states of the euro area. The baseline scenario focuses on an unemployment insurance scheme with a replacement rate of 50 per cent of previous gross earnings covering short-term unemployment, i.e., eligible are all new unemployed with previous employment income for a period up to 12 months. The scheme is financed by social insurance contributions with a uniform contribution rate across member states and calibrated to be revenue neutral over the simulation period. In various sensitivity checks, we explore how our results change if we vary some key parameters of the baseline scheme such as the replacement rate or if we introduce a cap on the maximum benefit amount, a waiting period and different coverage rates. In particular, we analyze redistributive and stabilizing effects of a scheme with a less generous replacement rate of 35 per cent of gross earnings[6], a maximum benefit amount of 50 per cent of median gross income in a member state, a waiting period for the new unemployed of 2 months and coverage rates of national unemployment insurance systems. While in the baseline scenario all new unemployed are covered by the euro area unemployment insurance scheme, i.e., the coverage rate of the *new* unemployed is assumed to be 100 per cent (upper bound estimate)[7], we assume as a lower bound estimate that only the share of short-term unemployed covered by national unemployment insurance systems receives benefits from the euro area scheme.[8] Finally, we investigate the effect of experience rating and claw-back mechanisms on contribution rates.

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[6]This is equivalent to a replacement rate of 50 per cent applied to 70 per cent of gross income, i.e., taking into account the average share of income taxes and social insurance contributions in the euro area. A key advantage of applying the replacement rate to gross rather than net earnings is that in the former case the generosity of the scheme is not affected by the size (and progressivity) of national net taxes (income taxes, social insurance contributions and cash benefits) which vary considerably across the euro area (see e.g. Dolls et al. 2012, Bargain et al. 2013 and Avram et al. 2014).

[7]Note that the total coverage rate is below 100 per cent as only short-term unemployed are covered by the euro area unemployment insurance scheme.

[8]As intermediate coverage rates of the euro area scheme, one could assume that a certain fraction of the observed coverage gap between national systems and the euro area scheme is covered.

3.1 Unemployment rates and coverage

Figure 1 shows that there are significant differences in both levels and trends in unemployment rates and the share of short-term unemployed for the period 1999-2013 across euro area member states. Differences between Germany on the one hand and Greece, Ireland and Spain on the other hand are particularly remarkable. In Germany, the unemployment rate increased from 2001 onwards, peaked at 11.3 per cent in 2005 being the second highest rate in the euro area in that year, but constantly fell afterwards. Contrary, unemployment rates increased tremendously in Greece, Ireland and Spain from 2008/2009 onwards, up to 14.7 per cent in Ireland in 2012 and 26.4 (27.3) per cent in Spain (Greece) in 2013. Other member states such as Cyprus, Estonia, Italy and Portugal were also hit by large unemployment shocks during the crisis. This would have led to increasing shares of benefit recipients of the euro area scheme relative to the labor force, in particular in those member states most affected by rising unemployment rates. However, the share of short-term unemployed (relative to total unemployment) was falling the longer the crisis lasted. Hence, coverage rates of the euro area unemployment benefit scheme (which are equal to the share of short-term unemployed) would have declined as well in spite of rising unemployment rates in recent years.

Figure 2 summarizes average coverage rates of the euro area unemployment benefit scheme over the period 2000-2013 for the baseline scenario of full coverage of all *new* unemployed and a scenario with a waiting period of 2 months at the beginning of the unemployment spell. As a third scenario, we simulate a euro area scheme where only the share of short-term unemployed receiving national unemployment insurance benefits is covered.[9] Figure 2 shows that differences across member states in the average share of short-term unemployed, i.e. average coverage rates in the baseline scenario, are substantial ranging from 34 per cent in Slovakia to 78 per cent in Finland. A waiting period would to some extent exclude seasonal unemployment like in tourism from coverage. Our results indicate that coverage rates would indeed decline significantly as a considerable fraction of unemployment spells in euro area member states are shorter than 2 months. Finally, coverage rates are much lower than in the baseline if we apply national coverage rates of the short-term unemployed. Lowest coverage rates of roughly 10 per cent are found for Greece, Italy and Slovakia, whereas more than 40 (50) per cent of the short-term unemployed are covered by national unemployment insurance systems in Austria (Finland).

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[9]Information about the share of unemployed with an unemployment duration of less than 2 months (waiting period) and the share of unemployed receiving national unemployment insurance benefits is obtained from Eurostat. Coverage rates for each year of our simulation period are shown in Table 2 in the Appendix.

Figure 1: (Short-time) unemployment and coverage EMU-UI
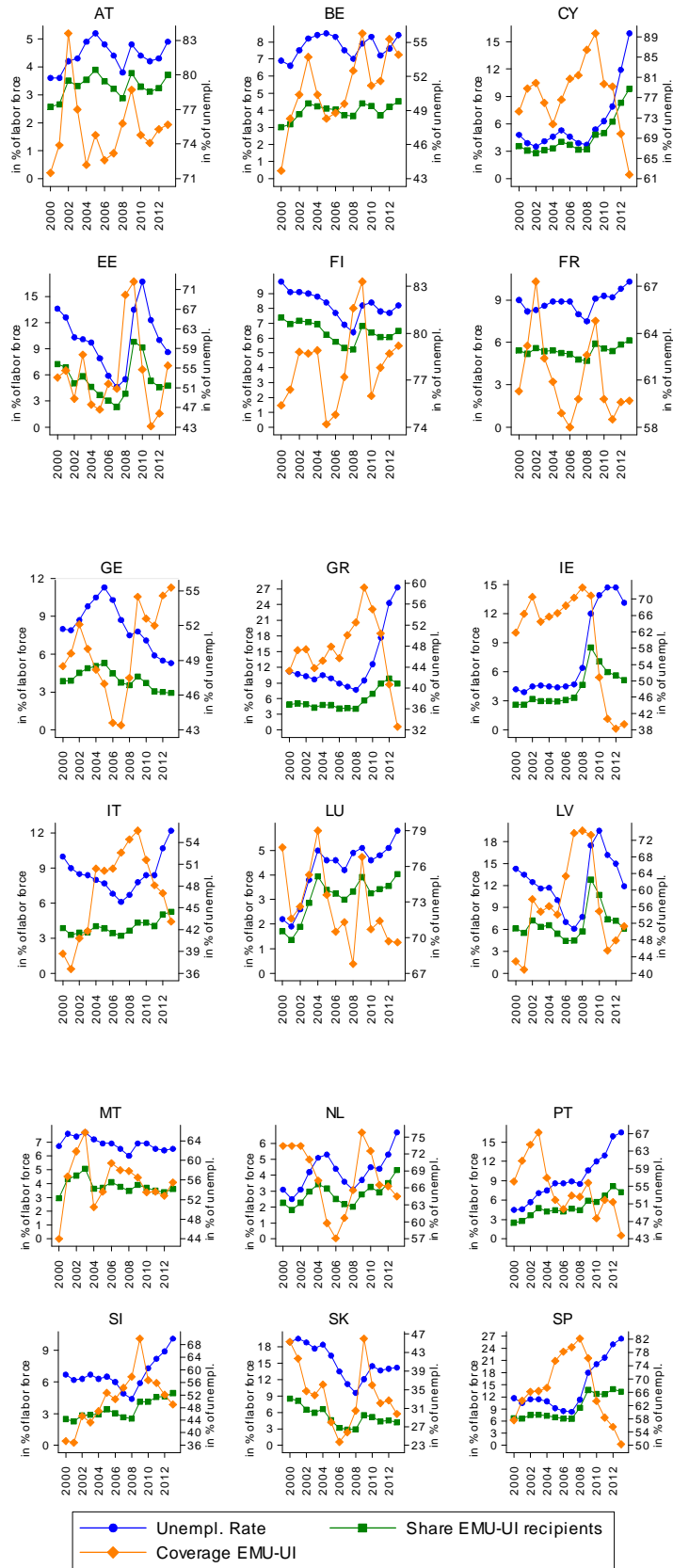
Note: Unemployment rate and share EMU-UI recipients in per cent of the labor force, coverage EMU-UI (equal to the share of short-term unemployed) in per cent of total unemployment. Sources: AMECO, EUROSTAT and own calculations based on EUROMOD.

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Figure 2: Average coverage rates 2000-2013
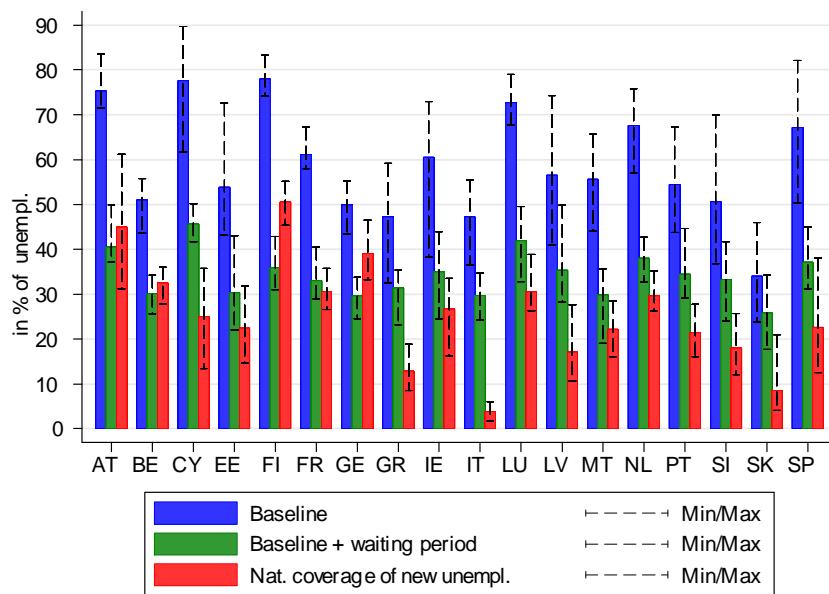
Note: Baseline: all new unemployed with previous employment income covered. Waiting period: no benefits paid in the first 2 months of the unemployment spell. National coverage: only the share of short-term unemployed covered by national unemployment insurance systems eligible to benefits from euro area scheme. Sources: EUROSTAT and own calculations based on EUROMOD.

3.2 Budgetary effects and financial flows

For the baseline scheme, a uniform contribution rate across member states of 1.6 per cent on all employment income leads to revenue-neutrality at the euro area level over the period 2000-2013.[10] Figure 3 shows the evolution of contributions and benefits for the EA18. While contributions would have almost constantly grown over the period due to growth in nominal earnings, benefit payments would have fluctuated to a much larger extent. On average, benefits and contributions amount to 49 billion euros per year. The scheme would have run surplusses from 2000-2003 and from 2006-2008 and deficits in the remaining years, in particular during the recent financial and economic crisis.

Figure 3: Overall contributions and benefits at Eurozone level, 2000-2013
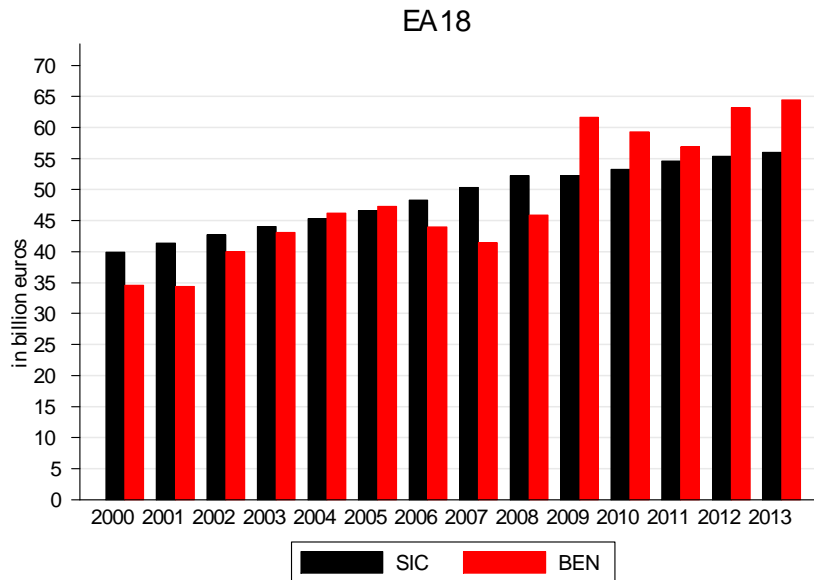
Note: Social insurance contributions (SIC) and benefits (BEN) at Eurozone level in nominal terms. Contribution rate uniform across member states. Scheme is revenue-neutral over the simulation period. Sources: Own calculations based on EUROMOD.

Figure 4 shows average yearly net contributions as well as minimum and maximum payments for the baseline scenario. Relative to GDP, Austria, Germany and the Netherlands would have been the largest net contributors with average net contributions of 0.2 per cent in Germany, 0.25 per cent in Austria and 0.42 per cent in the Netherlands. Latvia (-0.33 per cent) and Spain (-0.53 per cent) would have been the largest net recipients. Interestingly, the majority of member states would have been

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[10]The total contribution rate refers to the sum of employer and employee social insurance contributions. If self-employed were excluded from the scheme, the revenue-neutral contribution rate would be 1.8 per cent.

net contributor in some years and net recipients in other years. Notable exceptions are Austria and the Netherlands (France, Latvia and Spain) which would have always been net contributors (recipients).

Figure 4: Average yearly net contributions, 2000-2013
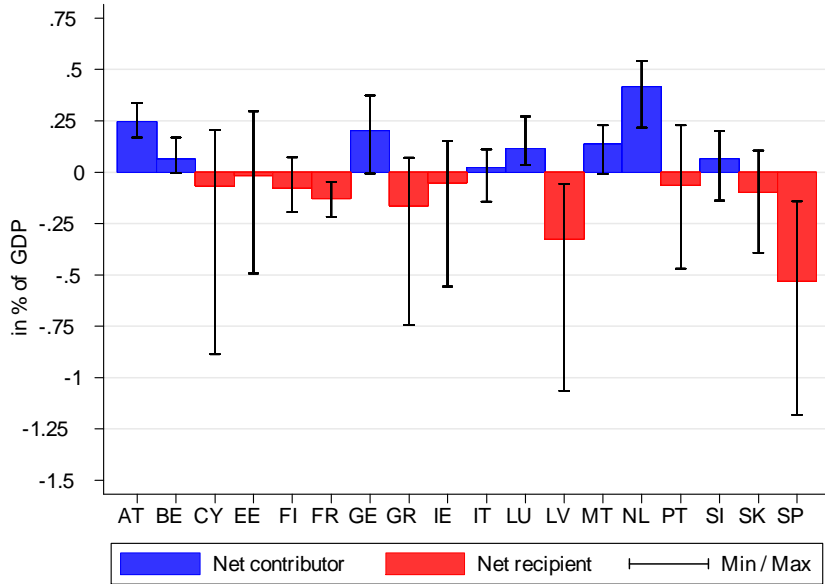
Note: Net contributions = SIC - BEN. Contribution rate uniform across member states. Scheme is revenue-neutral over the simulation period. Sources: Own calculations based on EUROMOD.

Finally, we compare our baseline scenario with schemes which have lower coverage and generosity levels. As in section 3.1, we introduce a waiting period for the first two months of the unemployment spell and assume that only the share of short-term unemployed covered by national unemployment insurance systems receives benefits from the euro area scheme. Moreover, we alter the generosity by capping the maximum benefit amount at 50 per cent of median income in a given member state in a given year, by reducing the replacement rate to 35 per cent of gross income or by combining the latter two scenarios. Results are presented in Figures 5 and 6 and in Tables 3-6 in the Appendix.

Figure 5 shows that a waiting period would reduce net contributions considerably in most member states compared to the baseline scenario, in some cases by almost 50 per cent, indicating that a large share of the short-term unemployed was able to find a new job within a short time period. Seasonal (un)employment patterns are one factor explaining this finding. When only the share of short-term unemployed covered by national unemployment insurance systems is covered, net contributions shrink further and some member states who are a net contributor in the baseline become

Figure 5: Average yearly net contributions - Different coverage scenarios
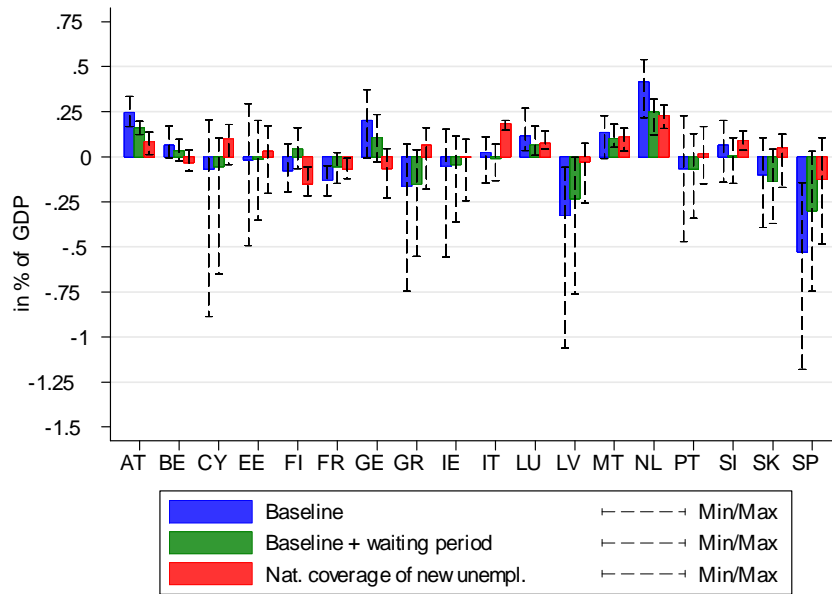
Note: Net contributions = SIC - BEN. Contribution rate uniform across member states. Scheme is revenue-neutral over the simulation period. Sources: EUROSTAT and own calculations based on EUROMOD.

a net recipient (Belgium, Germany) or vice versa (Cyprus, Estonia, Greece, Portugal, Slovakia). This is due to large differences in coverage rates of national unemployment insurance systems discussed in section 3.1.

Figure 6 shows that net contributions become smaller the less generous the euro area unemployment scheme is. In the least generous case of a scheme with a 35 per cent replacement rate and benefits capped at 50 per cent of median income, average net contributions shrink to 0.25 per cent of GDP in the Netherlands, the largest net contributor, and to -0.31 per cent in Spain, the largest net recipient. Interestingly, Estonia and Portugal become net contributors rather than net recipients if benefits are capped which is due to low median incomes in these member states.

Figure 6: Average yearly net contributions - Different generosity levels
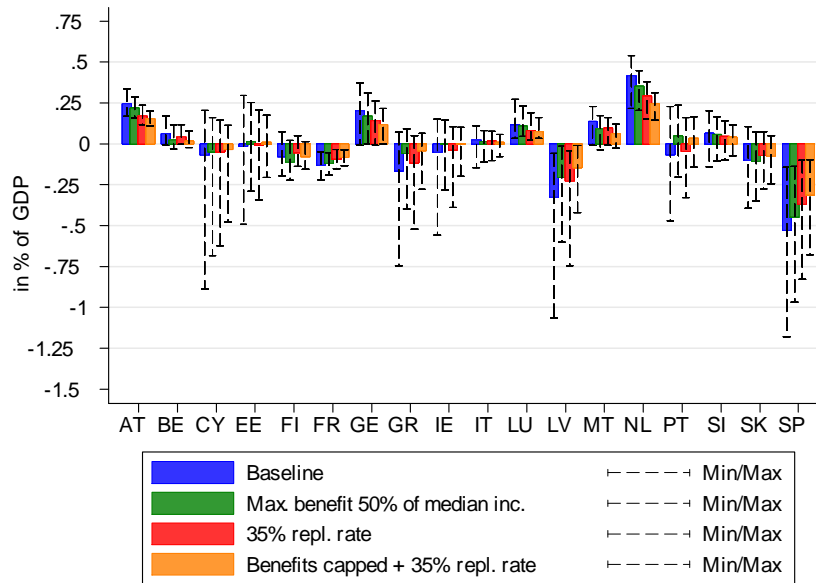
Note: Net contributions = SIC - BEN. Contribution rate uniform across member states. Scheme is revenue-neutral over the simulation period. Sources: Own calculations based on EUROMOD.

3.3 Financing of EMU-UI: Experience rating and claw-back

The baseline scheme is calibrated to be revenue-neutral at the EMU-level over the simulation period with a uniform contribution rate (1.6 per cent) across member states. An interesting analytical exercise is to calculate country-specific contribution rates which balance the budget in each member state over the period 2000-2013. These are shown in Table 1 for the different specifications of the euro area unemployment insurance scheme presented throughout this paper. The last row of Table 1 shows uniform contribution rates that balance the budget at the euro area, but *not* the member state level. Given the non-negligible differences in net contributions across member states presented in the previous section, it is not surprising that country-specific contribution rates differ significantly ranging from 0.75 per cent in the Netherlands to 3.3 per cent in Spain for the baseline scenario. Less generous schemes (columns B-F in Table 1) require lower contribution rates for revenue neutrality.

Figure 7 presents average country-specific contribution rates that balance national budgets in each single year as well as maximum and minimum contribution rates over the period. In Austria and the Netherlands, the two member states that would have been net contributor in every year, revenue-neutral contribution rates would have always been below the uniform (Eurozone-wide) contribution rate of 1.6 per cent (dashed horizontal line), while the opposite is true for France, Latvia and Spain, the net recip-

Table 1: Contribution rates for different specifications

	A	B	C	D	E	F
AT	0.97	0.52	0.56	0.77	0.68	0.54
BE	1.39	0.82	0.88	1.25	0.97	0.88
CY	1.85	1.12	0.52	1.52	1.30	1.06
EE	1.57	0.91	0.65	1.22	1.10	0.86
FI	1.74	0.80	1.13	1.56	1.22	1.09
FR	2.07	1.11	1.04	1.76	1.45	1.23
GE	1.15	0.69	0.90	0.97	0.81	0.68
GR	2.08	1.39	0.60	1.49	1.46	1.04
IE	1.81	1.11	0.80	1.34	1.27	0.94
IT	1.50	0.95	0.13	1.27	1.05	0.89
LU	1.10	0.64	0.45	0.86	0.77	0.60
LV	3.05	1.96	0.90	2.23	2.13	1.56
MT	1.19	0.65	0.47	1.06	0.83	0.74
NL	0.75	0.42	0.33	0.62	0.53	0.43
PT	1.82	1.16	0.74	1.19	1.27	0.83
SI	1.39	0.92	0.48	1.15	0.98	0.81
SK	1.84	1.39	0.44	1.63	1.29	1.14
SP	3.30	1.88	1.23	2.76	2.31	1.93
EA18	1.57	0.92	0.78	1.31	1.10	0.92

Notes: Country-specific contribution rates that balance the budget in each member state over the simulation period. Last row: uniform contribution rates that balance the overall budget at Eurozone level (but not in each single member state). A: Baseline, all new unemployed with previous employment income covered. B: Waiting period, no benefits paid in the first 2 months of the unemployment spell. C: National coverage, only the share of short-term unemployed covered by national unemployment insurance systems eligible to benefits from euro area scheme. D: Maximum benefit 50 per cent of median income. E: 50 per cent replacement rate applied to 70 per cent of gross income, i.e., net replacement rate of 35 per cent. F: D + E combined. Sources: EUROSTAT and own calculations based on EUROMOD.

ients throughout the simulation period.

Figure 7: Country-specific contribution rates: Annual balanced budget
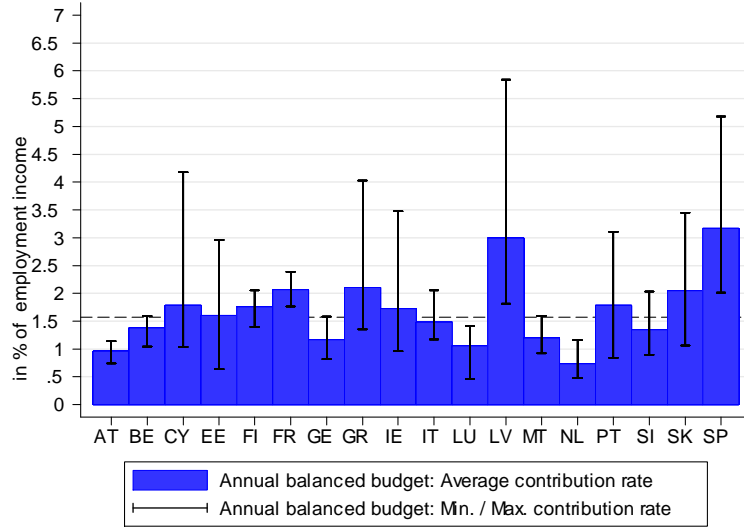
Note: Dashed horizontal line: Revenue-neutral uniform contribution rate (1.6 per cent) at EMU-level for the period 2000-2013. Blue bars: Average country-specific contribution rates that balance the budget in each single year. Black vertical lines: Maximum/Minimum country-specific contribution rates that balance the budget in each single year. Sources: Own calculations based on EUROMOD.

While the revenue-neutral contribution rate is not known *ex-ante* (neither for the euro area as a whole nor for its member states), cross-country transfers could potentially be reduced by pre-specified rules, i.e., claw-back mechanisms that adjust (country-specific) contribution rates automatically after certain time intervals. In the US, for instance, each state places its unemployment insurance payroll taxes in a trust fund with the Treasury and state-specific tax rates are raised if trust funds become insolvent (Vroman and Woodbury 2014).[11] We consider two types of claw-back mechanisms and examine their effect on each member state's net contributions over time. Under the first claw-back mechanism (Claw-back A), member-state specific contribution rates are adjusted every 3 years based on the national balance of the previous 3 years. This may be illustrated as follows: First, we calculate contribution rates that would have balanced national budgets over the period 2000-2002. These contribution rates are then used to calculate (net) contributions for the period 2003-2005. Next, we calculate revenue-neutral contribution rates for the period 2003-2005 and apply those to the next 3-year period et cetera. Under the second claw-back mechanism (Claw-back B), net contributions for the initial 3-year period are calculated based on the revenue-neutral

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[11]Note that this automatism can have undesirable side effects such as pro-cyclical adjustments of unemployment insurance payroll taxes during economic downturns.

uniform contribution rate (1.6 per cent). In the subsequent 3-year periods, country-specific contribution rates are applied that reduce the net balance of the previous 3-year period by 50 per cent.

Cumulative net contributions under Claw-back A and B are presented in Figure 8, together with net contributions that would have accrued under uniform and country-specific contribution rates (column A of Table 1). The latter two cases can be interpreted as benchmark scenarios for our claw-back mechanisms as they are based on contribution rates which *ex-post* guarantee revenue neutrality at the euro area and member-state level. Figure 8 illustrates that ex-post adjustments of contribution rates reduce accumulated deficits or surplusses, relative to the counterfactual of a uniform contribution rate, only in some member states. In France, Germany, Greece, Latvia, Malta, and Spain, this holds for both claw-back mechanisms and in Austria, Belgium, Finland, Luxembourg, and the Netherlands for Claw-back B. In a few cases, the accumulated net balance at the end of the simulation period is amplified (Cyprus, Ireland, Portugal). In other member states, claw-back mechanisms result in a net contributor (recipient) becoming a net recipient (contributor) (Austria, Belgium, Finland, Luxembourg and the Netherlands under Claw-back A and Italy, Slovenia and Slovakia under Claw-back A and B). Note that we find similar results with other claw-back mechanisms based on shorter or longer adjustment periods.

Figure 8: Cumulative net contributions
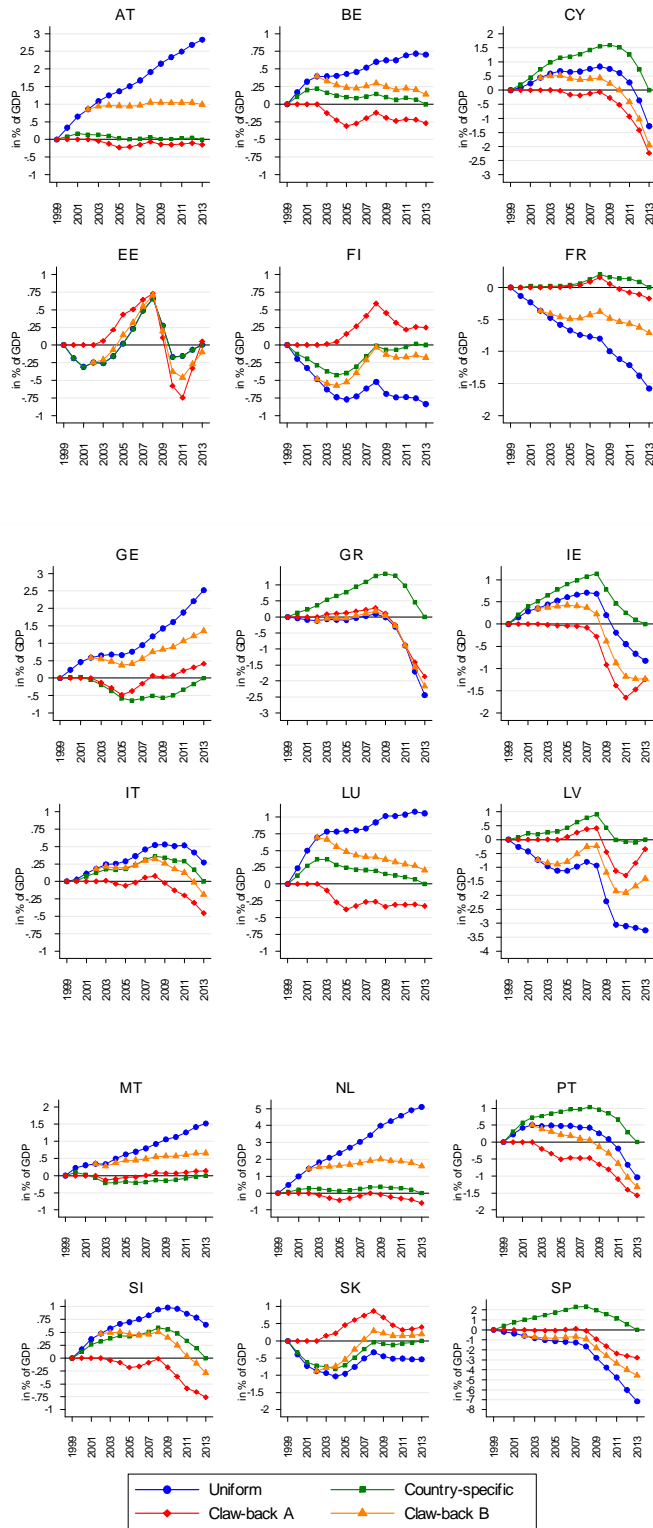
Note: Uniform and country-specific contribution rates as in Table 1, column A. Claw-back A and B: Country-specific contribution rates are adjusted every 3 years. Claw-back A: Contribution rates that would have led to a balanced budget in the previous 3-year interval are applied to the contemporaneous 3-year period. Claw-back B: Net contributions for the initial 3-year period are calculated based on the revenue-neutral uniform contribution rate. In all subsequent 3-year periods, country-specific contribution rates that would have reduced the net balance of the previous 3-year interval by 50 per cent are applied to the contemporaneous 3-year period. Sources: Own calculations based on EUROMOD.

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3.4 Automatic fiscal stabilization

Automatic fiscal stabilization is associated with the ability of taxes and transfers to automatically stabilize disposable income and consequently consumption in the event of macroeconomic shocks. This relies on a simple mechanism: in the presence of a given negative shock to gross income, taxes decline and transfers increase, with the decline in disposable income being smaller than the shock to gross income (Auerbach and Feenberg 2000, van den Noord 2000, Kniesner and Ziliak 2002, Mabbett and Schelkle 2007, Dolls et al. 2012). Several components of government budgets are affected by the macroeconomic situation in ways that operate to smooth the business cycle, with progressive income taxes and unemployment benefits being the most prominent examples.[12]

A common measure for estimating automatic stabilization based on micro data is the "normalized tax change" used by Auerbach and Feenberg (2000) which can be interpreted as "the tax system's built-in flexibility" (Pechman 1973, 1987). Based on this idea, Dolls et al. (2012) define the "income stabilization coefficient", τ^I, that shows how changes in market income Y^M (defined as the sum of all incomes from market activities such as (self-)employment, business and property income) translate into changes in disposable income Y^D (market income minus taxes plus benefits) through changes in net tax payments T. They extend the concept of normalized tax change to include other taxes as well as SIC and transfers.

In our simulations, we follow their approach and calculate the income stabilization effects of a euro area unemployment insurance system. τ is computed using arithmetic changes in benefit and contribution payments as well as changes in employment income from year t to $t+1$ $\left(\sum_i B_i, \sum_i SIC_i \text{ and } \sum_i Y_i^{EMPL} \right)$ which are aggregated across individuals i in each member state. Note that changes in employment income as well as in contribution and benefit payments are calculated for employment changes along the extensive margin only in order to isolate the stabilizing effect in the event of unemployment shocks from (intensive margin) income shocks. The income stabilization coefficient for euro area unemployment insurance benefits is positive in a given member state if total benefit payments in year $t+1$ are higher than in year t *and* the total change in employment income following entries into employment/unemployment is negative, and zero otherwise:

$$\tau_{BEN} = \max \left(\frac{-\sum_i B_i}{\sum_i Y_i^{EMPL}}, 0 \right) \tag{1}$$

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[12]Automatic stabilization might not only have effects on disposable income and consumption but also on GDP itself (cf. Fatás and Mihov 2001). If fewer taxes are collected and more transfers are paid in a recession, this should support private incomes and dampen adverse movements in aggregate demand. In Dolls et al. (2014), we provide a range of estimates for potential growth effects of the basic euro area unemployment scheme based on stylized estimates for the fiscal multiplier.

Accordingly, the income stabilization coefficient for contribution payments is positive if total contributions in year $t+1$ are *lower* than in year t and the total change in employment income is negative, and zero otherwise:

$$\tau_{SIC} = \max\left(\frac{\sum_i SIC_i}{\sum_i Y_i^{EMPL}}, 0\right) \qquad (2)$$

The individual components of τ can be a summed up to the total income stabilization coefficient, τ^I:

$$\tau^I = \tau_{BEN} + \tau_{SIC} \qquad (3)$$

Income stabilization coefficients for the so-called GIIPS countries (Greece, Ireland, Italy, Portugal and Spain) which were hardest hit during the recent crisis period are shown in Figures 9 and 10. Tables 7 and 8 in the appendix provide the full set of results. Note that we focus on the total income stabilization coefficient as it is mainly driven by increased benefit payments and only to a small extent by lower contribution payments. In fact, τ_{SIC} is equal to the contribution rate of the scheme (see last row of Table 1). In the baseline scenario, the euro area unemployment benefit scheme would have absorbed a considerable part of the overall unemployment shock in 2009 in all member states. The fact that all member states would have been stabilized in 2009 can be explained by the capacity of the scheme to build up deficits in years with rising (short-time) unemployment.[13] For the GIIPS countries, we find income stabilization coefficients in a range between 23-31 per cent at the beginning of the crisis, but lower stabilization effects in the following years which is due to rising long-term unemployment in the more recent years of the crisis.[14] In line with our results presented in section 3.2, the euro area unemployment benefit scheme is less effective in stabilizing disposable incomes the lower the coverage rates and the less generous the scheme is.

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[13]In fact, any shock absorption scheme without debt financing can have destabilizing effects if the union as a whole is hit by a shock as in 2009. See Bargain et al. (2013) and Dolls et al. (2013) on the (de)stabilizing effects of a fiscal equalization system with a balanced budget in every year.

[14]Note that in some cases the income stabilization coefficient is higher than the replacement rate of 50 per cent. This happens if there is a strong increase in the share of short-term unemployment, but not in overall unemployment. In these cases, the aggregate increase in unemployment benefits can be even higher than the overall reduction of gross income at the extensive margin.

Figure 9: Income stabilization - Different coverage scenarios
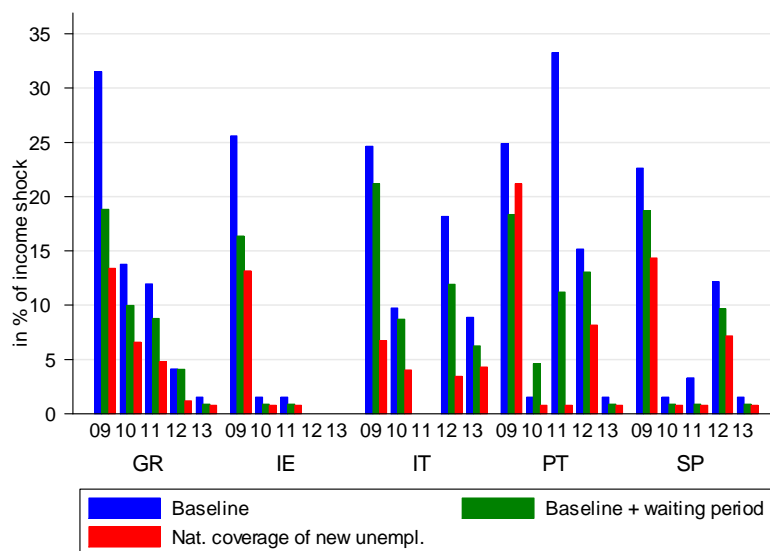
Note: Total income stabiliziation coefficient τ^I. Sources: EUROSTAT and own calculations based on EUROMOD.

Figure 10: Income stabilization - Different generosity levels
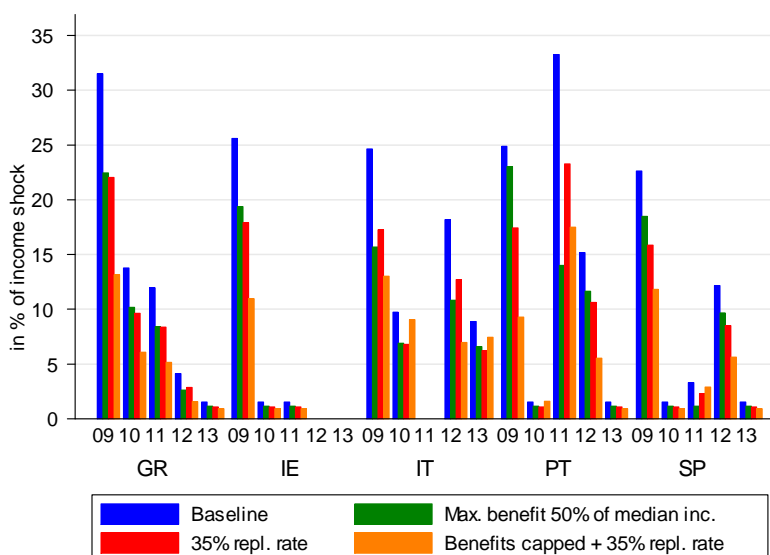
Note: Total income stabiliziation coefficient τ^I. Sources: Own calculations based on EUROMOD.

4   Conclusion

The economic crisis in the Eurozone has brought the idea of deeper fiscal integration to the top of the European policy agenda. A common unemployment insurance system is one key reform proposal which could serve as a fiscal risk sharing mechanism in the euro area. However, main concerns include permanent transfer flows induced by supranational automatic stabilizers and the risk of moral hazard.

Using counterfactual simulation techniques based on harmonized European micro data, we have examined the economic effects of a basic euro area unemployment insurance scheme if such a system had been in place from 2000-2013. Our main results can be summarized as follows. A basic scheme for the euro area with a replacement rate of 50 per cent, a maximum duration of benefit receipt of 12 months and a broad coverage of all new unemployed with previous employment income could be implemented with a relatively small annual budget. On average, it would have amounted to 49 billion euros per year over the period 2000-2013 financed by a contribution rate of 1.6 per cent on employment income. The scheme would have provided significant income stabilization at the beginning of the recent economic crisis, but this effect would have diminished the longer the crisis lasted. Given that the scheme does not lead to permanent redistribution per se, it might be surprising that some member states would have been net contributor or net recipient in every year. Therefore, we investigate the effect of experience rating and claw-back mechanisms on accumulated net balances. Country-specific contribution rates that would have balanced the budget in each member state over the period 2000-2013 or in every single year range from 0.75 per cent in the Netherlands to 3.3 per cent in Spain in the former and from 0.46 per cent in Luxembourg to 5.8 per cent in Latvia in the latter case. We find that claw-back mechanisms do not systematically lead to smaller net balances compared with the benchmark of a uniform contribution rate across member states. Our results suggest that a mix of experience rating and claw-back mechanisms can be an efficient policy tool to address the concern of permanent transfer flows across member states. However, *ex-ante* it is not possible to design a scheme with balanced budgets *ex-post*. Further aspects such as the optimal length of adjustment periods and how to avoid pro-cyclicality need to be taken into account for efficient claw-back mechanisms that reduce accumulated net balances.

The analysis presented in this paper should be interpreted as purely positive. In future research, we aim at characterizing optimal insurance mechanisms for the EMU which serve as an automatic stabilizer over the business cycle.

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A   Appendix:

Table 2: Coverage rates EMU-UI

| | 2000 | | | 2001 | | | 2002 | | | 2003 | | | 2004 | | |
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	71.5	43.2	48.8	73.9	42.4	47.9	83.6	49.9	61.2	77.0	44.7	56.8	72.2	39.3	44.4
BE	43.7	25.6	27.9	48.3	30.4	31.6	50.4	31.4	33.3	53.7	34.3	35.5	50.4	32.1	34.1
CY	74.3	44.3	27.7	78.8	44.1	29.6	79.9	50.2	32.3	76.0	45.5	31.0	71.8	45.2	29.5
EE	53.1	31.5	23.5	54.5	38.8	23.3	48.8	29.4	20.8	57.7	31.2	24.7	47.6	27.9	21.5
FI	75.4	39.5	48.2	76.4	38.3	49.2	78.8	39.7	49.0	78.7	42.1	49.6	78.9	42.9	48.9
FR	60.3	38.2	28.5	63.2	39.1	30.4	67.3	40.5	35.8	62.4	32.0	32.9	60.9	33.1	30.1
GE	48.5	30.9	36.4	49.6	31.7	37.3	52.1	33.8	40.6	50.0	33.6	39.3	48.2	31.2	36.5
GR	43.3	31.1	8.5	47.2	29.1	9.8	47.4	35.4	10.8	43.8	31.5	9.1	45.2	33.5	10.2
IE	61.8	33.1	25.0	66.4	31.6	27.8	70.6	38.5	30.1	64.5	36.0	28.0	65.7	35.4	28.6
IT	38.7	27.7	2.5	36.6	24.3	3.0	40.8	28.8	2.0	41.8	28.8	1.8	50.4	29.1	3.6
LU	77.6	45.1	31.4	71.6	32.8	30.0	72.6	39.0	30.4	75.3	44.0	38.9	79.0	46.0	32.2
LV	42.9	31.3	12.9	40.9	28.3	11.0	57.8	36.3	18.4	54.8	33.7	20.2	56.1	33.4	18.4
MT	44.0	19.0	17.8	56.7	24.9	23.8	61.8	29.6	26.4	65.7	25.3	28.6	50.5	26.8	22.0
NL	73.4	41.6	29.7	73.4	41.6	30.8	73.4	41.6	31.3	71.0	39.8	30.9	67.3	42.6	29.3
PT	56.1	33.6	22.5	60.8	36.9	16.0	64.5	41.0	21.1	67.3	44.6	23.3	56.9	39.1	23.7
SI	37.3	25.3	12.1	36.8	24.0	12.3	45.3	31.7	18.4	43.3	33.2	21.4	46.9	35.0	23.4
SK	45.3	33.9	21.0	41.7	34.3	13.8	34.7	28.5	9.9	33.8	26.9	9.2	36.1	29.6	10.2
SP	57.6	37.3	12.5	63.5	37.5	14.0	66.2	41.4	14.6	66.4	43.3	14.8	67.4	41.2	16.7
EA18	55.8	34.0	24.3	57.8	33.9	24.5	60.9	37.0	27.0	60.2	36.1	27.6	58.4	35.7	25.7

| | 2005 | | | 2006 | | | 2007 | | | 2008 | | | 2009 | | |
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	74.8	37.8	46.2	72.6	37.6	44.2	73.2	37.9	44.1	75.8	37.6	46.3	78.7	41.5	40.6
BE	48.3	26.9	32.4	48.8	27.9	32.2	49.6	27.6	30.6	52.5	27.9	32.7	55.8	31.8	36.1
CY	76.6	43.0	16.0	80.7	46.4	35.8	81.4	46.2	34.2	86.4	45.7	25.8	89.7	47.2	20.6
EE	46.6	24.1	22.0	51.8	27.9	23.8	50.8	22.0	22.5	69.9	32.3	18.8	72.6	43.1	31.9
FI	74.2	35.1	46.6	74.8	34.0	45.4	77.2	34.2	49.3	81.6	31.1	54.4	83.3	35.7	55.2
FR	58.9	30.5	29.7	58.0	29.1	29.1	59.8	29.0	26.6	62.6	29.2	29.9	64.8	33.5	32.9
GE	47.0	28.7	36.7	43.6	26.1	33.8	43.4	24.5	33.3	47.5	26.9	35.3	54.5	31.2	42.6
GR	47.9	31.7	12.7	45.7	32.7	12.6	50.1	31.3	13.8	52.5	30.9	13.9	59.2	35.0	18.6
IE	66.6	32.2	33.6	68.4	41.5	31.4	70.4	42.6	31.2	72.9	43.8	30.9	70.9	43.9	32.9
IT	50.1	29.4	2.9	50.4	29.5	3.2	52.6	29.7	3.4	54.4	31.1	3.6	55.6	34.7	5.5
LU	73.6	40.1	36.3	70.5	44.6	29.5	71.3	43.7	27.2	67.8	36.3	30.7	76.8	49.5	30.3
LV	54.1	33.3	15.7	63.4	35.3	15.9	73.7	37.6	27.7	74.3	40.8	20.6	73.3	49.8	22.8
MT	53.6	30.3	19.7	59.4	32.8	24.1	58.0	29.9	25.7	57.8	31.3	24.5	56.5	35.2	26.2
NL	59.8	36.3	30.2	57.1	33.2	26.2	60.7	33.2	26.9	65.6	32.8	27.8	75.8	40.6	35.2
PT	51.9	33.0	21.1	49.8	31.1	21.0	52.9	32.5	21.8	52.6	30.2	19.2	55.8	34.5	27.8
SI	52.7	35.1	20.7	50.7	33.9	17.2	54.3	31.8	16.4	57.8	32.3	16.8	69.9	41.7	25.6
SK	28.0	20.6	6.0	23.7	17.7	4.3	25.8	18.3	4.1	30.5	20.6	4.9	46.0	32.1	9.2
SP	75.5	33.5	38.1	78.3	32.3	22.2	79.6	32.5	23.0	82.2	36.4	27.1	76.3	45.0	34.0
EA18	57.8	32.3	25.9	58.2	33.0	25.1	60.3	32.5	25.7	63.6	33.2	25.7	67.5	39.2	29.3

	2010			2011			2012			2013		
	A	B	C	A	B	C	A	B	C	A	B	C
AT	74.8	39.2	39.7	74.1	37.2	39.6	75.3	38.0	37.5	75.7	41.1	31.3
BE	51.2	30.3	31.4	51.6	30.7	31.2	55.3	32.7	32.8	53.9	33.2	32.8
CY	79.7	45.8	19.1	79.2	48.9	18.2	69.9	44.8	16.1	61.8	41.7	13.4
EE	54.7	37.4	26.4	43.2	23.3	16.0	45.8	25.4	14.7	55.5	31.5	22.7
FI	76.0	32.9	52.6	77.8	31.6	50.6	78.7	32.4	54.6	79.2	33.5	53.7
FR	59.8	31.0	32.4	58.5	29.8	28.5	59.6	30.3	31.7	59.7	36.8	30.6
GE	52.6	30.3	40.0	52.0	27.7	42.1	54.6	28.7	46.0	55.3	29.9	46.5
GR	55.0	34.0	18.8	50.4	32.5	17.7	40.7	27.6	13.9	32.6	23.2	9.2
IE	50.9	34.7	23.7	40.7	26.8	17.3	38.3	24.5	16.4	39.4	24.9	16.3
IT	51.6	32.8	5.7	48.1	31.4	5.0	47.0	30.8	5.5	43.1	28.4	6.0
LU	70.7	40.5	30.2	71.4	43.0	26.3	69.7	39.3	28.0	69.6	42.3	26.3
LV	54.9	41.9	18.2	45.5	30.5	10.7	47.9	29.8	11.4	51.3	32.0	15.1
MT	53.5	35.7	16.1	53.6	32.7	17.4	52.8	32.2	17.4	55.5	32.4	19.3
NL	72.5	40.4	33.7	66.5	35.4	28.3	66.3	35.3	28.4	64.5	38.0	26.7
PT	47.7	31.2	22.6	51.9	31.6	20.0	51.4	33.6	21.1	43.8	29.2	18.8
SI	56.7	39.0	19.9	55.8	35.8	20.0	52.1	33.1	14.4	49.0	33.7	12.4
SK	36.0	27.7	8.0	32.1	24.4	6.4	32.7	24.4	6.7	29.8	21.8	5.7
SP	63.4	38.2	29.8	58.4	34.8	24.5	55.6	34.3	24.2	50.3	31.2	20.2
EA18	59.0	35.7	26.0	56.2	32.7	23.3	55.2	32.1	23.4	53.9	32.5	22.6

Notes: Coverage rates in per cent of all unemployed. A: Baseline, all new unemployed with previous employment income covered. B: Waiting period, no benefits paid in the first 2 months of the unemployment spell. C: National coverage, only the share of short-term unemployed covered by national unemployment insurance systems receives benefits. Sources: EUROSTAT and own calculations based on EUROMOD.

Table 3: Net contributions (per cent of GDP) - Different coverage scenarios

| | 2000 | | | 2001 | | | 2002 | | | 2003 | | | 2004 | | |
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.34	0.19	0.11	0.33	0.19	0.11	0.22	0.12	0.01	0.25	0.14	0.03	0.21	0.14	0.06
BE	0.17	0.10	0.04	0.16	0.07	0.02	0.09	0.03	-0.03	0.01	-0.02	-0.08	0.03	-0.01	-0.07
CY	0.09	0.05	0.11	0.16	0.10	0.13	0.21	0.10	0.14	0.17	0.09	0.12	0.13	0.05	0.11
EE	-0.19	-0.12	-0.06	-0.14	-0.16	-0.03	0.03	0.01	0.05	-0.04	0.00	0.02	0.07	0.04	0.05
FI	-0.20	-0.06	-0.22	-0.14	-0.02	-0.19	-0.16	-0.03	-0.18	-0.16	-0.05	-0.19	-0.14	-0.05	-0.16
FR	-0.13	-0.10	-0.05	-0.10	-0.08	-0.04	-0.14	-0.09	-0.09	-0.12	-0.03	-0.08	-0.13	-0.05	-0.06
GE	0.24	0.11	-0.03	0.23	0.10	-0.03	0.13	0.03	-0.12	0.07	-0.02	-0.18	0.04	-0.03	-0.18
GR	-0.04	-0.10	0.15	-0.06	-0.05	0.14	-0.04	-0.12	0.14	0.04	-0.04	0.16	-0.02	-0.10	0.14
IE	0.15	0.10	0.10	0.15	0.11	0.09	0.09	0.06	0.07	0.11	0.07	0.07	0.12	0.08	0.07
IT	0.02	-0.04	0.18	0.09	0.02	0.18	0.07	-0.00	0.19	0.07	0.00	0.20	0.02	0.01	0.19
LU	0.23	0.14	0.13	0.27	0.17	0.14	0.22	0.14	0.12	0.14	0.08	0.06	0.05	0.03	0.05
LV	-0.26	-0.24	-0.01	-0.19	-0.17	0.03	-0.33	-0.22	-0.04	-0.25	-0.16	-0.05	-0.26	-0.16	-0.03
MT	0.23	0.18	0.14	0.08	0.12	0.08	0.05	0.08	0.06	-0.01	0.11	0.03	0.16	0.12	0.11
NL	0.48	0.29	0.27	0.54	0.32	0.29	0.49	0.29	0.26	0.40	0.24	0.22	0.34	0.17	0.19
PT	0.23	0.13	0.14	0.20	0.11	0.17	0.10	0.04	0.12	-0.02	-0.05	0.07	0.03	-0.03	0.05
SI	0.17	0.07	0.14	0.20	0.10	0.14	0.13	0.04	0.10	0.12	0.01	0.06	0.12	0.01	0.06
SK	-0.39	-0.35	-0.17	-0.36	-0.37	-0.06	-0.22	-0.26	0.01	-0.17	-0.20	0.03	-0.22	-0.25	0.01
SP	-0.19	-0.16	0.11	-0.18	-0.11	0.11	-0.27	-0.19	0.09	-0.27	-0.21	0.08	-0.24	-0.16	0.07
EA18	0.08	0.02	0.05	0.10	0.04	0.05	0.04	-0.01	0.01	0.01	-0.02	-0.01	-0.01	-0.02	-0.01

| | 2005 | | | 2006 | | | 2007 | | | 2008 | | | 2009 | | |
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.17	0.13	0.03	0.22	0.15	0.06	0.25	0.17	0.08	0.29	0.20	0.11	0.19	0.14	0.09
BE	0.04	0.04	-0.06	0.05	0.03	-0.05	0.09	0.06	-0.01	0.10	0.08	-0.00	0.01	0.01	-0.07
CY	0.02	0.02	0.18	0.07	0.04	0.06	0.14	0.09	0.10	0.14	0.10	0.15	-0.09	-0.02	0.13
EE	0.16	0.11	0.08	0.22	0.14	0.12	0.30	0.20	0.16	0.18	0.15	0.17	-0.49	-0.30	-0.18
FI	-0.05	0.05	-0.12	0.00	0.09	-0.07	0.06	0.11	-0.05	0.07	0.16	-0.06	-0.13	0.05	-0.20
FR	-0.11	-0.03	-0.06	-0.10	-0.02	-0.05	-0.06	0.01	-0.01	-0.05	0.02	-0.02	-0.18	-0.06	-0.10
GE	-0.01	-0.03	-0.23	0.12	0.06	-0.12	0.23	0.14	-0.03	0.27	0.16	0.01	0.18	0.11	-0.09
GR	-0.02	-0.05	0.12	0.06	-0.02	0.13	0.06	0.01	0.13	0.07	0.04	0.14	-0.11	-0.07	0.06
IE	0.12	0.10	0.06	0.11	0.06	0.06	0.09	0.04	0.06	-0.06	-0.04	0.01	-0.56	-0.36	-0.24
IT	0.04	0.02	0.19	0.09	0.05	0.19	0.11	0.07	0.19	0.07	0.04	0.20	-0.01	-0.03	0.18
LU	0.09	0.06	0.04	0.09	0.04	0.06	0.10	0.05	0.07	0.09	0.06	0.05	0.05	0.01	0.06
LV	-0.16	-0.11	0.03	-0.06	-0.02	0.08	-0.06	-0.00	0.02	-0.20	-0.10	0.04	-1.06	-0.76	-0.26
MT	0.15	0.10	0.13	0.11	0.08	0.10	0.14	0.11	0.09	0.18	0.12	0.12	0.13	0.06	0.08
NL	0.36	0.20	0.18	0.44	0.26	0.23	0.49	0.29	0.26	0.51	0.32	0.27	0.44	0.27	0.23
PT	0.00	-0.02	0.05	0.02	-0.01	0.05	-0.03	-0.03	0.03	0.00	0.01	0.07	-0.18	-0.13	-0.09
SI	0.07	0.01	0.07	0.11	0.03	0.11	0.15	0.09	0.13	0.17	0.11	0.14	-0.01	-0.01	0.06
SK	-0.05	-0.08	0.08	0.07	0.00	0.11	0.10	0.03	0.12	0.11	0.04	0.13	-0.11	-0.12	0.08
SP	-0.19	-0.01	-0.10	-0.15	0.02	0.06	-0.14	0.03	0.06	-0.45	-0.13	-0.06	-1.07	-0.63	-0.45
EA18	-0.01	0.01	-0.04	0.05	0.05	0.02	0.10	0.09	0.06	0.07	0.08	0.05	-0.11	-0.05	-0.06

	2010			2011			2012			2013		
	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.25	0.17	0.11	0.27	0.19	0.12	0.26	0.18	0.13	0.20	0.13	0.14
BE	0.03	0.01	-0.04	0.09	0.05	0.00	0.04	0.02	-0.03	-0.00	-0.02	-0.06
CY	-0.13	-0.07	0.12	-0.32	-0.22	0.08	-0.64	-0.44	0.00	-0.89	-0.65	-0.04
EE	-0.44	-0.35	-0.20	-0.01	0.02	0.06	0.08	0.06	0.11	0.07	0.05	0.07
FI	-0.08	0.07	-0.19	-0.03	0.11	-0.13	-0.03	0.11	-0.16	-0.09	0.08	-0.19
FR	-0.15	-0.05	-0.10	-0.13	-0.04	-0.06	-0.18	-0.06	-0.11	-0.22	-0.15	-0.12
GE	0.25	0.15	-0.01	0.35	0.22	0.04	0.36	0.23	0.04	0.37	0.23	0.05
GR	-0.29	-0.20	-0.02	-0.57	-0.40	-0.13	-0.74	-0.55	-0.18	-0.63	-0.51	-0.08
IE	-0.40	-0.32	-0.17	-0.26	-0.20	-0.08	-0.22	-0.17	-0.07	-0.16	-0.12	-0.03
IT	-0.01	-0.03	0.18	0.02	-0.02	0.18	-0.11	-0.10	0.17	-0.14	-0.13	0.15
LU	0.09	0.06	0.06	0.08	0.04	0.07	0.07	0.05	0.06	0.03	0.01	0.05
LV	-0.78	-0.66	-0.20	-0.38	-0.28	-0.00	-0.35	-0.23	0.00	-0.23	-0.16	0.00
MT	0.15	0.05	0.16	0.17	0.09	0.15	0.19	0.10	0.16	0.16	0.09	0.14
NL	0.37	0.22	0.19	0.41	0.26	0.23	0.33	0.22	0.20	0.22	0.12	0.16
PT	-0.16	-0.14	-0.07	-0.28	-0.18	-0.05	-0.47	-0.34	-0.15	-0.37	-0.29	-0.12
SI	-0.02	-0.07	0.06	-0.08	-0.08	0.04	-0.09	-0.09	0.08	-0.14	-0.15	0.08
SK	-0.09	-0.13	0.07	-0.02	-0.07	0.09	-0.03	-0.08	0.09	-0.01	-0.05	0.10
SP	-0.97	-0.60	-0.44	-0.99	-0.60	-0.37	-1.18	-0.75	-0.48	-1.11	-0.71	-0.40
EA18	-0.07	-0.04	-0.04	-0.02	-0.01	-0.00	-0.08	-0.04	-0.03	-0.09	-0.07	-0.03

Notes: Net contributions (SIC - BEN) in per cent of GDP. A: Baseline, all new unemployed with previous employment income covered. B: Waiting period, no benefits paid in the first 2 months of the unemployment spell. C: National coverage, only the share of short-term unemployed covered by national unemployment insurance systems receives benefits.
Sources: EUROSTAT and own calculations based on EUROMOD.

Table 4: Net contributions (in billion euros) - Different coverage scenarios

| | 2000 | | | 2001 | | | 2002 | | | 2003 | | | 2004 | | |
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.70	0.39	0.23	0.70	0.41	0.25	0.49	0.27	0.03	0.56	0.33	0.06	0.50	0.33	0.13
BE	0.43	0.25	0.09	0.40	0.19	0.05	0.23	0.09	-0.07	0.03	-0.06	-0.21	0.08	-0.03	-0.21
CY	0.01	0.00	0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.01	0.02	0.01	0.01
EE	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.01	0.00	0.01
FI	-0.26	-0.09	-0.29	-0.20	-0.02	-0.26	-0.24	-0.05	-0.26	-0.23	-0.08	-0.27	-0.21	-0.07	-0.25
FR	-1.92	-1.51	-0.76	-1.53	-1.16	-0.64	-2.17	-1.43	-1.38	-1.91	-0.53	-1.21	-2.11	-0.88	-1.03
GE	4.87	2.19	-0.63	4.86	2.13	-0.71	2.84	0.70	-2.66	1.49	-0.53	-3.86	0.85	-0.59	-3.95
GR	-0.05	-0.14	0.21	-0.08	-0.07	0.20	-0.06	-0.18	0.22	0.07	-0.07	0.28	-0.04	-0.18	0.26
IE	0.16	0.10	0.10	0.18	0.13	0.11	0.12	0.08	0.09	0.16	0.10	0.10	0.17	0.12	0.11
IT	0.29	-0.46	2.18	1.08	0.30	2.25	0.95	-0.01	2.51	0.97	0.05	2.70	0.27	0.19	2.60
LU	0.05	0.03	0.03	0.06	0.04	0.03	0.05	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01
LV	-0.02	-0.02	-0.00	-0.02	-0.02	0.00	-0.03	-0.02	-0.00	-0.02	-0.02	-0.00	-0.03	-0.02	-0.00
MT	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	-0.00	0.01	0.00	0.01	0.01	0.00
NL	2.02	1.19	1.11	2.42	1.43	1.28	2.29	1.36	1.23	1.91	1.16	1.06	1.65	0.85	0.95
PT	0.29	0.16	0.18	0.27	0.15	0.23	0.15	0.06	0.17	-0.03	-0.08	0.10	0.05	-0.04	0.08
SI	0.04	0.02	0.03	0.05	0.02	0.03	0.03	0.01	0.02	0.03	0.00	0.02	0.03	0.00	0.02
SK	-0.09	-0.08	-0.04	-0.08	-0.09	-0.02	-0.06	-0.07	0.00	-0.05	-0.06	0.01	-0.07	-0.09	0.00
SP	-1.23	-1.01	0.67	-1.19	-0.73	0.72	-1.94	-1.37	0.62	-2.11	-1.65	0.64	-2.03	-1.37	0.58
EA18	5.29	1.05	3.13	6.93	2.72	3.55	2.69	-0.51	0.57	0.92	-1.41	-0.55	-0.85	-1.75	-0.68

| | 2005 | | | 2006 | | | 2007 | | | 2008 | | | 2009 | | |
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.41	0.33	0.07	0.56	0.40	0.16	0.67	0.46	0.23	0.82	0.56	0.30	0.53	0.38	0.24
BE	0.13	0.11	-0.18	0.15	0.10	-0.16	0.29	0.21	-0.02	0.33	0.27	-0.01	0.04	0.05	-0.24
CY	0.00	0.00	0.02	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.03	-0.02	-0.00	0.02
EE	0.02	0.01	0.01	0.03	0.02	0.02	0.05	0.03	0.03	0.03	0.02	0.03	-0.07	-0.04	-0.03
FI	-0.09	0.07	-0.19	0.01	0.14	-0.12	0.10	0.21	-0.10	0.14	0.30	-0.12	-0.22	0.09	-0.35
FR	-1.90	-0.53	-1.01	-1.84	-0.32	-0.95	-1.16	0.18	-0.12	-0.94	0.47	-0.31	-3.35	-1.21	-1.80
GE	-0.14	-0.59	-5.11	2.78	1.37	-2.86	5.51	3.44	-0.73	6.59	4.04	0.25	4.22	2.61	-2.06
GR	-0.03	-0.10	0.23	0.13	-0.05	0.27	0.12	0.03	0.28	0.17	0.09	0.32	-0.26	-0.17	0.14
IE	0.20	0.16	0.09	0.19	0.10	0.11	0.16	0.08	0.11	-0.11	-0.08	0.01	-0.90	-0.59	-0.40
IT	0.56	0.31	2.79	1.28	0.73	2.90	1.72	1.09	3.01	1.07	0.69	3.08	-0.14	-0.38	2.77
LU	0.03	0.02	0.01	0.03	0.01	0.02	0.04	0.02	0.03	0.03	0.02	0.02	0.02	0.00	0.02
LV	-0.02	-0.01	0.00	-0.01	-0.00	0.01	-0.01	-0.00	0.01	-0.05	-0.02	0.01	-0.20	-0.14	-0.05
MT	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
NL	1.85	1.03	0.90	2.40	1.40	1.25	2.78	1.68	1.46	3.03	1.89	1.61	2.49	1.55	1.31
PT	0.01	-0.04	0.07	0.04	-0.01	0.08	-0.04	-0.05	0.05	0.00	0.01	0.11	-0.30	-0.22	-0.15
SI	0.02	0.00	0.02	0.03	0.01	0.03	0.05	0.03	0.05	0.06	0.04	0.05	-0.00	-0.00	0.02
SK	-0.02	-0.03	0.03	0.03	0.00	0.05	0.06	0.02	0.07	0.07	0.03	0.08	-0.07	-0.07	0.05
SP	-1.73	-0.13	-0.91	-1.48	0.24	0.64	-1.50	0.33	0.68	-4.91	-1.37	-0.66	-11.17	-6.63	-4.68
EA18	-0.69	0.62	-3.13	4.35	4.16	1.48	8.88	7.77	5.07	6.37	6.99	4.82	-9.40	-4.76	-5.17

	2010			2011			2012			2013		
	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.71	0.48	0.32	0.81	0.56	0.36	0.79	0.55	0.39	0.63	0.42	0.43
BE	0.10	0.04	-0.15	0.34	0.18	0.00	0.14	0.07	-0.10	-0.02	-0.08	-0.23
CY	-0.02	-0.01	0.02	-0.06	-0.04	0.01	-0.11	-0.08	0.00	-0.15	-0.11	-0.01
EE	-0.06	-0.05	-0.03	-0.00	0.00	0.01	0.01	0.01	0.02	0.01	0.01	0.01
FI	-0.13	0.13	-0.34	-0.06	0.21	-0.24	-0.06	0.21	-0.31	-0.17	0.15	-0.36
FR	-2.88	-0.97	-1.92	-2.61	-0.71	-1.19	-3.69	-1.23	-2.27	-4.49	-3.06	-2.45
GE	6.23	3.72	-0.36	9.04	5.82	1.02	9.65	6.25	0.95	10.19	6.40	1.25
GR	-0.64	-0.44	-0.04	-1.18	-0.83	-0.26	-1.44	-1.07	-0.35	-1.15	-0.93	-0.15
IE	-0.63	-0.50	-0.27	-0.43	-0.33	-0.13	-0.36	-0.27	-0.11	-0.26	-0.20	-0.05
IT	-0.20	-0.51	2.76	0.30	-0.32	2.91	-1.66	-1.62	2.61	-2.25	-2.05	2.32
LU	0.04	0.02	0.02	0.03	0.02	0.03	0.03	0.02	0.03	0.02	0.01	0.02
LV	-0.14	-0.12	-0.04	-0.08	-0.06	-0.00	-0.08	-0.05	0.00	-0.05	-0.04	0.00
MT	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
NL	2.14	1.32	1.14	2.46	1.55	1.39	2.00	1.31	1.19	1.30	0.74	0.95
PT	-0.28	-0.24	-0.11	-0.48	-0.31	-0.09	-0.78	-0.56	-0.25	-0.61	-0.47	-0.21
SI	-0.01	-0.02	0.02	-0.03	-0.03	0.01	-0.03	-0.03	0.03	-0.05	-0.05	0.03
SK	-0.06	-0.09	0.05	-0.01	-0.05	0.07	-0.02	-0.06	0.06	-0.01	-0.04	0.07
SP	-10.19	-6.26	-4.63	-10.36	-6.25	-3.92	-12.15	-7.67	-4.98	-11.40	-7.28	-4.10
EA18	-6.02	-3.51	-3.54	-2.29	-0.58	-0.00	-7.75	-4.22	-3.07	-8.44	-6.57	-2.46

Notes: Net contributions (SIC - BEN) in billion euros. A: Baseline, all new unemployed with previous employment income covered. B: Waiting period, no benefits paid in the first 2 months of the unemployment spell. C: National coverage, only the share of short-term unemployed covered by national unemployment insurance systems receives benefits.
Sources: EUROSTAT and own calculations based on EUROMOD.

Table 5: Net contributions (per cent of GDP) - Different generosity levels

| | 2000 | | | 2001 | | | 2002 | | | 2003 | | | 2004 | | |
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.29	0.23	0.20	0.28	0.23	0.20	0.21	0.16	0.15	0.22	0.17	0.15	0.20	0.15	0.14
BE	0.11	0.12	0.08	0.10	0.11	0.07	0.05	0.06	0.04	-0.02	0.01	-0.01	-0.01	0.02	-0.01
CY	0.09	0.06	0.06	0.12	0.11	0.08	0.16	0.14	0.11	0.14	0.12	0.10	0.11	0.09	0.08
EE	-0.11	-0.13	-0.08	-0.11	-0.10	-0.07	0.04	0.02	0.02	-0.02	-0.03	-0.01	0.07	0.05	0.05
FI	-0.22	-0.14	-0.15	-0.17	-0.10	-0.12	-0.19	-0.11	-0.13	-0.18	-0.11	-0.13	-0.17	-0.10	-0.12
FR	-0.12	-0.09	-0.09	-0.10	-0.07	-0.07	-0.13	-0.10	-0.09	-0.11	-0.08	-0.08	-0.12	-0.09	-0.08
GE	0.19	0.17	0.13	0.19	0.16	0.13	0.13	0.09	0.09	0.08	0.05	0.06	0.04	0.03	0.03
GR	0.01	-0.03	0.01	-0.00	-0.04	-0.00	0.01	-0.03	0.01	0.07	0.03	0.05	0.04	-0.01	0.03
IE	0.14	0.10	0.10	0.14	0.11	0.10	0.11	0.06	0.08	0.11	0.08	0.08	0.12	0.08	0.08
IT	0.01	0.02	0.01	0.06	0.06	0.04	0.05	0.05	0.04	0.05	0.05	0.03	0.00	0.01	0.00
LU	0.20	0.16	0.14	0.23	0.19	0.16	0.20	0.16	0.14	0.14	0.10	0.09	0.06	0.03	0.04
LV	-0.17	-0.18	-0.12	-0.12	-0.13	-0.08	-0.23	-0.23	-0.16	-0.16	-0.17	-0.12	-0.18	-0.18	-0.12
MT	0.17	0.16	0.12	0.05	0.06	0.04	0.01	0.03	0.01	-0.04	-0.01	-0.03	0.11	0.11	0.08
NL	0.40	0.34	0.28	0.45	0.38	0.31	0.42	0.34	0.29	0.35	0.28	0.25	0.29	0.23	0.21
PT	0.24	0.16	0.16	0.22	0.14	0.15	0.17	0.07	0.12	0.09	-0.01	0.06	0.11	0.02	0.08
SI	0.14	0.12	0.10	0.16	0.14	0.12	0.11	0.09	0.08	0.11	0.09	0.07	0.10	0.08	0.07
SK	-0.35	-0.28	-0.25	-0.34	-0.25	-0.24	-0.22	-0.15	-0.15	-0.17	-0.12	-0.12	-0.21	-0.15	-0.15
SP	-0.18	-0.14	-0.13	-0.17	-0.12	-0.12	-0.23	-0.19	-0.16	-0.25	-0.19	-0.17	-0.22	-0.17	-0.16
EA18	0.05	0.05	0.04	0.07	0.07	0.05	0.03	0.03	0.02	0.01	0.01	0.01	-0.01	-0.01	-0.01

| | 2005 | | | 2006 | | | 2007 | | | 2008 | | | 2009 | | |
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.16	0.12	0.11	0.19	0.15	0.13	0.21	0.17	0.15	0.25	0.20	0.18	0.19	0.13	0.13
BE	-0.00	0.03	-0.00	0.00	0.03	0.00	0.04	0.06	0.03	0.05	0.07	0.03	-0.01	0.01	-0.01
CY	0.02	0.01	0.01	0.04	0.05	0.03	0.11	0.10	0.08	0.10	0.10	0.07	-0.06	-0.07	-0.04
EE	0.14	0.11	0.10	0.19	0.15	0.13	0.25	0.21	0.18	0.17	0.12	0.12	-0.26	-0.34	-0.18
FI	-0.09	-0.04	-0.07	-0.04	0.00	-0.03	0.01	0.04	0.01	0.02	0.05	0.02	-0.13	-0.09	-0.09
FR	-0.11	-0.08	-0.07	-0.10	-0.07	-0.07	-0.06	-0.04	-0.04	-0.05	-0.03	-0.04	-0.14	-0.12	-0.10
GE	0.00	-0.00	0.00	0.08	0.08	0.06	0.18	0.16	0.12	0.21	0.19	0.15	0.15	0.12	0.11
GR	0.03	-0.01	0.02	0.08	0.04	0.06	0.08	0.04	0.06	0.09	0.05	0.06	-0.01	-0.08	-0.01
IE	0.12	0.08	0.08	0.11	0.07	0.08	0.10	0.06	0.07	0.02	-0.04	0.01	-0.28	-0.39	-0.20
IT	0.02	0.03	0.01	0.06	0.06	0.04	0.08	0.08	0.06	0.06	0.05	0.04	-0.00	-0.01	-0.00
LU	0.08	0.06	0.06	0.08	0.06	0.06	0.09	0.07	0.07	0.09	0.06	0.06	0.05	0.03	0.04
LV	-0.10	-0.11	-0.07	-0.02	-0.04	-0.01	-0.01	-0.04	-0.01	-0.09	-0.14	-0.06	-0.60	-0.74	-0.42
MT	0.10	0.11	0.07	0.06	0.08	0.04	0.09	0.10	0.07	0.13	0.13	0.09	0.10	0.09	0.07
NL	0.30	0.25	0.21	0.36	0.31	0.25	0.40	0.34	0.28	0.42	0.36	0.29	0.37	0.30	0.26
PT	0.10	0.00	0.07	0.09	0.02	0.07	0.06	-0.02	0.04	0.08	0.00	0.06	-0.01	-0.12	-0.01
SI	0.05	0.05	0.04	0.09	0.08	0.06	0.12	0.11	0.09	0.14	0.12	0.10	0.01	-0.01	0.01
SK	-0.07	-0.03	-0.05	0.04	0.05	0.03	0.07	0.07	0.05	0.07	0.07	0.05	-0.09	-0.08	-0.07
SP	-0.18	-0.13	-0.12	-0.14	-0.10	-0.10	-0.14	-0.10	-0.10	-0.35	-0.32	-0.25	-0.81	-0.75	-0.57
EA18	-0.01	-0.01	-0.01	0.03	0.04	0.02	0.07	0.07	0.05	0.06	0.05	0.04	-0.07	-0.07	-0.05

	2010			2011			2012			2013		
	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.22	0.17	0.15	0.23	0.19	0.16	0.23	0.18	0.16	0.19	0.14	0.13
BE	-0.01	0.02	-0.01	0.04	0.06	0.03	0.00	0.03	0.00	-0.03	-0.00	-0.02
CY	-0.10	-0.09	-0.07	-0.25	-0.22	-0.17	-0.47	-0.45	-0.33	-0.68	-0.62	-0.48
EE	-0.29	-0.31	-0.20	0.01	-0.00	0.00	0.07	0.05	0.05	0.07	0.05	0.05
FI	-0.11	-0.05	-0.08	-0.08	-0.02	-0.05	-0.08	-0.02	-0.05	-0.12	-0.06	-0.08
FR	-0.14	-0.10	-0.09	-0.12	-0.09	-0.09	-0.16	-0.13	-0.11	-0.19	-0.15	-0.13
GE	0.20	0.17	0.14	0.28	0.24	0.20	0.30	0.25	0.21	0.31	0.26	0.22
GR	-0.12	-0.20	-0.08	-0.29	-0.40	-0.21	-0.40	-0.52	-0.28	-0.39	-0.44	-0.27
IE	-0.25	-0.28	-0.18	-0.17	-0.18	-0.12	-0.15	-0.15	-0.11	-0.10	-0.11	-0.07
IT	-0.01	-0.01	-0.01	0.00	0.01	0.00	-0.06	-0.07	-0.04	-0.11	-0.10	-0.08
LU	0.09	0.07	0.06	0.08	0.06	0.05	0.07	0.05	0.05	0.05	0.02	0.03
LV	-0.54	-0.55	-0.38	-0.27	-0.27	-0.19	-0.24	-0.25	-0.17	-0.15	-0.16	-0.11
MT	0.10	0.10	0.07	0.12	0.12	0.09	0.14	0.13	0.10	0.11	0.11	0.08
NL	0.32	0.26	0.22	0.34	0.29	0.23	0.29	0.23	0.20	0.20	0.15	0.14
PT	-0.01	-0.11	-0.01	-0.10	-0.20	-0.07	-0.20	-0.33	-0.14	-0.17	-0.26	-0.12
SI	0.00	-0.01	0.00	-0.06	-0.06	-0.04	-0.07	-0.07	-0.05	-0.10	-0.10	-0.07
SK	-0.08	-0.06	-0.05	-0.04	-0.01	-0.03	-0.05	-0.02	-0.04	-0.03	-0.01	-0.02
SP	-0.82	-0.68	-0.57	-0.84	-0.69	-0.59	-0.97	-0.83	-0.68	-0.95	-0.78	-0.66
EA18	-0.05	-0.05	-0.04	-0.02	-0.02	-0.02	-0.06	-0.06	-0.04	-0.07	-0.06	-0.05

Notes: Net contributions (SIC - BEN) in per cent of GDP. A, B, C: Baseline coverage of EMU-UI (no waiting period, all new unemployed covered) A: Maximum benefit 50 per cent of median income. B: 50 per cent replacement rate applied to 70 per cent of gross income, i.e., net replacement rate of 35 per cent. C: A + B combined. Source: Own calculations based on EUROMOD.

Table 6: Net contributions (in billion euros) - Different generosity levels

| | 2000 | | | 2001 | | | 2002 | | | 2003 | | | 2004 | | |
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.60	0.49	0.42	0.60	0.49	0.42	0.46	0.34	0.32	0.49	0.39	0.34	0.46	0.35	0.32
BE	0.29	0.30	0.20	0.26	0.28	0.18	0.15	0.16	0.10	-0.05	0.02	-0.03	-0.03	0.06	-0.02
CY	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01
EE	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	0.00	0.00	0.00	-0.00	-0.00	-0.00	0.01	0.00	0.00
FI	-0.29	-0.18	-0.20	-0.24	-0.14	-0.17	-0.27	-0.16	-0.19	-0.27	-0.16	-0.19	-0.26	-0.15	-0.18
FR	-1.79	-1.34	-1.25	-1.47	-1.07	-1.03	-2.02	-1.52	-1.41	-1.75	-1.34	-1.22	-1.92	-1.48	-1.34
GE	3.87	3.41	2.71	3.91	3.40	2.74	2.74	1.99	1.92	1.72	1.05	1.20	0.83	0.60	0.58
GR	0.01	-0.04	0.01	-0.01	-0.06	-0.00	0.02	-0.04	0.01	0.12	0.05	0.08	0.07	-0.03	0.05
IE	0.15	0.11	0.10	0.17	0.13	0.12	0.14	0.08	0.10	0.16	0.11	0.11	0.17	0.12	0.12
IT	0.10	0.21	0.07	0.77	0.76	0.54	0.65	0.67	0.46	0.66	0.68	0.46	0.05	0.19	0.03
LU	0.04	0.04	0.03	0.05	0.04	0.04	0.05	0.04	0.03	0.03	0.02	0.02	0.02	0.01	0.01
LV	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02	-0.02	-0.01
MT	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	-0.00	-0.00	0.01	0.01	0.00
NL	1.66	1.41	1.16	2.00	1.69	1.40	1.95	1.60	1.36	1.68	1.34	1.18	1.44	1.15	1.01
PT	0.30	0.20	0.21	0.30	0.19	0.21	0.23	0.10	0.16	0.12	-0.02	0.09	0.16	0.03	0.11
SI	0.03	0.03	0.02	0.04	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02
SK	-0.08	-0.06	-0.05	-0.08	-0.06	-0.06	-0.06	-0.04	-0.04	-0.05	-0.03	-0.04	-0.07	-0.05	-0.05
SP	-1.16	-0.86	-0.81	-1.14	-0.83	-0.79	-1.66	-1.36	-1.16	-1.94	-1.48	-1.36	-1.88	-1.42	-1.32
EA18	3.72	3.70	2.61	5.16	4.85	3.61	2.40	1.88	1.68	0.96	0.64	0.67	-0.92	-0.59	-0.64

| | 2005 | | | 2006 | | | 2007 | | | 2008 | | | 2009 | | |
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.39	0.29	0.27	0.49	0.39	0.35	0.59	0.47	0.41	0.71	0.57	0.50	0.52	0.37	0.37
BE	-0.00	0.09	-0.00	0.01	0.11	0.01	0.13	0.21	0.09	0.17	0.23	0.12	-0.04	0.03	-0.03
CY	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.02	0.01	0.02	0.02	0.01	-0.01	-0.01	-0.01
EE	0.02	0.01	0.01	0.02	0.02	0.02	0.04	0.03	0.03	0.03	0.02	0.02	-0.04	-0.05	-0.03
FI	-0.15	-0.06	-0.10	-0.07	0.00	-0.05	0.01	0.07	0.01	0.04	0.10	0.03	-0.22	-0.16	-0.15
FR	-1.81	-1.33	-1.27	-1.76	-1.29	-1.23	-1.19	-0.81	-0.83	-1.02	-0.66	-0.72	-2.61	-2.35	-1.82
GE	0.00	-0.10	0.00	1.92	1.95	1.34	4.30	3.86	3.01	5.29	4.61	3.70	3.57	2.95	2.50
GR	0.05	-0.02	0.04	0.18	0.09	0.12	0.18	0.09	0.12	0.22	0.12	0.15	-0.03	-0.18	-0.02
IE	0.20	0.14	0.14	0.20	0.13	0.14	0.19	0.11	0.13	0.03	-0.08	0.02	-0.46	-0.63	-0.32
IT	0.30	0.40	0.21	0.91	0.90	0.64	1.29	1.20	0.90	0.88	0.75	0.62	-0.03	-0.10	-0.02
LU	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.01	0.01
LV	-0.01	-0.01	-0.01	-0.00	-0.01	-0.00	-0.00	-0.01	-0.00	-0.02	-0.03	-0.01	-0.11	-0.14	-0.08
MT	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00
NL	1.53	1.30	1.07	1.96	1.68	1.37	2.29	1.95	1.60	2.50	2.12	1.75	2.12	1.75	1.49
PT	0.15	0.00	0.11	0.15	0.03	0.11	0.11	-0.03	0.08	0.14	0.00	0.10	-0.02	-0.21	-0.01
SI	0.02	0.01	0.01	0.03	0.02	0.02	0.04	0.04	0.03	0.05	0.04	0.04	0.01	-0.00	0.00
SK	-0.03	-0.01	-0.02	0.02	0.02	0.01	0.04	0.04	0.03	0.05	0.05	0.03	-0.06	-0.05	-0.04
SP	-1.61	-1.21	-1.13	-1.41	-1.03	-0.99	-1.45	-1.05	-1.01	-3.81	-3.44	-2.67	-8.47	-7.82	-5.93
EA18	-0.94	-0.48	-0.65	2.69	3.05	1.88	6.62	6.22	4.63	5.29	4.46	3.70	-5.84	-6.58	-4.09

	2010			2011			2012			2013		
	A	B	C	A	B	C	A	B	C	A	B	C
AT	0.62	0.50	0.43	0.70	0.56	0.49	0.69	0.55	0.48	0.59	0.44	0.42
BE	-0.03	0.07	-0.02	0.16	0.24	0.11	0.00	0.10	0.00	-0.12	-0.01	-0.08
CY	-0.02	-0.02	-0.01	-0.04	-0.04	-0.03	-0.08	-0.08	-0.06	-0.11	-0.10	-0.08
EE	-0.04	-0.04	-0.03	0.00	-0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
FI	-0.20	-0.09	-0.14	-0.15	-0.04	-0.10	-0.14	-0.04	-0.10	-0.22	-0.12	-0.16
FR	-2.62	-2.02	-1.83	-2.45	-1.82	-1.71	-3.19	-2.59	-2.23	-3.90	-3.14	-2.73
GE	5.08	4.36	3.55	7.40	6.33	5.18	8.02	6.76	5.62	8.47	7.13	5.93
GR	-0.27	-0.45	-0.19	-0.61	-0.83	-0.43	-0.77	-1.01	-0.54	-0.71	-0.81	-0.49
IE	-0.40	-0.44	-0.28	-0.28	-0.30	-0.19	-0.25	-0.25	-0.18	-0.17	-0.18	-0.12
IT	-0.22	-0.14	-0.16	0.03	0.21	0.02	-0.98	-1.16	-0.68	-1.73	-1.58	-1.21
LU	0.03	0.03	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.02	0.01	0.01
LV	-0.10	-0.10	-0.07	-0.05	-0.05	-0.04	-0.05	-0.05	-0.04	-0.04	-0.04	-0.03
MT	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
NL	1.85	1.50	1.30	2.01	1.72	1.41	1.75	1.40	1.22	1.24	0.91	0.86
PT	-0.02	-0.20	-0.02	-0.17	-0.33	-0.12	-0.33	-0.54	-0.23	-0.27	-0.43	-0.19
SI	0.00	-0.01	0.00	-0.02	-0.02	-0.01	-0.03	-0.02	-0.02	-0.04	-0.03	-0.03
SK	-0.05	-0.04	-0.04	-0.03	-0.01	-0.02	-0.04	-0.02	-0.03	-0.02	-0.00	-0.01
SP	-8.54	-7.13	-5.98	-8.78	-7.25	-6.14	-9.97	-8.50	-6.98	-9.71	-7.98	-6.80
EA18	-4.91	-4.21	-3.44	-2.24	-1.60	-1.57	-5.31	-5.42	-3.72	-6.69	-5.91	-4.68

Notes: Net contributions (SIC - BEN) in billion euros. A, B, C: Baseline coverage of EMU-UI (no waiting period, all new unemployed covered) A: Maximum benefit 50 per cent of median income. B: 50 per cent replacement rate applied to 70 per cent of gross income, i.e., net replacement rate of 35 per cent. C: A + B combined. Source: Own calculations based on EUROMOD.

Table 7: Income stabilization - Different coverage scenarios

	2001			2002			2003			2004			2005		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0	0	0	45	30	42	2	1	1	15	3	1	15	3	1
BE	0	0	0	28	16	18	36	25	23	2	1	9	2	1	9
CY	0	0	0	0	0	0	36	17	15	30	25	13	30	25	13
EE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FR	0	0	0	196	90	192	2	1	1	34	36	1	34	36	1
GE	0	0	0	24	17	22	13	11	10	12	3	3	12	3	3
GR	0	0	0	0	0	0	0	0	0	32	27	10	32	27	10
IE	0	0	0	47	36	21	20	23	17	0	0	0	0	0	0
IT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LU	0	0	0	30	21	12	30	20	20	36	21	7	36	21	7
LV	0	0	0	0	0	0	0	0	0	325	154	22	325	154	22
MT	53	24	24	0	0	0	55	1	28	0	0	0	0	0	0
NL	0	0	0	24	14	11	20	11	9	17	17	8	17	17	8
PT	132	86	1	31	22	15	31	23	13	2	1	16	2	1	16
SI	0	0	0	258	218	164	17	29	30	0	0	0	0	0	0
SK	3	35	1	0	0	0	0	0	0	65	59	21	65	59	21
SP	0	0	0	41	33	9	0	0	0	0	0	0	0	0	0
EA18	4	3	0	55	30	47	7	6	5	15	12	3	15	12	3

	2006			2007			2008			2009			2010		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0	0	0	0	0	0	0	0	0	28	18	7	0	0	0
BE	0	0	0	0	0	0	0	0	0	30	22	22	2	7	1
CY	0	0	0	0	0	0	0	0	0	39	20	5	15	18	6
EE	0	0	0	0	0	0	52	26	4	21	14	11	2	5	2
FI	0	0	0	0	0	0	0	0	0	25	14	16	2	1	2
FR	0	0	0	0	0	0	0	0	0	29	20	18	2	1	25
GE	0	0	0	0	0	0	0	0	0	61	37	60	0	0	0
GR	0	0	0	0	0	0	0	0	0	31	19	13	14	10	7
IE	144	205	23	95	57	34	34	20	13	26	16	13	2	1	1
IT	0	0	0	0	0	0	34	21	3	25	21	7	10	9	4
LU	0	0	0	0	0	0	26	4	21	119	134	16	0	0	0
LV	0	0	0	0	0	0	46	29	4	25	20	9	2	1	1
MT	0	0	0	0	0	0	0	0	0	20	21	13	0	0	0
NL	0	0	0	0	0	0	0	0	0	36	22	20	17	12	8
PT	0	0	0	65	36	22	0	0	0	25	18	21	2	5	1
SI	0	0	0	0	0	0	0	0	0	41	27	20	7	14	1
SK	0	0	0	0	0	0	0	0	0	38	27	9	2	6	2
SP	0	0	0	0	0	0	32	16	13	23	19	14	2	1	1
EA18	2	3	0	3	2	1	12	7	3	36	24	25	4	3	6

	2011			2012			2013		
	A	B	C	A	B	C	A	B	C
AT	0	0	0	69	38	5	28	21	1
BE	0	0	0	51	29	27	20	16	14
CY	34	26	7	20	14	5	10	9	2
EE	0	0	0	0	0	0	0	0	0
FI	0	0	0	0	0	0	27	15	14
FR	0	0	0	37	18	33	31	63	9
GE	0	0	0	0	0	0	0	0	0
GR	12	9	5	4	4	1	2	1	1
IE	2	1	1	0	0	0	0	0	0
IT	0	0	0	18	12	3	9	6	4
LU	56	48	1	35	6	26	33	27	9
LV	0	0	0	0	0	0	0	0	0
MT	0	0	0	0	0	0	101	35	53
NL	0	0	0	20	11	9	18	14	7
PT	33	11	1	15	13	8	2	1	1
SI	23	6	10	4	1	1	10	14	1
SK	0	0	0	39	24	10	2	1	1
SP	3	1	1	12	10	7	2	1	1
EA18	2	1	0	18	10	10	11	16	4

Notes: Income stabilization coefficients. A: Baseline, all new unemployed with previous employment income covered. B: Waiting period, no benefits paid in the first 2 months of the unemployment spell. C: National coverage, only the share of short-term unemployed covered by national unemployment insurance systems receives benefits. Source: Own calculations based on EUROMOD.

Table 8: Income stabilization - Different generosity levels

	2001			2002			2003			2004			2005		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0	0	0	44	31	22	1	1	1	3	11	6	3	11	6
BE	0	0	0	23	19	14	29	25	24	3	1	8	3	1	8
CY	0	0	0	0	0	0	26	25	17	21	21	19	21	21	19
EE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FR	0	0	0	194	137	116	1	1	1	15	24	20	15	24	20
GE	0	0	0	23	17	10	12	9	7	7	8	10	7	8	10
GR	0	0	0	0	0	0	0	0	0	21	22	14	21	22	14
IE	0	0	0	34	33	21	19	14	32	0	0	0	0	0	0
IT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LU	0	0	0	21	21	13	25	21	16	21	25	20	21	25	20
LV	0	0	0	0	0	0	0	0	0	173	227	170	173	227	170
MT	38	37	30	0	0	0	42	39	31	0	0	0	0	0	0
NL	0	0	0	18	17	11	15	14	10	12	12	11	12	12	11
PT	31	92	57	23	22	12	22	22	14	1	1	1	1	1	1
SI	0	0	0	211	181	149	23	12	7	0	0	0	0	0	0
SK	1	2	12	0	0	0	0	0	0	43	46	38	43	46	38
SP	0	0	0	25	29	21	0	0	0	0	0	0	0	0	0
EA18	1	3	2	51	38	30	6	5	4	8	11	10	8	11	10

	2006			2007			2008			2009			2010		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AT	0	0	0	0	0	0	0	0	0	18	20	13	0	0	0
BE	0	0	0	0	0	0	0	0	0	26	21	15	1	1	5
CY	0	0	0	0	0	0	0	0	0	22	27	19	10	11	13
EE	0	0	0	0	0	0	28	36	27	16	14	9	1	1	3
FI	0	0	0	0	0	0	0	0	0	20	17	13	1	1	3
FR	0	0	0	0	0	0	0	0	0	24	21	14	7	1	18
GE	0	0	0	0	0	0	0	0	0	61	43	31	0	0	0
GR	0	0	0	0	0	0	0	0	0	22	22	13	10	10	6
IE	83	101	72	65	66	48	24	24	15	19	18	11	1	1	1
IT	0	0	0	0	0	0	19	24	16	16	17	13	7	7	9
LU	0	0	0	0	0	0	24	18	11	67	83	76	0	0	0
LV	0	0	0	0	0	0	25	32	20	17	18	10	1	1	1
MT	0	0	0	0	0	0	0	0	0	16	14	9	0	0	0
NL	0	0	0	0	0	0	0	0	0	28	25	18	13	12	10
PT	0	0	0	44	46	28	0	0	0	23	17	9	1	1	2
SI	0	0	0	0	0	0	0	0	0	31	29	20	4	5	4
SK	0	0	0	0	0	0	0	0	0	24	27	21	2	1	1
SP	0	0	0	0	0	0	23	23	16	19	16	12	1	1	1
EA18	1	1	1	2	2	2	7	8	6	31	25	18	4	3	6

	2011			2012			2013		
	A	B	C	A	B	C	A	B	C
AT	0	0	0	37	49	37	14	20	13
BE	0	0	0	39	36	28	17	14	11
CY	21	24	19	12	14	9	6	7	6
EE	0	0	0	0	0	0	0	0	0
FI	0	0	0	0	0	0	20	19	14
FR	0	0	0	35	26	18	20	22	19
GE	0	0	0	0	0	0	0	0	0
GR	8	8	5	3	3	2	1	1	1
IE	1	1	1	0	0	0	0	0	0
IT	0	0	0	11	13	7	7	6	7
LU	23	39	28	30	24	18	21	23	17
LV	0	0	0	0	0	0	0	0	0
MT	0	0	0	0	0	0	77	71	60
NL	0	0	0	14	14	9	12	12	9
PT	14	23	17	12	11	6	1	1	1
SI	16	16	16	1	3	4	5	7	4
SK	0	0	0	25	27	21	1	1	1
SP	1	2	3	10	9	6	1	1	1
EA18	1	2	1	14	13	9	7	8	7

Notes: Income stabilization coefficients. A, B, C: Baseline coverage of EMU-UI (no waiting period, all new unemployed covered) A: Maximum benefit 50 per cent of median income. B: 50 per cent replacement rate applied to 70 per cent of gross income, i.e., net replacement rate of 35 per cent. C: A + B combined. Source: Own calculations based on EUROMOD.