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Designing an EU-wide Unemployment Insurance**

*Étienne Farvaque, Florence Huart*

Série Scientifique/Scientific Series

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# **Drowned by Numbers? Designing an EU-wide Unemployment Insurance\***

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## **Résumé/abstract**

The severity of the recent crisis has given rise to several proposals for the creation of a European unemployment insurance system. In this paper, we first explore the theoretical backgrounds of a common insurance system. We, then, analyze the main features of an EU-wide unemployment insurance, and explore its financial and political sustainability, under different scenarios, including a “US-equivalent” one. We finally highlight key issues with regard to implementation and potential undesirable effects.

**Mots clés/keywords** : intergovernmental transfers; fiscal union; fiscal federalism; European integration; unemployment insurance

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## 1. Introduction

Given the severity of the Euro area (EA) crisis, there have been some concerns about the lack of economic instruments in the Economic and Monetary Union (EMU). As a consequence, there has recently been a renewal of interest in the field of fiscal federalism in Europe. However, as heads of states, governments and parliaments still are not ready to renounce national sovereignty in the fiscal domain, the idea of a federal budget no longer lies at the core of the recent literature.<sup>1</sup> The latter has rather turned towards options such as common insurance mechanisms.<sup>2</sup>

Some experts have pleaded the case for the creation of a common stabilization fund in order to strengthen the foundations of EMU by helping member countries to adjust to asymmetric shocks. In particular, three reports published in 2012 have aroused interest in the subject of an EMU-wide insurance mechanism against asymmetric shocks.<sup>3</sup> First, the Van Rompuy Report (*“Towards a genuine economic and monetary union”*)<sup>4</sup> provided a plea for a “fiscal capacity” at the EMU level - that is to say, a federal budget or an unemployment insurance mechanism. Second, the report of the Tommaso Padoa-Schioppa group (*“Completing the Euro. A road map towards fiscal union in Europe”*) recommended the creation of a cyclical automatic stabilization insurance fund in complement of a European debt agency and the Euro area banking union (Enderlein et al., 2012). Third, the European Commission (*“A blueprint for a deep and genuine economic and monetary union. Launching a European debate”*) advocated the creation of an autonomous Euro area budget with a stabilization function against country-specific shocks. As far as this budget would aim at reducing fluctuations in national incomes, transfers to countries could be earmarked to specific items with countercyclical effects such as unemployment benefits.<sup>5</sup>

Proposals have then emerged to specifically analyze the creation of a European unemployment insurance. This has been most advocated by Dullien (2013, 2014), a German economist, and by Andor (2014), the former European Commissioner for Employment, Social Affairs and Inclusion. The main idea is to establish a basic complement to national unemployment insurance systems.

At the academic level, it has been the core of several recent works lately, although the subject is not completely new. In the literature on optimum currency areas (OCA), Kenen (1969) claimed that monetary integration needs fiscal integration.<sup>6</sup> At the time of the Maastricht Treaty, a few research works were already done in order to assess the costs and benefits of a

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<sup>1</sup> According to Caudal et al. (2014), the cost of a Euro area budget would be high (12% of EA GDP) for a rather limited degree of automatic stabilization (11%).

<sup>2</sup> Enderlein and Rubio (2014) recall that the Delors Report in 1989 referred to the creation of a financial mechanism aimed at helping countries with transitory difficulties. But the report did not expose the details of such mechanism. The members of the Delors Committee were thinking more about using the EU budget in a discretionary way in bad times. Going further back, the issue was also considered in the McDougall report of 1977.

<sup>3</sup> Some proposals deal with the EMU dimension and consider the Euro area countries only, while some others cover the EU (European Union) as a whole. In this paper, the terms EMU and EU are often used interchangeably, except in the assessment of simulated effects.

<sup>4</sup> It is also called the Four Presidents’ Report (presidents of the European Council, the European Commission, the European Central Bank and the Eurogroup).

<sup>5</sup> Iara (2015) offers a chronology of contributions to the debate on fiscal union and reviews sources of revenue for an EMU budget.

<sup>6</sup> See Dellas and Tavlas (2009) for a recent appraisal of the OCA literature in light of the EMU.

system of federal transfers in the EU (e.g., Italianer and Pisani-Ferry, 1992; Mélitz, 1993). More recently, some researchers have studied the properties of a common stabilization fund for the Euro area (Carnot et al., 2015; Delbecque, 2013; Enderlein et al., 2013; Furceri and Zdzienicka, 2013). Some others simulated the effects of various transfer schemes in terms of redistribution and stabilization (Bargain et al., 2013; Dolls et al., 2013). In some studies, the common stabilization scheme encompasses all EU countries and not solely Euro area member countries. In some others, the scheme relies on transfers taking the form of unemployment benefits in the Euro area (Brandolini et al., 2014; Dolls et al., 2014; Dullien, 2014; Fichtner and Haan, 2014; Lellouche and Sode, 2014) or in the EU (Beblávy and Maselli, 2014, Maselli and Beblavý, 2015).

In this article, we focus on the creation of a European unemployment insurance fund. The grid we use to analyze the issue is based on the following questions: how would the insurance fund be financed? How could it be designed in order to avoid adverse redistributive effects between countries and provide stabilization only? And to what extent would it help stabilize economies?

Our contributions are six-fold. First, we explore the theoretical underpinnings of a common insurance system designed for stabilization purposes, asking whether a group of different countries (or regions) is better or worse off with a common insurance mechanism. What are the conditions on which these countries could agree to implement a common insurance mechanism against shocks? On what basis could they reach an agreement on the financing of the system?

Second, we carry out a large set of simulations in order to analyze how the design of an EU-wide unemployment insurance system – the choice of parameters along different scenarios – influences financing and net transfers to countries. Our work covers the 27 EU countries over the period 2005-2014. The results reveal that transfers can be large, but are overall sustainable, especially if one takes an inter-temporal (i.e., business-cycle long) perspective, and / or compares the contributions needed with what member states contribute to the EU budget.

Third, and although the issue is sometimes blurred in the literature, we make a clear focus on stabilization issues, and deliver a straightforward measure of the degree of stabilization provided by such a system for all our scenarios. Our results reveal that the system is generally desirable on this ground, except for some specific countries, for which the transfers would increase the volatility of their economy.

Fourth, we discuss implementation problems and some potential undesirable problems that could emerge with the establishment of the fund.

Fifth, we consider in our analysis the whole of the EU, and not only the Euro area. This is for several reasons. The first is that all countries contribute to the EU budget, and we can thus compare their contributions with the ones that would be requested by an unemployment insurance fund. Second, even though it is presently questioned, the official aim, written in the Treaties, is that all the Member States join the single currency area. Admittedly, Denmark and the United Kingdom have opt-outs.<sup>7</sup> They could nevertheless be allowed to take part in the insurance system. Finally, and most importantly, given that crises have strong spillover effects, even non-Euro area countries may have an interest in participating in a common stabilization system.

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<sup>7</sup> We ran simulations in a last scenario without both countries.

A sixth contribution is that we provide a supplementary (online) Appendix that allows the readers to run their own simulations in a transparent and easily accessible way, through an Excel-designed file.

The paper is organized as follows: we explain the theoretical background of a common insurance scheme (section 2) before reviewing the features of such a scheme for European countries (section 3). We then proceed with our simulations (section 4). We finally discuss key issues in the design and implementation of such a scheme (section 5) and conclude (section 6).

## **2. Symmetric shocks insurance design: main theoretical aspects**

Our goal is not to provide here a complete review of the arguments for or against the creation of a European insurance mechanism against asymmetric shocks.<sup>8</sup> We nevertheless intend to review the main theoretical underpinning arguments, as they frame the analysis of the desirability of the system.

### ***2.1. What are the rationales for a common insurance system?***

In the public finance literature (and, in particular, the literature on fiscal federalism), a federal system of tax and transfers between regions can act as an insurance mechanism when there are idiosyncratic regional shocks (or country-specific shocks). Such a centralized system is considered as a potentially useful insurance mechanism when the probability that idiosyncratic shocks occur is high and other mechanisms are weak or inexistent, such as a private insurance mechanism (capital markets) and labour mobility. While the literature on optimal currency areas deals with this subject – which adjustment mechanisms or risk-sharing mechanisms to asymmetric shocks are available in a currency union –, the public finance literature studies the conditions for a centralized system to be efficient. In general, it is more likely to be efficient when preferences about (net) transfers are more similar across jurisdictions (as famously pointed out by Kindleberger, 1986).

As regards the need for insurance, it obviously exists, as EMU is still not an OCA (Eichengreen, 2014). Non-EMU EU countries shall also be permitted to participate in the system as long as not all of them are in a flexible exchange rate regime. Anyway, they are legally bound by the Treaties to participate in the EMU sooner or later (except Denmark and the United Kingdom).

Furthermore, Bucovetsky (1998) shows that in the case where there is uncertainty about which region will be rich or poor, two regions may decide upon forming a federation with transfers if risk-aversion is sufficiently high and mobility costs as well (or the difference between the per capita income of the rich region and the per capita income of the poor region is decreasing). In Lee (1998), a centralized insurance system against idiosyncratic regional shocks may be necessary even if individuals are mobile, because “*the decentralized system creates externalities and distorts the allocation of labor*” (p.416).

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<sup>8</sup> For reviews of the pros and cons of a European insurance mechanism, see Allard et al. (2013a) and Clayes et al. (2014).

In terms of incentives, Guiso et al. (2013) support the idea that the greater the cultural heterogeneity between countries, the more useful a fiscal union is. They illustrate their game-theoretic model with the cultural clash between Germans and Greeks (the former wanting to punish the latter for cheating) during the Euro sovereign debt crisis. According to their reasoning, a fiscal common authority would circumvent cultural disagreements (and, shall we add, much shilly-shallying) in deciding upon what to do in the face of a crisis.

In terms of stabilization effects, the Keynesian multiplier of supranational transfers to households might be higher than that of national fiscal policies (Engler and Voigts, 2013). As long as households are not subject to Ricardian equivalence nor impose risk premia (which can happen if households are not fully aware of the – level of – federal taxes, and / or if the insurance system is not being able to emit debt).

Moreover, politically, it would be a great sign of European integration if households could receive a payment directly from a European agency (the one in charge of the fund) via a check or bank transfer. This would however require that national tax authorities cooperate with the agency in order to identify beneficiaries.

## ***2.2. What are the main impediments to common insurance?***

As is well known since at least Musgrave and Musgrave (1989), it is hard to disentangle stabilization from redistribution effects in any system of transfers being aimed at insuring regions against the risk of income loss. In the nineties already, the problem was deemed important (European Commission, 1993). Note that some recent works have also emphasized that there might be significant redistribution of income between countries with little stabilization of income in the presence of asymmetric shocks (Bargain et al., 2013).

As regards national contributions to the system, some countries might end-up being permanent net contributors, while some others would be permanent net recipients (Dolls et al., 2014). In order to avoid this problem, either a country receives ad-hoc compensatory payments on a regular basis (Von Hagen, 2007) or the system has a capacity to borrow. Note that this problem already exists with the contributions to the EU budget (Table 1): four EU countries have been permanent net contributors (Austria, Belgium, Germany, and Sweden) while thirteen other countries have been permanent net recipients. Politically, how much more would some member countries have to contribute for an extra common solidarity mechanism and would this be worth it?<sup>9</sup>

**[Insert Table 1 about here]**

Any insurance system is subject to moral hazard. Persson and Tabellini (1996a) explain that full insurance provided by a federal transfer system is not optimal because of incentive problems: as long as federal transfers insure local governments against asymmetric shocks, they can reduce the incentives of local governments to enact policies that reduce the occurrence of these shocks or help the local economy adapt to these shocks. Local

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<sup>9</sup> If a European insurance system was found to need a borrowing capacity, the debt-related risk-sharing issue could also prove to be a tricky one. The subject of issuing Eurobonds is nevertheless beyond the scope of this article. See, e.g., Pisani-Ferry et al. (2013) on this issue, who consider the options of GDP-indexed sovereign bonds and a common guarantee on borrowing.



governments do not internalize positive spillover effects of local public investment on the aggregate risk. One option is to complement the risk-sharing scheme with a federal public investment scheme.<sup>10</sup> In practical terms, this also raises the question of the coexistence of an EU unemployment insurance system along with national systems: should the former replace or complement the latter? And to what extent should it complement them?

Depending on the information that the central government has on regional shocks, the degree of insurance provided by the federal government might not be optimal (Lockwood, 1999). In particular, there might be over-insurance due to a common pool problem (Sanguinetti and Tommasi, 2014): in the case where the federal government has incomplete information about the actual realization of local income shocks, local governments increase local expenditure expecting federal transfers, and do not take into account the negative externalities of their decisions on other localities, namely fewer federal resources available to finance the federal public good (that is, insurance).

Finally, there might be difficulties because of the heterogeneity of structures and preferences among countries. Alesina and Perotti (1995) show that a centralized system is not necessarily superior to a decentralized one, because there is a trade-off: on the one hand, under centralization, the variability of the tax base and hence that of subsidies to individuals are lower; on the other hand, the endogenously-determined tax rate is more variable, and this cost is higher when income polarization is higher (that is, when preferences of voters are more heterogeneous).

### ***2.3. What is the optimal contribution rate?***

Concerning the financing of the system, the optimal contribution rate is likely to differ across countries.

Persson and Tabellini (1996b) consider that a low-risk country, i.e. a country with a lower probability of being in a bad aggregate state than that of the other country, will accept a lower contribution rate than that of the high-risk country. They compare two federal schemes. First, transfers to governments decided upon through collective bargaining will provide underinsurance, because the low-risk country has more clout in the negotiation than the high-risk country (autarky being a reference point) and it imposes a lower contribution rate (hence, funds are insufficient). Second, transfers to individuals, chosen by voting, will provide over-insurance, because individual voters with a higher risk of income loss are more likely to form cross-border coalitions or to have higher turnout rates.<sup>11</sup> In practical terms, this means that the institutional procedure of choosing the contribution rate matters!

Similarly, in a framework of strategic institutional choice, Luque et al. (2014) show that large, rich or low-risk countries (i.e. with low volatility of income) will bargain for a lower union's tax rate than the other countries. Indeed, for large countries, the union's tax rate will apply to a tax base mostly composed of their income. As for rich countries, they want to avoid "expropriation" by a union tax rate higher than their preferred one. And low-risk countries do not expect a great need of insurance. Drawing from this analysis, we can infer that the optimal

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<sup>10</sup> Note that the European Commission has recently launched a vast EU-wide investment plan.

<sup>11</sup> But the threat of secession by the low risk-region imposes an upper bound on the extent of over-insurance. They conclude: "*As a consequence, residents in the rich region prefer intergovernment transfers with bargaining, whereas residents in the poor region prefer voting on a centralized social insurance. The reason is that the size of interregional transfers is larger under the second arrangement than under the first.*" (p. 1007)

contribution rate of Germany, which is a large, rich and low-risk country, is lower than that of, say, Greece. Does it mean that Germany should be entitled to claim more voting powers to accept joining a fiscal union (or common insurance system)?<sup>12</sup> Yet, as has become recently apparent, it could also be in the interest of this country to accept a fiscal union whose costs might be inferior to those of financial rescue packages.

If the common insurance system is to be financially balanced at each period, Von Hagen (2007) proposes that the high-risk country pays a premium that the federal government would use as a fixed transfer paid to the low-risk country, in order to compensate the latter for providing more insurance than it would find optimal. Although the UK rebate on the EU budget shows the possibility of such a correction mechanism, the political upheavals associated with each (re)negotiation can only raise doubts on the desirability of such ad hoc systems.

We can draw one important conclusion from these analyses: if the probability of asymmetric shocks is not the same across countries in a monetary union, then the contribution rate to the common insurance system has to be country-specific. If it were to be identical across countries, then a repayment should be allowed for those less frequently hit by negative asymmetric shocks (on efficiency grounds, not redistributive ones). In terms of incentives, this repayment could mitigate part of the moral hazard problem: being insured against asymmetric shocks, national governments would be less keen on implementing policies to reduce the risk of such shocks, unless they receive a repayment for being less subjected to these shocks. The practicality of such a design, however, is far from obvious, as the recent literature on the design of a European unemployment system shows.

In a nutshell, the main benefits come from sharing the adjustment burden in the face of adverse asymmetric shocks (and these are larger the further the area is from being an optimum currency area), while the main costs are the share of the contributions made to the common insurance fund.

### **3. Designing an European unemployment insurance system**

In this section, we discuss the features of an unemployment insurance system, starting with the description of the formulas used to compute payouts, contributions and net transfers.

#### ***3.1. Basic formulas***

Starting from the formulas exposed by Lellouche and Sode (2014), we can first define the benefits,  $B_{i,t}$ , paid out by the central scheme to a Member State  $i$  in year  $t$ , as:

$$(1) B_{i,t} = RR \times \alpha \times w_{i,t} \times CR \times U_{i,t},$$

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<sup>12</sup> This would run opposite to the arguments made, e.g., by Casella (1992), and according to which the smaller country will obtain a voting power superior to its economic weight to participate in the union.

where the variables  $w_{i,t}$  and  $U_{i,t}$  are the average wage in the economy and the number of unemployed respectively. As far as those currently unemployed were not earning the average wage before, the parameter  $\alpha$  represents a proportion of the average wage. For example  $\alpha$  is equal to 0.8 in the "do it by yourself" experiment proposed online by Clayes et al. (2014) from Bruegel think tank.  $RR$  denotes the replacement rate (unemployment benefit as a percentage of previous wage) while  $CR$  is the coverage ratio (number of unemployed receiving benefits as a percentage of total number of unemployed). For given identical parameters across countries ( $RR$ ,  $CR$  and arguably  $\alpha$ ), the amount of benefits paid to each country depends positively on the average wage in the economy and the number of unemployed.

Contributions  $C_{i,t}$ , that each Member State pays into the scheme, are a share of the total wage bill:

$$(2) C_{i,t} = \tau_{i,t} \times w_{i,t} \times E_{i,t},$$

with  $E_{i,t} = (1 - U_{i,t})$  representing total employment and  $w_{i,t} \times E_{i,t}$  the wage bill. The contribution rate  $\tau_{i,t}$  is to be chosen. Imposing a uniform contribution rate  $\tau$  across countries would imply that national contributions will increase with the national wage bill.

Net transfers received or paid by each Member State,  $T_{i,t}$ , are given by:

$$(3) T_{i,t} = B_{i,t} - C_{i,t}.$$

A country  $i$  is a net recipient from the system in time  $t$  if  $T_{i,t} > 0$  and a net contributor otherwise.

One key variable for the financing of the insurance fund is thus the contribution rate ( $\tau$ ). It can be single (i.e. common to all countries) and determined so that the fund is balanced over a given period, say over the past three years:

$\tau_t$  such as  $\sum_{j=t-3}^{t-1} \sum_i T_{i,j} = 0$ , that is:

$$\sum_{j=t-3}^{t-1} \sum_i B_{i,j} - \sum_{j=t-3}^{t-1} \sum_i \tau_{i,j} \times w_{i,j} \times E_{i,t} = 0$$

and:

$$(4) \tau_t = \frac{\sum_{j=t-3}^{t-1} \sum_i B_{i,j}}{\sum_{j=t-3}^{t-1} \sum_i w_{i,j} \times E_{i,j}}$$

The single rate is equal to the sum of all benefits paid to all countries during the past three years divided by the sum of all national wage bills during the same period. It is updated each year. But it could be updated less frequently, for example every five years as in Lellouche and Sode (2014). Alternatively,  $\tau$  can be differentiated among countries and computed so that the fund is balanced at the country level, say over the past three years:

$$(5) \tau_{i,t} = \frac{\sum_{j=t-3}^{t-1} B_{i,j}}{\sum_{j=t-3}^{t-1} w_{i,j} \times E_{i,j}}$$

Specifically,  $\tau$  equals the sum of benefits received by country  $i$  during the past three years divided by the sum of the wage bill of country  $i$  during the past three years. Setting country-specific contribution rates that balance national net positions is called experience rating.<sup>13</sup>

### 3.2. National disparities

How would the values of the parameters be chosen? Given the heterogeneity of national labour markets (described in Table 2), answering this question is quite tricky.<sup>14</sup> At least, the choice should be made in a consistent way. For instance, the value of each parameter is to be taken from the same year. Due to data availability, we use the year 2010. In that year, gross replacement rates varied from 10 percent in the United Kingdom to 80 percent in Luxembourg. The average was 46 percent in the EU. It is higher if one takes into account the net replacement rate (after tax): 56 percent. The difference between both rates is large for some countries (*e.g.* Belgium, Germany, and Latvia). Coverage ratios also differ across countries. Legal coverage was on average 76 percent in 2010. Three countries had 100 percent coverage: Ireland, Greece, and Finland. At the lower end, unemployment insurance in Romania covered less than half the labour force. However, effective rates can be very different from legal rates.<sup>15</sup> For example, in Greece, only 40 percent of unemployed actually received benefits in 2010 (the figure was 16 percent in 2014). Effective coverage was on average 53 percent in that year in the EU.

As for the maximum duration of benefits, it ranges from 5 months in Malta and the Czech Republic to an unlimited period in Belgium. On average, it was around 14 months in 2010 in the EU.

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<sup>13</sup> In general, in the literature, there is no full experience rating (cumulated cash flows would be zero over the whole period) but partial experience rating (the cumulated net position is balanced over sub-periods).

<sup>14</sup> For an overview of national unemployment insurance systems in the EU, see also Esser et al. (2013), Beer et al. (2014).

<sup>15</sup> The legal rate represents people who are eligible to unemployment benefits as a proportion of total labour force while the effective rate represents unemployed who actually receive unemployment benefits as a proportion of total unemployed.

There are other conditions, in particular in terms of eligibility. For instance, a minimum period of previous work (employment or contributions) is required in order to become eligible for insurance benefits. In 2010, the qualifying period varied from less than 5 months in France to more than 3 years in Slovakia (Esser et al., 2013).

Overall, national unemployment insurance systems are obviously more or less generous. Clayes et al. (2014) warn that heterogeneity in that matter makes it hard to design a common scheme. Should the common unemployment insurance system be designed to match the least generous national system or should it be an average of national systems? In the former case, the stabilization effects are likely to be small. In the latter case, contribution rates would increase for employees in the least generous countries.

**[Insert Table 2 about here]**

### ***3.3. Main features***

The idea of a basic European unemployment scheme (Dullien, 2013) is to provide a minimum amount of unemployment benefit and let member states be more generous if they want to by giving a national supplement and for a longer period of time than the duration of the European benefits. In the recent literature, the features of existing proposals or simulated schemes differ according to the trigger (what starts the insurance mechanism), eligibility, payouts, duration of benefits, and contributions. All these render the comparison of the existing proposals quite difficult, as can be seen from Table 3.

**[Insert Table 3 about here]**

For example, concerning the trigger, unemployed could benefit from the EU unemployment insurance scheme at all time (i.e. under any circumstances). Alternatively, there could be a contingent clause under which the scheme would enter into force only in some exceptional circumstances, such as a strong increase in the unemployment rate.

Also, concerning other features, most of schemes cover short-term unemployed only, from the start of unemployment or from the third or fourth month (in order to avoid financing seasonal unemployment). Most of the time, the duration of benefits is one year, the coverage ratio is at least 50 percent (meaning that half of unemployed are insured), the replacement rate is set to 50 percent, and  $\alpha$  is equal to 100 or 80 percent. As for the contribution rate  $\tau$ , it varies between 0.4 and 2 percent, or it is either set for balancing the aggregate position of the fund or that of each country. As exposed above, as long as national unemployment insurance systems and labour markets are heterogeneous, imposing a uniform contribution rate  $\tau$  would not be desirable. It could create distributional issues across countries.

A deductible is hardly ever added to the features of the scheme.<sup>16</sup> Yet, Gros (2014) argues that the insurance should cover the insured only above a certain deductible or threshold as is common in the insurance industry. With a deductible (of say 1 percent of GDP), the shock is fully absorbed above the threshold. Instead, in most proposals, the coverage is not 100

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<sup>16</sup> An exception is Beblavý et al. (2015).

percent, probably because of the lack of a deductible. Gros (2014) refers to the US Extended Benefits Program: it is triggered if the state unemployment rate is above 5 percent (and has been increased by more than 20 percent relative to the two preceding years).

### ***3.4. Net transfers and stabilization impact***

Existing studies are based on counterfactual simulations, built in order to assess the amount of net transfers had the EU insurance scheme existed over a given period. However, it is not easy to draw firm conclusions from their results (see Table 4). Indeed, simulations differ from one study to another with regard to the choice of parameters (see Table 3 above), but also according to the number of countries and the period covered. Yet, it is obvious that the size of the sample as well as the starting date would critically influence the amount of transfers.

The cumulated cash position of the insurance fund is either in surplus (around 0.3% of EA GDP) or in deficit (0.2 % of GDP), with the exception of larger amounts (around 4 or 5 % of EA GDP) in Dullien (2013). Spain is almost always the main beneficiary. During the recession year 2009, net transfers could have amounted up to 1.5 percent of Spain's GDP in the proposal made by Dullien (2013). Among the net contributors, there are rich countries (in particular, the Netherlands and Austria), but not only: for instance, the Czech Republic, Malta and Romania could be net contributors (less than 1 percent of GDP) in both schemes simulated by Beblávy and Maselli (2014).

In most schemes, then, cumulated net contributions to the insurance fund are higher than those to the actual EU budget (see Table 1). Are member states ready to pool more funds in order to share the costs of short-term unemployment insurance? An additional problem is that there are often permanent net transfers. For instance, this is the case in all six scenarios studied by Dolls et al. (2014), which differ according to coverage ratios and generosity levels.

**[Insert Table 4 about here]**

In the recent literature on insurance schemes, some authors compute the stabilization impact of transfers. Overall, the average stabilization impact during the recession year 2009 ranges between 5 percent (Dullien, 2014) to 36 percent (Dolls et al., 2014). For Spain, the main beneficiary of various European unemployment insurance schemes, the maximum impact during that year would be 29 percent (Dullien, 2014) or the additional output would be 1.8% of GDP (Beblávy and Maselli, 2014). However, there could be some adverse effects. In Fichtner and Haan (2014), under the generous model, the recession in Spain would have been a fall in GDP of -3.1% instead of -3.8% (actual data) in 2009, but afterwards, due to cash reversal (as the recession becomes milder and short-term unemployment becomes long-term unemployment), the recession would have been worse in 2010 (-0.4% instead of -0.2% in actual data) and in 2011 (-0.26% instead of +0.05%).

There are some limitations though. First, results are not comparable, because methods differ. In terms of measurement, Dullien (2013) computes stabilization effects by the ratio of the change in net transfers to the change in output gap. In Beblávy and Maselli (2014), the stabilization impact is measured by net transfers received multiplied by the fiscal multiplier. In Dolls et al. (2014), simulations are made with Euromod, a calculator of taxes and benefits of EU countries. An income stabilization coefficient is computed and basically measures the

change in disposable income after a shock on gross income. In Fichtner and Haan (2014), stabilization effects are simulated with NiGEM. The propensity to consume is calibrated in the model with a high value given that unemployed are likely to consume a large part of their payouts.<sup>17</sup>

Second, the stabilization impact may be overestimated. It is, indeed, generally assumed that the multiplier is one: a 1 percent increase in transfers gives rise to a 1 percent increase in GDP.<sup>18</sup> Yet, there is a controversy about the size of the Keynesian multiplier. Estimates vary widely in the literature depending on theoretical assumptions or statistical methods. In the United States, the Congressional Budget Office (CBO) uses a range of estimates: between 0.4 (low estimate) and 2.1 (high estimate) for transfer payments to individuals (Whalen and Reichling, 2015).

Finally, Wolff (2012) is not in favor of an EMU-wide unemployment insurance system, because the macroeconomic effects would be too limited. He refers to the study of Asdrubali et al. (1996) based on the working of the federal tax and transfer system in the United States. According to their results, 13 percent of a shock to gross state product is absorbed by fiscal transfers between states. Out of this total of 13 percent, only 1.9 percent comes from unemployment benefits.

#### **4. Simulating a European insurance system**

In order to have a consistent picture of how the parameters of the scheme influence net transfers, we ran a large set of simulations considering all EU countries, except Croatia for which there are too many missing data. We have detailed above the reasons that drive us to consider the whole EU, and not only the members of the Euro area. We use data from Eurostat (unemployment rate, number of short-term unemployed) and AMECO (GDP, compensation per employee, and aggregate compensation of employee). Our sample period is 2005-2014. As long as there are missing data for some countries with regard to short-term unemployment before 2000, we could not start the sample at 2000. Indeed, in some scenarios, we need to compute averages of some variables over the past few years. Starting at 2005 allows us to avoid the problem of missing data. This is critical because missing data would bias the amount of transfers to countries as long as the number of unemployed and its evolution determine the amount of benefits.

The computation of net transfers (the net position of each country with regard to the fund) is based on formulas given in the previous section (see Equation (3)). Two variables are used for benefits (Equation (1)): average wage (i.e. compensation per employee) and the number of short-term unemployed. In our baseline scenario, we set the parameter  $\alpha$  at a value of 0.8 (share of the average wage in the economy that those currently unemployed used to earn). It is arguably identical across countries. We focus instead on another source of heterogeneity across countries, namely the replacement rate (RR). We take the EU average of the gross RR (0.46) in the baseline, but we also consider a scenario with the net RR (0.56 on average in variant 1) and another one with country-specific gross RR (national RR is taken if it is below the EU average in variant 2). As for the coverage ratio (CR), it is set at 100 percent in the baseline scenario and at 80 percent in a less generous scenario (variants 3 and 5). For the contributions (Equation (2)), we need to apply a contribution rate ( $\tau$ ) to the wage bill

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<sup>17</sup> The authors do not precise the value of the parameter.

<sup>18</sup> Beblávy et al. (2014) use a multiplier of 1.5.

(aggregate compensation of employees). In the baseline scenario, tau is single, that is common to all countries and computed (and updated each year) so that the fund is balanced over the past three years (Equation (4)).<sup>19</sup> Alternatively, tau could be country-specific (variants 4, 5, 7 and 9) so that the net position of the country is balanced over every past 3-year period (Equation (5)). Moreover, one has to decide upon the trigger, that is whether the insurance fund gives benefits at all time (short-term unemployed receive benefits during one year) or under special circumstances. In the baseline scenario, the scheme works all time, but we consider some other triggers: first, we take bad times that we define as years where short-term unemployment rises more than 10 percentage points (variants 6 and 7). Second, we look at the US system (the Extended Benefits Program during the financial crisis) whereby benefits are paid to short-term unemployed when unemployment rate exceeds 5 percent and is 20 percent above the level of the past two years (variants 8 and 9). Finally, we consider a scenario without the participation of Denmark and the United Kingdom (variant 10).

Table 5 shows the accumulated net position (in percentage of 2014 GDP) of each country and of the fund for the whole period 2005-2014 under the baseline scenario and all variants. Detailed results for each scenario are displayed in tables in the appendix (in € million and as a percentage of GDP for each year).

Under the baseline scenario (first column of Table 5 and Table A1), total payouts would have amounted to 48 €bn during the 2009 recession, and the fund would have been in deficit (27 €bn), because the accumulated surpluses the year before up to 20 €bn would still have not been sufficient. At the end of 2014, the total deficit would have been 49 €bn. Spain would have been the main net recipient (about 182 €bn over 10 years), but Germany would have been a net contributor up to 107 €bn at the end of the period. If the sums look important, they are much less impressive when expressed in percentage of GDP. For Germany, the net contribution would represent 3,7% of its GDP spread over 10 years – that is, not far from its actual accumulated net contribution to the EU budget, precisely 3.3% of GDP over the same period (see Table 1). The deficit of the fund would represent 0.4% of EU GDP. There would be three *permanent* net recipients: Spain (17% of GDP over the 10-year period), Greece (7% of GDP), and Sweden (1% of GDP). And there would be four *permanent* net contributors: Luxembourg (6% of GDP), the Netherlands and Malta (3% of GDP), and Slovenia (2% of GDP). Taking the net replacement rate instead of the gross rate (Variant 1) or applying the national rate if it is below the EU average (Variant 2) would not change the overall position of the fund over the whole period. Yet, at the country-level, there would be more benefits for some (net recipients) or more contributions for others (net contributors) with a higher replacement rate. Applying country-specific rate for countries whose national gross replacement rates are below the average (see Table 2) could change the net position.

**[Insert Table 5 about here]**

The coverage ratio could be adjusted (80 percent instead of 100 percent in Variant 3) in order to reduce the deficit of the fund over the whole period (the deficit would be 0.3% of EU GDP

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<sup>19</sup> We choose a 3-year period because due to missing data before 2000 with regard to the number of short-term unemployed, we cannot compute benefits (and hence tau) over the past four or five years under certain scenarios (e.g. with the trigger being a percentage change in the number of unemployed).



instead of 0.4%). The political acceptability of such a version is probably higher, although at the cost of a reduced generosity. One could instead consider country-specific contribution rates (Variants 4 and 5). In this case, there would not be any net permanent positions (see Tables A5 and A6). The amount of payouts would be far lower yet. Spain would still be the main net recipient (4% of GDP over the whole period) and Poland would be the main net contributor (1% of GDP). Note that the fund would be in deficit (0.4 % of EU GDP). Either the fund is given a borrowing capacity or it is triggered only in special circumstances, i.e., in bad times. In Variants 6 and 7, we consider “bad times” (defined as years where the number of short-term unemployed rises more than 10 percentage points) with a contribution rate which is either common or country-specific (respectively). Under these variants, the fund would have accumulated surpluses of 30 €bn (0.2% of GDP) and 18 €bn (0.1% of GDP) respectively. All countries would have been net recipients in 2009. Note that Greece and Portugal would no longer be net recipients if the contribution rate were country-specific. And the cost of the system would be far higher if Denmark and the United Kingdom did not participate into it (Variant 10).

Finally, in many discussions about adjustment mechanisms to shocks, the experience of the United States is taken as a reference point and a model for Europe. We here take the analogy seriously. During the financial crisis, the federal Extended Benefits Program provided benefits for an additional period of 13 weeks and was triggered if the state unemployment rate exceeded 5 percent and was 20 percent above the level of the previous two years. The advantage of this mechanism is that it is based on shocks to unemployment, and not solely on the level of unemployment. Given that the latter can be structural and depends on countries’ specific institutions, this further avoids the redistribution issue. We thus simulate such a “US scenario” with a common contribution rate (Variant 8) or a country-specific one (Variant 9). There would not have been any permanent net positions in any case. Moreover, each variant gives some interesting results: under a common contribution rate, the deficit of the fund would have been the lowest (0.2% of GDP); the main net contributors would be rich countries (Belgium, Germany, France, Luxembourg, and Austria), and the countries which suffered from a sharp increase in unemployment would be the main net recipients (Spain, Greece, and Cyprus). Under a country-specific contribution rate, most countries would have a balanced position over the period and again, the main net recipients would be the same as in the previous case (with lower net benefits though).

All in all, then, the “US scenario” with country-specific contribution rates leads to more satisfactory outcomes than other scenarios with regard to the cash position of the fund, the cost of the system at the national level, and the fact that there are no permanent net positions. It thus avoids the suspicion of redistribution that could hinder negotiations of an unemployment insurance system.<sup>20</sup> However, there could be some other criteria for assessing the different variants. One could consider the “relative variability” indicator (Table 6): would net transfers increase or decrease the variability of GDP? On average, and this is consistent with intuition, a fund dedicated to bad times (variants 6 and 7) would perform better: the variability of GDP would be 3% lower with net transfers. At the country level, most countries (16 out of 27) would have the lowest variability under the “US system” with a common contribution rate (variant 8).

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<sup>20</sup> It does not, however, completely address the country-level moral hazard problems. For instance, how can one be sure that a country does not put individuals in and out of short-term unemployment insurance in order to (re-)qualify them for European transfers? Although the issue cannot be neglected, it lies out of the scope of this paper.

[Insert Table 6 about here]

## 5. Ancillary issues

### 5.1. Implementation issues

First, the aggregate cash position of the system depends on the economic situation of member countries, and hence on the starting date. It also depends on the definition of the trigger. In our simulations, the accumulated position of the fund would have been a deficit in 2014 (despite a surplus that year) in the baseline scenario, but a surplus in the bad times scenarios Variants 6 and 7).

There is also a risk of falsification of labour force statistics by some national governments. Statistics on short-term unemployment might be rigged by governments, which would seek to contribute less to the financing of national unemployment.

It is often implicitly assumed that the introduction of a European unemployment insurance will come along with a reduction in contributions to national insurance.<sup>21</sup> Yet, the total cost of insurance for unemployed would increase if governments are not willing to lower national social security contributions.

Fourth, if all countries were severely hit by a protracted crisis at the same time, the European insurance scheme would be in deficit. Therefore, before deciding upon implementing this scheme, one has to make sure that there is a political agreement upon the possibility of borrowing at the European level in order to finance the scheme if needed. This is, however, a delicate issue in the European arena (as, for example, the EU budget is already not allowed to be in deficit).

Finally, one ought to think about the way a European unemployment insurance system can fit in the existing institutional framework, namely the European Social fund and the European Globalisation Adjustment Fund (Beblavý and Maselli, 2014). Would the latter two be the victims of the new system, sacrificed during the political bargaining stage, to reduce the overall cost of participation to the European process? At the present moment, this cannot be ruled out.

### 5.2. A "bullet-proof" system?

If only for political acceptability, in the present circumstances, permanent net transfers across countries are to be avoided. In Dolls et al. (2014), even in simulations with some experience rating, there are some permanent net recipients and contributors. In our simulations, we could avoid this by setting country-specific contribution rates that balance the country cash position over the past three years. Moreover, the "US scenario" goes even further in this direction, increasing the desirability of the system.

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<sup>21</sup> Fichtner and Haan (2014) make the assumption explicitly.

One should be careful about some potential anti-redistributive effects that could occur. Richer countries might receive more European transfers than poorer countries during a recession or severe economic slowdown. For instance, in our simulations, Poland is often a net contributor.<sup>22</sup>

Besides, the system could be a support in terms of public finance for some countries, or a kind of windfall for some others. Indeed, if we compare simulated transfers with actual amount of national public expenditure in unemployment benefits (Table 7), an EU insurance could be a support in terms of public finance for Spain (especially the variant 6 under bad times or the variant 8 under the US specification) where the amount of unemployment benefits is already relatively high (3.6% of GDP during the recession year of 2009). But it could also be a kind of windfall for Latvia or Lithuania where public expenditure in unemployment benefits is relatively low (1.6 and 0.9 % of GDP respectively).

**[Insert Table 7 about here]**

The definition of the trigger is critical. For instance, if the trigger is the change in the unemployment rate, some countries might be net contributors despite a high level of unemployment. For instance, Ireland would be a net contributor in 2014 in most of simulated schemes except under variants where the trigger is influenced by the change in unemployment such as variant 7 (bad times and specific tau) and variant 9 (US system and specific tau).<sup>23</sup>

The definition of the payouts and the contributions are also crucial: in Artus et al. (2013), some countries are net recipients despite a low structural unemployment rate (Netherlands), because the payments received are based on the unemployment rate whereas the contributions are based on the structural unemployment rate.

If only short-term unemployment is insured by the common scheme, some countries with a higher share of long-term unemployment could bear the costs of an additional insurance without benefiting as much from it. This is the case of Italy, for instance, in the scheme proposed by Dullien (2013), but not in our scenarios with country-specific contribution rates and payments during bad times only.

Also, a European insurance scheme for short-term unemployment is certainly not suitable in case of a protracted slowdown, because an increasing share of long-term unemployed would not be covered. Indeed, the share of short-term unemployment decreased in all EU countries except Germany between 2009 and 2014 (Table 8). In Greece, the unemployment rate increased by 27% but the share of short-term unemployment decreased by 56%.

**[Insert Table 8 about here]**

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<sup>22</sup> Similarly, in the proposal of an EMU insurance system based on the pooling of bonds, made by Drèze and Durré (2014), Luxembourg would have been a net recipient and Spain a net contributor.

<sup>23</sup> It would also be a net recipient in 2014 in variant 10 (EU-25).

## 6. Conclusion

All in all, intellectually, a EU-wide insurance mechanism appears a good idea to reinforce a European integration process presently under stress. It may well be drowned by numbers, though. And in particular if member states are still inclined to ask for a “juste retour” (fair return) on their contributions to the common insurance scheme.

Anyway, whatever the EMU-wide insurance mechanism, it is to be thought as an element of a comprehensive package of institutional reforms aimed at improving the European integration process. From this point of view, Artus et al. (2013) propose to complete the euro with an institutional reform based on a banking union, a European unemployment insurance and a fiscal stabilization system (with rules regarding the issuance of debts).

Considering the cost of any insurance scheme and the possibility of permanent transfers, Daniel Gros (2014) argues that we should think about creating a shock-absorber mechanism against large shocks instead of trying to smooth the effects of all shocks. However, his proposal would probably require the EU fund to be allowed to borrow during very bad times. This is, again, a more than delicate political matter.

## References

- Alesina A. and R. Perotti (1995), “Economic risk and political risk in fiscal unions”, *NBER Working Paper* No. 4992.
- Allard C., P. K. Brooks, J. Bluedorn, F. Bornhorst, K. Christopherson, F. Ohnsorge and T. Poghosyan (2013a), “Toward a Fiscal Union for the Euro Area”, *IMF Staff Discussion Note* 13/09.
- Allard C., P. K. Brooks, J. Bluedorn, F. Bornhorst, K. Christopherson, F. Ohnsorge and T. Poghosyan (2013b), “Toward a Fiscal Union for the Euro Area – Technical Background Notes”, *IMF Staff Discussion Note* 13/09.
- Andor L. (2014), “Basic European Unemployment Insurance - The best way forward in strengthening the EMU’s resilience and Europe’s recovery”, *Intereconomics*, Forum “Designing a European Unemployment Insurance Scheme”, Vol. 49 (4), 184-189.
- Artus P., A. Bénassy-Quéré, L. Boone, J. Cailloux, J. Delpla, E. Farhi, P.-O. Gourinchas, J. Tirole et G. Wolff (2013), « Compléter l’euro », *Les notes du Conseil d’analyse économique*, No. 3, Avril.
- Asdrubali, P., Sorensen, B. and O. Yosha (1996), “Channels of interstate risk-sharing: US 1963–1990”, *The Quarterly Journal of Economics*, Vol. 111, Issue 4, November.
- Baja-Rubio O. and C. Díaz-Roldán (2003), “Insurance Mechanisms against Asymmetric Shocks in a Monetary Union: a Proposal with an Application to EMU”, *Louvain Economic Review*, 69(1), 73-96.

- Bargain O., M. Dolls, C. Fuest, D. Neumann, A. Peichl, N. Pestel and S. Siegloch (2013), “Fiscal union in Europe? Redistributive and stabilizing effects of a European tax-benefit system and fiscal equalization mechanism”, *Economic Policy*, Vol. 28, No. 75, 375-422, July.
- Beblavý, M., D. Gros and I. Maselli (2015), “Reinsurance of National Unemployment Benefit Schemes”, *CEPS Working Document*, No. 401, January.
- Beblavý M. and I. Maselli (2014), “An Unemployment Insurance Scheme for the Euro Area: A simulation exercise of two options”, *CEPS Special Report*, No. 98, December.
- Bernoth K. and P. Engler (2013), “A Transfer Mechanism as a Stabilization Tool in the EMU”, *DIW Economic Bulletin*, 3(1), 3-8.
- Brandolini A., F. Carta and F. D’Amuri (2014), “A feasible unemployment-based shock absorber for the euro area”, *Banca d’Italia Occasional Paper* No. 254, November.
- Bucovetsky S. (1998), “Federalism, equalization and risk aversion”, *Journal of Public Economics*, 67, 301-28.
- Carnot N., P. Evans, S. Fatica and G. Mourre (2015), “Income insurance: a theoretical exercise with empirical application for the euro area”, European Commission, *Economic Papers* No. 546, March.
- Casella A. (1992), “Participation in a currency union”, *American Economic Review*, 847-63.
- Caudal N., N. Georges, V. Grossmann-Wirth, J. Guillaume, T. Lellouch and A. Sode (2014), “Un budget pour la zone euro”, *Trésor-Éco*, No. 120, Octobre.
- Claeys G., Z. Darvas and G. Wolff (2014a), “Benefits and Drawbacks of European Unemployment Insurance”, *Bruegel Policy Brief*, No. 2014/06, September.
- Clayes G., S. Ganem, P. Hütti and T. Walsh (2014b), *Do it yourself European Unemployment Insurance*, Bruegel. <http://www.bruegel.org/nc/blog/detail/article/1434-do-it-yourself-european-unemployment-insurance/#republishing>
- Dellas H. and G. Tavlás (2009), “An optimum-currency-area odyssey”, *Journal of international money and finance*, 28(7), 1117-37.
- Dolls M., C. Fuest, D. Neumann and A. Peichl (2013), “Fiscal Integration in the Eurozone: Economic Effects of Two Key Scenarios”, *ZEW Discussion Papers* 13-106.
- Dolls M., C. Fuest, D. Neumann and A. Peichl (2014), “An Unemployment Insurance Scheme for the Euro Area? A Comparison of Different Alternatives using Micro Data”, *IZA Discussion Paper* No. 8598, October.
- Drèze J. and A. Durré (2014), “Fiscal Integration and Growth Stimulation in Europe”, *Louvain Economic Review*, 80(2), 5-45.
- Dullien S. (2013), *A euro-area wide unemployment insurance as an automatic stabilizer: Who benefits and who pays?* Paper prepared for the European Commission, Social Europe.
- Dullien S. (2014), “The Macroeconomic Stabilization Impact of a European Basic Unemployment Insurance Scheme”, *Intereconomics*, Forum “Designing a European Unemployment Insurance Scheme”, Vol. 49 (4), 189-193.
- Dullien S. and F. Fichtner (2013), “A Common Unemployment Insurance for the Euro Area”, *DIW Economic Bulletin* 1, 9-14.
- Dullien S. and D. Schwarzer (2009), “Bringing Macroeconomics into the EU Budget Debate: Why and How?” *Journal of Common Market Studies*, 47 (1), 153-174.

- Enderlein H., P. Bofinger, L. Boone, P. de Grauwe, J.-C. Piris, J. Pisani-Ferry, M. J. Rodriguez, A. Sapir and A. Vitorino (2012), *Completing the euro: A road map towards fiscal union in Europe* (Report of the ‘Tommaso Padoa-Schioppa Group’), Notre Europe.
- Enderlein H. and E. Rubio (2014), “25 years after the Delors Report: Which lessons for Economic and Monetary Union?” *Policy Paper* No. 109, Notre Europe.
- Epaulard A. (2014), “Contingent vs. Non-Contingent Unemployment Benefit Scheme for the EMU”, Contribution to the Conference *Economic shock absorbers for the Eurozone*, European Commission, Brussels, June 20.
- European Commission (1993), *The Economics of Community Public Finance*, European Economy, Reports and Studies, No. 5.
- Fichtner F. and P. Haan (2014), “European Unemployment Insurance: Economic Stability without Major Redistribution of Household Incomes”, *DIW Economic Bulletin*, 4(10), 39-50, November.
- Gros D. (2014), “A Fiscal Shock Absorber for the Eurozone? Insurance with Deductible”, *Intereconomics*, Forum “Designing a European Unemployment Insurance Scheme”, Vol. 49 (4), 199-203.
- Guiso L., H. Herrera and M. Morelli (2013), “A culture based theory of fiscal union desirability”, *CAGE Online Working Paper*, University of Warwick.
- Iara A. (2015), “Revenue for EMU: a contribution to the debate on fiscal union”, European Commission, *Taxation Papers* No. 54, March.
- Inman R. (2008), “The flypaper effect”, *NBER Working Paper* No. 14579.
- Jara X. and H. Sutherland (2013), “The implications of an EMU unemployment insurance scheme for supporting incomes”, *Research Note 3/2013* of the Social Situation Monitor, European Commission.
- Jara X. and H. Sutherland (2014), “The Effects of an EMU Insurance Scheme on Income in Unemployment”, *Intereconomics*, Forum “Designing a European Unemployment Insurance Scheme”, Vol. 49 (4), 194-199.
- Kenen P. B. (1969), “The Theory of Optimum Currency Areas: An Eclectic View”, in R.A. Mundell and A.K. Swoboda (Eds.), *Monetary Problems of the International Economy*, University of Chicago Press, Chicago, 41-60.
- Kindleberger C. P. (1986), “International public goods without international government”, *American Economic Review*, 76 (1).
- Lee K. (1998), “Uncertain income and redistribution in a federal system”, *Journal of Public Economics*, 69, 413-33.
- Lellouche T. and A. Sode (2014), “An unemployment insurance scheme for the euro area”, *Tresor-Economics*, No. 132, June.
- Lockwood B. (1999), “Inter-regional insurance”, *Journal of Public Economics*, 72, 1-37.
- Luque, J., Morelli M. and Tavares J. (2014), “A volatility-based theory of fiscal union desirability”, *Journal of Public Economics*.
- Maselli I., and Beblavý M. (2015), “The case for a European unemployment benefit scheme”, *CEPS Commentary*, May 19 (4 pages).

- Méltz J. (1993), “Faut-il une assurance communautaire contre des différences de conjoncture?” *Economie et Statistique*, No. 262-263, 101-108.
- Musgrave R.A. and P.B. Musgrave P.B. (1989), *Public finance in theory and practice*, McGraw-Hill, New York.
- OFCE (2013), *Fiches Régime d'assurance chômage européen*, Dossier. [<http://www.ofce.sciences-po.fr/pdf-articles/actu/Assurance-chomage-europeen.pdf>]
- Persson T. and G. Tabellini (1996a), “Federal Fiscal Constitutions: Risk Sharing and Moral Hazard”, *Econometrica* 64, May.
- Persson T. and G. Tabellini (1996b), “Federal Fiscal Constitutions: Risk Sharing and Redistribution” *Journal of Political Economy* 104 (5), 979–1009.
- Picard P. and T. Worrall (2009), “Currency unions and international assistance”, CREA Discussion Paper 09-01, University of Luxembourg.
- Pisani-Ferry J., E. Vihriälä and G. Wolff (2013), “Options for a euro-area fiscal capacity”, *Bruegel Policy Contribution* No. 2013/01, January.
- Sanguinetti P. and M. Tommasi (2004), “Intergovernmental transfers and fiscal behavior insurance versus aggregate discipline”, *Journal of International Economics*, 62, 149-170.
- Vallée S. (2014), “From mutual insurance to fiscal federalism. Rebuilding the European Monetary Union after the demise of the Maastricht architecture”, *International Economics*, Vol. 138, August, 49-62.
- Von Hagen J. (2007), “Achieving Economic Stabilization by Sharing Risk within Countries”, in R. Boadway and A. Shah (eds.), *Intergovernmental Fiscal Transfers*, Washington, DC: World Bank.
- Von Hagen J. and C. Wyplosz (2008), “EMU’s Decentralized System of Fiscal Policy”, *European Economy Economic Papers* No. 306.
- Wolff B. (2012), “A Budget for Europe’s Monetary Union”, *Bruegel Policy Contribution*, No. 2012/22, December.

**Table 1. Net payments from the EU budget (% of GDP)**

EU Member States	2000-2014				2005-2014 (our sample)
	Accumulated net position	Yearly average	Permanent net position	During the 2009 recession	Accumulated net position
Belgium (BE)	-3.8	-0.3	yes	-0.5	-3.0
Bulgaria (BG)	22.4	1.8	yes	1.7	20.4
Czech Republic (CZ)	11.6	0.8	yes	1.1	11.0
Denmark (DK)	-3.1	-0.2	no	-0.4	-2.9
Germany (DE)	-4.7	-0.3	yes	-0.3	-3.3
Estonia (EE)	24.3	2.1	yes	4.1	22.6
Ireland (IE)	18.4	1.5	no	0.0	6.7
Greece (EL)	50.7	3.1	yes	1.3	26.8
Spain (ES)	1.4	0.0	no	0.1	1.6
France (FR)	-1.8	-0.1	no	-0.3	-2.2
Italy (IT)	-2.9	-0.2	no	-0.3	-2.4
Cyprus (CY)	2.4	0.2	no	0.0	1.8
Latvia (LV)	26.2	2.2	yes	2.7	24.4
Lithuania (LT)	34.1	2.9	yes	5.5	31.7
Luxembourg (LU)	-2.3	-0.2	no	-0.3	-1.3
Hungary (HU)	28.2	2.0	yes	2.9	27.3
Malta (MT)	9.9	0.8	yes	0.1	9.0
Netherlands (NL)	-5.5	-0.4	no	0.0	-3.7
Austria (AT)	-2.9	-0.2	yes	-0.1	-2.1
Poland (PL)	19.7	1.5	yes	2.0	18.9
Portugal (PT)	26.7	1.8	yes	1.2	17.5
Romania (RO)	13.4	1.1	yes	1.4	12.4
Slovenia (SI)	10.0	0.7	yes	0.7	9.1
Slovakia (SK)	12.5	1.0	yes	0.8	11.8
Finland (FI)	-2.2	-0.1	no	-0.3	-2.1
Sweden (SE)	-4.4	-0.3	yes	0.0	-3.1
United Kingdom (UK)	-2.5	-0.2	no	-0.1	-1.9

Net payments are net position or operating budgetary balance: EU expenditure allocated to the Member State minus national contribution to the EU budget. A negative sign denotes a net contribution to the EU budget. The accumulated net position is expressed in terms of 2014 GDP. The permanent net position is derived from the following question: was the Member State a net contributor/recipient each year during the period 2000-2014?

Source: own calculations based on European Commission data (EU budget and AMECO)



**Table 2. Conditions of unemployment insurance benefits in the EU countries (2010)**

<i>Countries</i>	<i>Gross replacement rate (%)</i>	<i>Net replacement rate (%)</i>	<i>Statutory coverage ratio (%)</i>	<i>Effective coverage ratio (%)</i>	<i>Maximum duration of benefits (months)</i>
BE	37	64	66	83	unlimited
BG	60	76	66	31	12
CZ	50	65	91	31	5
DK	52	57	72	71	24
DE	36	59	67	88	12
EE	50	54	74	35	12
IE	32	38	100	87	12
EL	23	29	100	40	12
ES	53	60	58	63	24
FR	57	66	61	62	24
IT	46	56	53	56	8
CY	n.a.	n.a.	79	79	n.a.
LV	60	87	75	28	9
LT	34	43	67	20	9
LU	80	84	95	51	12
HU	42	53	87	40	9
MT	25	30	88	84	5
NL	75	75	83	65	22
AT	37	55	68	91	9
PL	29	36	54	17	12
PT	58	75	76	57	24
RO	32	45	43	55	12
SI	70	73	80	34	9
SK	50	64	57	11	6
FI	48	53	100	52	23
SE	48	47	96	34	35
UK	10	13	86	62	6
Average	46	56	76	53	14

The gross replacement rate (RR) is computed using the OECD tax-benefit calculator. It is based on the average wage of a single person without any children. The net RR (after tax) is taken from tables of OECD (where data for 2010 are available) and also applies to a single person with no children and earning the average wage. The statutory coverage ratio refers to people eligible under legislation for unemployment benefits as a proportion of total labour force. The effective coverage ratio refers to unemployed who actually receive benefits as a proportion of those currently unemployed.

Sources: OECD (Tax and benefit indicators. Benefits and wages statistics) for replacement rates and duration of benefits. Social Policy Indicator Database (in Beblávy and Maselli, 2014, table 10) for statutory coverage ratios. ILO (World Social Protection Report 2014/15, table B.3) for effective coverage ratios.

**Table 3. Main features of proposed or simulated unemployment insurance schemes**

Authors	Trigger	Eligibility	Qualifying period (months)	Duration of benefits (months)	Coverage ratio	Alpha	Replacement rate	Contribution rate
Andor (2014)	all time	short-term unemployed		6			0.4	
Artus et al. (2013)	all time	unemployed				1	0.2	0.20*wage bill*structural unemployment rate
Beblávy & Maselli (2014)	level of unemployment	short-term unemployed		6	0.75	1	0.4	0.005 or experience rating
Beblávy et al. (2015)	level of unemployment	short-term unemployed		12	0.8	1	0.4 with a deductible	0.1% of GDP and experience rating
Brandolini et al. (2014)	change in unemployment	unemployed		3 or 8		1	0.5 or 0.35	experience rating or rate balancing the fund
Clayes et al. (2014b)	all time or change in unemployment	short-term unemployed			0.4	0.8	0.5 or 0.6 or 0.7 or 0.8	rate balancing the fund or experience rating
Dolls et al. (2014)	all time or level of unemployment	short-term unemployed		12		0.5 or 0.7	0.5	0.0157 or experience rating
Dullien (2013)	change in unemployment	short-term unemployed		12	1	0.8	0.5	0.0166 or 0.0065
Dullien (2014)	all time or change in unemployment	short-term unemployed		12	0.5	0.8	0.5	0.013 or 0.007
Dullien & Fichtner (2013)	all time	short-term unemployed		12	0.5	0.8	0.5	0.017 (rate balancing the fund)
Dullien & Schwarzer (2009)	all time	unemployed	12	6 to 12	1	0.5	0.5	0.02
Epaulard (2014)	level of unemployment	3-13 months unemployed		9 from the 3 <sup>rd</sup>	0.8	0.5	0.5	rate balancing the fund
Fichtner & Haan (2014)	all time	national criteria		12 or 6			0.7 or 0.3	0.013 or 0.004
Jara & Sutherland (2014)	all time	unemployed	3	8 from the 4 <sup>th</sup>		1	0.33	
Lellouche and Sode (2014)	all time	short-term unemployed	9 or 12	12	national CR minus half the difference between national CR and EA average	1	0.50	rate balancing the fund or experience rating
OFCE (2013)	level or change in unemployment	unemployed	9	3 to 12			0.5	experience rating or rate balancing the fund

**Table 4. Simulated net transfers in the literature (% of GDP)**

Study	Sample	Period	Net position of the fund	Main net recipients	Main net contributors	Permanent net recipients	Permanent net contributors
Artus et al. (2013)	12 EA countries	2012	0.2	ES (1.3) EL (1.1)	DE (-0.2) FI, BE (-0.1)		
Beblavý and Maselli (2014)	28 EU countries	1999-2012	0.2	ES (5.3) LV, PL (1.7)	NL (-2.3) AT (1.1)	:	:
Brandolini et al. (2014)	10 EA countries	2002-2008	0.0	FI (0.07) ES (0.06)	BE, FR, EL, IT, LU (-0.03)	:	:
Dolls et al. (2014)	18 EA countries	2000-2013	-0.06	ES (7.4) LV (4.6)	NL (-5.8) AT (-3.5)	FR, LV, ES	AT, BE, LU, NL
Dullien (2013)	12 EA countries	1995-2011	-4.2	FI (1.8) ES (1.6)	IT (-0.6) DE, FR, NL (-0.5)	none	none
Epaulard (2104)	12 EA countries	2000-2015	surplus	ES, EL, IE	DE, AT, BE	none	BE, DE, FR, IT, AT, FI
Fichtner and Haan (2014)	12 EA countries	1999-2012	:	FR (4.1) EL (3.9), ES (3.8)	FI (-5.7) SK (-4.2)	FR, EL, ES	AT, BE, FI, IT, NL, SK
Lellouche and Sode (2014)	12 EA countries	2000-2012	(-4 €bn)	ES (3.3), PT (2.3), EL (2.2)	FI (-3.1) AT (-0.8)	none	none
OFCE (2013)	16 EA countries	2000-2013	0.3	EL (6.0) IE (3.1)	DE (-1.2) EE (-0.7)	none	none

*The net position of the fund corresponds to cumulated net flows. A positive sign denotes a deficit and a minus sign a surplus. For net recipients and contributors, the cumulated flows over the whole period are also considered. In some studies, detailed results are lacking.*

**Table 5. Alternative scenarios – Accumulated net position over 2005-2014 (% of 2014 GDP)**

Scenario	Baseline	Variant 1	Variant 2	Variant 3	Variant 4	Variant 5	Variant 6	Variant 7	Variant 8	Variant 9	Variant 10
RR	0.46	0.56	0.46 or less	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
CR	1	1	1	0.80	1	0.80	1	1	1	1	1
Tau	Single	Single	Single	Single	Specific	Specific	Single	Specific	Single	Specific	Single
Trigger	All time	All time	All time	All time	All time	All time	Bad times	Bad times	US	US	All time
BE	-1,8	-2,2	-1,6	-1,4	0,3	0,2	0,5	0,2	-2,0	0,0	-0,1
BG	-0,7	-0,8	0,7	-0,5	0,2	0,1	0,1	0,1	0,2	-0,2	0,5
CZ	-2,7	-3,3	-1,1	-2,2	0,0	0,0	-2,0	-0,4	-0,1	-0,1	-1,2
DK	-2,1	-2,5	0,0	-1,7	0,4	0,4	-2,4	-0,5	0,3	-0,1	0,0
DE	-3,7	-4,5	-3,3	-3,0	-0,7	-0,6	-1,5	-0,9	-1,9	0,0	-2,0
EE	0,0	0,0	1,6	0,0	-0,2	-0,2	-0,3	-0,5	1,7	-0,2	1,4
IE	0,8	1,0	-0,5	0,7	1,0	0,8	0,6	0,1	2,6	0,2	2,3
EL	6,8	8,3	0,5	5,5	2,3	1,9	2,9	-0,4	7,2	3,2	8,4
ES	17,3	21,0	19,3	13,8	3,9	3,1	6,6	1,1	11,6	1,7	19,1
FR	0,6	0,8	2,7	0,5	0,3	0,2	-0,8	0,4	-2,0	0,0	2,4
IT	-0,1	-0,1	1,6	-0,1	0,7	0,5	0,0	0,4	1,6	1,2	1,4
CY	2,1	2,6	3,9	1,7	2,8	2,3	4,1	2,0	6,4	2,3	3,7
LV	3,8	4,7	5,4	3,1	0,1	0,1	1,1	0,2	2,6	0,2	5,2
LT	2,2	2,7	1,0	1,8	0,1	0,1	0,1	-0,5	1,9	-0,1	3,5
LU	-5,9	-7,2	-4,2	-4,7	0,2	0,1	-1,4	-0,3	-1,8	0,0	-4,4
HU	-0,9	-1,2	0,1	-0,8	0,6	0,5	-1,3	-0,1	1,0	-0,1	0,7
MT	-2,8	-3,4	-3,8	-2,2	-0,3	-0,2	-0,8	-0,1	-1,6	0,0	-1,4
NL	-3,3	-4,0	-1,3	-2,6	0,8	0,7	0,3	-0,1	-0,8	0,1	-1,5
AT	-1,8	-2,2	-1,6	-1,4	0,1	0,1	-1,2	-0,4	-1,8	0,0	-0,2
PL	2,4	2,9	0,1	1,9	-1,3	-1,0	-0,2	-0,1	-0,2	-0,1	3,5
PT	1,7	2,0	3,6	1,3	1,5	1,2	3,2	-0,1	1,2	0,0	3,4
RO	-0,4	-0,5	-1,1	-0,3	0,3	0,2	-1,2	-0,4	-1,2	0,0	0,7
SI	-2,2	-2,7	-0,1	-1,8	0,9	0,7	-1,8	-0,6	1,1	0,0	-0,4
SK	-0,4	-0,4	1,0	-0,3	-0,4	-0,4	-1,3	-0,9	-0,5	-0,1	0,8
FI	1,8	2,2	3,7	1,4	-0,5	-0,4	-1,9	-0,1	-0,6	-0,1	3,5
SE	1,4	1,6	3,1	1,1	0,5	0,4	-0,9	-1,5	-0,7	-0,2	2,9
UK	-1,2	-1,4	-6,7	-0,9	0,3	0,2	-1,3	-0,3	-0,8	0,0	0,0
TOTAL	0,4	0,4	0,4	0,3	0,4	0,3	-0,2	-0,1	0,2	0,3	1,9

Alpha = 0.80 in all scenarios. Bad times = short term unemployment rises more than 10 percentage points. US trigger = unemployment rate exceeds 5 percent and is 20 percent above the level of the past two years. Net transfers or net position = benefits minus contributions. At the country level, a positive number means that the country is a net recipient of the fund and a negative number means that it is a net contributor. At the aggregate level (i.e., the global cash position of the fund given by the sum of all national net positions), a positive number means that the fund is in deficit and a negative number that it is in surplus. All detailed results are in the appendix.

**Table 6. Relative variability of GDP under alternative scenario (2005-2014)**

Scenario	Baseline	Variant 1	Variant 2	Variant 3	Variant 4	Variant 5	Variant 6	Variant 7	Variant 8	Variant 9	Variant 10
RR	0.46	0.56	0.46 or less	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
CR	1	1	1	0.80	1	0.80	1	1	1	1	1
Tau	Single	Single	Single	Single	Specific	Specific	Single	Specific	Single	Specific	Single
Trigger	All time	All time	All time	All time	All time	All time	Bad times	Bad times	US	US	All time
BE	0,99	0,99	0,99	0,99	1,00	1,00	1,00	1,00	0,98	1,00	0,99
BG	1,00	1,00	1,00	1,00	1,01	1,00	1,00	0,99	1,00	0,99	1,00
CZ	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,99	1,00
DK	1,00	1,01	1,01	1,00	1,00	1,00	0,98	0,99	0,97	0,96	1,00
DE	0,96	0,95	0,97	0,97	0,99	1,00	0,96	0,99	0,98	1,00	0,96
EE	0,99	0,98	0,99	0,99	0,98	0,99	0,99	1,00	0,97	0,97	0,99
IE	0,96	0,95	0,97	0,97	0,99	0,99	1,03	1,07	0,97	1,02	0,96
EL	0,97	0,97	0,99	0,98	1,00	1,00	1,02	1,05	0,97	1,02	0,97
ES	1,08	1,10	1,08	1,07	1,07	1,05	1,15	1,15	1,18	1,16	1,09
FR	0,99	0,99	0,99	0,99	1,00	1,00	1,01	0,98	0,98	1,00	1,00
IT	1,00	1,00	1,01	1,00	1,01	1,01	1,03	1,01	1,00	1,00	1,01
CY	1,02	1,02	1,02	1,01	1,01	1,01	1,02	1,03	1,03	1,03	1,02
LV	0,99	0,99	0,99	0,99	0,99	0,99	1,00	1,01	0,98	0,98	0,99
LT	1,00	1,00	1,00	1,00	0,99	0,99	0,99	1,00	0,98	0,97	1,00
LU	0,99	0,99	0,99	1,00	1,00	1,00	1,00	1,00	0,99	1,00	1,00
HU	0,99	0,99	0,99	0,99	0,98	0,99	0,96	0,95	0,95	0,95	0,99
MT	0,99	0,99	0,99	0,99	1,00	1,00	0,99	1,00	0,99	1,00	0,99
NL	1,01	1,01	1,01	1,00	1,01	1,01	1,02	1,04	1,00	1,03	1,01
AT	0,99	0,98	0,99	0,99	1,00	1,00	1,00	1,02	0,98	1,00	0,99
PL	0,99	0,99	0,99	0,99	1,01	1,01	0,99	0,99	1,00	1,00	0,99
PT	1,01	1,01	1,01	1,01	1,00	1,00	0,99	1,01	1,01	1,08	1,01
RO	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
SI	1,00	1,00	1,00	1,00	1,00	1,00	0,98	1,00	1,01	1,00	1,00
SK	1,00	1,00	1,00	1,00	1,01	1,00	1,00	1,00	1,00	1,00	1,00
FI	0,99	0,99	0,99	0,99	1,02	1,01	0,98	0,98	0,97	0,98	0,99
SE	0,99	0,99	0,99	0,99	0,99	0,99	0,97	0,99	0,97	0,98	0,99
UK	0,98	0,97	0,99	0,98	0,98	0,99	0,98	0,99	0,97	0,98	1,00
TOTAL	0,99	0,99	0,99	0,99	0,99	0,99	0,97	0,97	0,98	0,98	0,99

Relative variability is computed as the ratio of the coefficient of variation of GDP with transfers (EU unemployment benefits) to the coefficient of variation of GDP without transfers over the period considered. A value higher than one means that the insurance scheme increases economic variability while a value below one means that the scheme reduces variability.

**Table 7. Would have net transfers relieved national budgets in 2009?**

	Unemployment benefit expenditure in 2009 (% of GDP)	Simulated net transfers in 2009				
		Baseline	Differentiated rates (Variant 4)	Bad times (Variant 6)	US system (Variant 8)	EU25 (Variant 10)
BE	3,8	0,1	0,2	0,9	-0,1	0,2
BG	0,5	-0,1	0,1	0,5	-0,1	0,1
CZ	1,0	0,0	0,4	0,7	0,8	0,2
DK	1,6	0,1	0,6	1,0	1,2	0,0
DE	1,9	-0,1	0,1	0,7	-0,1	0,1
EE	1,2	1,4	1,7	2,2	2,3	1,6
IE	3,0	1,0	1,2	1,8	1,9	1,2
EL	1,6	0,5	0,3	1,1	-0,1	0,6
ES	3,6	2,7	1,8	3,5	3,6	2,8
FR	1,9	0,4	0,3	1,2	-0,1	0,6
IT	0,8	0,1	0,2	0,8	0,9	0,3
CY	1,0	0,1	0,3	0,8	0,9	0,2
LV	1,6	2,1	2,0	2,8	2,9	2,3
LT	0,9	1,4	1,5	2,1	2,2	1,5
LU	1,3	-0,5	0,1	0,3	-0,1	-0,3
HU	1,0	0,2	0,4	1,0	1,1	0,4
MT	0,6	-0,1	0,1	0,6	-0,1	0,1
NL	1,4	-0,3	0,2	0,5	-0,1	-0,1
AT	1,7	0,1	0,2	0,9	-0,1	0,2
PL	0,4	0,4	0,1	1,0	-0,1	0,5
PT	1,4	0,3	0,3	1,1	-0,1	0,5
RO	0,4	0,3	0,3	0,9	-0,1	0,4
SI	0,6	0,0	0,3	0,8	0,9	0,2
SK	1,0	0,4	0,5	1,0	-0,1	0,5
FI	2,4	0,5	0,3	1,4	1,5	0,7
SE	1,3	0,5	0,4	1,3	1,4	0,7
UK	0,8	0,3	0,4	1,2	1,3	0,0
EU27	1,7	0,4	0,4	1,2	0,7	0,5

Source: Eurostat for unemployment benefit expenditure and own simulations for net transfers (see appendix).

**Table 8. Unemployment rate and short-term unemployment (%)**

	Unemployment rate (%)							Share of short-term unemployment (%)						
	2009	2010	2011	2012	2013	2014	Variation 2009-2014	2009	2010	2011	2012	2013	2014	Variation 2009-2014
Belgium	7,9	8,3	7,2	7,6	8,4	8,5	9	55,8	51,2	51,7	55,3	53,9	50,1	-10
Bulgaria	6,8	10,3	11,3	12,3	13	11,4	11	56,7	53,6	44,3	44,8	42,7	39,6	-30
Czech Republic	6,7	7,3	6,7	7	7	6,1	6	70	59,1	59,4	56,6	56,6	56,5	-19
Denmark	6	7,5	7,6	7,5	7	6,6	7	90,5	79,8	75,6	72	74,5	74,8	-17
Germany	7,6	7	5,8	5,4	5,2	5	5	54,5	52,7	52,1	54,6	55,3	55,7	2
Estonia	13,5	16,7	12,3	10	8,6	7,4	7	72,7	54,7	42,7	45,3	55,5	54,7	-25
Ireland	12	13,9	14,7	14,7	13,1	11,3	11	70,9	50,9	40,7	38,3	39,4	40,8	-42
Greece	9,6	12,7	17,9	24,5	27,5	26,5	27	59,6	55,4	50,7	40,9	32,9	26,5	-56
Spain	17,9	19,9	21,4	24,8	26,1	24,5	25	76,2	63,4	58,4	55,6	50,3	47,2	-38
France	9,1	9,3	9,2	9,8	10,3	10,3	10	64,8	59,8	58,5	59,6	59,6	57,3	-12
Italy	7,7	8,4	8,4	10,7	12,1	12,7	13	55,4	51,5	48	46,8	43,1	38,6	-30
Cyprus	5,4	6,3	7,9	11,9	15,9	16,1	16	89,6	79,6	79,2	69,9	61,7	52,3	-42
Latvia	17,5	19,5	16,2	15	11,9	10,8	11	74,2	55	45,5	47,9	51,4	57	-23
Lithuania	13,8	17,8	15,4	13,4	11,8	10,7	11	76,3	58,3	47,9	50,8	57,1	55,3	-28
Luxembourg	5,1	4,6	4,8	5,1	5,9	5,9	6	76,9	70,7	71,2	69,7	69,6	72,6	-6
Hungary	10	11,2	11	11	10,2	7,7	8	58,5	51	52,4	54,7	51,4	52,5	-10
Malta	6,9	6,9	6,4	6,3	6,4	5,9	6	58	55,1	52,7	51,5	54,3	53,2	-8
Netherlands	4,4	5	5	5,8	7,3	7,4	7	75,2	72,4	66,5	66	63,9	59,8	-20
Austria	5,3	4,8	4,6	4,9	5,4	5,6	6	78,3	74,6	73,7	75,1	75,4	72,8	-7
Poland	8,1	9,7	9,7	10,1	10,3	9	9	69,7	68,9	62,8	59,7	57,5	57,3	-18
Portugal	10,7	12	12,9	15,8	16,4	14,1	14	55,8	47,8	51,6	51,2	43,6	40,4	-28
Romania	6,5	7	7,2	6,8	7,1	6,8	7	68,4	65,5	59	55,8	54,8	58,9	-14
Slovenia	5,9	7,3	8,2	8,9	10,1	9,7	10	69,9	56,7	55,8	52,1	49	45,5	-35
Slovakia	12,1	14,5	13,7	14	14,2	13,2	13	46	36	32,1	32,7	29,8	29,8	-35
Finland	8,2	8,4	7,8	7,7	8,2	8,7	9	83,2	76	77,8	78,6	79,3	77,6	-7
Sweden	8,3	8,6	7,8	8	8	7,9	8	86,7	81,4	80,4	81,1	81,5	81,1	-6
United Kingdom	7,6	7,8	8,1	7,9	7,6	6,1	6	75,4	67,4	66,5	65,3	63,8	64,2	-15
EU27	9	9,6	9,6	10,4	10,8	10,2	10	66,8	60,1	57,2	55,7	52,8	50,6	-24

Source: own calculations with data from Eurostat.

## Appendix

### Table A1. Baseline

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	-300	-443	-664	-581	178	-364	-1 469	-1 390	-951	-1 241	-7 224
BG	-15	-26	-85	-97	-24	52	-19	-1	13	-72	-274
CZ	-194	-346	-558	-699	60	-173	-456	-578	-547	-680	-4 171
DK	-647	-1 042	-1 054	-1 088	324	334	-130	-536	-645	-847	-5 330
DE	1 388	-2 867	-6 476	-6 658	-2 652	-8 629	-16 829	-20 546	-21 074	-22 804	-107 147
EE	-26	-52	-85	-35	195	163	0	-45	-39	-80	-4
IE	-534	-581	-499	161	1 752	972	397	159	-16	-273	1 539
EL	553	205	242	251	1 132	1 548	2 307	2 668	2 122	1 212	12 241
ES	5 572	4 955	5 287	14 108	28 714	25 132	24 077	27 595	26 280	20 875	182 596
FR	1 814	963	-248	66	7 085	3 214	-460	413	859	-467	13 238
IT	-452	-2 333	-3 075	-801	2 016	715	-2 037	1 036	2 445	1 261	-1 224
CY	-13	-32	-46	-47	18	12	45	121	182	128	368
LV	16	-6	-21	66	394	252	94	77	25	26	924
LT	-18	-70	-105	-3	373	342	134	74	72	17	816
LU	-186	-210	-245	-226	-187	-286	-336	-376	-364	-371	-2 789
HU	-192	-184	-232	-134	226	101	5	-4	-161	-409	-981
MT	-13	-9	-11	-14	-5	-15	-31	-40	-38	-47	-223
NL	-1 589	-2 680	-3 233	-3 343	-1 850	-1 528	-2 879	-2 410	-699	-1 122	-21 334
AT	-15	-301	-434	-623	223	-528	-1 124	-1 217	-922	-915	-5 857
PL	2 160	1 272	406	552	1 148	1 742	982	737	710	14	9 721
PT	-169	-257	-75	-98	506	272	635	1 111	811	160	2 896
RO	-95	-157	-145	-76	343	167	-74	-216	-194	-190	-636
SI	-70	-115	-158	-167	-10	-46	-55	-78	-32	-83	-815
SK	46	-81	-127	-126	237	153	-46	-63	-101	-170	-275
FI	513	330	166	212	982	582	191	8	260	383	3 627
SE	1 025	521	109	370	1 634	1 294	304	143	278	142	5 820
UK	-5 070	-3 759	-4 326	-1 590	5 234	1 570	-412	-3 126	-4 582	-9 835	-25 896
Total	3 489	-7 304	-15 692	-620	48 045	27 048	2 815	3 518	3 691	-15 387	49 603
<b>Accumulated net position</b>	3 489	-3 815	-19 508	-20 128	27 918	54 965	57 780	61 299	64 990	49 603	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	-0,10	-0,14	-0,19	-0,16	0,05	-0,10	-0,39	-0,36	-0,24	-0,31	-1,80	0,99
BG	-0,06	-0,10	-0,27	-0,27	-0,07	0,14	-0,05	0,00	0,03	-0,17	-0,65	1,00
CZ	-0,18	-0,28	-0,40	-0,43	0,04	-0,11	-0,28	-0,36	-0,35	-0,44	-2,69	1,00
DK	-0,30	-0,46	-0,45	-0,45	0,14	0,14	-0,05	-0,21	-0,26	-0,33	-2,07	1,00
DE	0,06	-0,12	-0,26	-0,26	-0,11	-0,33	-0,62	-0,75	-0,75	-0,79	-3,69	0,96
EE	-0,24	-0,38	-0,52	-0,21	1,38	1,11	0,00	-0,25	-0,21	-0,41	-0,02	0,99
IE	-0,32	-0,32	-0,25	0,09	1,04	0,59	0,23	0,09	-0,01	-0,15	0,83	0,96
EL	0,28	0,09	0,10	0,10	0,48	0,68	1,11	1,37	1,16	0,68	6,84	0,97
ES	0,60	0,49	0,49	1,26	2,66	2,33	2,24	2,62	2,50	1,97	17,25	1,08
FR	0,10	0,05	-0,01	0,00	0,37	0,16	-0,02	0,02	0,04	-0,02	0,62	0,99
IT	-0,03	-0,15	-0,19	-0,05	0,13	0,04	-0,12	0,06	0,15	0,08	-0,08	1,00
CY	-0,09	-0,20	-0,27	-0,25	0,10	0,07	0,23	0,62	1,00	0,73	2,10	1,02
LV	0,12	-0,03	-0,09	0,27	2,09	1,40	0,47	0,35	0,11	0,11	3,84	0,99
LT	-0,09	-0,29	-0,36	-0,01	1,38	1,22	0,43	0,22	0,21	0,05	2,25	1,00
LU	-0,62	-0,63	-0,68	-0,60	-0,52	-0,73	-0,79	-0,86	-0,80	-0,79	-5,92	0,99
HU	-0,21	-0,20	-0,23	-0,12	0,24	0,10	0,01	0,00	-0,16	-0,40	-0,95	0,99
MT	-0,24	-0,16	-0,20	-0,23	-0,09	-0,23	-0,45	-0,55	-0,50	-0,59	-2,81	0,99
NL	-0,29	-0,47	-0,53	-0,53	-0,30	-0,24	-0,45	-0,38	-0,11	-0,17	-3,26	1,01
AT	-0,01	-0,11	-0,15	-0,21	0,08	-0,18	-0,36	-0,38	-0,29	-0,28	-1,78	0,99
PL	0,88	0,47	0,13	0,15	0,36	0,48	0,26	0,19	0,18	0,00	2,35	0,99
PT	-0,11	-0,15	-0,04	-0,05	0,29	0,15	0,36	0,66	0,48	0,09	1,67	1,01
RO	-0,12	-0,16	-0,12	-0,05	0,28	0,13	-0,06	-0,16	-0,13	-0,13	-0,42	1,00
SI	-0,24	-0,36	-0,45	-0,44	-0,03	-0,13	-0,15	-0,22	-0,09	-0,22	-2,19	1,00
SK	0,12	-0,18	-0,23	-0,19	0,37	0,23	-0,07	-0,09	-0,14	-0,23	-0,37	1,00
FI	0,31	0,19	0,09	0,11	0,54	0,31	0,10	0,00	0,13	0,19	1,78	0,99
SE	0,33	0,16	0,03	0,10	0,53	0,35	0,07	0,03	0,06	0,03	1,36	0,99
UK	-0,26	-0,18	-0,20	-0,08	0,31	0,09	-0,02	-0,15	-0,23	-0,44	-1,17	0,98
Total	0,03	-0,06	-0,12	0,00	0,39	0,21	0,02	0,03	0,03	-0,11	0,36	0,99
<b>Accumulated net position</b>	0,03	-0,03	-0,15	-0,16	0,23	0,43	0,44	0,46	0,48	0,36		

Baseline:  $\alpha = 0.80$ ;  $RR = 0.46$ ;  $CR = 1$ ;  $\tau =$  single rate (ranging from 0.02 in 2008-2009 to 0.027 in 2012-2014). Trigger = all time. The accumulated net position (benefits minus contributions) is expressed in terms of 2004 GDP. At the country level, a positive (negative) number means that the country is a net recipient of (contributor to) the fund. At the aggregate level (global cash position of the fund given by the sum of all national net positions), a positive (negative) number means that the fund is in deficit (surplus). Relative variability is computed as the ratio of the coefficient of variation of GDP with EU unemployment benefits to that of GDP without transfers over the whole period.

**Table A2. Variant 1**

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	-366	-539	-808	-707	217	-443	-1 789	-1 692	-1 158	-1 510	-8 795
BG	-18	-31	-104	-118	-30	63	-23	-2	16	-87	-334
CZ	-237	-422	-679	-850	73	-210	-555	-704	-666	-827	-5 078
DK	-787	-1 268	-1 283	-1 324	394	406	-158	-652	-785	-1 032	-6 489
DE	1 690	-3 491	-7 884	-8 106	-3 229	-10 505	-20 488	-25 012	-25 655	-27 761	-130 440
EE	-32	-63	-103	-42	237	198	0	-55	-48	-97	-5
IE	-651	-708	-607	196	2 133	1 183	483	194	-19	-332	1 873
EL	673	250	295	305	1 378	1 884	2 809	3 248	2 584	1 475	14 902
ES	6 783	6 033	6 437	17 175	34 956	30 595	29 312	33 594	31 993	25 414	222 290
FR	2 208	1 172	-302	80	8 626	3 913	-560	502	1 045	-568	16 116
IT	-551	-2 840	-3 744	-975	2 455	871	-2 480	1 261	2 976	1 535	-1 490
CY	-16	-38	-56	-57	22	15	55	147	222	155	448
LV	20	-7	-25	80	480	307	114	94	30	32	1 124
LT	-22	-85	-127	-4	454	417	163	90	88	20	993
LU	-226	-256	-299	-275	-228	-349	-409	-458	-444	-452	-3 395
HU	-233	-223	-282	-163	275	123	7	-5	-195	-497	-1 195
MT	-15	-11	-14	-17	-7	-19	-38	-48	-46	-57	-272
NL	-1 934	-3 263	-3 936	-4 070	-2 252	-1 861	-3 504	-2 934	-851	-1 366	-25 972
AT	-19	-367	-528	-759	272	-643	-1 368	-1 481	-1 123	-1 114	-7 130
PL	2 630	1 548	494	672	1 398	2 120	1 195	897	864	17	11 834
PT	-206	-313	-92	-119	616	331	773	1 353	987	195	3 526
RO	-116	-192	-176	-92	418	203	-90	-262	-236	-231	-775
SI	-86	-140	-192	-204	-13	-56	-67	-95	-39	-101	-992
SK	56	-98	-155	-153	289	186	-56	-76	-123	-206	-335
FI	625	401	203	259	1 196	708	233	10	316	466	4 416
SE	1 247	634	132	450	1 989	1 576	369	174	339	173	7 085
UK	-6 173	-4 577	-5 266	-1 936	6 372	1 911	-501	-3 806	-5 578	-11 973	-31 526
Total	4 247	-8 892	-19 103	-755	58 490	32 927	3 427	4 283	4 493	-18 732	60 386
Accumulated net position	4 247	-4 645	-23 748	-24 503	33 987	66 914	70 341	74 624	79 118	60 386	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	-0,12	-0,16	-0,23	-0,20	0,06	-0,12	-0,47	-0,44	-0,29	-0,38	-2,19	0,99
BG	-0,08	-0,12	-0,33	-0,32	-0,08	0,17	-0,06	0,00	0,04	-0,21	-0,79	1,00
CZ	-0,22	-0,34	-0,49	-0,53	0,05	-0,13	-0,34	-0,44	-0,42	-0,53	-3,28	1,00
DK	-0,37	-0,56	-0,55	-0,55	0,17	0,17	-0,06	-0,26	-0,31	-0,40	-2,52	1,01
DE	0,07	-0,15	-0,31	-0,32	-0,13	-0,41	-0,76	-0,91	-0,91	-0,96	-4,49	0,95
EE	-0,29	-0,46	-0,64	-0,26	1,68	1,35	0,00	-0,31	-0,25	-0,50	-0,02	0,98
IE	-0,38	-0,39	-0,31	0,10	1,27	0,72	0,28	-0,39	0,11	-0,01	1,01	0,95
EL	0,34	0,11	0,13	0,13	0,58	0,83	1,35	1,67	1,42	0,82	8,32	0,97
ES	0,73	0,60	0,60	1,54	3,24	2,83	2,73	3,18	3,05	2,40	21,00	1,10
FR	0,12	0,06	-0,02	0,00	0,44	0,20	-0,03	0,02	0,05	-0,03	0,75	0,99
IT	-0,04	-0,18	-0,23	-0,06	0,16	0,05	-0,15	0,08	0,18	0,09	-0,09	1,00
CY	-0,11	-0,24	-0,32	-0,30	0,12	0,08	0,28	0,76	1,22	0,89	2,56	1,02
LV	0,15	-0,04	-0,11	0,33	2,55	1,70	0,57	0,42	0,13	0,13	4,67	0,99
LT	-0,11	-0,35	-0,44	-0,01	1,68	1,49	0,52	0,27	0,25	0,06	2,74	1,00
LU	-0,76	-0,77	-0,83	-0,73	-0,63	-0,89	-0,96	-1,04	-0,98	-0,96	-7,21	0,99
HU	-0,26	-0,25	-0,28	-0,15	0,29	0,13	0,01	-0,01	-0,19	-0,48	-1,16	0,99
MT	-0,30	-0,20	-0,24	-0,28	-0,11	-0,28	-0,55	-0,67	-0,61	-0,72	-3,42	0,99
NL	-0,36	-0,57	-0,65	-0,64	-0,36	-0,29	-0,55	-0,46	-0,13	-0,21	-3,96	1,01
AT	-0,01	-0,14	-0,19	-0,26	0,09	-0,22	-0,44	-0,47	-0,35	-0,34	-2,17	0,98
PL	1,07	0,57	0,16	0,18	0,44	0,59	0,32	0,23	0,22	0,00	2,86	0,99
PT	-0,13	-0,19	-0,05	-0,07	0,35	0,18	0,44	0,80	0,58	0,11	2,04	1,01
RO	-0,14	-0,19	-0,14	-0,06	0,35	0,16	-0,07	-0,20	-0,16	-0,15	-0,52	1,00
SI	-0,29	-0,44	-0,55	-0,54	-0,04	-0,16	-0,18	-0,26	-0,11	-0,27	-2,66	1,00
SK	0,14	-0,22	-0,28	-0,23	0,45	0,28	-0,08	-0,11	-0,17	-0,27	-0,45	1,00
FI	0,38	0,23	0,11	0,13	0,66	0,38	0,12	0,00	0,16	0,23	2,16	0,99
SE	0,40	0,19	0,04	0,13	0,64	0,43	0,09	0,04	0,08	0,04	1,65	0,99
UK	-0,32	-0,22	-0,24	-0,10	0,38	0,11	-0,03	-0,19	-0,28	-0,54	-1,42	0,97
Total	0,04	-0,07	-0,15	-0,01	0,48	0,26	0,03	0,03	0,03	-0,13	0,43	0,99
Accumulated net position	0,04	-0,04	-0,18	-0,19	0,28	0,53	0,54	0,56	0,59	0,43		

Baseline except RR = 0.56



**Table A3. Variant 2**

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	-258	-388	-544	-446	158	-332	-1 279	-1 237	-890	-1 152	-6 368
BG	18	10	-42	-46	28	110	45	70	89	3	286
CZ	-16	-146	-332	-432	296	89	-166	-273	-255	-403	-1 639
DK	-208	-578	-552	-563	829	866	440	73	-38	-239	30
DE	427	-3 028	-5 699	-5 613	-2 512	-7 657	-14 572	-17 717	-18 197	-19 821	-94 390
EE	-6	-27	-54	-1	224	192	33	-8	1	-38	314
IE	-533	-591	-537	-62	1 062	491	50	-135	-265	-469	-988
EL	-176	-395	-395	-377	61	205	557	754	546	75	855
ES	7 385	6 916	7 451	16 415	30 899	27 383	26 412	29 919	28 520	23 087	204 386
FR	5 502	4 801	3 810	4 228	11 116	7 539	4 231	5 462	5 905	4 520	57 115
IT	1 873	91	-519	1 833	4 542	3 386	822	4 013	5 352	4 119	25 512
CY	12	-5	-17	-16	48	45	81	157	214	157	677
LV	39	23	20	113	428	283	129	117	68	72	1 293
LT	-26	-68	-95	-20	261	234	73	24	21	-24	379
LU	-127	-147	-174	-150	-112	-205	-245	-276	-261	-266	-1 962
HU	-83	-78	-106	-7	302	189	103	97	-47	-276	94
MT	-20	-19	-20	-22	-17	-26	-38	-46	-46	-53	-306
NL	-508	-1 563	-2 028	-2 077	-610	-238	-1 483	-913	783	335	-8 301
AT	-25	-266	-357	-485	191	-455	-977	-1 069	-838	-856	-5 138
PL	1 017	403	-178	-133	324	542	-57	-286	-320	-800	512
PT	140	60	260	246	839	625	993	1 460	1 158	500	6 283
RO	-142	-206	-211	-170	144	-3	-192	-303	-294	-304	-1 682
SI	-11	-51	-87	-89	64	33	28	7	52	-2	-55
SK	105	-14	-45	-30	333	257	69	62	24	-41	720
FI	831	663	524	591	1 344	966	616	472	721	834	7 562
SE	1 601	1 125	771	1 035	2 216	1 992	1 126	1 080	1 234	1 061	13 240
UK	-13 864	-14 815	-15 332	-12 167	-9 178	-12 370	-14 575	-17 742	-17 685	-20 510	-148 240
Total	2 947	-8 294	-14 487	1 555	43 279	24 138	2 224	3 763	5 552	-10 490	50 188
Accumulated net position	2 947	-5 347	-19 834	-18 279	25 000	49 138	51 362	55 125	60 678	50 188	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	-0,08	-0,12	-0,16	-0,13	0,05	-0,09	-0,34	-0,32	-0,23	-0,29	-1,58	0,99
BG	0,08	0,04	-0,13	-0,13	0,08	0,30	0,11	0,17	0,22	0,01	0,68	1,00
CZ	-0,01	-0,12	-0,24	-0,27	0,20	0,06	-0,10	-0,17	-0,16	-0,26	-1,06	1,00
DK	-0,10	-0,26	-0,24	-0,23	0,36	0,36	0,18	0,03	-0,01	-0,09	0,01	1,01
DE	0,02	-0,13	-0,23	-0,22	-0,10	-0,30	-0,54	-0,64	-0,65	-0,68	-3,25	0,97
EE	-0,06	-0,20	-0,33	-0,01	1,58	1,30	0,20	-0,04	0,00	-0,19	1,61	0,99
IE	-0,31	-0,32	-0,27	-0,03	0,63	0,30	0,03	-0,08	-0,15	-0,25	-0,53	0,97
EL	-0,09	-0,18	-0,17	-0,16	0,03	0,09	0,27	0,39	0,30	0,04	0,48	0,99
ES	0,79	0,69	0,69	1,47	2,86	2,53	2,46	2,84	2,72	2,18	19,31	1,08
FR	0,31	0,26	0,20	0,21	0,57	0,38	0,21	0,26	0,28	0,21	2,67	0,99
IT	0,13	0,01	-0,03	0,11	0,29	0,21	0,05	0,25	0,33	0,25	1,58	1,01
CY	0,08	-0,03	-0,10	-0,08	0,26	0,24	0,41	0,81	1,18	0,89	3,87	1,02
LV	0,28	0,13	0,09	0,46	2,27	1,57	0,64	0,53	0,29	0,30	5,37	0,99
LT	-0,13	-0,28	-0,33	-0,06	0,97	0,83	0,23	0,07	0,06	-0,07	1,05	1,00
LU	-0,43	-0,44	-0,48	-0,40	-0,31	-0,52	-0,58	-0,63	-0,58	-0,56	-4,17	0,99
HU	-0,09	-0,09	-0,10	-0,01	0,32	0,19	0,10	0,10	-0,05	-0,27	0,09	0,99
MT	-0,38	-0,35	-0,35	-0,35	-0,28	-0,39	-0,55	-0,64	-0,61	-0,66	-3,84	0,99
NL	-0,09	-0,27	-0,33	-0,33	-0,10	-0,04	-0,23	-0,14	0,12	0,05	-1,27	1,01
AT	-0,01	-0,10	-0,13	-0,17	0,07	-0,15	-0,32	-0,34	-0,26	-0,26	-1,56	0,99
PL	0,42	0,15	-0,06	-0,04	0,10	0,15	-0,02	-0,07	-0,08	-0,19	0,12	0,99
PT	0,09	0,04	0,15	0,14	0,48	0,35	0,56	0,87	0,68	0,29	3,63	1,01
RO	-0,18	-0,21	-0,17	-0,12	0,12	0,00	-0,14	-0,23	-0,20	-0,20	-1,12	1,00
SI	-0,04	-0,16	-0,25	-0,23	0,18	0,09	0,08	0,02	0,14	0,00	-0,15	1,00
SK	0,27	-0,03	-0,08	-0,04	0,52	0,38	0,10	0,09	0,03	-0,05	0,96	1,00
FI	0,51	0,38	0,28	0,31	0,74	0,52	0,31	0,24	0,36	0,41	3,71	0,99
SE	0,51	0,34	0,22	0,29	0,72	0,54	0,28	0,26	0,28	0,25	3,08	0,99
UK	-0,71	-0,72	-0,71	-0,64	-0,55	-0,68	-0,78	-0,87	-0,88	-0,92	-6,67	0,99
Total	0,03	-0,07	-0,11	0,01	0,35	0,19	0,02	0,03	0,04	-0,08	0,36	0,99
Accumulated net position	0,03	-0,04	-0,15	-0,14	0,20	0,39	0,39	0,41	0,45	0,36		

Baseline except RR = 0.46 or the national gross RR if it is below the EU average.

**Table A4. Variant 3**

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	-240	-354	-531	-465	143	-291	-1 176	-1 112	-761	-993	-5 779
BG	-12	-21	-68	-78	-19	42	-15	-1	10	-57	-219
CZ	-156	-277	-446	-559	48	-138	-365	-463	-438	-544	-3 337
DK	-517	-834	-843	-870	259	267	-104	-429	-516	-678	-4 264
DE	1 111	-2 294	-5 181	-5 327	-2 122	-6 903	-13 463	-16 436	-16 859	-18 243	-85 718
EE	-21	-41	-68	-28	156	130	0	-36	-31	-64	-3
IE	-428	-465	-399	129	1 402	778	318	127	-13	-218	1 231
EL	442	164	194	201	905	1 238	1 846	2 134	1 698	969	9 792
ES	4 458	3 964	4 230	11 287	22 971	20 105	19 262	22 076	21 024	16 700	146 077
FR	1 451	770	-198	53	5 668	2 571	-368	330	687	-373	10 591
IT	-362	-1 866	-2 460	-641	1 613	572	-1 629	829	1 956	1 009	-979
CY	-11	-25	-37	-37	14	10	36	97	146	102	294
LV	13	-5	-17	53	315	202	75	62	20	21	739
LT	-15	-56	-84	-3	298	274	107	59	58	13	653
LU	-149	-168	-196	-181	-150	-229	-269	-301	-292	-297	-2 231
HU	-153	-147	-185	-107	181	81	4	-4	-128	-327	-785
MT	-10	-7	-9	-11	-4	-12	-25	-32	-30	-38	-179
NL	-1 271	-2 144	-2 587	-2 675	-1 480	-1 223	-2 303	-1 928	-559	-898	-17 067
AT	-12	-241	-347	-499	178	-422	-899	-974	-738	-732	-4 686
PL	1 728	1 017	324	442	918	1 393	785	589	568	11	7 777
PT	-135	-206	-60	-79	405	218	508	889	649	128	2 317
RO	-76	-126	-116	-61	274	133	-59	-172	-155	-152	-509
SI	-56	-92	-126	-134	-8	-37	-44	-63	-25	-66	-652
SK	37	-64	-102	-100	190	122	-37	-50	-81	-136	-220
FI	411	264	133	170	786	465	153	6	208	306	2 902
SE	820	417	87	296	1 307	1 036	243	115	223	114	4 656
UK	-4 056	-3 007	-3 461	-1 272	4 187	1 256	-329	-2 501	-3 666	-7 868	-20 717
Total	2 791	-5 843	-12 554	-496	38 436	21 638	2 252	2 814	2 953	-12 310	39 682
Accumulated net position	2 791	-3 052	-15 606	-16 102	22 334	43 972	46 224	49 039	51 992	39 682	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	-0,08	-0,11	-0,15	-0,13	0,04	-0,08	-0,31	-0,29	-0,19	-0,25	-1,44	0,99
BG	-0,05	-0,08	-0,21	-0,21	-0,05	0,11	-0,04	0,00	0,03	-0,14	-0,52	1,00
CZ	-0,14	-0,22	-0,32	-0,35	0,03	-0,09	-0,22	-0,29	-0,28	-0,35	-2,15	1,00
DK	-0,24	-0,37	-0,36	-0,36	0,11	0,11	-0,04	-0,17	-0,20	-0,26	-1,66	1,00
DE	0,05	-0,10	-0,21	-0,21	-0,09	-0,27	-0,50	-0,60	-0,60	-0,63	-2,95	0,97
EE	-0,19	-0,31	-0,42	-0,17	1,10	0,89	0,00	-0,20	-0,17	-0,33	-0,02	0,99
IE	-0,25	-0,25	-0,20	0,07	0,83	0,47	0,19	0,07	-0,01	-0,12	0,66	0,97
EL	0,22	0,08	0,08	0,08	0,38	0,55	0,89	1,10	0,93	0,54	5,47	0,98
ES	0,48	0,39	0,39	1,01	2,13	1,86	1,79	2,09	2,00	1,58	13,80	1,07
FR	0,08	0,04	-0,01	0,00	0,29	0,13	-0,02	0,02	0,03	-0,02	0,49	0,99
IT	-0,02	-0,12	-0,15	-0,04	0,10	0,04	-0,10	0,05	0,12	0,06	-0,06	1,00
CY	-0,07	-0,16	-0,21	-0,20	0,08	0,05	0,18	0,50	0,80	0,58	1,68	1,01
LV	0,10	-0,03	-0,07	0,22	1,68	1,12	0,37	0,28	0,08	0,09	3,07	0,99
LT	-0,07	-0,23	-0,29	-0,01	1,11	0,98	0,34	0,18	0,17	0,04	1,80	1,00
LU	-0,50	-0,51	-0,55	-0,48	-0,42	-0,58	-0,63	-0,69	-0,64	-0,63	-4,74	1,00
HU	-0,17	-0,16	-0,18	-0,10	0,19	0,08	0,00	0,00	-0,13	-0,32	-0,76	0,99
MT	-0,20	-0,13	-0,16	-0,19	-0,07	-0,19	-0,36	-0,44	-0,40	-0,47	-2,24	0,99
NL	-0,24	-0,37	-0,42	-0,42	-0,24	-0,19	-0,36	-0,30	-0,09	-0,14	-2,60	1,00
AT	0,00	-0,09	-0,12	-0,17	0,06	-0,14	-0,29	-0,31	-0,23	-0,22	-1,42	0,99
PL	0,71	0,37	0,10	0,12	0,29	0,39	0,21	0,15	0,14	0,00	1,88	0,99
PT	-0,09	-0,12	-0,03	-0,04	0,23	0,12	0,29	0,53	0,38	0,07	1,34	1,01
RO	-0,09	-0,13	-0,09	-0,04	0,23	0,11	-0,04	-0,13	-0,11	-0,10	-0,34	1,00
SI	-0,19	-0,29	-0,36	-0,35	-0,02	-0,10	-0,12	-0,17	-0,07	-0,18	-1,75	1,00
SK	0,09	-0,14	-0,18	-0,15	0,30	0,18	-0,05	-0,07	-0,11	-0,18	-0,29	1,00
FI	0,25	0,15	0,07	0,09	0,43	0,25	0,08	0,00	0,10	0,15	1,42	0,99
SE	0,26	0,12	0,02	0,08	0,42	0,28	0,06	0,03	0,05	0,03	1,08	0,99
UK	-0,21	-0,15	-0,16	-0,07	0,25	0,07	-0,02	-0,12	-0,18	-0,35	-0,93	0,98
Total	0,02	-0,05	-0,10	0,00	0,32	0,17	0,02	0,02	0,02	-0,09	0,29	0,99
Accumulated net position	0,02	-0,03	-0,12	-0,12	0,18	0,35	0,35	0,37	0,39	0,29		

Baseline except CR = 0.80.

**Table A5. Variant 4**

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	249	32	-201	-263	540	332	-415	42	541	180	1 037
BG	-64	-35	-80	-54	46	157	66	60	30	-61	66
CZ	-24	-148	-294	-289	549	360	101	-102	-38	-144	-29
DK	-120	-473	-275	-212	1 272	1 180	548	-153	-294	-321	1 153
DE	3 737	-1 798	-5 321	-5 256	1 229	-869	-5 000	-4 572	-2 195	-1 214	-21 259
EE	-37	-50	-51	29	243	152	-77	-144	-70	-42	-47
IE	-23	20	133	679	1 948	677	-199	-552	-411	-427	1 845
EL	83	-264	-244	-219	768	1 155	1 742	1 576	487	-888	4 195
ES	-1 204	-1 795	-1 394	7 356	19 444	10 124	4 367	5 661	3 291	-4 261	41 589
FR	-532	-726	-2 258	-1 989	5 475	2 660	296	1 613	1 728	-156	6 112
IT	81	-1 693	-2 174	574	3 306	2 481	-22	3 553	3 690	1 128	10 923
CY	31	4	-16	-20	53	53	84	129	143	33	494
LV	-47	-54	-53	58	372	155	-78	-152	-127	-45	28
LT	-106	-120	-82	69	415	284	-47	-178	-109	-80	45
LU	12	-6	-33	3	39	-14	2	9	42	35	88
HU	123	98	21	41	341	221	125	70	-115	-330	595
MT	-5	1	0	-5	3	1	-6	-7	-1	-5	-22
NL	514	-893	-1 255	-914	1 048	1 898	727	1 125	2 202	1 081	5 533
AT	266	-90	-306	-501	524	9	-206	-66	373	319	321
PL	-897	-1 616	-2 151	-1 377	255	1 217	331	-78	-247	-757	-5 319
PT	172	-4	183	-15	544	308	749	1 011	320	-635	2 634
RO	-35	-10	12	54	410	209	-22	-168	-68	6	388
SI	46	-7	-47	-52	125	104	97	37	60	-19	344
SK	-131	-219	-196	-78	342	204	-35	-72	-69	-79	-334
FI	-687	-641	-568	-270	615	278	-37	-195	164	280	-1 060
SE	1 337	292	-536	-408	1 130	827	-237	-333	-24	-4	2 042
UK	-106	2 246	849	1 345	6 704	3 396	1 736	-1 081	-2 093	-6 268	6 726
Total	2 632	-7 949	-16 338	-1 714	47 739	27 559	4 591	7 033	7 210	-12 674	58 088
Accumulated net position	2 632	-5 317	-21 655	-23 369	24 370	51 929	56 520	63 552	70 762	58 088	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	0,08	0,01	-0,06	-0,07	0,15	0,09	-0,11	0,01	0,14	0,04	0,26	1,00
BG	-0,27	-0,13	-0,25	-0,15	0,13	0,43	0,16	0,15	0,07	-0,14	0,16	1,01
CZ	-0,02	-0,12	-0,21	-0,18	0,37	0,23	0,06	-0,06	-0,02	-0,09	-0,02	1,00
DK	-0,06	-0,21	-0,12	-0,09	0,55	0,49	0,22	-0,06	-0,12	-0,12	0,45	1,00
DE	0,16	-0,08	-0,21	-0,21	0,05	-0,03	-0,19	-0,17	-0,08	-0,04	-0,73	0,99
EE	-0,33	-0,37	-0,31	0,18	1,72	1,03	-0,47	-0,82	-0,37	-0,22	-0,24	0,98
IE	-0,01	0,01	0,07	0,36	1,16	0,41	-0,12	-0,32	-0,24	-0,23	1,00	0,99
EL	0,04	-0,12	-0,10	-0,09	0,32	0,51	0,84	0,81	0,27	-0,50	2,34	1,00
ES	-0,13	-0,18	-0,13	0,66	1,80	0,94	0,41	0,54	0,31	-0,40	3,93	1,07
FR	-0,03	-0,04	-0,12	-0,10	0,28	0,13	0,01	0,08	0,08	-0,01	0,29	1,00
IT	0,01	-0,11	-0,14	0,04	0,21	0,15	0,00	0,22	0,23	0,07	0,68	1,01
CY	0,21	0,02	-0,09	-0,11	0,29	0,28	0,43	0,67	0,79	0,19	2,82	1,01
LV	-0,34	-0,32	-0,23	0,24	1,98	0,86	-0,39	-0,68	-0,55	-0,19	0,12	0,99
LT	-0,51	-0,50	-0,28	0,21	1,54	1,01	-0,15	-0,54	-0,31	-0,22	0,12	0,99
LU	0,04	-0,02	-0,09	0,01	0,11	-0,04	0,00	0,02	0,09	0,08	0,19	1,00
HU	0,14	0,11	0,02	0,04	0,36	0,23	0,12	0,07	-0,11	-0,32	0,58	0,98
MT	-0,10	0,03	0,00	-0,08	0,06	0,01	-0,08	-0,09	-0,01	-0,06	-0,28	1,00
NL	0,10	-0,16	-0,21	-0,14	0,17	0,30	0,11	0,18	0,34	0,16	0,84	1,01
AT	0,11	-0,03	-0,11	-0,17	0,18	0,00	-0,07	-0,02	0,12	0,10	0,10	1,00
PL	-0,37	-0,59	-0,69	-0,38	0,08	0,34	0,09	-0,02	-0,06	-0,18	-1,29	1,01
PT	0,11	0,00	0,10	-0,01	0,31	0,17	0,43	0,60	0,19	-0,37	1,52	1,00
RO	-0,04	-0,01	0,01	0,04	0,34	0,16	-0,02	-0,13	-0,05	0,00	0,26	1,00
SI	0,16	-0,02	-0,13	-0,14	0,35	0,29	0,26	0,10	0,17	-0,05	0,92	1,00
SK	-0,33	-0,48	-0,35	-0,12	0,54	0,30	-0,05	-0,10	-0,09	-0,11	-0,44	1,01
FI	-0,42	-0,37	-0,30	-0,14	0,34	0,15	-0,02	-0,10	0,08	0,14	-0,52	1,02
SE	0,43	0,09	-0,15	-0,12	0,36	0,22	-0,06	-0,08	-0,01	0,00	0,48	0,99
UK	-0,01	0,11	0,04	0,07	0,40	0,19	0,09	-0,05	-0,10	-0,28	0,30	0,98
Total	0,02	-0,07	-0,13	-0,01	0,39	0,22	0,03	0,05	0,05	-0,09	0,42	0,99
Accumulated net position	0,02	-0,04	-0,17	-0,18	0,20	0,41	0,43	0,47	0,53	0,42		

Baseline except tau is country-specific (e.g. ranging from 0.008 for Luxembourg in 2008-2009 to 0.077 for Spain in 2014).

**Table A6. Variant 5**

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	199	26	-161	-211	432	266	-332	33	433	144	830
BG	-51	-28	-64	-43	37	126	53	48	24	-48	52
CZ	-19	-118	-235	-231	439	288	81	-82	-31	-115	-23
DK	-96	-378	-220	-170	1 018	944	439	-123	-235	-257	922
DE	2 989	-1 439	-4 257	-4 205	983	-695	-4 000	-3 657	-1 756	-971	-17 007
EE	-30	-40	-41	23	194	122	-62	-115	-56	-34	-38
IE	-19	16	106	543	1 559	542	-159	-441	-329	-341	1 476
EL	66	-212	-195	-175	615	924	1 393	1 261	390	-710	3 356
ES	-963	-1 436	-1 115	5 885	15 555	8 099	3 493	4 529	2 633	-3 409	33 271
FR	-426	-581	-1 807	-1 591	4 380	2 128	237	1 290	1 383	-125	4 889
IT	65	-1 355	-1 739	459	2 645	1 985	-18	2 843	2 952	902	8 739
CY	25	3	-13	-16	42	43	67	104	114	26	395
LV	-38	-43	-42	46	297	124	-62	-122	-102	-36	22
LT	-85	-96	-66	56	332	227	-37	-143	-87	-64	36
LU	10	-5	-27	2	31	-11	2	7	33	28	70
HU	99	78	17	33	273	177	100	56	-92	-264	476
MT	-4	1	0	-4	3	1	-4	-5	0	-4	-18
NL	411	-714	-1 004	-731	838	1 518	581	900	1 762	865	4 426
AT	213	-72	-245	-401	419	7	-165	-53	298	255	256
PL	-718	-1 293	-1 721	-1 102	204	973	265	-62	-197	-606	-4 256
PT	137	-3	147	-12	435	247	599	809	256	-508	2 107
RO	-28	-8	9	43	328	167	-18	-134	-55	5	310
SI	36	-6	-38	-41	100	83	78	30	48	-15	275
SK	-105	-175	-157	-62	273	163	-28	-58	-55	-63	-267
FI	-549	-512	-455	-216	492	223	-29	-156	131	224	-848
SE	1 070	233	-429	-327	904	662	-190	-267	-19	-3	1 634
UK	-85	1 796	679	1 076	5 363	2 717	1 389	-865	-1 675	-5 014	5 381
Total	2 106	-6 359	-13 071	-1 371	38 191	22 048	3 673	5 626	5 768	-10 139	46 471
Accumulated net position	2 106	-4 254	-17 324	-18 696	19 496	41 543	45 216	50 842	56 610	46 471	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	0,06	0,01	-0,05	-0,06	0,12	0,07	-0,09	0,01	0,11	0,04	0,21	1,00
BG	-0,22	-0,10	-0,20	-0,12	0,10	0,34	0,13	0,12	0,06	-0,12	0,12	1,00
CZ	-0,02	-0,10	-0,17	-0,14	0,30	0,18	0,05	-0,05	-0,02	-0,07	-0,01	1,00
DK	-0,05	-0,17	-0,09	-0,07	0,44	0,39	0,18	-0,05	-0,09	-0,10	0,36	1,00
DE	0,13	-0,06	-0,17	-0,16	0,04	-0,03	-0,15	-0,13	-0,06	-0,03	-0,59	1,00
EE	-0,26	-0,30	-0,25	0,14	1,37	0,83	-0,38	-0,65	-0,30	-0,17	-0,19	0,99
IE	-0,01	0,01	0,05	0,29	0,93	0,33	-0,09	-0,26	-0,19	-0,18	0,80	0,99
EL	0,03	-0,10	-0,08	-0,07	0,26	0,41	0,67	0,65	0,21	-0,40	1,87	1,00
ES	-0,10	-0,14	-0,10	0,53	1,44	0,75	0,32	0,43	0,25	-0,32	3,14	1,05
FR	-0,02	-0,03	-0,09	-0,08	0,23	0,11	0,01	0,06	0,07	-0,01	0,23	1,00
IT	0,00	-0,09	-0,11	0,03	0,17	0,12	0,00	0,18	0,18	0,06	0,54	1,01
CY	0,17	0,02	-0,07	-0,09	0,23	0,22	0,35	0,53	0,63	0,15	2,26	1,01
LV	-0,27	-0,25	-0,19	0,19	1,58	0,69	-0,31	-0,55	-0,44	-0,15	0,09	0,99
LT	-0,41	-0,40	-0,23	0,17	1,23	0,81	-0,12	-0,43	-0,25	-0,18	0,10	0,99
LU	0,03	-0,02	-0,07	0,01	0,09	-0,03	0,00	0,02	0,07	0,06	0,15	1,00
HU	0,11	0,09	0,02	0,03	0,29	0,18	0,10	0,06	-0,09	-0,26	0,46	0,99
MT	-0,08	0,02	0,00	-0,07	0,05	0,01	-0,06	-0,07	-0,01	-0,05	-0,22	1,00
NL	0,08	-0,12	-0,16	-0,12	0,14	0,24	0,09	0,14	0,27	0,13	0,68	1,01
AT	0,08	-0,03	-0,09	-0,14	0,15	0,00	-0,05	-0,02	0,09	0,08	0,08	1,00
PL	-0,29	-0,47	-0,55	-0,30	0,06	0,27	0,07	-0,02	-0,05	-0,15	-1,03	1,01
PT	0,09	0,00	0,08	-0,01	0,25	0,14	0,34	0,48	0,15	-0,29	1,22	1,00
RO	-0,03	-0,01	0,01	0,03	0,27	0,13	-0,01	-0,10	-0,04	0,00	0,21	1,00
SI	0,12	-0,02	-0,11	-0,11	0,28	0,23	0,21	0,08	0,13	-0,04	0,74	1,00
SK	-0,27	-0,39	-0,28	-0,09	0,43	0,24	-0,04	-0,08	-0,07	-0,08	-0,35	1,00
FI	-0,33	-0,30	-0,24	-0,11	0,27	0,12	-0,01	-0,08	0,07	0,11	-0,42	1,01
SE	0,34	0,07	-0,12	-0,09	0,29	0,18	-0,05	-0,06	0,00	0,00	0,38	0,99
UK	0,00	0,09	0,03	0,06	0,32	0,15	0,07	-0,04	-0,08	-0,23	0,24	0,99
Total	0,02	-0,05	-0,10	-0,01	0,31	0,17	0,03	0,04	0,04	-0,07	0,33	0,99
Accumulated net position	0,02	-0,04	-0,13	-0,14	0,16	0,33	0,34	0,38	0,42	0,33		

Baseline except CR = 0.80 and tau is country-specific.

**Table A7. Variant 6**

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	1 884	-870	-701	-604	3 117	-2 125	-2 324	1 874	3 072	-1 348	1 976
BG	-57	-48	-43	-42	192	201	-177	253	-110	-111	57
CZ	-310	-267	-227	-220	1 031	-729	-803	-675	-421	-410	-3 032
DK	-764	-618	-503	-432	2 403	-1 486	-1 576	-1 347	-878	-902	-6 105
DE	17 800	-6 332	-4 975	-4 210	17 739	-14 879	-16 237	-14 217	-9 418	-9 768	-44 497
EE	-35	-32	-31	106	312	-81	-91	-82	-57	-63	-54
IE	-469	-394	879	1 570	2 984	-813	-851	-719	-479	-505	1 204
EL	-485	-395	-325	-279	2 514	2 420	3 253	-680	-392	-396	5 234
ES	-3 156	-2 615	-2 172	23 653	37 703	-6 285	-6 461	35 868	-3 237	-3 282	70 017
FR	-6 420	-5 119	-4 073	-3 426	23 668	-12 073	-12 984	18 390	-7 293	-7 401	-16 731
IT	-4 047	-3 232	-2 565	10 098	12 408	-7 455	-7 913	11 635	-4 202	-4 241	486
CY	75	-36	-29	-26	144	-92	150	250	321	-43	714
LV	-39	-39	-41	261	534	-87	-96	-89	-63	-68	273
LT	-61	-56	-51	242	569	-133	-149	-133	-90	-96	41
LU	-103	-85	-71	89	122	-228	-70	-220	87	-157	-637
HU	400	-225	-193	-166	921	-505	-540	-448	-291	-299	-1 348
MT	-16	30	-10	-9	39	-33	-37	-33	29	-24	-63
NL	-1 882	-1 490	-1 209	-1 042	3 252	1 812	-3 863	2 918	5 760	-2 163	2 093
AT	-828	-663	-533	-458	2 453	-1 612	-1 753	-1 541	2 159	-1 048	-3 824
PL	-640	-542	-475	-475	3 083	3 198	-1 690	-1 465	-969	-991	-966
PT	916	-423	1 328	-284	1 875	-985	1 685	2 353	-502	-504	5 459
RO	-222	-204	-191	-190	1 088	-523	-531	-449	-300	-311	-1 831
SI	139	-85	-72	-64	297	-221	-230	-189	-121	-121	-666
SK	-102	-89	-82	-79	630	-289	-316	-275	-181	-191	-975
FI	-553	-444	-359	-312	2 471	-1 072	-1 176	-1 028	-666	-669	-3 809
SE	3 044	-806	-665	-547	4 027	-1 948	-2 277	-2 072	-1 380	-1 364	-3 988
UK	-7 150	13 882	-4 722	-3 375	19 786	-11 053	-11 586	-10 733	-6 811	-7 408	-29 170
Total	-3 078	-11 196	-22 111	19 777	145 363	-57 077	-68 647	37 146	-26 434	-43 885	-30 143
Accumulated net position	-3 078	-14 274	-36 384	-16 608	128 755	71 678	3 031	40 177	13 742	-30 143	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	0,61	-0,27	-0,20	-0,17	0,89	-0,58	-0,61	0,48	0,78	-0,34	0,49	1,00
BG	-0,24	-0,18	-0,14	-0,12	0,53	0,55	-0,44	0,62	-0,27	-0,26	0,14	1,00
CZ	-0,28	-0,22	-0,16	-0,14	0,70	-0,47	-0,49	-0,42	-0,27	-0,26	-1,96	1,00
DK	-0,36	-0,27	-0,22	-0,18	1,04	-0,62	-0,64	-0,54	-0,35	-0,35	-2,37	0,98
DE	0,77	-0,26	-0,20	-0,16	0,72	-0,58	-0,60	-0,52	-0,34	-0,34	-1,53	0,96
EE	-0,31	-0,24	-0,19	0,64	2,21	-0,55	-0,55	-0,47	-0,31	-0,32	-0,28	0,99
IE	-0,28	-0,21	0,45	0,84	1,78	-0,49	-0,50	-0,42	-0,27	-0,27	0,65	1,03
EL	-0,24	-0,18	-0,14	-0,12	1,06	1,07	1,57	-0,35	-0,21	-0,22	2,92	1,02
ES	-0,34	-0,26	-0,20	2,12	3,49	-0,58	-0,60	3,40	-0,31	-0,31	6,61	1,15
FR	-0,36	-0,28	-0,21	-0,17	1,22	-0,60	-0,63	0,88	-0,35	-0,35	-0,78	1,01
IT	-0,27	-0,21	-0,16	0,62	0,79	-0,46	-0,48	0,72	-0,26	-0,26	0,03	1,03
CY	0,50	-0,22	-0,17	-0,14	0,78	-0,48	0,77	1,29	1,77	-0,25	4,08	1,02
LV	-0,28	-0,22	-0,18	1,07	2,84	-0,48	-0,48	-0,40	-0,27	-0,28	1,13	1,00
LT	-0,29	-0,23	-0,18	0,74	2,11	-0,48	-0,48	-0,40	-0,26	-0,26	0,11	0,99
LU	-0,35	-0,26	-0,20	0,24	0,34	-0,58	-0,17	-0,50	0,19	-0,33	-1,35	1,00
HU	0,44	-0,25	-0,19	-0,16	0,99	-0,52	-0,54	-0,45	-0,29	-0,29	-1,30	0,96
MT	-0,31	0,56	-0,18	-0,15	0,64	-0,50	-0,54	-0,46	0,38	-0,30	-0,80	0,99
NL	-0,35	-0,26	-0,20	-0,16	0,53	0,29	-0,60	0,46	0,90	-0,33	0,32	1,02
AT	-0,33	-0,25	-0,19	-0,16	0,86	-0,55	-0,57	-0,49	0,67	-0,32	-1,16	1,00
PL	-0,26	-0,20	-0,15	-0,13	0,98	0,89	-0,45	-0,38	-0,24	-0,24	-0,23	0,99
PT	0,58	-0,25	0,76	-0,16	1,07	-0,55	0,96	1,40	-0,30	-0,29	3,15	0,99
RO	-0,28	-0,21	-0,15	-0,13	0,90	-0,41	-0,40	-0,34	-0,21	-0,21	-1,22	1,00
SI	0,48	-0,27	-0,20	-0,17	0,82	-0,61	-0,62	-0,53	-0,33	-0,32	-1,79	0,98
SK	-0,26	-0,20	-0,15	-0,12	0,99	-0,43	-0,45	-0,38	-0,25	-0,25	-1,30	1,00
FI	-0,34	-0,26	-0,19	-0,16	1,36	-0,57	-0,60	-0,51	-0,33	-0,33	-1,87	0,98
SE	0,97	-0,24	-0,19	-0,16	1,30	-0,53	-0,56	-0,49	-0,32	-0,32	-0,93	0,97
UK	-0,37	0,67	-0,22	-0,18	1,19	-0,61	-0,62	-0,53	-0,34	-0,33	-1,31	0,98
Total	-0,03	-0,09	-0,17	0,15	1,19	-0,45	-0,52	0,28	-0,20	-0,32	-0,22	0,97
Accumulated net position	-0,03	-0,12	-0,28	-0,13	1,06	0,56	0,02	0,30	0,10	-0,22		

Baseline except trigger is bad times (short term unemployment rises more than 10 percentage points).

**Table A8. Variant 7**

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	1 168	-2 082	-1 089	-1 098	3 753	-1 305	-1 328	2 561	3 029	-2 868	740
BG	0	0	0	0	239	271	-222	188	-293	-148	35
CZ	-255	-265	0	0	1 242	-437	-439	-435	0	0	-589
DK	-642	-657	0	0	2 853	-973	-968	-975	0	0	-1 361
DE	11 211	-16 781	-8 977	-9 180	22 152	-7 709	-7 856	-7 955	0	0	-25 094
EE	-45	-47	0	134	293	-144	-157	-126	0	0	-92
IE	-276	0	1 210	1 392	2 270	-1 862	-1 568	-1 059	0	0	107
EL	-714	-707	-710	0	2 813	2 430	2 315	-2 866	-2 015	-1 246	-701
ES	-5 004	0	0	25 552	30 674	-21 639	-21 012	28 745	-12 763	-13 370	11 183
FR	0	0	0	0	27 257	-9 441	-9 511	20 042	-10 204	-10 148	7 995
IT	0	0	0	12 266	10 451	-9 144	-9 153	13 337	-5 987	-6 060	5 709
CY	88	-76	-45	-45	171	-61	189	192	198	-268	343
LV	-63	0	0	300	474	-217	-249	-203	0	0	42
LT	-103	-109	0	290	517	-268	-293	-222	0	0	-188
LU	-112	-91	-57	151	133	-122	58	-134	171	-153	-157
HU	693	-253	-268	-263	1 071	-338	-353	-359	0	0	-70
MT	-15	28	-16	-16	33	-18	-18	-18	51	-19	-7
NL	-3 571	-2 768	-1 580	0	4 356	3 930	-3 344	2 870	3 933	-4 793	-967
AT	-1 512	-845	-857	0	2 936	-1 021	-1 033	-1 052	3 180	-1 123	-1 328
PL	0	0	0	0	3 502	3 497	-2 924	-3 012	-1 677	0	-613
PT	615	-1 006	1 143	-1 112	1 597	-1 311	1 973	1 664	-1 825	-1 901	-162
RO	-210	-211	-207	0	1 249	-382	-373	-407	0	0	-541
SI	117	-161	-95	-97	364	-126	-121	-118	0	0	-237
SK	-187	-191	-206	0	715	-265	-258	-256	0	0	-649
FI	0	0	0	0	2 793	-959	-982	-1 000	0	0	-148
SE	2 071	-3 467	-2 675	-1 454	4 545	-1 632	-1 792	-1 833	0	0	-6 237
UK	-5 770	19 726	-7 356	-6 101	17 468	-7 232	-7 713	-8 596	0	0	-5 574
Total	-2 514	-9 964	-21 785	20 718	145 923	-56 476	-67 133	38 973	-24 202	-42 097	-18 559
Accumulated net position	-2 514	-12 478	-34 264	-13 545	132 378	75 901	8 768	47 740	23 538	-18 559	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	0,38	-0,64	-0,32	-0,31	1,07	-0,36	-0,35	0,66	0,77	-0,71	0,18	1,00
BG	0,00	0,00	0,00	0,00	0,66	0,74	-0,55	0,46	-0,71	-0,35	0,08	0,99
CZ	-0,23	-0,21	0,00	0,00	0,84	-0,28	-0,27	-0,27	0,00	0,00	-0,38	1,00
DK	-0,30	-0,29	0,00	0,00	1,24	-0,40	-0,39	-0,39	0,00	0,00	-0,53	0,99
DE	0,49	-0,70	-0,36	-0,36	0,90	-0,30	-0,29	-0,29	0,00	0,00	-0,86	0,99
EE	-0,40	-0,35	0,00	0,81	2,07	-0,98	-0,96	-0,71	0,00	0,00	-0,47	1,00
IE	-0,16	0,00	0,61	0,74	1,35	-1,13	-0,92	-0,61	0,00	0,00	0,06	1,07
EL	-0,36	-0,32	-0,30	0,00	1,18	1,07	1,11	-1,48	-1,10	-0,70	-0,39	1,05
ES	-0,54	0,00	0,00	2,29	2,84	-2,00	-1,95	2,72	-1,22	-1,26	1,06	1,15
FR	0,00	0,00	0,00	0,00	1,41	-0,47	-0,46	0,96	-0,48	-0,47	0,37	0,98
IT	0,00	0,00	0,00	0,75	0,66	-0,57	-0,56	0,83	-0,37	-0,37	0,35	1,01
CY	0,59	-0,47	-0,26	-0,24	0,93	-0,32	0,97	0,99	1,09	-1,53	1,96	1,03
LV	-0,46	0,00	0,00	1,23	2,52	-1,20	-1,23	-0,92	0,00	0,00	0,18	1,01
LT	-0,49	-0,45	0,00	0,89	1,92	-0,96	-0,94	-0,67	0,00	0,00	-0,52	1,00
LU	-0,38	-0,27	-0,16	0,40	0,37	-0,31	0,14	-0,31	0,38	-0,33	-0,33	1,00
HU	0,77	-0,28	-0,26	-0,25	1,15	-0,35	-0,35	-0,36	0,00	0,00	-0,07	0,95
MT	-0,28	0,51	-0,27	-0,26	0,55	-0,27	-0,26	-0,25	0,68	-0,24	-0,09	1,00
NL	-0,66	-0,48	-0,26	0,00	0,71	0,62	-0,52	0,45	0,61	-0,73	-0,15	1,04
AT	-0,60	-0,32	-0,30	0,00	1,03	-0,35	-0,33	-0,33	0,99	-0,34	-0,40	1,02
PL	0,00	0,00	0,00	0,00	1,11	0,97	-0,78	-0,78	-0,42	0,00	-0,15	0,99
PT	0,39	-0,61	0,65	-0,62	0,91	-0,73	1,12	0,99	-1,08	-1,10	-0,09	1,01
RO	-0,26	-0,21	-0,17	0,00	1,04	-0,30	-0,28	-0,30	0,00	0,00	-0,36	1,00
SI	0,40	-0,51	-0,27	-0,26	1,01	-0,35	-0,33	-0,33	0,00	0,00	-0,64	1,00
SK	-0,48	-0,42	-0,37	0,00	1,12	-0,39	-0,37	-0,36	0,00	0,00	-0,86	1,00
FI	0,00	0,00	0,00	0,00	1,54	-0,51	-0,50	-0,50	0,00	0,00	-0,07	0,98
SE	0,66	-1,04	-0,75	-0,41	1,47	-0,44	-0,44	-0,43	0,00	0,00	-1,45	0,99
UK	-0,30	0,96	-0,34	-0,32	1,05	-0,40	-0,41	-0,42	0,00	0,00	-0,25	0,99
Total	-0,02	-0,08	-0,17	0,16	1,20	-0,44	-0,51	0,29	-0,18	-0,30	-0,13	0,97
Accumulated net position	-0,02	-0,10	-0,27	-0,10	1,08	0,60	0,07	0,36	0,17	-0,13		

Baseline except tau is country-specific and the trigger is bad times (short term unemployment rises more than 10 percentage points).

**Table A9. Variant 8**

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	-67	-67	-53	-8	-276	-1 240	-1 905	-1 717	-1 409	-1 107	-7 848
BG	-4	-4	-3	-1	-20	269	201	-134	-116	-91	97
CZ	-19	-20	-17	-3	1 150	807	-658	-572	-445	-337	-114
DK	-47	-47	-38	-6	2 657	2 331	-1 291	-1 140	-927	-740	750
DE	-503	-485	-378	-59	-1 914	-8 682	-13 306	-12 033	-9 942	-8 017	-55 318
EE	-2	-2	-2	0	327	271	-74	-70	-61	-51	334
IE	-29	-30	-25	1 847	3 135	2 064	-698	-608	-505	-415	4 736
EL	-30	-30	-25	-4	-130	2 812	3 414	3 867	3 282	-325	12 830
ES	-195	-200	-165	25 525	38 805	33 576	-5 295	36 658	-3 417	-2 694	122 599
FR	-397	-392	-309	-48	-1 557	-7 045	-10 641	-9 458	-7 699	-6 074	-43 618
IT	-250	-248	-195	-30	13 682	-4 350	-6 485	12 647	14 881	-3 481	26 172
CY	116	-3	-2	0	159	136	168	263	318	-35	1 120
LV	-2	-3	-3	-1	551	369	-79	-75	-67	-56	634
LT	-4	-4	-4	-1	593	521	-122	-113	-95	-79	692
LU	-6	-7	-5	-1	-29	-133	-206	-186	-158	-129	-860
HU	675	-17	-15	-2	1 006	780	-443	-379	-307	-245	1 052
MT	-1	-1	-1	0	-4	-19	-30	-28	-24	-19	-127
NL	-116	-114	-92	-15	-479	-2 103	-3 166	-2 803	5 641	-1 776	-5 022
AT	-51	-51	-40	-6	-209	-941	-1 437	-1 304	-1 079	-860	-5 979
PL	-40	-41	-36	-7	-182	3 853	-1 385	-1 240	-1 023	-813	-915
PT	-33	-32	-26	-4	-128	1 595	-812	2 471	-530	-414	2 086
RO	-14	-16	-14	-3	-70	-305	-436	-380	-317	-255	-1 808
SI	-6	-7	-5	-1	335	250	230	-160	-127	-99	409
SK	-6	-7	-6	-1	-37	541	-259	-233	-191	-157	-356
FI	-34	-34	-27	-4	2 653	-626	-964	-870	-703	-549	-1 158
SE	-62	-62	-50	-8	4 320	-1 137	-1 866	-1 754	-1 457	-1 119	-3 195
UK	-442	-448	-358	-47	21 570	-6 450	-9 495	-9 084	-7 190	-6 080	-18 024
Total	-1 570	-2 371	-1 896	27 113	85 909	17 146	-57 041	11 566	-13 668	-36 018	29 170
Accumulated net position	-1 570	-3 941	-5 837	21 276	107 185	124 331	67 289	78 856	65 188	29 170	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	-0,02	-0,02	-0,02	0,00	-0,08	-0,34	-0,50	-0,44	-0,36	-0,28	-1,95	0,98
BG	-0,01	-0,01	-0,01	0,00	-0,06	0,73	0,50	-0,33	-0,28	-0,22	0,23	1,00
CZ	-0,02	-0,02	-0,01	0,00	0,78	0,52	-0,40	-0,36	-0,28	-0,22	-0,07	1,00
DK	-0,02	-0,02	-0,02	0,00	1,15	0,97	-0,52	-0,45	-0,37	-0,29	0,29	0,97
DE	-0,02	-0,02	-0,02	0,00	-0,08	-0,34	-0,49	-0,44	-0,35	-0,28	-1,91	0,98
EE	-0,02	-0,02	-0,01	0,00	2,31	1,84	-0,45	-0,40	-0,32	-0,26	1,71	0,97
IE	-0,02	-0,02	-0,01	0,99	1,86	1,25	-0,41	-0,35	-0,29	-0,22	2,55	0,97
EL	-0,02	-0,01	-0,01	0,00	-0,05	1,24	1,64	1,99	1,80	-0,18	7,16	0,97
ES	-0,02	-0,02	-0,02	2,29	3,60	3,11	-0,49	3,47	-0,33	-0,25	11,58	1,18
FR	-0,02	-0,02	-0,02	0,00	-0,08	-0,35	-0,52	-0,45	-0,36	-0,28	-2,04	0,98
IT	-0,02	-0,02	-0,01	0,00	0,87	-0,27	-0,40	0,78	0,92	-0,22	1,62	1,00
CY	0,78	-0,02	-0,01	0,00	0,87	0,71	0,86	1,35	1,76	-0,20	6,40	1,03
LV	-0,02	-0,02	-0,01	0,00	2,93	2,05	-0,39	-0,34	-0,29	-0,23	2,64	0,98
LT	-0,02	-0,02	-0,01	0,00	2,20	1,86	-0,39	-0,34	-0,27	-0,22	1,91	0,98
LU	-0,02	-0,02	-0,02	0,00	-0,08	-0,34	-0,48	-0,43	-0,35	-0,27	-1,83	0,99
HU	0,75	-0,02	-0,01	0,00	1,08	0,80	-0,44	-0,38	-0,31	-0,24	1,02	0,95
MT	-0,02	-0,02	-0,01	0,00	-0,07	-0,29	-0,44	-0,39	-0,31	-0,24	-1,60	0,99
NL	-0,02	-0,02	-0,02	0,00	-0,08	-0,33	-0,49	-0,44	0,88	-0,27	-0,77	1,00
AT	-0,02	-0,02	-0,01	0,00	-0,07	-0,32	-0,47	-0,41	-0,33	-0,26	-1,82	0,98
PL	-0,02	-0,02	-0,01	0,00	-0,06	1,07	-0,37	-0,32	-0,26	-0,20	-0,22	1,00
PT	-0,02	-0,02	-0,01	0,00	-0,07	0,89	-0,46	1,47	-0,31	-0,24	1,21	1,01
RO	-0,02	-0,02	-0,01	0,00	-0,06	-0,24	-0,33	-0,28	-0,22	-0,17	-1,21	1,00
SI	-0,02	-0,02	-0,02	0,00	0,93	0,69	0,62	-0,44	-0,35	-0,27	1,10	1,01
SK	-0,02	-0,01	-0,01	0,00	-0,06	0,81	-0,37	-0,32	-0,26	-0,21	-0,47	1,00
FI	-0,02	-0,02	-0,01	0,00	1,47	-0,33	-0,49	-0,44	-0,35	-0,27	-0,57	0,97
SE	-0,02	-0,02	-0,01	0,00	1,40	-0,31	-0,46	-0,41	-0,33	-0,26	-0,74	0,97
UK	-0,02	-0,02	-0,02	0,00	1,30	-0,36	-0,51	-0,44	-0,36	-0,27	-0,81	0,97
Total	-0,01	-0,02	-0,01	0,21	0,70	0,13	-0,43	0,09	-0,10	-0,26	0,21	0,98
Accumulated net position	-0,01	-0,03	-0,05	0,16	0,88	0,98	0,51	0,59	0,48	0,21		

Baseline except trigger is the US system (unemployment rate exceeds 5 percent and is 20 percent above the level of the past two years).

**Table A10. Variant 9**

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	0	0	0	0	0	0	0	0	0	0	0
BG	0	0	0	0	0	362	212	-262	-268	-125	-80
CZ	0	0	0	0	1242	796	-875	-866	-404	0	-107
DK	0	0	0	0	2 853	2 225	-2 052	-2 068	-1 092	0	-135
DE	0	0	0	0	0	0	0	0	0	0	0
EE	0	0	0	0	338	215	-219	-245	-123	0	-34
IE	0	0	0	1 851	2 658	1 034	-2 349	-1 885	-875	0	433
EL	0	0	0	0	0	3 360	3 149	2 357	487	-3 693	5 660
ES	0	0	0	25 552	30 674	15 603	-33 014	17 225	-24 354	-13 370	18 316
FR	0	0	0	0	0	0	0	0	0	0	0
IT	0	0	0	0	14 657	-4 978	-4 983	13 337	13 330	-12 483	18 879
CY	119	-45	-45	-45	171	129	122	129	143	-268	410
LV	0	0	0	0	564	279	-284	-355	-167	0	37
LT	0	0	0	0	611	418	-394	-439	-223	0	-27
LU	0	0	0	0	0	0	0	0	0	0	0
HU	693	-253	-268	-263	1 071	737	-707	-720	-360	0	-70
MT	0	0	0	0	0	0	0	0	0	0	0
NL	-1 497	-1 521	-1 580	0	0	0	0	0	7 902	-2 680	624
AT	0	0	0	0	0	0	0	0	0	0	0
PL	0	0	0	0	0	4 770	-1 686	-1 737	-1 677	0	-330
PT	-840	-488	0	0	0	2 170	-702	2 471	-1 666	-1 024	-79
RO	0	0	0	0	0	0	0	0	0	0	0
SI	0	0	0	0	364	253	171	-378	-258	-138	14
SK	0	0	0	0	0	710	-256	-255	-250	0	-51
FI	0	0	0	0	2 793	-959	-982	-1 000	0	0	-148
SE	0	0	0	0	4 545	-1 632	-1 792	-1 833	0	0	-712
UK	0	0	0	0	22 936	-7 232	-7 713	-8 596	0	0	-605
Total	-1 525	-2 307	-1 893	27 094	85 476	18 262	-54 354	14 880	-9 857	-33 781	41 995
Accumulated net position	-1 525	-3 833	-5 725	21 369	106 845	125 107	70 752	85 633	75 776	41 995	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00
BG	0,00	0,00	0,00	0,00	0,00	0,99	0,53	-0,64	-0,65	-0,30	-0,19	0,99
CZ	0,00	0,00	0,00	0,00	0,84	0,51	-0,53	-0,54	-0,26	0,00	-0,07	0,99
DK	0,00	0,00	0,00	0,00	1,24	0,92	-0,83	-0,82	-0,43	0,00	-0,05	0,96
DE	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00
EE	0,00	0,00	0,00	0,00	2,39	1,46	-1,33	-1,39	-0,66	0,00	-0,18	0,97
IE	0,00	0,00	0,00	0,99	1,58	0,63	-1,37	-1,09	-0,50	0,00	0,23	1,02
EL	0,00	0,00	0,00	0,00	0,00	1,49	1,52	1,21	0,27	-2,06	3,16	1,02
ES	0,00	0,00	0,00	2,29	2,84	1,44	-3,07	1,63	-2,32	-1,26	1,73	1,16
FR	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00
IT	0,00	0,00	0,00	0,00	0,93	-0,31	-0,30	0,83	0,83	-0,77	1,17	1,00
CY	0,80	-0,28	-0,26	-0,24	0,93	0,68	0,63	0,67	0,79	-1,53	2,34	1,03
LV	0,00	0,00	0,00	0,00	3,00	1,55	-1,41	-1,60	-0,72	0,00	0,15	0,98
LT	0,00	0,00	0,00	0,00	2,27	1,49	-1,26	-1,32	-0,64	0,00	-0,08	0,97
LU	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00
HU	0,77	-0,28	-0,26	-0,25	1,15	0,75	-0,70	-0,73	-0,36	0,00	-0,07	0,95
MT	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00
NL	-0,28	-0,27	-0,26	0,00	0,00	0,00	0,00	0,00	1,23	-0,41	0,10	1,03
AT	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00
PL	0,00	0,00	0,00	0,00	0,00	1,33	-0,45	-0,45	-0,42	0,00	-0,08	1,00
PT	-0,53	-0,29	0,00	0,00	0,00	1,21	-0,40	1,47	-0,98	-0,59	-0,05	1,08
RO	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00
SI	0,00	0,00	0,00	0,00	1,01	0,70	0,46	-1,05	-0,71	-0,37	0,04	1,00
SK	0,00	0,00	0,00	0,00	0,00	1,06	-0,37	-0,35	-0,34	0,00	-0,07	1,00
FI	0,00	0,00	0,00	0,00	1,54	-0,51	-0,50	-0,50	0,00	0,00	-0,07	0,98
SE	0,00	0,00	0,00	0,00	1,47	-0,44	-0,44	-0,43	0,00	0,00	-0,17	0,98
UK	0,00	0,00	0,00	0,00	1,38	-0,40	-0,41	-0,42	0,00	0,00	-0,03	0,98
Total	-0,01	-0,02	-0,01	0,21	0,70	0,14	-0,41	0,11	-0,07	-0,24	0,30	0,98
Accumulated net position	-0,01	-0,03	-0,04	0,17	0,88	0,98	0,54	0,64	0,56	0,30		

Baseline except tau is country-specific and the trigger is the US system (unemployment rate exceeds 5 percent and is 20 percent above the level of the past two years).



**Table A11. Variant 10**

Net position (€ million)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position
BE	213	87	-81	52	813	322	-711	-542	-85	-385	-316
BG	12	4	-49	-53	22	104	39	65	84	-1	227
CZ	-48	-184	-370	-468	270	63	-194	-296	-273	-419	-1 919
DK	0	0	0	0	0	0	0	0	0	0	0
DE	5 243	989	-2 342	-2 244	1 753	-3 830	-11 527	-14 602	-14 959	-16 606	-58 126
EE	-10	-32	-59	-6	220	189	30	-10	-2	-40	280
IE	-313	-341	-224	455	2 018	1 234	675	460	295	48	4 307
EL	783	446	512	544	1 430	1 851	2 599	2 952	2 377	1 463	14 957
ES	7 066	6 548	7 092	16 099	30 656	27 159	26 187	29 745	28 382	22 958	201 890
FR	4 852	4 080	3 136	3 659	10 668	7 108	3 780	5 084	5 594	4 228	52 189
IT	1 463	-364	-944	1 472	4 261	3 120	547	3 790	5 173	3 951	22 471
CY	7	-10	-22	-20	45	42	77	154	212	155	642
LV	35	18	13	107	424	280	125	114	66	70	1 252
LT	10	-36	-62	48	415	385	182	130	131	77	1 281
LU	-137	-159	-186	-160	-121	-213	-254	-284	-267	-272	-2 052
HU	-53	-47	-71	41	376	264	182	183	29	-219	685
MT	-5	-1	-3	-5	4	-5	-19	-26	-24	-32	-114
NL	-698	-1 773	-2 229	-2 250	-748	-366	-1 617	-1 025	692	250	-9 764
AT	376	103	9	-143	705	-8	-551	-573	-259	-250	-592
PL	2 463	1 602	800	1 050	1 566	2 248	1 534	1 349	1 339	643	14 595
PT	86	1	205	199	802	590	959	1 434	1 137	480	5 892
RO	10	-33	14	123	504	335	100	-28	1	7	1 032
SI	-21	-63	-99	-100	56	25	20	1	46	-6	-140
SK	95	-27	-58	-43	322	246	58	53	17	-48	614
FI	775	600	464	540	1 304	928	575	437	692	808	7 123
SE	1 499	1 011	661	944	2 151	1 923	1 047	1 010	1 175	1 007	12 428
UK	0	0	0	0	0	0	0	0	0	0	0
Total	23 704	12 419	6 108	19 842	59 918	43 995	23 843	29 574	31 571	17 865	268 839
Accumulated net position	23 704	36 123	42 231	62 072	121 991	165 986	189 829	219 403	250 975	268 839	

Net position (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Accumulated net position	Relative variability
BE	0,07	0,03	-0,02	0,01	0,23	0,09	-0,19	-0,14	-0,02	-0,10	-0,08	0,99
BG	0,05	0,01	-0,15	-0,15	0,06	0,28	0,10	0,16	0,21	0,00	0,54	1,00
CZ	-0,04	-0,15	-0,27	-0,29	0,18	0,04	-0,12	-0,18	-0,17	-0,27	-1,24	1,00
DK	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00
DE	0,23	0,04	-0,09	-0,09	0,07	-0,15	-0,43	-0,53	-0,53	-0,57	-2,00	0,96
EE	-0,09	-0,24	-0,37	-0,03	1,56	1,28	0,18	-0,06	-0,01	-0,21	1,43	0,99
IE	-0,18	-0,19	-0,11	0,24	1,20	0,75	0,39	0,27	0,17	0,03	2,32	0,96
EL	0,39	0,20	0,22	0,22	0,60	0,82	1,25	1,52	1,30	0,82	8,35	0,97
ES	0,76	0,65	0,66	1,44	2,84	2,51	2,44	2,82	2,71	2,17	19,07	1,09
FR	0,27	0,22	0,16	0,18	0,55	0,36	0,18	0,24	0,26	0,20	2,44	1,00
IT	0,10	-0,02	-0,06	0,09	0,27	0,19	0,03	0,23	0,32	0,24	1,39	1,01
CY	0,05	-0,06	-0,13	-0,11	0,24	0,22	0,40	0,80	1,17	0,89	3,67	1,02
LV	0,25	0,10	0,06	0,44	2,25	1,56	0,62	0,51	0,28	0,29	5,20	0,99
LT	0,05	-0,15	-0,21	0,15	1,54	1,38	0,58	0,39	0,38	0,21	3,53	1,00
LU	-0,46	-0,48	-0,52	-0,43	-0,33	-0,54	-0,60	-0,65	-0,59	-0,58	-4,36	1,00
HU	-0,06	-0,05	-0,07	0,04	0,40	0,27	0,18	0,19	0,03	-0,21	0,66	0,99
MT	-0,10	-0,02	-0,05	-0,08	0,07	-0,07	-0,27	-0,36	-0,31	-0,40	-1,44	0,99
NL	-0,13	-0,31	-0,37	-0,35	-0,12	-0,06	-0,25	-0,16	0,11	0,04	-1,49	1,01
AT	0,15	0,04	0,00	-0,05	0,25	0,00	-0,18	-0,18	-0,08	-0,08	-0,18	0,99
PL	1,01	0,59	0,26	0,29	0,50	0,62	0,41	0,35	0,34	0,16	3,53	0,99
PT	0,05	0,00	0,12	0,11	0,46	0,33	0,54	0,85	0,67	0,28	3,40	1,01
RO	0,01	-0,03	0,01	0,09	0,42	0,26	0,07	-0,02	0,00	0,00	0,69	1,00
SI	-0,07	-0,20	-0,28	-0,26	0,15	0,07	0,05	0,00	0,13	-0,02	-0,38	1,00
SK	0,24	-0,06	-0,10	-0,06	0,51	0,37	0,08	0,07	0,02	-0,06	0,82	1,00
FI	0,47	0,35	0,25	0,28	0,72	0,50	0,29	0,22	0,34	0,40	3,49	0,99
SE	0,48	0,30	0,19	0,27	0,69	0,52	0,26	0,24	0,27	0,23	2,89	0,99
UK	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00
Total	0,21	0,10	0,05	0,15	0,49	0,35	0,18	0,22	0,23	0,13	1,94	0,99
Accumulated net position	0,21	0,30	0,33	0,48	1,00	1,30	1,45	1,64	1,86	1,94		

Baseline except Denmark and the United Kingdom do not participate into the system.



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