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# Investigating the efficiency of EU Deposit Guarantee Schemes

J. Cariboni, A. Uboldi

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European Commission  
Joint Research Centre  
Institute for the Protection and Security of the Citizen

**Contact information**

Address: Unit G-09, Action FINECON  
E-mail: [adamo.uboldi@jrc.it](mailto:adamo.uboldi@jrc.it)  
Tel.: +39-0332-785287  
Fax: +39-0332-785733

<http://ipsc.jrc.ec.europa.eu/>  
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EUROPEAN COMMISSION  
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# Investigating the efficiency of EU Deposit Guarantee Schemes

European Commission, Joint Research Centre, Unit G09, Ispra (Italy)

*This report does neither commit the Commission nor does it limit the Commission's discretion with regard to any current or future actions or policies*

## Executive Summary

The European Commission launched a review process of Directive 94/19/EC on Deposit Guarantee Schemes (DGS), the conclusions of which were disseminated via a formal Communication in 2006. The Commission highlighted a number of short-term improvements to the existing arrangements, to be adopted via self-regulatory agreements, without changes in the existing legislation. The European Forum of Deposits Insurers (EFDI) was asked to assist the Commission and its Joint Research Centre (JRC) in addressing these self-regulatory issues. Several Working Groups have been set-up to deal with each theme. In its Communication, the Commission also identified the necessity to focus on the efficiency of current EU DGS when faced with a need to reimburse depositors.

This Report considers the various meanings the word “efficiency” can have, the current way DGS operate, and a quantitative analysis investigating the capability of the EU Member States (MS) to handle reimbursements or preventive interventions<sup>1</sup> of varying magnitude. Consequently, this Report also describes the various steps of the intervention procedure (both in case of payout and for preventive interventions), the authorities involved and their interaction, and the way DGS manage and invest available funds. Even though it has been difficult to draw general and harmonized conclusions (as each incident was distinctive), some key conclusions can be made.

The procedures that DGS have to follow widely differ and seem sometimes lengthy and complex. For instance, the triggering event (i.e. the unavailability of deposits) may fall within the competence of up to 8 different types of entities or combinations of entities across the MS. The number of procedural steps to follow ranges from 4 to 21. It is thus not surprising that 13% of DGS reported cooperation deficiencies with other domestic authorities. More details can be found in Section 3.1 and in Annex II.

As to payout delays, it was found that on average more than 90% of deposits (but only 70% of depositors) were reimbursed within the existing three-months deadline. Only around 25% of the DGS which have reimbursed depositors made use of the option of extending the three-month time limit set in Directive 94/19/EC to complete the payout. Half of DGS reported that access to data, availability of funds and staff availability determined the speed of payout. However, the critical issue of ready access to funding does not seem to impede a payout within this three month deadline, since the ability of DGS to obtain the necessary funds seems in general good. Even if borrowing facilities are unlimited for some schemes, it takes time to recover this through annual contributions, for instance the SK scheme, which asked for loans in 1999-2001, is still in deficit. More details can be found in Section 3.4.

JRC also collected and analyzed data relating to historical interventions where payout delays were registered, providing statistical analysis to the EFDI Working Group responsible for dealing with this topic.

Even though DGS thus seem to be robust for smaller failures, there are clear limits: on average, without resorting to unlimited borrowing DGS declare themselves capable of coping with a single crisis of any of the smallest 64% of their members.

Among those schemes which collect ex-ante contributions, most (around 90%) invest their funds, mainly in government bonds and short term deposits. Only in 5 MS are DGS not allowed to ask for a loan in case of a shortfall, while in around two

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<sup>1</sup> It should be noted that under the Directive 94/19/EC governing DGS, the mandatory task of the schemes is to reimburse depositors. However, beyond this Directive, some DGS are empowered by national legislation to intervene preventively.

thirds of EU countries there is no limit to the amount of resources which can be borrowed. In this context, the study has presented a robustness indicator which reveals significant differences in the respective capacities of DGS to payout in the event of failure of one of their members (see Section 3.3).

A significant part of the Report is devoted to a scenario analysis aimed at assessing the impact of different types of actions and/or interventions on DGS in each MS. Five scenarios have been developed.

The first three scenarios are based on real-life historical payouts of differing size. The "low impact" scenario reflects a case where 0.035% of eligible deposits in a Member State are concerned. The "medium impact" scenario concerns 0.81% whereas the "high impact" scenario would affect 3.24% of eligible deposits. The low impact scenario is equivalent to the most severe failure in EU-15 and the high impact scenario to the most severe failure in EU-12 (where failures have had higher impact over the last decade). The three scenarios would lead to an average financial burden, across EU countries, of €100 million, €2.18 billion and €8.69 billion, respectively. More precisely, to illustrate these values, the "medium impact scenario" covers an amount of deposits to be paid between 34m€ for EE and 15b€ for DE.

A small failure could be borne by all DGS using their ex-ante funds (if not in deficit). For the medium impact scenario, the 7 MS with the highest coverage ratios would have enough ex-ante funds to cope with the repayment. On average, EU schemes would need around 4 times their present level of ex ante funds to handle the reimbursement. Under the high impact scenario, no DGS would be capable of handling reimbursement solely through existing ex-ante funds (between 2 and 22 times the existing ex-ante funds would be needed) and schemes would need to borrow money: 24 DGS in 16 MS are permitted to borrow without limitation.

A fictitious payout scenario has been also developed in order to simulate a very high impact failure of a credit institution in one MS with branches in a second MS. The average amount of funds needed for this scenario would be around 13.7 billion €. Also for this scenario, no scheme has the necessary resources to face the costs of the payouts without collecting additional contributions or borrowing funds. On average, ex-ante schemes would have to collect 48 times their current funds to be able to handle the reimbursement.

Including all financial means available (ex-ante funds, ex-post contributions and additional borrowing, eventually unlimited), it would appear that 6 MS are not equipped to deal with a mid-sized failure. More details on the scenarios can be found in Sections 5.2 and 5.3, in particular in Table 10.

The study also examined a scenario which simulated a preventive intervention by the schemes, in order to provide funds to a "failing bank", although this is not foreseen in the EU Directive. Roughly one third of schemes can decide autonomously to do so while roughly one third of schemes may intervene only subject to decision by other authorities. This scenario<sup>2</sup> reveals that a small intervention (equivalent to 0.16% of eligible deposits, i.e. costs ranging from €7 million to €3.13 billion<sup>3</sup> in the different MS) could be borne by most ex-ante funded schemes with only three of them needing to gather additional funds to cope with the costs of such preventive intervention.

Particular attention has been devoted to the assessment of cross-border exposures, although only a limited amount of information has been gathered. For all EU countries, more than 90% of the eligible deposits are held at domestic banks, while in a few MS (BG, IT, RO, SK) branches from other EU MS hold more than 2% of eligible deposits.

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<sup>2</sup> Even though preventive interventions are not foreseen in the Directive, the scenario is based on actual preventive interventions which have occurred in the past.

<sup>3</sup> This upper range figure concerns Germany, for which data on the size of funds in DGS has not been provided: robustness of the DE scheme has thus not been assessed.

The Report also describes the intervention procedure applied in the US, by the Federal Deposit Insurance Corporation (FDIC), to highlight the main differences with the EU systems. Crucial differences are firstly the ability of the US scheme to act before a member becomes illiquid, and subsequently the central role played by the FDIC in the resolution, since it is generally appointed as the receiver. More details can be found in Section 6.

An Annex to this Report also contains an update to the scenario analysis built in 2007 to analyze potential effects of harmonizing the way DGS are funded. With respect to the 2007 Report, figures are only slightly different due to the growing sums of deposits and funds. The overall amount of ex-ante funds in EU DGS rose slightly to approximately 13b€.

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# 1. Introduction

The Communication<sup>4</sup> on the review of Directive 94/19/EC<sup>5</sup> on Deposit Guarantee Schemes (DGS), published in November 2006, summarized the conclusions drawn by the Commission from the consultation process and the investigations performed during the review of the Directive<sup>6</sup>. The Commission highlighted a number of short-term improvements to the existing arrangements, to be adopted via self-regulatory agreements and without the need to make changes to the existing legislation; more fundamental issues to be examined in coming years were also considered, these may lead to a revision of the Commission's policy towards DGS.

The self-regulatory improvements cover matters such as the definition and scope of coverage of deposits, co-insurance, de minimis clause, topping-up arrangements, the exchange of information among EU DGS, risk-based contributions, depositor information and payout delays in case of a bank failure. The Communication suggests that *“design and implementation of such solutions could be carried out in cooperation with the Commission Working Group of Member States' representatives, the European Forum of Deposit Insurers (EFDI)<sup>7</sup>, or representative banking associations at EU level”*.

Prior to changing current legislation on the EU DGS, the Commission stressed that further investigations on some crucial topics are needed, in order to understand whether differences among DGS as regards funding mechanisms, coverage levels, and rules for paying out to depositors, especially in the case of cross-border situations, may undermine fast and efficient crisis resolution. In particular, the Commission identified the need to focus on the procedures and institutions involved in the management of banking failures, and the analysis of the capacity of the current systems to absorb a call on their funds in case of potential cross border failure.

In light of these objectives, the FINECON-EAS group (Econometrics and Applied Statistics)<sup>8</sup> of the Joint Research Centre (JRC), which had already performed quantitative analyses<sup>9</sup> on EU DGS for the Commission Communication, was asked to support EFDI in the investigation of the self-regulatory issues, and perform quantitative studies aimed at exploring the current efficiency of DGS in the event of financial distress.

In relation to the cooperation with EFDI, JRC gathered and analyzed historical data on payout delays of DGS to depositors, and helped to develop common definitions concerning the scope of coverage of deposits. EFDI is responsible for drafting reports for each issue identified by the Commission.

Concerning the examination of how DGS function when called into action, JRC structured the analysis in three parts. First, JRC focussed on the functioning of the EU DGS, considering those aspects which might impact on their effectiveness in

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<sup>4</sup> Communication COM(2006)729, concerning the review of Directive 94/19/EC on deposit guarantee schemes, available at [http://ec.europa.eu/internal\\_market/bank/docs/guarantee/comm9419\\_en.pdf](http://ec.europa.eu/internal_market/bank/docs/guarantee/comm9419_en.pdf)

<sup>5</sup> Directive 94/19/EC of the European Parliament and of the Council of 30 May 1994 on deposit-guarantee schemes, Official Journal L 135 , 31/05/1994 P. 0005 – 0014, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31994L0019:EN:HTML>

<sup>6</sup> [http://ec.europa.eu/internal\\_market/bank/guarantee/index\\_en.htm](http://ec.europa.eu/internal_market/bank/guarantee/index_en.htm)

<sup>7</sup> <http://www.efdi.net>

<sup>8</sup> <http://finecon.jrc.it> and <http://farmweb.jrc.cec.eu.int/ESAF>

<sup>9</sup> Scenario Analysis: Estimating the effects of changing the funding mechanisms of EU Deposit Guarantee Schemes, available at [http://ec.europa.eu/internal\\_market/bank/docs/guarantee/final\\_report\\_en.pdf](http://ec.europa.eu/internal_market/bank/docs/guarantee/final_report_en.pdf)

Report on the minimum guarantee level of Deposit Guarantee Schemes Directive 94/19/EC, available at [http://ec.europa.eu/internal\\_market/bank/docs/guarantee/report\\_en.pdf](http://ec.europa.eu/internal_market/bank/docs/guarantee/report_en.pdf)

reacting to banking failures, such as the events that trigger DGS payouts in different EU MS, the authorities involved in the procedure, the amount of available funds, arrangements in place to ensure rapid transfer of funds to DGS if necessary, how DGS manage their funds, etc... Second, JRC collected and analyzed data on DGS' cross-border exposures in order to assess possible consequences of a cross-border banking default. Third, JRC analyzed historical data on banking failures and performed a scenario analysis to evaluate the efficiency of funds in case of payout of depositors and/or interventions aimed at avoiding a banking failure. Moreover, JRC was asked to compare the system currently in force in the US with present practices in the EU, in order to highlight the main differences.

JRC was also asked to update the scenario analysis performed in 2006 to assess the costs of changing the way DGS are financed across the EU<sup>7</sup>, in order to explore the possibility of moving towards a harmonized system of financing EU DGS. During the consultation process, some stakeholders stated that the substantial differences in the way EU DGS are currently financed *"raise doubts about the ability of schemes to function on a cross-border basis under crisis conditions"*, and *"create competitive distortions because of the unfair advantage to banks operating under schemes with lower costs"*. Not being explicitly linked to the efficiency of the DGS, the updated scenario analysis is reported in Annex I to this Report.

This Report presents the results of the quantitative analyses performed by JRC and is organized as follows. Section 2 describes the survey prepared and distributed by JRC in cooperation with the Directorate General for Internal Market and Services. This survey, which is attached in Annex V, also covers some of the issues investigated by the Working Groups of the EFDI, such as the analysis of payout delays and the exploration of risk-based methodologies for DGS contribution adjustments. Section 2 also describes the data on deposits, collected through the survey, used as the basis for the quantitative analysis presented in the remaining sections of the Report. Section 3 describes how DGS currently function and evaluates their efficiency, while Section 4 presents the analysis of cross-border exposures in the EU. The first part of Section 5 investigates the potential costs of banking failures and preventative interventions performed by EU DGS, based on available data from earlier events; the second part presents scenario analyses to evaluate the efficiency of funds during financial distresses of varying nature and gravity. Section 6 is devoted to the description of the US system while the last Section 7 concludes. Moreover, six annexes are attached. Annex I presents the updated scenario analysis estimating the effects of changing the DGS funding mechanisms. Annex II contains a series of tables describing on a country by country basis the procedures adopted by DGS in case of reimbursement. Annex III presents for each DGS a description of the resources available in case of need. Annex IV includes the complete dataset of historical payouts/interventions. Finally Annexes V and VI detail the JRC survey and the list of attached definitions.

Finally, it should be noted that this report does neither commit the Commission nor does it limit the Commission's discretion with regard to any current or future actions or policies.

## 2. Source of information

### 2.1 Survey

In order to perform the analysis and to support the scenario investigation, a survey was prepared by JRC to collect data on a DGS by DGS basis. The survey, included in Annex V of this Report, aimed to obtain a general overview of the DGS functioning across MS and covered issues such as quantitative information on deposits, cross-border exposures and topping-up, interventions and reimbursement of depositors, and risk-based approaches to adjust DGS contributions and/or monitor DGS members' risk profiles.

JRC distributed the questionnaire to EU MS in July 2007 and received responses between September and December 2007.<sup>10</sup> 37 out of 39 schemes replied to the survey. The two missing schemes are both from Germany and cover private and savings banks. Unless otherwise specified, data collected from this survey represent the inputs for analysis in the following sections. The data collected were cross checked with other databases available. Few discrepancies were found, which could relate to the fact that different sources or methods were used.

Note that following a request from the EEA representative in the EU Working Group on DGS, the survey was also sent to EEA countries; only Norway has replied and this response is included in the Report for comparative purposes.

### 2.2 Data on deposits

The first set of relevant data for the scenario analysis consists of data on the total amount of deposits, eligible deposits, and covered deposits, since these are the basis for the scenarios. Following the analysis performed in the 2007 Report and the request to update the database built using historical data, MS were asked to provide quantitative information on the total amount of deposits of their members (excluding those deposits left out from any repayment by virtue of Article 2 of the Directive<sup>5</sup>), the amount of eligible deposits, and the amount of covered deposits.<sup>11</sup> Table 1 (columns two to four) reports these figures for each DGS, for 2005.<sup>12</sup> It also reports in the last two columns the size of the fund for the ex-ante DGS in 2005, and the amount of contributions collected in 2006 by each scheme.<sup>13</sup>

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<sup>10</sup> At the EFDI annual meeting held in Istanbul in November 2007 JRC met the EU DGS representatives to discuss their answers, confirm data, check on confidentiality issues, and to clarify some information to be included in the final version of the present Report.

<sup>11</sup> For further information on the definitions of total, eligible and covered deposits please see the file of definitions distributed with the survey and attached in Annex VI.

<sup>12</sup> In some countries (DE, ES, IT, CY, AT, PT) more than one DGS is operating. In DE, the compensation system is quite complex because of historical reasons and 6 compensation schemes are operating: 2 schemes are statutory and protect credit institutions under public law or ownership (DE1) and private (DE2) law; 2 are institutional and protect cooperatives banks (DE3) and saving banks together with the Landesbanken (DE4). Moreover there are 2 voluntary schemes providing additional protection to private and public credit institutions. These latter are not included in the analysis. In ES 3 DGS are operating, representing Private Banks (ES1), Cooperative Banks (ES2), and Saving Banks (ES3). In Italy 2 DGS are operating, one covers Cooperative Banks (IT2); the second one the other institutions (IT1). In CY 2 DGS are present, one protecting Cooperative Banks and Credit Institutions (CY2), the second the remaining institutions (CY1). In AT five DGS are set up covering private commercial banks (AT1), rural cooperative banks (AT2), private savings banks (AT3), industrial cooperative banks (AT4), and privatised provincial mortgage banks (AT5). In Portugal two DGS are operating, one relative to Cooperative Banks included in the Mutual Agriculture Integrated System (PT2); the second covering other institutions (PT1).

<sup>13</sup> As can be seen from Table 1, the DGS from new MS provided almost all the required data; for some EU-15 DGS (DE1, DE2, DE4, and NL) no data was gathered. Other DGS (BE, DK, DE3, IE, GR, ES, FR, CY, AT, PT2, UK) did not report all types of deposits. Compared to the previous survey, PL and SI provided data on the total amount of deposits, SE supplied the amount of eligible deposits, and three MS (LT, HU, PL) furnished data on covered deposits. CY and IE in 2006 provided data on the eligible and covered deposits.

In

Table 2 aggregated values of deposits per MS are summarised. In order to complete the database and following the procedure adopted for the 2007 Report, several estimates are included in this table. Results presented in this Report are based on the aggregated data per MS as shown in

Table 2. Eurostat data have been used in order to reproduce the total amount of deposits for DE, ES, and NL. Concerning the total amount of eligible deposits for DE and NL, Eurostat data have again been used to obtain an estimate. Approximations for the amounts of eligible deposits of DK, IE and CY are obtained by applying a ratio to the total amount of deposits of these MS. This ratio, obtained by the dataset, represents an estimate of the total amount of eligible deposits over the total amount of deposits for these countries.

Separate approximations of the ratio, which are summarised in Table 3, are calculated for each of these MS using the dataset. For DK a ratio of 83.43% is used by considering the average ratio of total amount of eligible deposits over the total amount of deposits in SE and FI<sup>14</sup>. This average has been chosen as these three MS have, to some extent, the same types of eligible deposits (that is, exclusions from guarantee, following Annex I of Directive 94/19, are nearly the same). For IE, a ratio of 63.96% is obtained by averaging all available EU-15 ratios<sup>15</sup>. Finally, for CY a ratio of 84.65% is applied and obtained from data provided by the schemes themselves in 2006.

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<sup>14</sup> Note that in the last survey only the ratio of FI was available and was used to estimate the eligible deposits of DK and SE.

<sup>15</sup> The ratios of Finland (96.57%) and Luxembourg (15.11%) are excluded because these values are outlying with respect to the distribution of the other EU-15 countries.

Table 1: Deposits, fund size, and amount of contributions in thousands of Euro (t€) per DGS.

	2005 Total amount of deposits (t€)	2005 Total amount of eligible deposits (t€)	2005 Total amount of covered deposits (t€)	2005 Fund size (t€)	2006 Contributions (t€)
BE	473 695 000	215 427 000	N.A.	713 000	44 799
BG	11 071 740	9 718 707	5 276 767	153 884	43 372
CZ	64 125 000	57 943 000	31 541 000	177 900	48 300
DK	154 138 060	N.A.	57 307 821	<sup>16</sup> 475 839	0
DE1	N.A.	N.A.	N.A.	N.A.	N.A.
DE2	N.A.	N.A.	N.A.	N.A.	N.A.
DE3	532 000 000	N.A.	N.A.	N.A.	N.A.
DE4	N.A.	N.A.	N.A.	N.A.	N.A.
EE	5 743 101	4 282 881	1 667 279	66 000	16 328
IE	278 215 100	N.A.	N.A.	337 500	N.A.
GR	168 795 189	118 735 607	N.A.	688 487	110 197
ES1	N.A.	221 719 422	94 548 971	1 920 093	140 379
ES2	N.A.	53 337 000	29 745 000	388 700	42 782
ES3	N.A.	361 482 000	191 502 000	2 906 070	145 515
FR	1 103 293 000	1 018 477 953	N.A.	1 475 000	152 000
IT1	1 712 482 803	513 497 675	372 042 284	0	<sup>17</sup> 0
IT2	110 147 620	50 796 416	42 314 974	0	<sup>17</sup> 0
CY1	28 819 529	N.A.	N.A.	5 590	0
CY2	7 837 838	N.A.	N.A.	2 160	0
LV	8 912 115	8 606 405	1 609 716	49 541	18 148
LT	10 228 000	7 077 914	3 702 460	162 663	34 133
LU	589 344 816	89 053 647	12 437 498	0	0
HU	45 569 369	36 787 544	20 272 471	228 880	6 889
MT <sup>18</sup>	<sup>(1)</sup> 6 906 226	<sup>(1)</sup> 5 705 739	<sup>(1)</sup> 4 799 066	3 026	983
NL	N.A.	N.A.	N.A.	0	0
AT1	57 048 164	46 000 000	22 296 079	0	0
AT2	75 000 000	N.A.	39 000 000	0	0
AT3	89 000 000	N.A.	42 000 000	0	0
AT4	16 134 646	N.A.	10 047 058	0	0
AT5	9 698 000	N.A.	4 004 000	0	0
PL	102 494 381	94 801 324	90 067 687	358 479	36 622
PT1	152 353 000	116 215 000	59 200 000	1 171 000	33 156
PT2	8 134 695	7 670 838	N.A.	55 218	13 772
RO	23 365 690	12 048 429	9 521 818	143 661	30 993
SI	14 368 437	12 467 746	7 130 338	0	0
SK	21 594 509	10 982 049	10 876 452	<sup>19</sup> -78 974	25 298
FI	83 442 597	80 577 207	38 270 563	375 000	40 390
SE	164 669 543	115 745 113 703	56 132 503	1 672 259	57 719
UK	2 165 474 974	1 091 492 777	N.A.	<sup>20</sup> 98 886	0
NO	149 530 369	120 100 188	71 383 845	1 953 663	63

Source: Survey data; <sup>(1)</sup> Estimates from the dataset; ; N.A. for not available.

<sup>16</sup> The fund in DK is made up partly of liquid cash (around 30%) and partly of pledges (see note 25): both are included in the figure.

<sup>17</sup> IT1 and IT2 are ex-post schemes collecting a small contribution to cover administrative expenses.

<sup>18</sup> Since before February 2006 the Maltese DGS covered deposits only in Maltese Liri, data provided referred only to these deposits. To include deposits in other EU-currencies, data were adjusted using other information provided by the Maltese DGS.

<sup>19</sup> In years 1999–2001 four banks went bankruptcy in SK. Since the fund held by the DGS was not enough to cover the total costs, the National Bank of SK provided the DGS with a loan for compensation disbursements. A residual loan was also taken out by commercial banks.

<sup>20</sup> Though classified as an ex-post scheme, UK has a residual fund, inheritance of the previous system.

Table 2: Deposits, fund size and contributions in t€ per MS.

	2005 Total amount of deposits (t€)	2005 Total amount of eligible deposits (t€)	2005 Total amount of covered deposits (t€)	2005 Fund size (t€)	2006 Contributions (t€)
BE	473 695 000	215 427 000	<sup>(1)</sup> 115 280 631	713 000	44 799
BG	11 071 740	9 718 707	5 276 767	153 884	43 372
CZ	64 125 000	57 943 000	31 541 000	177 900	48 300
DK	154 138 060	<sup>(1)</sup> 128 593 810	57 307 821	475 839	0
DE	<sup>(e)</sup> 2 061 481 000	<sup>(e)</sup> 1 911 376 000	<sup>(1)</sup> 1 022 827 364	N.A.	N.A.
EE	5 743 101	4 282 881	1 667 279	66 000	16 328
IE	278 215 100	<sup>(1)</sup> 177 946 960	<sup>(1)</sup> 95 224 079	337 500	N.A.
GR	168 795 189	118 735 607	<sup>(1)</sup> 63 538 533	688 487	110 197
ES	<sup>(e)</sup> 870 258 840	636 538 422	315 795 971	5 214 864	328 675
FR	1 103 293 000	1 018 477 953	<sup>(1)</sup> 620 604 010	1 475 000	152 000
IT	1 897 647 620	583 074 516	427 814 974	0	0
CY	36 657 367	<sup>(1)</sup> 31 030 373	<sup>(1)</sup> 10 432 809	7 751	0
LV	8 912 115	8 606 405	1 609 716	49 541	18 148
LT	10 228 000	7 077 914	3 702 460	162 663	34 133
LU	589 344 816	89 053 647	12 437 498	0	0
HU	45 569 369	36 787 544	20 272 471	228 880	6 889
MT	6 906 226	5 705 739	4 799 066	3 026	983
NL	<sup>(e)</sup> 500 936 990	<sup>(e)</sup> 482 343 020	<sup>(1)</sup> 293 913 100	0	0
AT	246 880 810	185 000 000	117 347 137	0	0
PL	102 494 381	94 801 324	90 067 687	358 479	36 622
PT	160 487 695	123 885 838	<sup>(1)</sup> 63 107 530	1 226 218	46 928
RO	23 365 690	12 048 429	9 521 818	143 661	30 993
SI	14 368 437	12 467 746	7 130 338	0	0
SK	21 594 509	10 982 049	10 876 452	-78 974	25 298
FI	83 442 597	80 577 207	38 270 563	375 000	40 390
SE	164 669 543	115 745 114	56 132 503	1 672 259	57 719
UK	2 165 474 974	1 091 492 777	<sup>(1)</sup> 665 095 197	<sup>209</sup> 886	0
<b>UE</b>	<b>11 269 797 167</b>	<b>7 249 719 981</b>	<b>4 161 594 773</b>	<b>13 460 864</b>	<b>941 290</b>
NO	149 530 369	120 100 188	71 383 845	1 953 663	63

Source: Survey data; <sup>(1)</sup> Estimates from the dataset; <sup>(e)</sup> Eurostat data.

Table 3: Procedure for the estimation of the 2005 amount of eligible deposits.

	Total amount of deposits (t€) (A)	Ratio (rounded to 2 decimals) (B)	Total amount of eligible deposits (t€) = (A) * (B)
DK	54 138 060	83.43%	128 593 809
IE	278 215 100	63.96%	177 946 959
CY	36 657 367	84.65%	31 030 372

Source: Survey data.

Estimates for the amount of covered deposits presented in

Table 2 are in most cases estimated by applying a ratio to the amount of eligible deposits. Following the procedure used in the previous Report, different ratios are applied to different MS, depending on their level of coverage (see definition in Annex VI). For those EU-15 MS with a level of coverage lower or equal to € 25 000 and with a missing value for the amount of covered deposits (BE, DE, IE, GR), the ratio is calculated by averaging the available ratios of the amount of covered over eligible deposits of EU-15 MS, with a level of coverage lower or equal to € 25 000<sup>21</sup> (the average being around 53.51%). For those EU-15 MS with a level of coverage higher than € 25 000 and with a missing value for the amount of covered deposits (FR, NL, UK), the ratio is estimated by averaging the available ratios of EU-15 MS with a level of coverage higher than € 25 000<sup>22</sup> (the average being nearly 60.93%).

Table 4: Procedure for the estimation of the 2005 amount of covered deposits.

	Total amount of eligible deposits (t€) (A)	Ratio (rounded to 2 decimals) (B)	Total amount of covered deposits (t€) = (A) * (B)
BE	215 427 000	53.51%	115 280 631
DE <sup>23</sup>	<sup>(e)</sup> 1 911 376 000		1 022 827 364
GR	118 735 607		63 538 533
IE	<sup>(c)</sup> 177 946 960		95 224 079
FR	1 018 477 953	60.93%	620 604 010
UK	1 091 492 777		665 095 197
NL	<sup>(e)</sup> 482 343 020		293 913 100
PT2	123 885 838	50.94%	63 107 530
CY	<sup>(c)</sup> 31 030 373	33.62%	10 432 809

Source: Survey data; <sup>(e)</sup> Eurostat data; <sup>(c)</sup> Estimates from the dataset.

<sup>21</sup> The ratio of the amount of covered deposits to the amount of eligible deposits of Luxembourg was excluded from the average ratio because Luxembourg's ratio is extremely low (13.97%) compared to the others and can be considered an outlier.

<sup>22</sup> Note that in the last survey a ratio based only on the two Italian DGS was used. In the present survey SE also provided data on both the eligible and covered deposits.

<sup>23</sup> Note that the ratio applied to DE does not account for the protection guaranteed by the voluntary schemes, which is unlimited.



Note that PT is treated separately, since one of the two DGS provided data on the total amount of covered and eligible deposits (the ratio is 50.94%). An estimate of the total amount of covered deposits for the other Portuguese DGS is obtained from this ratio. As regards EU-12 MS, data for CY is missing, and the ratio of 33.62% is obtained by data provided by the DGS themselves in the 2006 survey. Table 4 summarises the amount of eligible deposits, the ratios applied and the estimates obtained for the amount of covered deposits.

### 2.3 Data on DGS funding and level of coverage

Compared to the situation depicted in the 2007 Report, during the last year EU DGS have not changed their funding mechanisms. None have moved from an ex-ante to an ex-post system or vice versa, and none of the ex-ante schemes have adopted new methodologies for estimating their annual premiums. However, it is worthwhile noting that some schemes (RO, SE, UK) are currently revising the methodology to estimate their members' contributions. For instance RO is in the process of drafting specific regulations for defining a "*Fund's exposure coverage rate*" and for estimating the annual contribution of their members. Concerning SE, a new method to measure the risk of DGS members and accordingly adjust DGS premiums is under development by the Swedish National Debt Office, which incorporated the Swedish DGS at the beginning of 2008. Note also that the UK Financial Supervisory Authority (FSA) has recognized the need to be able to make early, forward-looking and accurate assessments of a bank's risk of failure<sup>24</sup>. To facilitate early assessment, the FSA intends to investigate the introduction of new rules that would require UK banks to provide additional evidence to the competent authority that they are meeting threshold conditions on an ongoing and forward-looking basis.

Upon explicit request, the classification adopted in the 2007 Report to categorize DGS according to their funding mechanism has been reviewed and only two classes are considered: "*DGS featuring an ex-ante component*" and "*mere ex-post schemes*". This new classification still reflects the definitions in Annex VI even after removing the class "Other" which was used in the 2007 Report for DGS characterized by a peculiar mixture or combination of an ex-ante and an ex-post component<sup>25</sup>. The classification of the DGS according to the new categories is presented in Figure 1.

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<sup>24</sup> More details are available in the report "Financial stability and depositor protection: strengthening the framework", by HM Treasury, FSA, and Bank of England, available at [http://www.hm-treasury.gov.uk/media/3/5/banking\\_stability\\_pu477.pdf](http://www.hm-treasury.gov.uk/media/3/5/banking_stability_pu477.pdf)

<sup>25</sup> The schemes whose funding mechanism was classified as "Other" in the 2007 Report are DK, CY, MT, PL, RO. In DK, only a part of the contribution (at least 25%) is paid to the fund and the rest takes the form of pledges to guarantee payment, if the need arises. The regulations governing the operation of the Cypriot schemes foresee three different types of contribution: initial (ex-ante), supplementary and special (ex-post). The Maltese DGS collects ex-ante contributions to maintain a target size for the fund, and ex-post levies in case of need. The Polish scheme levies both ex-ante contributions for an assistance fund, and ex-post contributions for compensation purposes in case of a member's failure. Finally, in RO the contributions are defined in terms of a determined ex-ante part plus an ex-post part which consists of stand-by lines of credit granted yearly by every member.

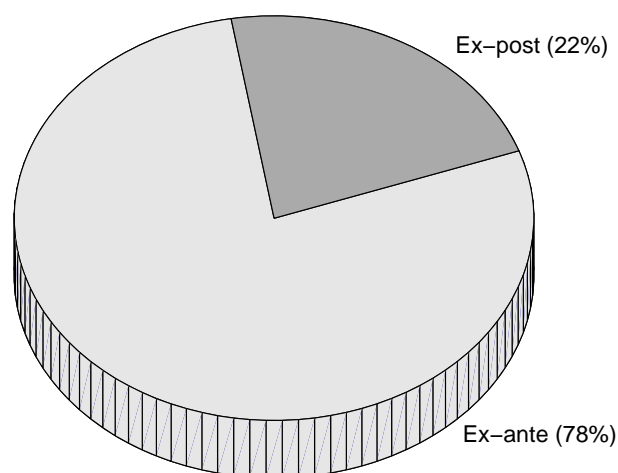


Figure 1: Pie chart of the funding mechanism per MS.

To measure the adequacy of the DGS' funds the following definition of coverage ratio is applied:

$$\text{Coverage Ratio} = \frac{\text{Size of the Fund (2005)}}{\text{Total Amount of Eligible Deposits (2005)}}$$

Table 5 shows the values of the ratio for the EU-15 MS (left column) and the twelve new MS (right column). Countries are ranked in decreasing order of coverage ratio.

Table 5: EU-15 and new MS ranked by decreasing coverage ratio.

EU-15	Coverage ratio (%)	New MS	Coverage ratio (%)
SE	1.44	LT	2.30
PT	0.99	BG	1.58
ES	0.82	EE	1.54
GR	0.58	RO	1.19
FI	0.47	HU	0.62
DK	(*)0.37	LV	0.58
BE	0.33	PL	0.38
IE	(*)0.19	CZ	0.31
FR	0.14	MT	0.05
UK <sup>20</sup>	0.001	CY	(*)0.02
		SK	-0.72
NO	1.63		

Source: Survey data; (\*) Data on eligible deposits estimated from the dataset.

Figure 2 plots the coverage ratios in increasing order. The horizontal black line in the picture represents the EU average coverage ratio (around 0.70%), obtained using data from Table 5, excluding Slovakia's negative coverage ratio. The average coverage ratio in the EU-15 countries is around 0.53% (0.59% when excluding UK, see note 20). When considering new MS, the average coverage ratio is higher (0.86%). The standard deviations in EU-15 and new MS are respectively 0.44% and 0.76%. In comparison to the 2007 Report, SE has become the MS with the highest coverage ratio in the EU-15 (from 1.09% to 1.44%). This change is due to the fact that in the last Report data on eligible deposits for SE were estimated,

while this year they have been provided by the DGS. For the EU-12, although the rank has slightly changed from the 2007 Report, no significant variation in the coverage ratios is detectable.

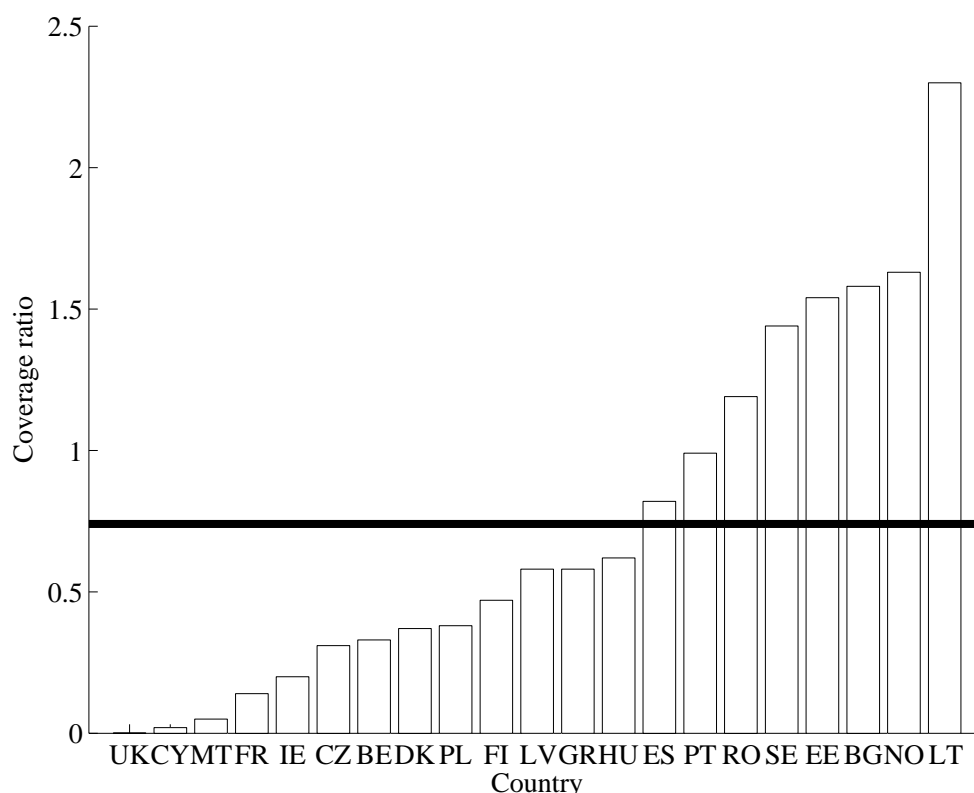


Figure 2: Coverage ratios in countries with an ex-ante financed DGS.

Finally, a few variations in the levels of coverage and payout limits applied across MS have been registered between the 2007 Report (figures as of 01/01/2007) and current values (as of 01/01/2008). The levels of coverage have changed in EE, LT and LV closed their transitional period, establishing a new level of coverage up to 20 000€ as suggested in the Directive 94/19/EC. Note that coinsurance rules have slightly changed in LT due to the increase in the level of coverage. NL started applying 10% coinsurance on deposits above 20 000 €, while in the UK coinsurance is no longer applied.

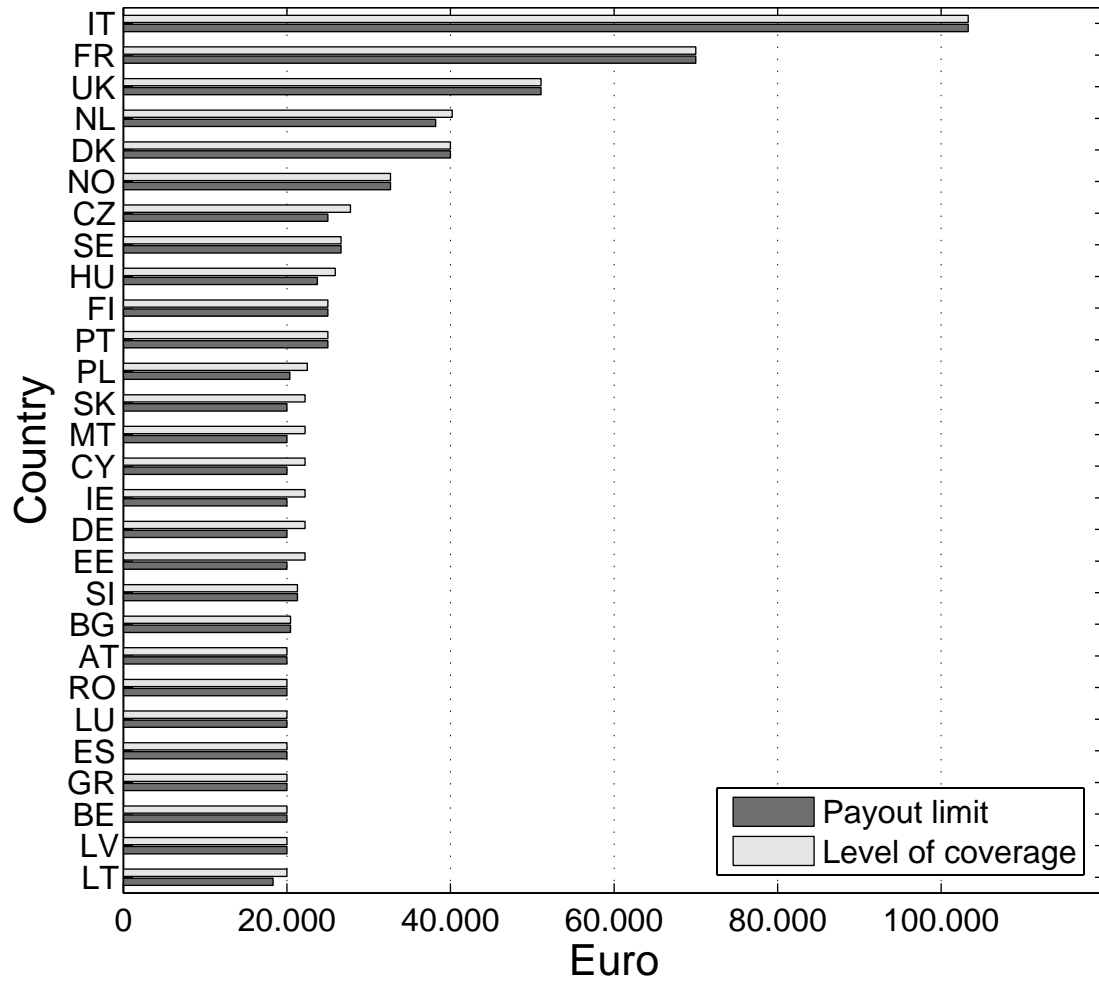


Figure 3: Payout limit and level of coverage.

### 3. Efficiency

The survey distributed to EU DGS covered different aspects of the manner in which DGS operate in case of intervention, both for preventive interventions and for reimbursements of depositors. In particular, the survey aimed to investigate whether current practices can handle a failure in an efficient and effective manner. This section presents and briefly discusses the data collected. The first part concentrates on descriptive aspects such as the types of interventions allowed, the events triggering the DGS activation, the institutions involved and their cooperation. Subsequently, the financial resources available to DGS are described, with emphasis on the maximum amount of available funds at disposal. Finally a summary of quantitative information on payout delays is provided.

Note that in the following paragraphs, in order to describe the different aspects of the functioning of DGS, data collected through the survey has been treated and standardised into classes. This means that comparable declarations have been harmonized and clustered together. The definitions of the classes might introduce minor alterations of the information collected, due to aggregation choices and to the scope of the investigation.

#### 3.1 Actions and interventions

The first distinction to be made concerns the roles assigned to DGS. Under Directive 94/19/EC, all DGS must have a statutory obligation to repay depositors in case of failure: 16 schemes are limited to this role (in the previous survey they were classified as “only pay-box schemes”). All other schemes replying to the survey (precisely 21) are allowed to perform other tasks such as preventive interventions. Note that some schemes tend to intervene mainly preventively, leaving compensation of depositors as the final option: this case is common among mutual guarantee schemes for cooperative banks.

Regarding the payout procedure, the event triggering the DGS activation is in general the unavailability of deposits or, more precisely, the declaration of unavailability of deposits. In a few cases MS law establishes a time frame for the competent authority to officially declare the unavailability of deposits from the date on which the material fact (i.e. the operative inability to repay one depositor) was established.<sup>26</sup> In CZ, DE, GR, MA, FI this limit is set at 21 days, while in SK and HU it is 5 days. In some Member States this declaration is made by the Central Bank or by the Banking Supervisory Authority (BSA), while in other cases the payout procedure is activated by a decision of the competent Court. Figure 4 presents, in a pie-plot, the segregation of duties between authorities for declaring the unavailability of deposits for each DGS, and shows that the situation is rather heterogeneous across the EU. Different entities (or combinations of entities) other than the DGS can carry out the declaration, though in more than 50% of the cases the BSA is one of the authorities involved.

In general, after the declaration of unavailability of deposits, depositors are informed either through an announcement in the Official Gazette of the country, or via other media. In some cases there is a limit of three days (following the declaration of unavailability) set in the Statute for the announcement (EE, SI, ES).

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<sup>26</sup> Under Article 1(3) of Directive 94/19/EC: “*The competent authorities shall make that determination as soon as possible and at the latest 21 days after first becoming satisfied that a credit institution has failed to repay deposits which are due and payable*”.

A detailed description of the procedure followed by each scheme for the payout of depositors is provided in Annex II, including information about the competent authority and a reference to the corresponding legislation. Note that not all DGS have provided information on this point, leaving, in some cases, ambiguities on the legislation to be applied, e.g. Banking Act or Bankruptcy Law. In general, a great variety of situations are described in Annex II: in many cases the DGS is the authority in charge both to verify claims and to manage the payout procedure, for instance by nominating a paying agent to operatively reimburse depositors; in other cases a third-party receiver in charge of the bankruptcy procedure might work in strict cooperation with the DGS, for example preparing the list of depositors or approving their claims.

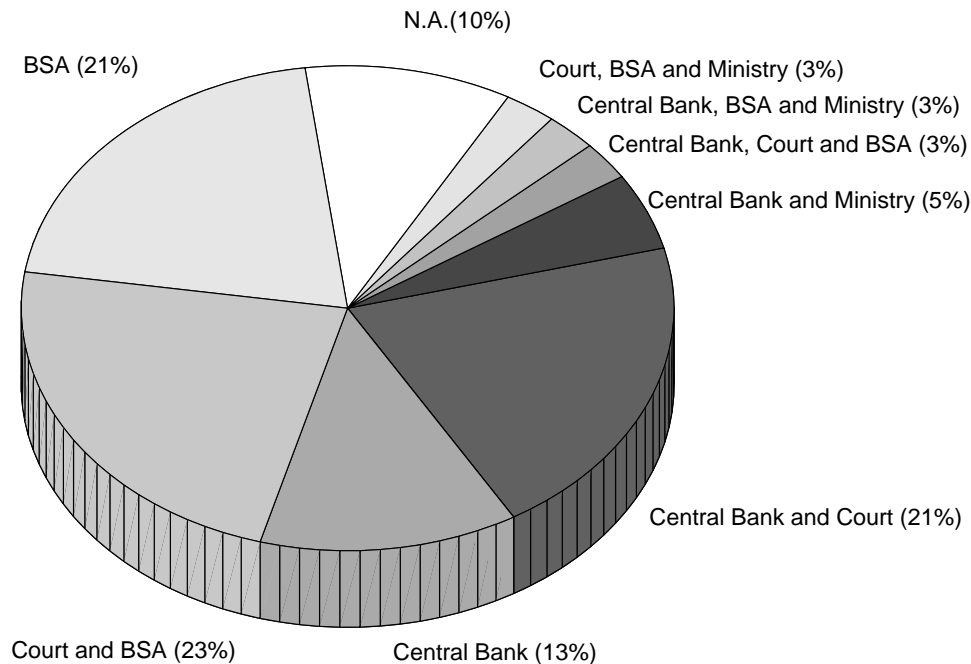


Figure 4: Competent authority in charge to declare unavailability of deposits.

Regarding preventive interventions, in some countries the DGS has the power to decide autonomously on intervention to avoid a failure. Often, the Board of the DGS acts on the basis of a monitoring system developed to assess the risk of the DGS members. Different indicators are used to measure risk, such as the Capital Adequacy Ratio or Solvency Ratio<sup>27</sup>. For other DGS, preventive interventions are driven by a decision involving other institutions such as the Central Bank, the Banking Supervisory Authority and the Ministry of Finance/Economy, as sketched in Figure 5.

Although there are no common rules to start the supporting procedure, the underlying principle is often the “least cost principle”: a preventive intervention to avoid a default usually drives a lower cost than the failure itself. In general, the basic target is to ensure the stability of the financial system and banking sector, while any specific situation is carefully and regularly monitored by the Boards, in particular by Cooperative schemes. Note that in PL the bank itself must ask for financial assistance.

<sup>27</sup> A detailed report on existing risk monitoring approaches is foreseen to be delivered within spring 2008.

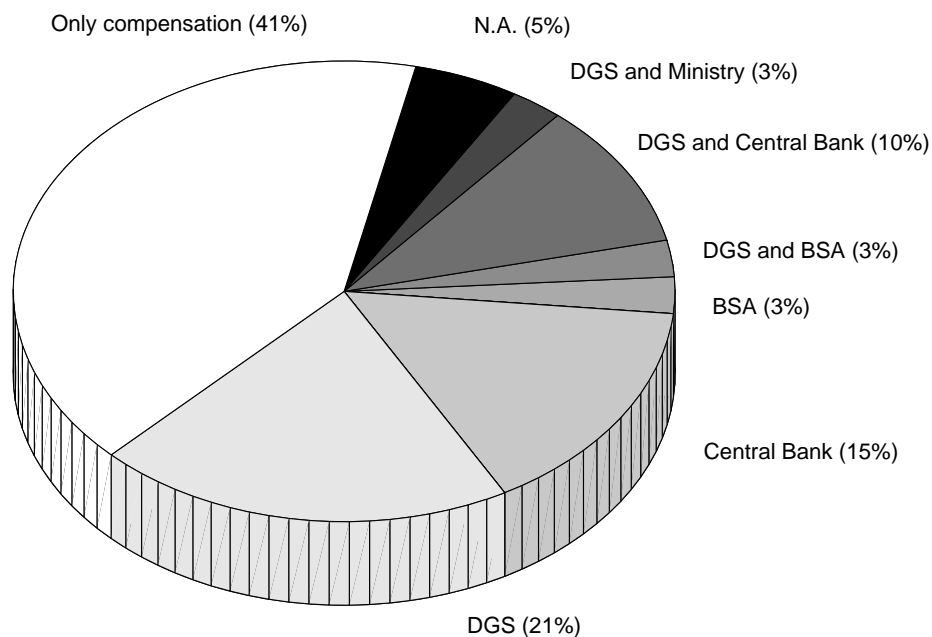


Figure 5: Competent authorities for interventions other than payout.

DGS were also asked to comment on possible cooperation deficiencies experienced with other authorities involved in the intervention, which might slow down the process or reduce its efficiency. In most of the cases (around 70%) no cooperation deficiency had arisen. Based on historical cases, only a few DGS reported difficulties in the interaction with the other institutions involved, as shown in Figure 6.

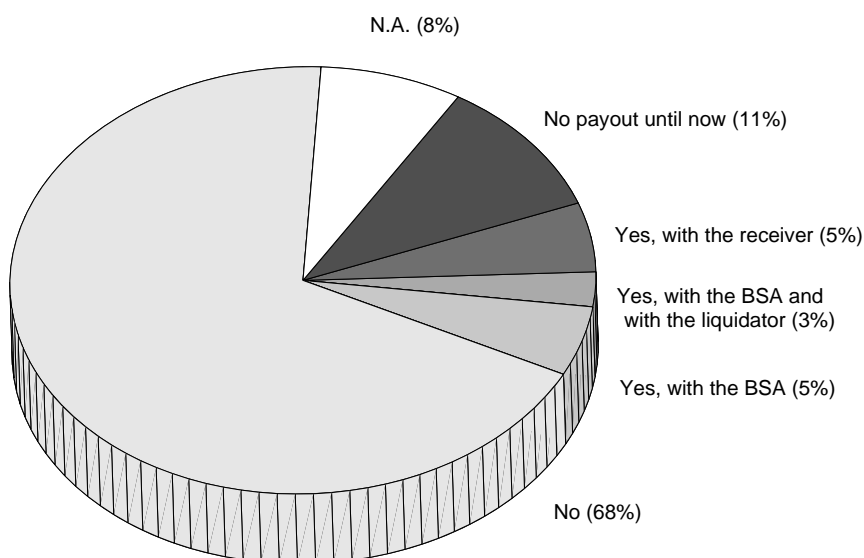


Figure 6: Cooperation deficiencies between DGS and other authorities in case of action.

### 3.2 Financial resources

This paragraph describes the resources at the disposal of EU DGS to handle potential banking failures or preventive interventions. Besides the size of the fund (see Table 1), other characteristics are examined in order to understand the

complete spectrum of resources each DGS can call on if necessary. These cover the possibility to raise additional contributions up to a certain maximum, to levy so called extraordinary premia, and the option to borrow money.

Concerning available funds, as already shown in Section 2, among EU DGS 9 schemes are funded in an ex-post way. For these schemes, there is no fund cumulated by the scheme prior to any action, but for some DGS there might be a virtual fund, earmarked or explicitly set aside by the members. Among ex-ante schemes, in most of the cases (nearly 90% of the ex-ante DGS) funds are directly managed by the DGS. Only in very few cases funds are given by ring-fenced reserves or partially earmarked by members. Regarding the way ex-ante DGS manage their resources, in all but one case funds are invested, as detailed in Figure 7. For the great majority, funds are invested in national and/or EU bonds or similar government securities and there are significant cases where schemes resort to short-term deposits. Whenever more risky instruments are allowed, strict limitations are set in the statutes/by-laws in order to limit the risk in the DGS portfolio, for example a minimum rating for the instrument is required.

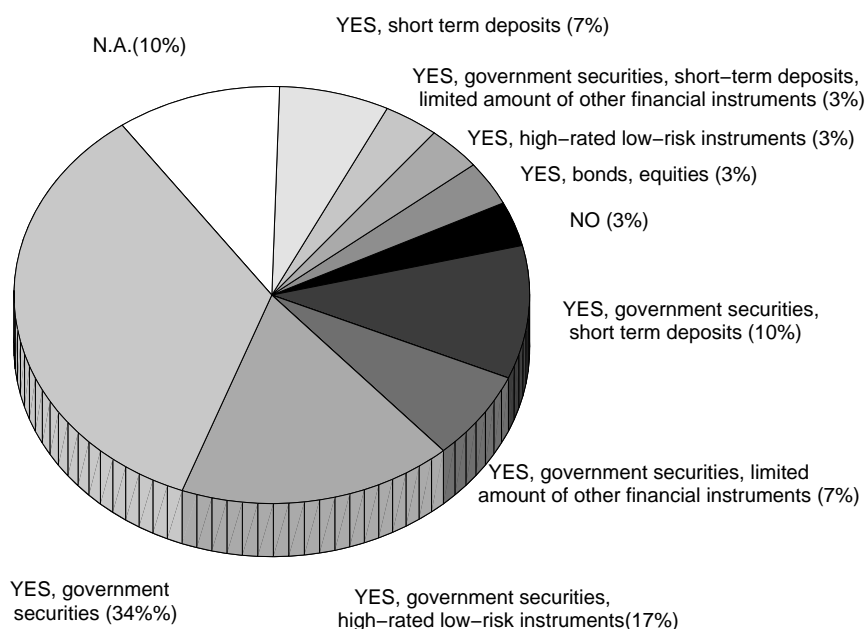


Figure 7: Funds invested by ex-ante DGS.

Concerning other resources, the possibility of borrowing funds deserves separate analysis. Seven schemes (BE, DE3, IE<sup>28</sup>, IT1, IT2, LV, NL<sup>29</sup>) are not allowed to borrow money, neither from institutional sources (Government, Central Bank) nor on the free market. In contrast, the option of asking for a loan is permitted for 30 DGS. Note that for these 30 DGS, in 24 cases there is no limitation explicitly set in the DGS Regulations to the amount of money that can be borrowed, thus introducing a theoretically infinite capability to collect money. However, since this option seems unrealistic, some schemes openly declared that a limit on borrowing must be considered as in force, despite the absence of an explicit limit in the regulation. For example, a ceiling on annual contributions introduces a limit to the capability of repaying a loan: the DGS in SK, whose fund is negative due to a loan taken in 2001, is still gathering money to repay the debt. In relation to borrowing, it must be

<sup>28</sup> The Irish Central Bank is responsible for the scheme and is obliged under law to make reimbursements as appropriate.

<sup>29</sup> In case of default the Dutch National Bank advances funds to insured depositors and then ask members to repay the loan.



noted that in many cases loans taken by schemes are guaranteed by the Central Bank or the Government (See Annex III of the 2007 Report).

Finally note that, regarding own funds of DGS, more than half of the schemes (20 out of 39) have no link with the corresponding Investor Compensation Scheme (ICS). In 6 cases the DGS and ICS are grouped into a single Legal Entity, keeping funding and managing separate; in 7 cases they have separate funds managed together (data provided regard only DGS), while in the remaining 4 cases the two schemes act as a single legal entity; Figure 8 shows all the various configurations.

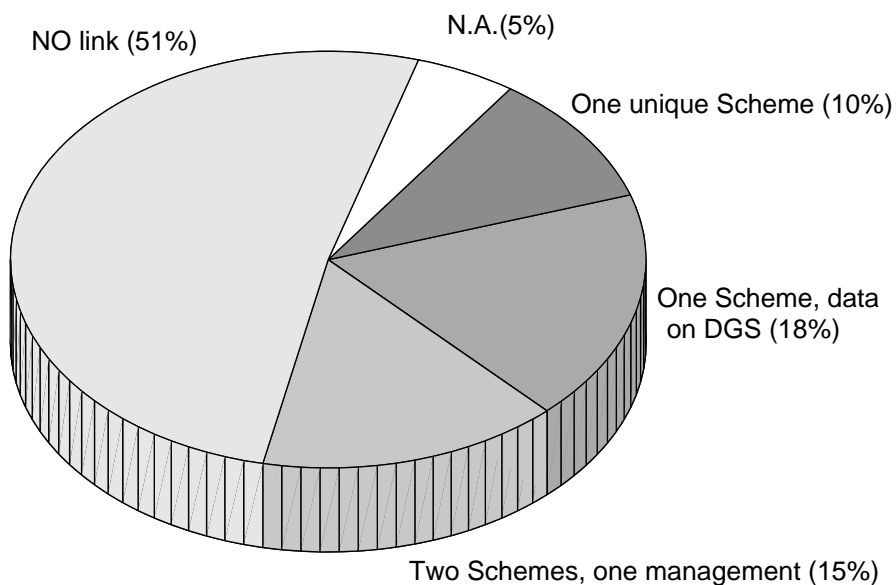


Figure 8: Link between DGS and ICS.

### 3.3 Maximum amount of available resources

Considering the various types of resources available to DGS, this paragraph presents an introductory analysis aiming to estimate the maximum amount of funds each scheme can collect in the event of intervention. Notwithstanding the simplistic approach, this analysis can give a significant insight into the current financial capability of EU DGS.

The estimation of the maximum amount of resources includes current funds, maximum level of annual contributions, maximum level of extraordinary contributions, and borrowing. Note that in the survey, the schemes were asked to estimate and comment on the maximum amount of money available in case of need and to provide comment on its composition. Whenever an estimate was not provided by the DGS, statutes, bylaws, and data from the 2006 survey<sup>30</sup> have been used to obtain an approximation of the maximum available funds. Moreover, DGS were also asked to declare how many members would be covered by the maximum amount of funds available, that is to estimate how many members would be covered in case a single intervention occurs. To explore this point the following "*robustness indicator*" is defined:

$$\text{Robustness Indicator} = \frac{\text{Number of members whose deposits lie under the value of maximum amount of resources}}{\text{Number of members in the DGS}}.$$

In the formula the maximum amount of resources includes all sources, except unlimited borrowing. The robustness indicator gives the percentage of banks in the scheme whose eligible<sup>31</sup> deposits are lower or equivalent to the maximum amount of resources available to the DGS. For example, a value of 90% would indicate that only 10% of banks have eligible deposits that exceed the available DGS resources. In other words, under the hypothesis of a single intervention (as suggested by the dataset, multiple interventions in the same year have resulted quite uncommon), the robustness indicator gives the percentage of banks that would be theoretically covered.

In order to complete the analysis, the "*extended robustness indicator*" is defined, which includes in the amount of resources also the possibility of unlimited borrowing: in this case, theoretically, their indicator is 100%. It must be remarked that, even if unlimited borrowing is allowed, recovering a high amount of money could take time. As an example, the case of SK can be considered: the Slovakian scheme had to face the highest impact in EU (see intensity ratio description in Section 5.1 and Annex IV) in 2001 and is still in deficit. This point is strengthened by the following observation: excluding dramatic events, the majority of the MS declare that the option to activate extraordinary contribution or to raise the annual contribution is the main tool to ensure rapid transfer of funds.

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<sup>30</sup> See Annex III to the Report.

<sup>31</sup> In general, as usual, eligible deposits have been taken as a reference. However, in countries for which the contribution base is not given by eligible deposits, the "proxy" of the indicator is calculated by resorting directly to values provided by the DGS themselves. In few cases, it could not be clarified whether total, eligible, or covered deposits were referred to.

Information is reported in

Table 6 and Table 7, aggregated by MS. The first table shows in column A the 2005 fund, in column B the description of available resources (including borrowing where limited), in column C the maximum amount of funds reachable considering these resources (provided by the DGS or estimated with available information), and in column D the percentage of members covered by the estimated amount of resources, which is the value of the robustness indicator.

Table 7 focuses on the description of the borrowing, including information on which countries declare the possibility to borrow an unlimited amount of funds (column E) and the corresponding value of the robustness indicator (column F). The first two columns of the table report information already presented in

Table 6 for comparison purposes.

Wherever possible, data presented in

Table 6 and Table 7 has been provided directly by the DGS. Regarding borrowing, a value is included in the estimates of

Table 6 only if either a maximum is estimated by the DGS or provided for in the DGS Regulation. A detailed description of the maximum amount of contributions and extraordinary contributions per DGS is presented in Annex III.

Concerning ex-post schemes, an estimation of the virtual fund is provided for IT and SI<sup>32</sup> in

Table 6. For LU, NL and AT a maximum on the annual contributions is set in the Regulation (see Annex III) but cannot be estimated since expressed in terms of inaccessible variables (e.g. amount of shareholders' equity, members' own funds, etc...). Also for SK the maximum amount of resources is unavailable, as this DGS is currently in deficit.

Comparing the size of available funds with the estimated maximum amount of available resources (not including borrowing, if not limited) shows that for some schemes (EE, FR, LV, LT, PL) the two values are the same<sup>33</sup>, while for DGS with very low coverage ratios (e.g. CY) the maximum amount can be up to 11 times current funds. Note also that for FI the declared maximum amount of resources is much higher (more than 13 times) than current funds. On average the maximum amount of resources is around 3 times the value of present funds.

Excluding schemes with unlimited borrowing, 14 provided information on the number of members covered by the maximum amount of available resources. On average these EU schemes declare themselves able to cover a default of two thirds of their smallest members (average robustness indicator around 64%, see last but one row of

Table 6). By including unlimited borrowing the value raises to around 86% (see the extended robustness indicator in Table 7).

At first sight this value suggests that globally the schemes are able to intervene in a satisfactory percentage of cases: without unlimited borrowing values for the indicator range from 0% (MT), that is none of the members would be covered in

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<sup>32</sup> For IT, there is a fixed amount of money that the members undertake to make available to the Fund for interventions, varying between 0.4% and 0.8% of the covered deposits from all the members on 30 June of the previous year.

For SI, banks must invest assets in the amount of at least 2.5% of their covered deposits.

<sup>33</sup> For EE the total amount of available resources is the 2007 fund.

case of a failure, to 95% (HU), that is the DGS is able to collect money necessary to repay depositors for almost any potential failure.

Table 6: Estimation of maximum amount of resources excluding borrowing when unlimited, and percentage of members covered.

	A	B	C	D
	Size of the fund 2005 (€)	Description of available resources (excluding borrowing when unlimited)	Maximum amount of resources described in column B (€)	Robustness indicator (without unlimited borrowing, i.e. referring only to the amount presented in column C)
BE	713 000 000	Fund + guarantees + 2 annual contribution	824 000 000	83.48%
BG	153 883 517	Fund + maximum extra contribution	(*)299 664 119	N.A.
CZ	177 900 000	Estimated borrowing approx. equal to 10 years income (syndicated loan+ bond)	1 100 000 000	80.00%
DK	475 839 421	Fund + maximum contribution	(*)784 115 542	N.A.
DE	N.A.	N.A.	N.A.	N.A.
EE	65 999 731	2007 Fund	95 867 473	71.43%
IE	337 500 000	Fund + max. contribution based on eligible	(*)693 393 919	N.A.
GR	688 487 497	Fund + contribution + extra contributions	1 219 051 431	46.34%
ES	5 214 863 500	Fund + maximum contribution	(*)6 487 940 344	N.A.
FR	1 475 000 000	Fund	(*)1 475 000 000	N.A.
IT	0	Total virtual funds <sup>32</sup> of the 2 DGS	1 987 361 740	90.50%
CY	7 750 654	total assets + max. borrowing + max. contribution aggregated over the 2 DGS	85 650 112	37.36%
LV	49 541 425	Fund	(*)49 541 425	25.45%
LT	162 663 420	2007 Fund	213 130 213	N.A.
LU	0	N.A.	N.A.	N.A.
HU	228 880 452	Fund + maximum loan	317 750 328	95.61%
MT	3 025 844	Fund + maximum borrowing	4 200 000	0.00%
NL	0	N.A.	N.A.	N.A.
AT	0	N.A.	N.A.	N.A.
PL	358 479 275	Fund	358 479 275	N.A.
PT	1 226 218 214	Own funds aggregated over the two DGS	(*)1 761 282 525	<sup>34</sup> 87.76%
RO	143 660 671	Own funds + stand-by lines <sup>35</sup> + extraordinary contributions	(*)507 292 074	81.25%
SI	0	Virtual fund <sup>32</sup>	189 022 144	N.A.
SK	-78 974 050	N.A.	N.A.	N.A.
FI	375 000 000	Liquidation of the DGS assets and estimated borrowing	5 000 000 000	76.92%
SE	1 672 258 614	Fund + maximum contribution	(*)1 750 844 118	N.A.
UK	9 886 181	0.3% of the contribution base <sup>36</sup>	3 900 000 000	N.A.
<b>EU Total</b>	<b>13 460 864 367</b>		<b>29 074 804 994</b>	
<b>EU Aver.</b>				<b>64.68%</b>
NO	1 953 663 118	Twice the fund minimum level	4 132 748 904 <sup>37</sup>	98.58%

Source: Survey data and 2006 survey data; (\*) Data estimated by JRC using all available information.

<sup>34</sup> The estimate refers only to one scheme.

<sup>35</sup> The Romanian DGS funding is composed of an ex-ante part (at maximum equal to twice the annual contributions) and an ex-post part constituted by locked resources (stand-by lines) granted yearly by every member credit institution.

<sup>36</sup> The contribution base for UK is different from any other, and includes deposit made with: (a) an establishment of a relevant person in the UK, (b) a branch of a UK firm which is a credit institution established in another EEA State under an EEA right.

<sup>37</sup> The maximum amount of available resources for NO is not exactly twice the size of the fund since the former is referred to 2005. Moreover, there occurred a small change in the exchange rate NOK/EUR.

Table 7: Description of available resources, borrowing, and comparison between the robustness indicators with and without unlimited borrowing.

	B	D	E	F
	Description of available resources (excluding borrowing when unlimited)	Robustness indicator (without unlimited borrowing)	Borrowing Description	Extended robustness indicator (including unlimited borrowing)
BE	Fund + guarantees + 2 annual contribution	83.48%	Not allowed	83.48%
BG	Fund + maximum extra contribution	N.A.	Unlimited	100.00%
CZ	Estimated borrowing approx. equal to 10 years income (syndicated loan+ bond)	80.00%	Limit not regulated, estimated by DGS	80.00%
DK	Fund + maximum contribution	N.A.	Unlimited	100.00%
DE	N.A.	N.A.	N.A.	N.A.
EE	2007 Fund	71.43%	Unlimited	100.00%
IE	Fund + max. contribution based on eligible	N.A.	Not allowed <sup>28</sup>	N.A.
GR	Fund + contribution + extra contributions	46.34%	Unlimited	100.00%
ES	Fund + maximum contribution	N.A.	Unlimited	100.00%
FR	Fund	N.A.	Unlimited	100.00%
IT	Total virtual funds <sup>32</sup> of the 2 DGS	90.50%	Not allowed	90.50%
CY	total assets + max. borrowing + max. contribution aggregated over the 2 DGS	37.36%	Limited by regulation	37.36%
LV	Fund	25.45%	Not allowed	25.45%
LT	2007 Fund	N.A.	Unlimited	100.00%
LU	N.A.	N.A.	Not regulated	N.A.
HU	Fund + maximum loan	95.61%	Limit not regulated, estimated by DGS	95.61%
MT	Fund + maximum borrowing	0.00%	Limited by regulation	0.00%
NL	N.A.	N.A.	Not allowed <sup>29</sup>	N.A.
AT	N.A.	N.A.	Unlimited	100.00%
PL	Fund	N.A.	Unlimited	100.00%
PT	Own funds aggregated over the two DGS	<sup>34</sup> 87.76%	Unlimited	100.00%
RO	Own funds + stand-by lines <sup>35</sup> + extraordinary contributions	81.25%	Unlimited	100.00%
SI	Virtual fund <sup>32</sup>	N.A.	Unlimited	100.00%
SK	N.A.	N.A.	Unlimited	100.00%
FI	Liquidation of the DGS assets and estimated borrowing	76.92%	Limit not regulated, estimated by DGS	76.92%
SE	Fund + maximum contribution	N.A.	Unlimited	100.00%
UK	0.3% of the contribution base <sup>36</sup>	N.A.	Unlimited	100.00%
EU Aver.		64.68%		86.49%
NO	Twice the fund minimum level	98.58%	Limited	98.58%

Source: Survey data and 2006 survey data.

Note that for some MS (EE, GR, PT, and RO) the values of the robustness and extended robustness indicators differ: this relates to the fact that for these MS the borrowing is in principle unlimited (i.e. extended robustness indicator equals 100%) but the DGS provided an estimate of the maximum size of loans affordable in practice (robustness indicator lower than 100%). Lastly note that for all other MS declaring an unlimited borrowing capacity, which did not provide any potential bound for the size of the borrowing, the value of the extended robustness indicator is set to 100%. This number would suggest significant robustness of the schemes to cover any bank failure. In practice, this declaration may be viewed as hypothetical,

considering that in case of high impact interventions other authorities (Government or Central Bank) would be likely to step in, by providing guarantees<sup>38</sup> or acting directly to preserve financial stability.

### 3.4 Payout delays

Particular attention has been given, by the Commission, in the investigation of payout delays in cases of depositor reimbursements. A specific Working Group of EFDI is dealing with this issue, based on the statistical analysis produced by JRC using data collected through the survey. For this reason, only a few statistics will be presented, leaving scope for further discussion to the EFDI Working Group.

The first information DGS were asked to supply is a general description of the time limit to repay depositors, and the time to start and complete the payout process. Directive 94/19/EC introduces a three-month limit to complete the repayment of depositors, giving the possibility to DGS to ask for an extension of a further 3 months, a maximum of 2 times. Based on survey data, Figure 9 shows the percentage of cases where this option has been used by the DGS.

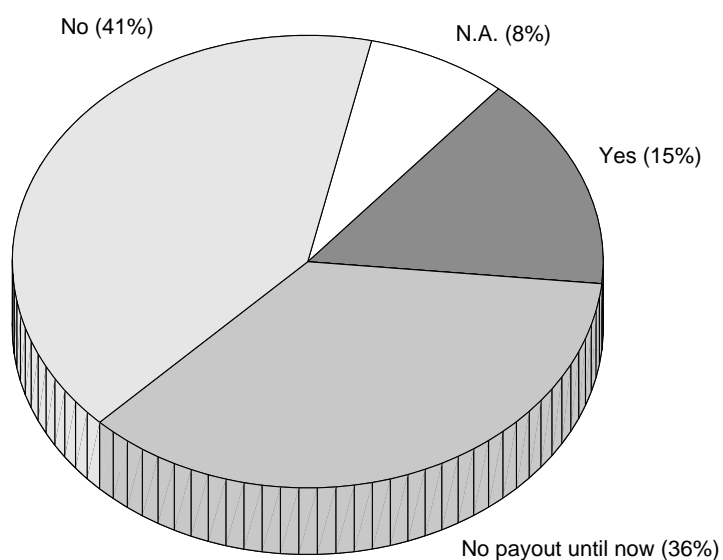


Figure 9: Extension of the three months time limit.

The possibility of extending the payout deadline leads to a limit of 9 months to complete the payout. Considering that the procedural steps necessary to start the process can take a few weeks, an operative maximum delay of around one year has in some cases been reached. However, in practice, the majority of repayments were made in a shorter time period. An overview on the limits for lodging a claim with the DGS is presented in Figure 10.

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<sup>38</sup> For more details on guarantees, please refer to Appendix III of the 2006 Report.

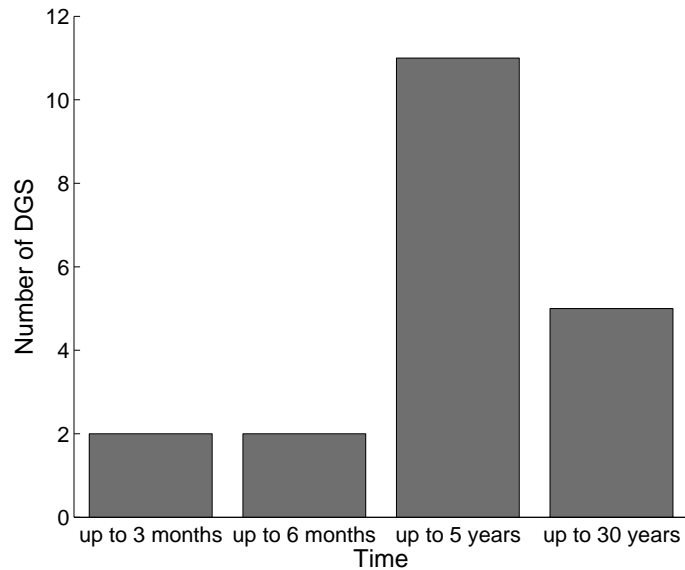


Figure 10: Limits set in MS Regulations to present a claim against a failed bank

In some cases the time interval is related to the entire liquidation procedure which starts after the bank failure, while in other MS the limit is strictly referred to claims addressed to the DGS. Figure 11 and Figure 12 respectively describe the time needed to start and complete the payout of depositors, based on estimated average data provided by the DGS. Again, the overlap between repayment of depositors and liquidation procedure can introduce different time horizons: for example, the class "up to 5 years" refer to the so called "*statute of limitation*," i.e. a concrete date set by the law after which, upon expiry, the claimant loses all rights to claim against the debtor. As explained before, the class "up to 1 year" has been introduced in the classification as the sum of the 9 months extensions plus some weeks devoted to the steps necessary to start up the procedure.

It is important to stress that data regarding time to start and time to complete the procedure are highly influenced by national laws and schemes' statutes/bylaws: in some cases, claims can be lodged directly to the DGS within three months whilst in other cases claims can be advanced to the receiver over a wider time horizon, generally up to five years. It is clear that these differences lead to different classes shown in Figure 11 and Figure 12.



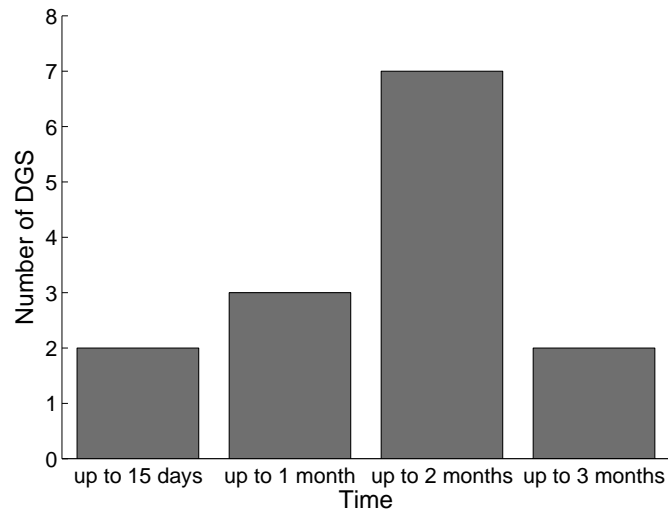


Figure 11: Time to start the repayment procedure.

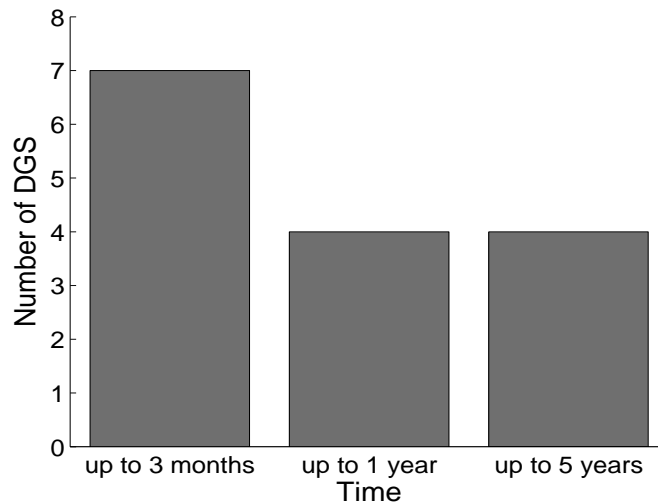


Figure 12: Time to complete the repayment procedure.

A more quantitative analysis of past payout delays can be found in Figure 13 and Figure 14. The first graph refers to the amount of deposits repaid in 3-6-9 months as a percentage of the total amount of covered deposits; the second shows the number of deposits repaid as a percentage of the total number of covered deposits. In the graphs, single data referring to interventions are plotted as crosses, while the aggregated average is drawn as a solid line. Note that the information of the two graphs is complementary since in many cases the number of deposits not repaid relate to extremely small amounts. This is evident since the amount repaid is higher than the corresponding number.

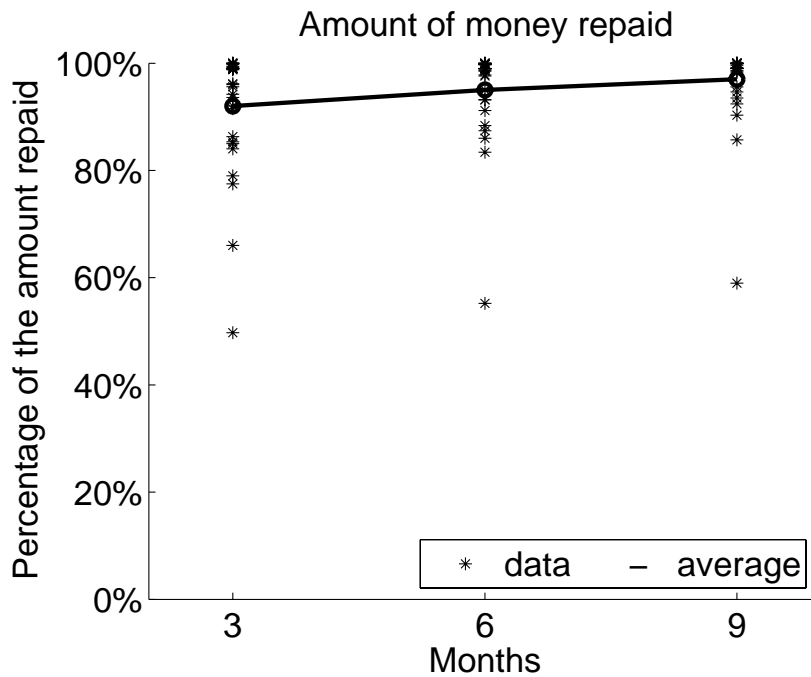


Figure 13: Amount of money repaid in 3-6-9 months as a percentage of the total amount of covered deposits.

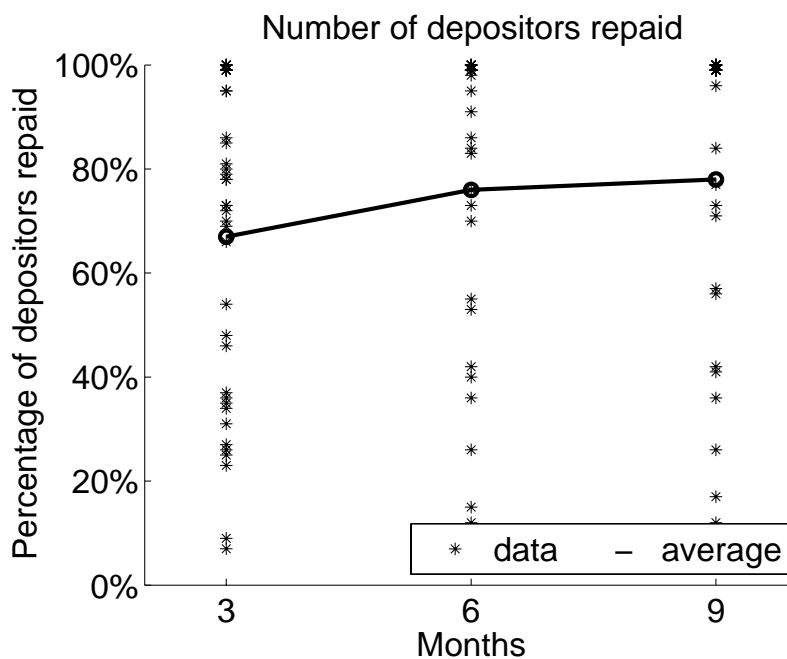


Figure 14: Number of depositors repaid in 3-6-9 months as a percentage of the total amount of covered deposits.

As expected, both the amount and number of deposits repaid grow with time. Within 3 months over 91% of deposits have been repaid, and this reaches a level close to full reimbursement (around 97%) within 9 months. Concerning the number of reimbursed depositors, the average moves from 67% within 3 months to 78% within 9 months. It is important to stress that very often DGS declare an incomplete repayment after 9 months largely due to the fact that sometimes deposits are very small, leading respective owners not to claim the amount from the DGS.

Another interesting case is represented by bankruptcies of DGS members for which a few deposits account for a large portion of the total amount to be reimbursed: in these cases, the amount exceeding the payout limit (i.e. uncovered) is vast with respect to that to be reimbursed (i.e. covered), leading to peculiar situations where DGS repaid for instance only 10% of

the deposits but around 60% of the depositors. Clearly, this situation does not represent a problem of inefficiency of the DGS, suggesting the need to carefully read the data in regard to repaid depositors.

To aid understanding of possible causes driving DGS inefficiency, the schemes were asked to identify relevant variables (including bilateral/topping-up agreements, data on deposits, immediate availability of funds, trained workforce, or other issues) influencing the promptness of repayments (see Figure 15). Since more than one choice was possible, the figures refer to the number of times each class was selected. Note that around half of the schemes declared that all the factors identified in the survey (bilateral/topping-up agreements, data on deposits, immediate availability of funds and trained workforce) can potentially speed up the reimbursement of depositors.

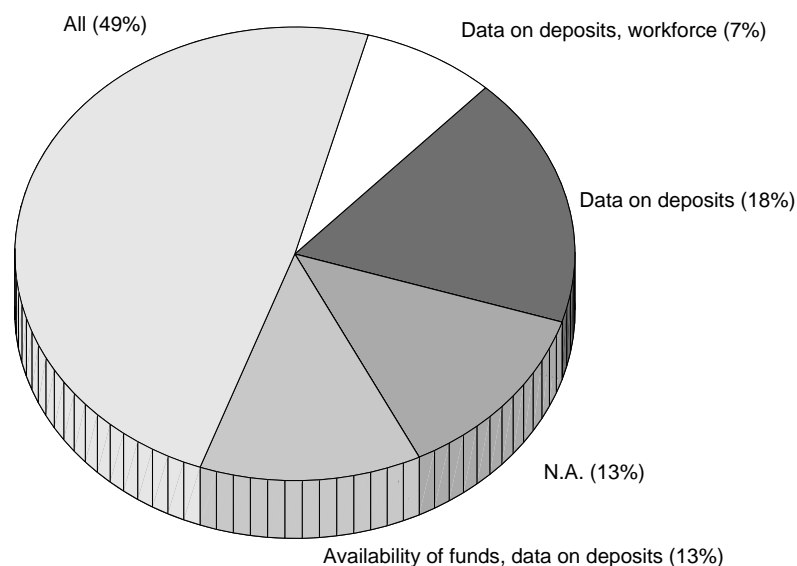


Figure 15: Variables influencing the promptness of repayments.

The availability of data on deposits is identified as the primary cause influencing the speed of reimbursements. With this in mind, consider the situation described in Figure 16, which describes access DGS have to relevant data. Significantly, around 50% of the schemes cannot regularly access data. It is important to stress that current operative rules within DGS are clearly influenced by the structure and functioning of schemes: ex-post scheme do not generally ask for info periodically, whereas schemes embedded in the Central Bank have unrestricted access to every kind of data.

With respect to deposits, in the case of payout, the DGS is, in all MS, in charge of verifying data on depositors to determine the eligibility of the claim and the covered amount. In most cases the Statutes of the DGS do not specify a determined time limit for this step of the process. However, in some specific cases there is a limit ranging from 10-20 days (BG, PL, SI), up to 3 months (LU).

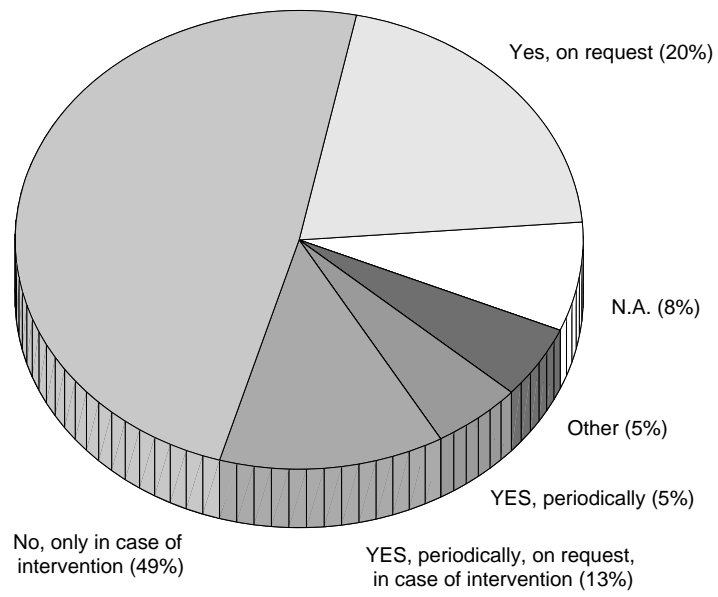


Figure 16: Description of the way DGS can access their members' data.

## 4. Cross border exposure

In this section a brief overview of the data collected through the survey on DGS cross border exposures is presented. Topping-up issues are not included in the following discussion, since an EFDI Working Group is currently dealing with this subject.

In the survey DGS were asked to specify the amount of eligible deposits and split this figure between their local members, EU branches and non-EU branches.<sup>39</sup> In the survey, and in the remainder of this Report, "local members" shall refer to members under the prudential supervision of the country where the DGS is set up; "EU branch" shall refer to a branch of a credit institution from a EU MS, under the prudential supervision of the home-country; "non-EU branch" shall refer to a branch of a third country in one of the EU MS. Concerning local members, DGS were also asked to provide information about their subsidiaries (for definitions see also Annex VI). The following, discusses the relative importance of branches with respect to local members, together with a small paragraph on local members classified as subsidiaries.

This analysis does not cover branches which are set in countries with a lower scope or level of coverage: these branches will not be part of the host-country DGS and do not represent a "real" cross border exposure since in the event of intervention only the home-country DGS would be involved. However, it is expected that the size of the market covered by these branches will be relevant, especially when considering EU-15 branches in EU-12 countries. The absence of a complete picture of EU branches causes problems in the definition of the scenario that considers branches of one MS in another MS (see Section 5.2). Considering the amount of available information, a fictitious scenario will be designed.

All available information on the partition of the amount of eligible deposits is presented in Table 8: data is first reported as total amounts of deposits for each class (local members, EU branches, and non-EU branches) and then as percentages, in order to give an initial insight into the respective importance of each class. As before, the analysis has been performed taking the eligible deposits as a base, estimating values in cases where DGS did not provide the split of the total amount of eligible deposits between local, EU branches and non-EU branches. Where the scheme was able to provide the split for the amount of total or covered deposits, data on eligible deposits have been approximated reflecting the same percentage split (i.e. DK, CY). For some countries (DE, IE, FR, NL, and UK) the split is not available, although FR declared that there are no branches from another EU MS in their scheme.

The relative proportions of the different types of members in term of eligible deposits are presented in Figure 17. Note that the scale of the y-axis focuses on the ninth decile, since for all EU countries more than 90% of the eligible deposits are held in local members. Only 5 MS (BG, IT, CY, RO, SK) have less than 99% of eligible deposits kept in local members, while 10 countries declared to having no EU or non-EU branches. The majority of "non local members" are EU branches, although in some cases non-EU branches can account for a non negligible part of the market of deposits. For instance, in CY non-EU branches account for approximately 6.5% of the total market of deposits. Regarding EU-branches, the MS with the highest percentage of non-local members among EU-15 is IT (around 2.4% of the market of deposits), while the MS with the highest percentage of non-local members among new MS is SK (around 6.1%).

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<sup>39</sup> According to Article 1(5) of the Directive 94/19/EC

*"branch' shall mean a place of business which forms a legally dependent part of a credit institution and which conducts directly all or some of the operations inherent in the business of credit institutions; any number of branches set up in the same Member State by a credit institution which has its head office in another Member State shall be regarded as a single branch."*

Table 8: Analysis of eligible deposits for local members, EU and non-EU branches.

	Amount of eligible deposits of local members (€)	Amount of eligible deposits of EU branches(€)	Amount of eligible deposits of non-EU branches(€)	% of local members	% of EU branches	% of non-EU branches
BE	215 223 146 822	0	203 853 178	99.91%	0.00%	0.09%
BG	9 299 712 723	250 943 107	168 050 912	95.69%	2.58%	1.73%
CZ	57 754 000 000	189 000 000	0	99.67%	0.33%	0.00%
DK	( <sup>1</sup> )127 559 398 873	( <sup>1</sup> )1 034 411 019	0	99.20%	0.80%	0.00%
DE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
EE	4 282 880 626	0	0	100.00%	0.00%	0.00%
IE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GR	118 549 812 674	0	185 794 331	99.84%	0.00%	0.16%
ES	636 108 269 000	0	430 153 000	99.93%	0.00%	0.07%
FR	N.A.	0	N.A.	N.A.	0.00%	N.A.
IT	568 596 416 000	14 050 000 000	428 100 000	97.52%	2.41%	0.07%
CY	( <sup>2</sup> )29 009 701 246	0	( <sup>2</sup> )2 020 671 670	93.49%	0.00%	6.51%
LV	8 606 405 361	0	0	100.00%	0.00%	0.00%
LT	7 077 913 867	0	0	100.00%	0.00%	0.00%
LU	89 053 647 000	0	0	100.00%	0.00%	0.00%
HU	36 787 544 187	0	0	100.00%	0.00%	0.00%
MT	5 705 739 132	0	0	100.00%	0.00%	0.00%
NL	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
AT	185 000 000 000	0	0	100.00%	0.00%	0.00%
PL	94 801 323 834	0	0	100.00%	0.00%	0.00%
PT	123 885 838 000	0	0	100.00%	0.00%	0.00%
RO	11 425 977 162	593 238 532	29 213 464	94.83%	4.92%	0.24%
SI	12 467 745 896	0	0	100.00%	0.00%	0.00%
SK	10 310 586 061	671 462 513	0	93.89%	6.11%	0.00%
FI	80 361 942 078	129 841 597	85 423 672	99.73%	0.16%	0.11%
SE	115 745 113 703	0	0	100%	0.00%	0.00%
UK	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
NO	120 100 187 852	0	0	100.00%	0.00%	0.00%

Source: Survey data; (<sup>1</sup>) Estimation from the same proportions (between local, EU branches and non-EU branches) coming from information on total or covered deposits.

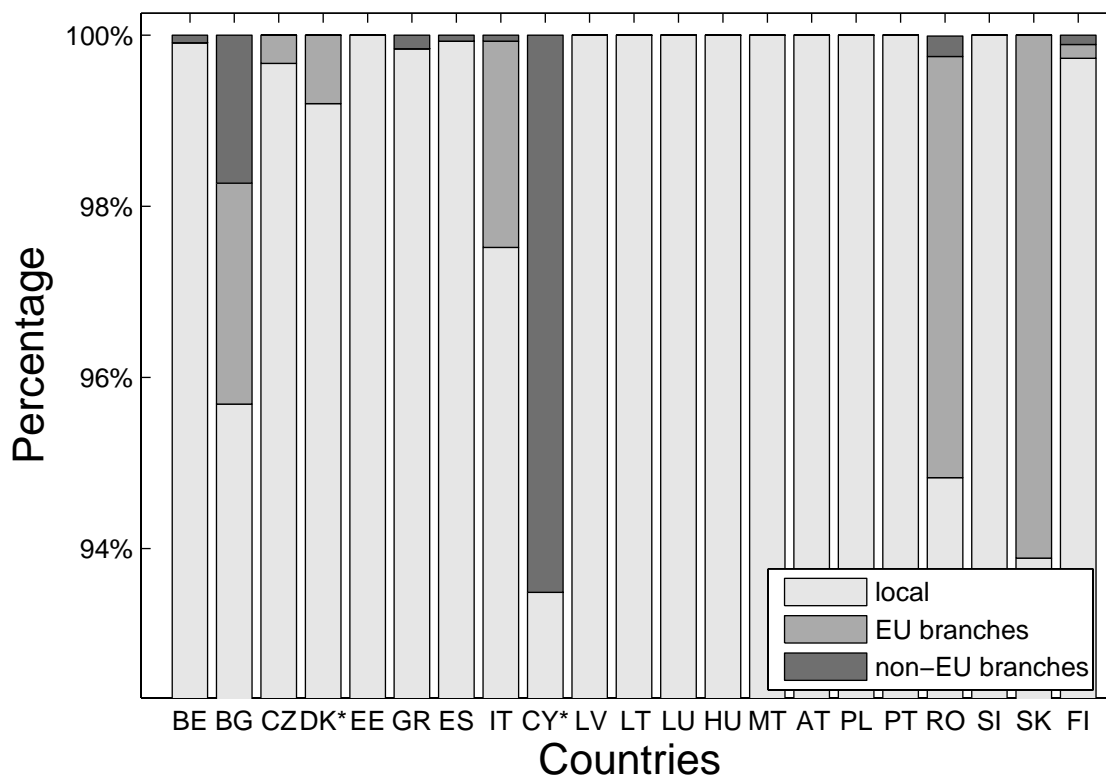


Figure 17: Proportion of EU (grey bars) and non-EU branches (dark bars) respect to local members (light grey bars) for those MS providing data. For countries labelled with a star data have been estimated from the dataset.

DGS were also asked to provide information about the importance of subsidiaries among their local members. Although definitions of branch and subsidiary were attached to the survey in the file of definitions (see Annex VI), DGS encountered some problems in understanding what data was requested and in many cases this problem resulted in a declaration of unavailability of information. Despite the clarifications provided for in the EFDI Annual Meeting, the dataset could only be corrected and completed, with additional information, to a limited extent<sup>40</sup>. Data on subsidiaries was not available for 13 MS, noticeably all but one (PL) from the EU-15.

Figure 18 plots the relative weights of the eligible deposits of subsidiaries in terms of the eligible deposits of the local members. Excluding CY, which declared that there are no subsidiaries among their local members, all other MS not shown in the figure did not provide any information on subsidiaries. This information is the most interesting, giving a rough proxy of the power of foreign banking systems in each EU country. Since subsidiaries are characterized by a great part of their capital coming from abroad, the percentages in the last column provide a measure of possible contagion between different banking systems (e.g. a major bank failure could lead to a failure of their subsidiaries in other MS). However, note that this phenomenon cannot be considered as a cross-border exposure, since supervisory and legal responsibilities lie in the country where the subsidiary is set and a failure will not drive the intervention of any DGS from another MS.

Figure 18 shows that situations within EU countries are very different and that the presence of subsidiaries is much more enhanced in EU-12 countries. In fact, the weight of the subsidiaries for 2 out of the 3 EU-15 countries providing data (ES, IT)

<sup>40</sup> In case the Commission will be interested in investigating more thoroughly the role of subsidiaries in the EU banking system, supplementary information could be collected.

lies between 1% and 2%. The only EU-15 MS where a relevant portion of the market of deposits is represented by subsidiaries is PT (around 16%).

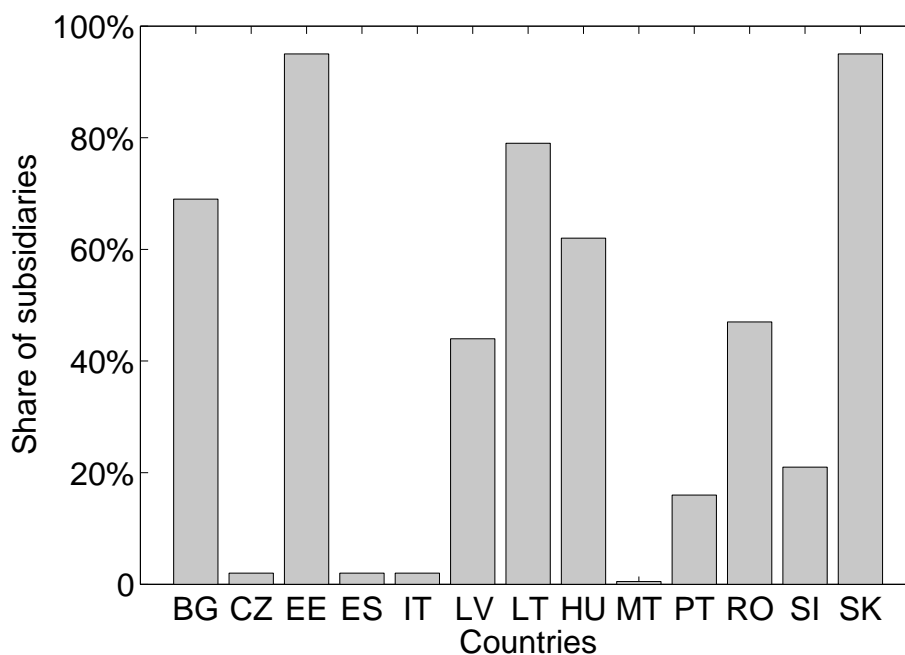


Figure 18: Eligible deposits of subsidiaries as a percentage of the total eligible deposits of local members.

Regarding EU-12 data, subsidiaries represent a notable share of the market of deposits, thus highlighting the substantial role of EU-15 banks in acquiring significant quotas of the EU-12 banking systems. With the exclusion of CY (which declares zero subsidiaries), MT and CZ (where the portion of the deposits' market covered by subsidiaries is less than 3%), the importance of subsidiaries in the other new MS ranges between 21% and more than 95% in EE and SK, respectively.



## 5. Interventions scenario analysis

Aim of this Section is to develop scenario analyses exploring the impact of a financial crisis on the system of EU DGS. In the first part of this section, historical reimbursements and preventive interventions experienced in the EU will be analyzed and compared. This data will be subsequently used to define the scenarios. Finally results of the scenario analysis will be presented and discussed.

### 5.1 Analysis of historical intervention

This paragraph focuses on the description of the interventions faced by the EU DGS after the implementation of Directive 94/19/EC. In the survey each DGS was asked to provide qualitative and quantitative data on the 10 most recent interventions between 1994 and 2006<sup>41</sup>. For each intervention the DGS were asked to declare the year of the intervention, describe if the intervention was related to a default or not, and quantify the encountered costs. In particular, the schemes were asked to detail the amount of administrative costs related to each intervention, to indicate whether the costs were entirely paid by the DGS or in part covered by third parties, and finally to specify the amount of funds recovered (if any) during the liquidation procedure. Developing and fine-tuning the complete interventions dataset presented a number of problems. Some countries supplied data aggregating all interventions in a specific year (PL<sup>42</sup>) or provided the total amount of costs from the date of failure up to current date, without specifying the percentage of reimbursed depositors (UK<sup>43</sup>). Finally, most of the DGS encountered problems in specifying the administrative costs of the interventions and the amount of recovered funds. Note that for DE no data on interventions is available: DE1 declared that no intervention has occurred until now; DE3 did not provide any data due to confidentiality reasons, although this scheme has carried out preventive interventions; DE2 and DE4 did not reply to the survey.

The complete dataset is presented in Annex IV of the Report, where the first table, IV-1, focuses on cases where the DGS classified the intervention as a payout of depositor, while the second table, IV-2, presents data for other types of interventions (mainly preventive). Both tables describe the interventions specifying the year, the total costs, the impact of the intervention (defined below) and, in case of failure, the recovery rate. The last column includes some notes on each intervention provided by the DGS. The third column of Table IV-2 also specifies whether or not the involved institution failed. Figure 19 plots the number of interventions per year from 1994 to 2006, distinguishing between payout of depositors (solid line) and other types of interventions (dotted line). Concerning payouts of depositors, on average 5 interventions per year occurred, with a total of 67 interventions, of which 37 were in the EU-15 and 30 in the EU-12. Among the EU-15 MS, 22 cases took place in the UK. However, these mainly concerned small credit unions. A broad peak is visible in 2003, with a

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<sup>41</sup> Although 12 MS joined the EU only in 2004 and 2007, the same time horizon has been chosen for all countries.

<sup>42</sup> Following a request of the Polish DGS, data on interventions for PL are treated as confidential.

<sup>43</sup> The reason why data on the costs are referred to date is due to the fact that in the UK there is no limit of time for the claim of depositors. The UK DGS declared that in all cases the payouts were related to very small Credit Unions operating in local areas, for the most part run by volunteers. For these reasons, the UK DGS declared difficulty in providing data on the total amount of covered deposits, needed to understand if the incurred costs are almost 100% or lower. For all these peculiarities these interventions are considered not to be representative of the UK system and, currently, corresponding data is not included in the statistics on the impact/costs of the payouts presented in this paragraph on historical interventions.

total of 13 payouts. When considering other types of interventions, a mean of 2 per year is observable and all but one occurred in the EU-15.

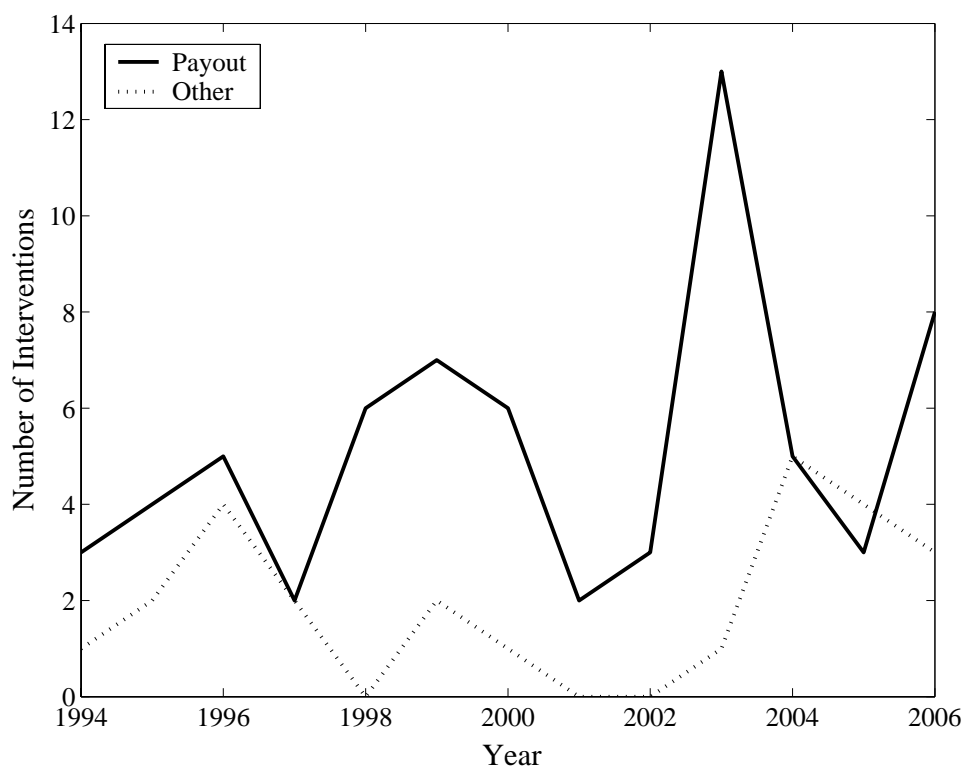


Figure 19: Number of intervention per year.

To compare the impact of these interventions, the total encountered costs (columns 3 and 4, respectively of Table IV-1 and Table IV-2 of Annex IV) are reported at 2005 prices<sup>44</sup>. This adjustment accounts for the change in the value of money and enables costs to be referred to the same year, listed in columns 4 and 5 respectively of the same tables. Unless specified, costs, in the remainder of the Report, will refer to those reported in 2005.

The range of costs for payout interventions is quite broad, ranging from a minimum of around 0.006 million € (payout in RO in 2003) to a maximum of 470 million € (payout in CZ in 2003). The average cost of historical payouts to depositors in the whole EU is around 57 million €, with higher values in the EU-12 (on average 75 million €) than in the EU-15 (24 million € when excluding UK). For other types of interventions the range of costs is again quite broad, varying from 0.1 million € (support intervention in IT in 2004) to a huge restructuring intervention occurring in ES in 1994, whose costs reached 1 623 million €. On average the costs of an intervention not classified as payout are around 90 million €.

DGS were also asked to classify their interventions by declaring whether the defaulted or defaulting institution was a local member or a topping-up branch from another EU MS. Considering both databases (payout and non-payout), all interventions refer to local members, except one relating to a small German branch in Luxembourg.

<sup>44</sup> To estimate the costs at 2005 prices the index of Harmonized Consumption Price Index available on the Annual Macro-Economic Database (AMECO) database developed by DG ECFIN has been applied. The database is available on-line at the following web address: [http://ec.europa.eu/economy\\_finance/indicators/annual\\_macro\\_economic\\_database/ameco\\_en.htm](http://ec.europa.eu/economy_finance/indicators/annual_macro_economic_database/ameco_en.htm)

In order to fully exploit the information collected on past interventions, and use it to define the scenarios, costs have been compared to the size of the corresponding system of deposits. Specifically, the following ratio, which will be referred to as the "*intensity ratio*", has been defined to classify interventions:

$$\text{Intensity Ratio} = \frac{\text{Total costs of intervention (actualized to 2005)}}{\text{Total amount of eligible deposits (2005)}} \times 100 \quad (1)$$

The value of this ratio for each intervention is also reported in Table IV-1 and Table IV-2 of Annex IV.

Categorizing payouts according to this ratio, accounts for the fact that an intervention of a certain amount will have different impacts on different MS, depending largely on the capacity of the system to absorb the costs, the bigger the system the smaller the impact. Note that, in the definition of the intensity ratio it is necessary to weight costs referred to 2005 against the total amount of deposits of the same year.

Using the intensity ratio, the impact of actual payouts have been classified as high (intensity ratio greater or equal than 0.5), medium (intensity ratio between 0.05 and 0.5), and small (intensity ratio smaller or equal than 0.05). Using this categorization, the database is composed of 7 payouts with high impact (all happened in the EU-12 countries), 13 of medium impact (all happened between 1995 and 2005 in the EU-12), while the remaining 24 payouts result to have a small impact (UK excluded). The range of variation between the highest and lowest intensity ratios is extremely broad, ranging from a minimum of 0.00005 (payout in RO in 2003) to 3.24 (payout in SK in 2001). In other terms the minimum and maximum costs of previous interventions are respectively 0.00005% and 3.24% of the total amount of eligible deposits of the corresponding systems.

Regarding preventive interventions, they are equally apportioned between medium impact (10 out of 25) and low impact (14 out of 25). Intensity ratios vary in this case between 0.0002 and 0.73, the average being around 0.12.

The dataset shows that in a few cases, failures drove reimbursements of very high costs. On one hand this fact seems to suggest that the financial stability of the EU banking system has, so far, not been profoundly undermined; on the other hand, the absence of severe, recurrent failures precludes the possibility to assess the consequences of a more severe crisis of the EU banking system. These remarks were taken into account in the construction of the scenarios in the next section.

## 5.2 Scenarios definition

In order to assess the capability of the EU DGS system to deal with payouts/interventions of different sizes, a number of scenarios have been built, each scenario characterized by a different intensity ratio. To obtain the impact of each scenario in a MS, the corresponding costs are estimated by multiplying the intensity ratio set in the scenario by the total amount of eligible deposits of the MS under discussion and then dividing by 100 (see Equation (1) above). Further, to evaluate if current systems of DGS are capable of absorbing such events, scenarios' costs are compared to the 2005 available funds (if any). Three different payout scenarios based on historical data have been considered, one for each class of intensity:

- 1) Scenario 1: high-impact scenario with an intensity ratio of 3.24, corresponding to the highest impact available in the database. This scenario represents a failure which occurred in a EU-12 country in 2003.
- 2) Scenario 2: medium-impact scenario with an intensity ratio of 0.81, representing a failure of intermediate size which occurred in a EU-12 country in 2003;

- 3) Scenario 3: low-impact scenario with an intensity ratio of 0.035, describing the highest available historical failure in a country of the EU-15;

Moreover, a fourth scenario (Scenario 4) based on the historical database of interventions other than payouts has been considered, namely a preventive scenario with a medium intensity ratio of 0.16, which is close to the average intensity ratio of preventive interventions.

The original scope of the scenario analysis included the assessment of the capacity of the EU MS to face a payout involving the failure of a credit institution with branches in another EU MS (most likely with very high impact). However, as stressed above, a database of cross-border interventions is not available. Moreover, as already stressed in Section 4, it is expected that the real importance of branches in other EU MS will be much higher than the one described in the constructed dataset. In fact, whenever the scope or level of coverage in the host-country is lower or equal to the one of the home-country, it is not necessary for the branch to become a member of the host DGS for topping-up purposes. All costs of possible interventions will be covered by the home-country DGS. In this situation, which covers for instance the cases of EU-15 DGS in a EU-12 country with level of coverage set to the minimum, the host-country DGS does not have any data on the size of the deposits at the branches. Similarly, it is impossible to extrapolate the size of the market of branches from home-country DGS data, since they are classified as local members. For these reasons it is impossible to build a scenario involving the failure of a credit institution with branches in another EU MS, from historical data.

A fictitious scenario (Scenario 5) has been built in order to assess the consequences of a very high impact scenario with a failure of a credit institution in one MS with a branch in a second MS. In this scenario it is hypothesized that the bank covers 3% of the market in its home-country in terms of eligible deposits. It is also assumed that the branch can only be set in one MS and that the segment of the market in the host-country, covered by the branch, depends on whether the home-country and/or the host-country are in the EU-15 or in the EU-12, as specified in Table 9. This means, for instance, that when a MS of the EU-15 is considered as the home-country and a MS of the EU-12 as a host-country, the branch will cover 2% of the host-country market in terms of the total amount of eligible deposits.

**Table 9: Share(% of eligible deposits) of the host-country market covered by the branch in the fourth scenario.**

	Host-Country EU-15	Host-Country EU-12
Home-Country EU-15	1.0%	2.0%
Home-Country EU-12	0.1%	0.5%

Further, as all possible combinations of home and host-countries are considered, the impact of the scenario for each Member State in its role as home-country will not be a single figure but a range of figures, each relating to a different host-country. The impact of the failure of such a credit institution when fixing the home and host-countries is estimated numerically using the following formula:

$$\text{Total costs (i, j)} = 3\% \times (\text{Total amount of eligible deposits( i)}) + K \times (\text{Total amount of eligible deposits( j)})$$

where "i" labels the home-country, "j" the host-country, and "k" is the share in the host-country chosen using Table 9.

Note that this last scenario is not applied to NO.

### 5.3 Results

This section describes the results of the analysis performed considering the five scenarios defined in the previous Section. Table 10 shows the impact of each scenario for each EU MS by comparing its costs with the current available funds and contributions. In particular, the second and third columns report the 2005 funds and the maximum amount of resources for each country. Column 4 labels those MS where the borrowing is allowed without any limitation. Columns 5-8 list the estimated costs for each payout scenario (high, medium, and low impact) and for the preventive scenario; the last column presents average costs for the very high impact scenario. The grey rows at the bottom of the table show the average costs for the EU as a whole, and for the subgroups of ex-ante and ex-post schemes. The last row shows the impact for NO.

To better understand the size of the impact of each scenario and the capacity of each MS to absorb its costs, Table 11 shows the ratio of the estimated costs over the 2005 available funds. Note that this ratio is not available for ex-post DGS which do not have any reserves available, and for SK, whose fund is negative. Whenever the ratio is lower than 1, it means that the DGS' current funds are enough to completely cover the intervention expenditures. Conversely, a ratio bigger than 1 implies that current funds are not sufficient to cover the expenditures and that the DGS needs to collect extra money.

For scenario 1 (high impact) the costs vary from 0.14 to 61.85 b€, with an average impact of 8.69 b€. No scheme would have enough resources to face the costs of such a payout and only MS with a high coverage ratio (BG, EE, LT, PT, RO, SE) would have to collect less than 4 times their current funds. For EU-15 ex-ante DGS the lowest impact would be for SE (costs/funds = 2.24) while the highest impact would be for FR (costs/funds = 22.35). To better understand the impact of this scenario, note that for SE (the EU 15 MS with the highest coverage ratio) current contributions are around 1/30 of current available funds. For EU-12 ex-ante DGS the payout would affect CY<sup>45</sup> (costs/funds = 129.56) and MT (costs/funds = 61.02) the most and LT (costs/funds = 1.41) the least. The high impact for CY and MT stresses the very low coverage ratio of these two MS (see Table 5) and the low ex-ante component of their funding mechanisms. When excluding these two MS, the remaining EU ex-ante schemes would have to collect on average around 7 times their current funds to meet the costs of the payout. If instead MT and CY are included, the average rises to 16 times. Finally, concerning ex-post schemes the costs range from 0.4 (SI) to 35.32 b€ (UK), with an average of 13.18 b€.

For scenario 2 (medium impact), 7 MS (BG, EE, ES, LT, PT, RO, and SE) would have enough ex-ante funds to cope with the reimbursement without the need to collect any additional contributions. Including all financial means available (ex-ante funds, ex-post contributions and additional limited borrowing, eventually unlimited), it appears that 6 MS are not equipped to deal with a mid-sized failure. In the remaining MS (as far as data are available) DGS appear capable of dealing with such a failure either because of their additional resources or because of unlimited borrowing facilities. On average, ex-ante EU schemes would need around 4 times their present funds to tackle the compensation of depositors. Excluding CY and MT, ex-ante schemes would have to raise between 1 to 3 times their current funds to cover the repayment expenditures. Costs in this scenario lie between 0.035 and 15.49 b€, with an average 2.18 b€.

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<sup>45</sup> Note that for CY the total amount of eligible deposits has not been provided by the DGS but estimated as explained Section 2. For this reason results for this country have to be read carefully.

For scenario 3, as expected, the impact is low and all MS funded ex-ante except, CY (costs/funds = 1.41), would be able to handle the crisis using current funds. For ex-post DGS, costs vary between 0.004 (SI) and 0.38 b€ (UK), the average being 0.14 b€, values which are below the average EU 2005 funds.

For scenario 4 (preventive) results lie in between the ones of scenarios 2 (medium impact) and 3 (low impact), discussed above. The costs for this scenario vary between 0.007 and 3.13 b€, with an average of 0.44 b€. Only three ex-ante MS (FR, CY, MT) would have to gather funds to cope with the costs of such preventive intervention. The overall EU average of this ratio is approximately 0.82, the higher burden being related again to CY and MT. Excluding these countries, the remaining ex-ante schemes would use on average only around one third of their current funds to handle such a preventive intervention (costs/funds = 0.35).

When considering the maximum amount of available resources (excluding borrowing, if unlimited, for details see also

Table 6 and Table 7) instead of current funds, the situation changes slightly for some MS. In the EU-15 the most remarkable difference occurs for FI, which declares to be able to collect a maximum amount of available resources up to more than 10 times their current funds by liquidating the DGS assets and borrowing money. With this amount of funds, FI would even be able to face the high impact scenario's costs. For the EU-12, BG and CZ show the most evident increases; in fact, summing current funds and estimated extraordinary contributions, BG would also nearly be able to cope with the costs of the high impact scenario.

It goes without saying that all DGS that have access to unlimited borrowing (see Table 7 and Table 10) would theoretically be capable to absorb even the high impact scenario. In practice, this declaration may be viewed as hypothetical, considering that in case of high impact interventions other authorities (Government or Central Bank) would be likely to step in, by providing guarantees or acting directly to preserve financial stability.

Figure 20 and Figure 21 shows, in histogram-plots, the costs of each scenario 1-4 for each MS compared to the size of available funds, if any. The two plots in Figure 20 refer to EU-15 countries while those in Figure 21 describe EU-12 MS: EU countries are ranked in descending order of costs for scenario 1, and the scales of all 4 plots are extremely different, due to the high variation of the costs in the various countries. Different scales have been adopted in order to make small bars visible and comparable, otherwise they would collapse to zero. Note that Germany has not been plotted since only partial data on 1 of 4 DGS was available.

The Figures can help when assessing the impact of each scenario by comparing the amount of current funds (rightmost white bar) with the costs of each scenario. The difference is evident between those countries with a high coverage ratio (SE, PT, ES for EU-15 and LT, BG, EE for EU-12, see Table 5), where current funds are often comparable to the expenditure in the scenarios, and the remaining MS, where the difference between current funds and scenarios' costs can be significant.

Table 10: 2005 fund, maximum amount of resources and costs for each scenario in t€. For the scenario 5 average costs are reported.

	2005 Fund (t€)	Maximum amount of resources (excluding unlimited borrowing) (t€)	Unlimited Borrowing	Costs Scenario 1 high (t€)	Costs Scenario 2 medium (t€)	Costs Scenario 3 low (t€)	Costs Scenario 4 preventive (t€)	Mean Costs Scenario 5 very high (t€)
BE	713 000	824 000		6 971 484	1 746 173	75 762	352 810	16 062 519
BG	153 884	(#)299 664	X	314 509	78 776	3 418	15 917	1 257 956
CZ	177 900	1 100 000		1 875 107	469 665	20 378	94 895	2 704 685
DK	475 839	(#)784 116	X	4 161 454	1 042 335	45 224	210 601	13 457 523
DE	N.A.	N.A.		61 854 488	15 492 918	672 200	3 130 304	62 841 573
EE	66 000	95 867	X	138 599	34 715	1 506	7 014	1 098 439
IE	337 500	(#)693 394		5 758 583	1 442 373	62 581	291 428	14 938 118
GR	688 487	1 219 051	X	3 842 431	962 428	41 757	194 456	13 161 777
ES	5 214 864	(#)6 487 940	X	20 599 169	5 159 549	223 860	1 042 473	28 695 861
FR	1 475 000	(#)1 475 000	X	32 959 204	8 255 412	358 182	1 667 984	40 154 047
IT	(*)0	1 987 362		18 869 011	4 726 190	205 058	954 914	27 091 944
CY	7 751	85 650		1 004 181	251 521	10 913	50 819	1 897 306
LV	49 541	(#)49 541		278 514	69 760	3 027	14 095	1 224 587
LT	162 663	213 130	X	229 050	57 371	2 489	11 592	1 178 733
LU	(*)0	N.A.		2 881 886	721 836	31 319	145 845	12 271 318
HU	228 880	317 750		1 190 490	298 186	12 938	60 248	2 070 022
MT	3 026	4 200		184 645	46 249	2 007	9 344	1 137 567
NL	(*)0	N.A.		15 609 216	3 909 697	169 632	789 944	24 069 999
AT	(*)0	N.A.	X	5 986 828	1 499 543	65 061	302 979	15 149 709
PL	358 479	358 479	X	3 067 888	768 425	33 340	155 258	3 810 435
PT	1 226 218	(#)1 761 283	X	4 009 099	1 004 174	43 569	202 891	13 316 284
RO	143 661	(#)507 292	X	389 902	97 660	4 237	19 732	1 327 848
SI	(*)0	189 022	X	403 472	101 059	4 385	20 419	1 340 428
SK	-78 974	N.A.	X	355 393	89 016	3 862	17 986	1 295 857
FI	375 000	5 000 000	X	2 607 578	653 130	28 338	131 963	12 017 025
SE	1 672 259	(#)1 750 844	X	3 745 655	938 188	40 706	189 558	13 072 062
UK <sup>46</sup>	(*)0	3 900 000	X	35 322 054	8 847 243	383 860	1 787 562	42 344 492
EU Aver.				8 689 255	2 176 429	94 430	439 742	13 666 226
Ex-ante Aver.				7 406 544	1 855 144	80 490	374 827	11 748 582
Ex-post Aver.				13 178 745	3 300 928	143 219	666 944	20 377 982
NO	1 953 663	4 132 749		3 886 590	973 488	42 237	196 691	( <sup>S</sup> )Not app.

Source: Survey data; (\*) Ex-post schemes; (#) Data estimated by JRC using all available information; (S) Methodology not applied to NO.

<sup>46</sup> Considering that UK has been classified as an-post system, the fund inherited from the previous scheme by the English DGS is considered as negligible in the present analysis.

Table 11: 2005 fund and ratios cost / fund for each scenario. For scenario 5 the average ratio is reported.

	2005 Fund (t€)	Ratio Scenario 1 high	Ratio Scenario 2 medium	Ratio Scenario 3 low	Ratio Scenario 4 preventive	Mean Ratio Scenario 5 very high
BE	713 000	9.78	2.45	0.11	0.49	22.53
BG	153 884	2.04	0.51	0.02	0.10	8.17
CZ	177 900	10.54	2.64	0.11	0.53	15.20
DK	475 839	8.75	2.19	0.10	0.44	28.28
DE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
EE	66 000	2.10	0.53	0.02	0.11	16.64
IE	337 500	17.06	4.27	0.19	0.86	44.26
GR	688 487	5.58	1.40	0.06	0.28	19.12
ES	5 214 864	3.95	0.99	0.04	0.20	5.50
FR	1 475 000	22.35	5.60	0.24	1.13	27.22
IT	(*)0	N.A.	N.A.	N.A.	N.A.	N.A.
CY	7 751	129.56	32.45	1.41	6.56	244.79
LV	49 541	5.62	1.41	0.06	0.28	24.72
LT	162 663	1.41	0.35	0.02	0.07	7.25
LU	(*)0	N.A.	N.A.	N.A.	N.A.	N.A.
HU	228 880	5.20	1.30	0.06	0.26	9.04
MT	3 026	61.02	15.28	0.66	3.09	375.95
NL	(*)0	N.A.	N.A.	N.A.	N.A.	N.A.
AT	(*)0	N.A.	N.A.	N.A.	N.A.	N.A.
PL	358 479	8.56	2.14	0.09	0.43	10.63
PT	1 226 218	3.27	0.82	0.04	0.17	10.86
RO	143 661	2.71	0.68	0.03	0.14	9.24
SI	(*)0	N.A.	N.A.	N.A.	N.A.	N.A.
SK	-78 974	(#)Not app.	(#)Not app.	(#)Not app.	(#)Not app.	(#)Not app.
FI	375 000	6.95	1.74	0.08	0.35	32.05
SE	1 672 259	2.24	0.56	0.02	0.11	7.82
UK	(*)0	N.A.	N.A.	N.A.	N.A.	N.A.
Ex-ante Aver.	517 726	16.25	4.07	0.18	0.82	48.38
NO	1 953 663	1.99	0.50	0.02	0.10	(§)Not app.

Source: Survey data; (\*) Ex-post schemes; (#) Ratio not applicable to SK since the fund is negative; (§) Methodology not applied to NO.



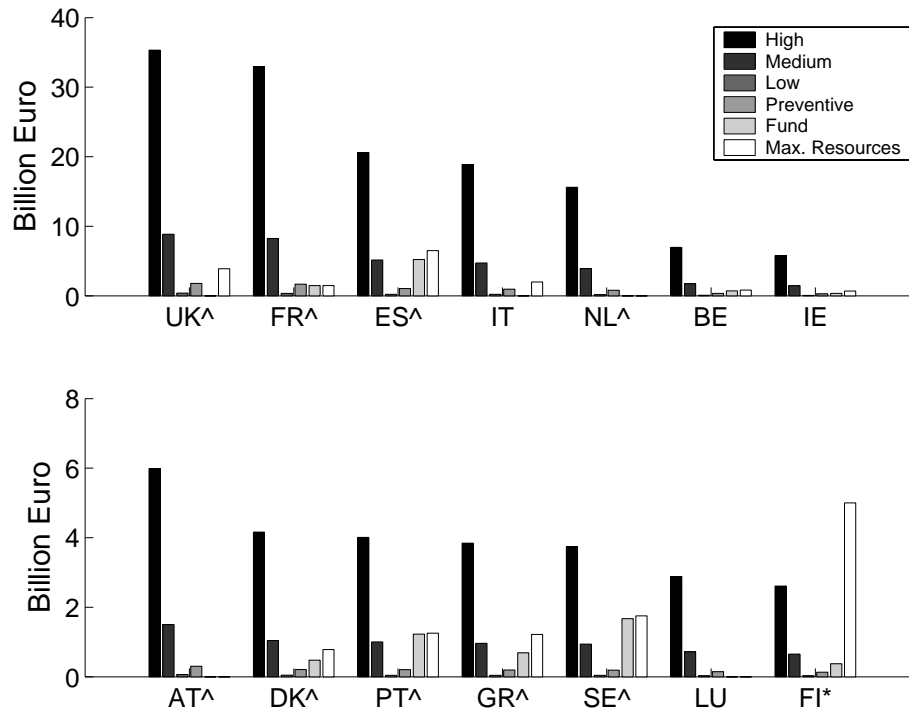


Figure 20: Costs of scenarios 1-4 compared to current funds and maximum resources available for EU-15 MS. Note that the scale of the two plots are different; an asterisk labels DGS which are allowed to borrow and there is a maximum amount set/estimated; a hat labels DGS where borrowing is allowed and unlimited (see Table 7).

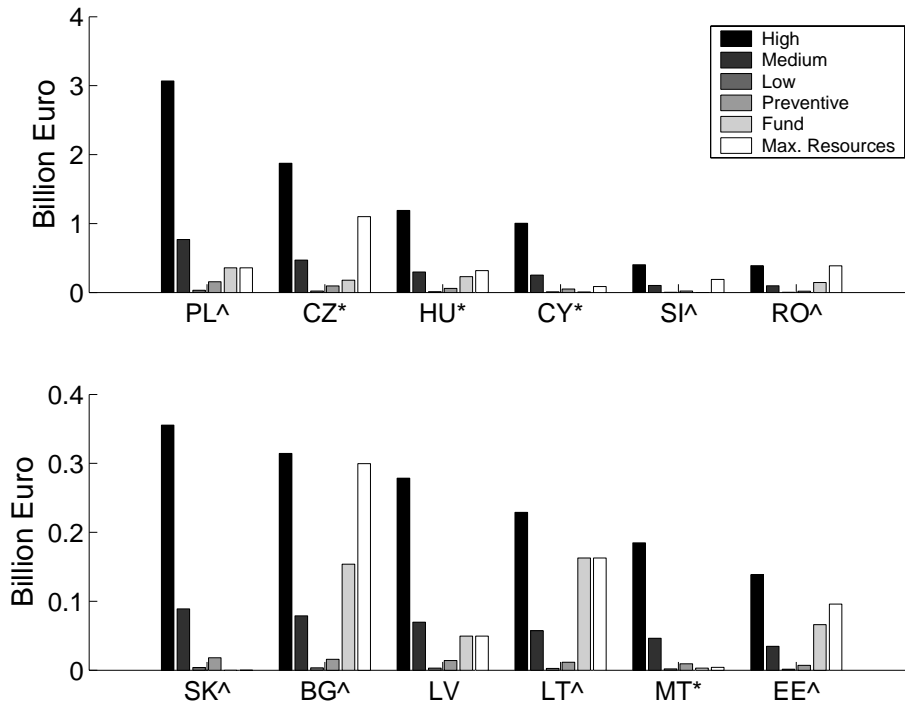


Figure 21: Costs of scenarios 1-4 compared to current funds and maximum resources available for EU-12 MS. Note that the scale of the two plots are different; an asterisk labels DGS which are allowed to borrow and there is a maximum amount set/estimated; a hat labels DGS where borrowing is allowed and unlimited (see Table 7).

The very high impact scenario, Scenario 5, involving the failure of a credit institution with branches in another MS, has a much greater effect than scenario 1, with costs ranging from around 1 to almost 63 b€, with an average of approximately 13 b€. The average impact of this scenario on the various countries is diverse. The ratio of costs/funds for the EU-15 ex-ante

schemes varies between 5.5 (ES) to 44.26 (IE), with an average of around 22. Excluding CY and MT, for the ex-ante EU-12 countries, the ratio has a slightly lower spread, with the minimum and maximum ratios at 7.25 (LT) and 24.72 (LV), respectively.

Figure 22 (EU-15) and Figure 23 (EU-12) plot the entire spectrum of possible costs for each MS, the variation dependant upon the choice of the host-country. The black dots in each bar represents the average costs presented in the last column of Table 10. Note that the minimum cost depends upon both the size of the market in the home-country and the minimum costs related to the branch in the other EU MS, which corresponds, for all countries, to a branch in EE (the country with the smallest amount of eligible deposits<sup>47</sup>). The bigger the size of the home-country market of eligible deposits (DE, UK, FR in the EU-15 or CZ and PL in the EU-12), the less relevant the impact of the branch abroad. Similarly, the maximum costs depend upon the highest possible size of the branch abroad. Since the percentage of exposure is fixed for all MS (1% for the EU-15 MS and 0.1% for the EU-12), this corresponds to a branch in DE, the country with the highest amount of eligible deposits in the EU<sup>48</sup>. Excluding the biggest markets (DE, UK, FR in the EU-15, CZ and PL in the EU-12) the minimum and maximum costs range on average between 7.42 and 26.45 b€ for the EU-15; and between 0.43 and 2.32 b€ for new MS.

Results for this scenario can also be read as a percentage of the amount of eligible deposits, i.e. in terms of the intensity ratio, in Table 12. Clearly the minimum intensity ratio is very close to 3, representing the home-country market exposure. The maximum reaches as high as 25 in the EU-15 (FI) and almost 50 in the EU-12 (EE). The two averages (across home countries) for the maximum intensity ratio are respectively 13.17 for EU-15 and 20.69 for EU-12. Regarding average intensity across host countries, the minimum is in DE (3.29), the maximum in EE (25.65) while the average (over home countries) is around 9.81.

To correctly understand the huge impact of this scenario, these figures have to be interpreted in terms of eligible deposits. On average, the costs for this scenario refer to a major crisis involving about 10% of the eligible deposits in a country. However this percentage can reach a maximum of 50% of the market of eligible deposits.

Finally note once more that whilst all other scenarios are based on previous banking failures, Scenario 5 has been explicitly designed as a fictitious scenario reflecting the importance of branches of credit institutions of a MS in another MS, a phenomenon which is becoming more common in recent years. Results show that the consequences of such a scenario might threaten the stability of the banking system in any EU MS.

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<sup>47</sup> The minimum cross border impact for EE corresponds instead to MT.

<sup>48</sup> The maximum cross border impact for DE corresponds instead to UK.

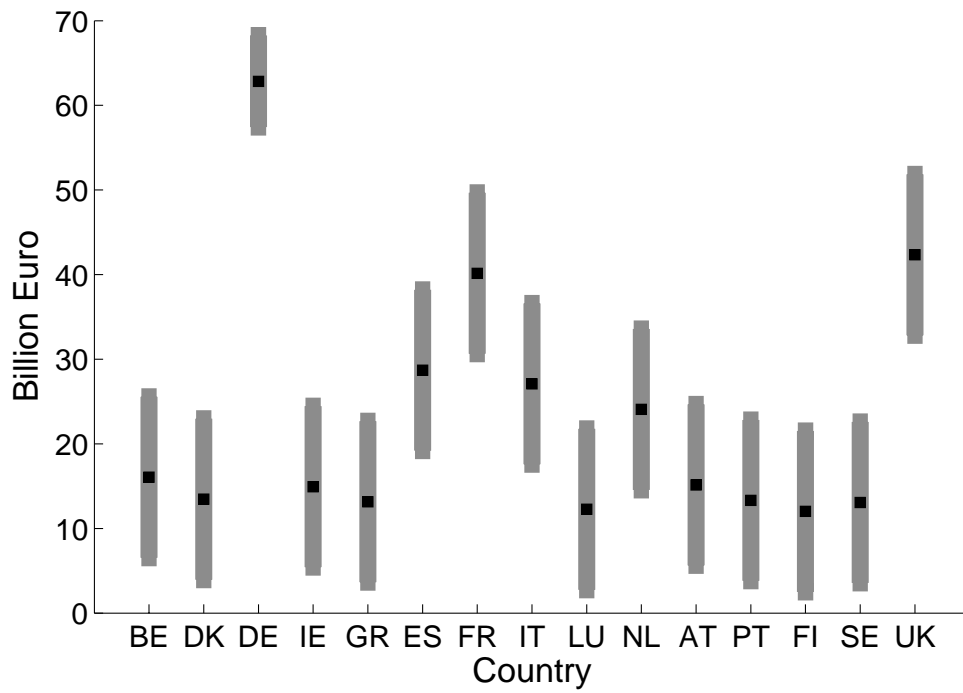


Figure 22: Range of costs for the very high impact Scenario 5 in the EU-15.

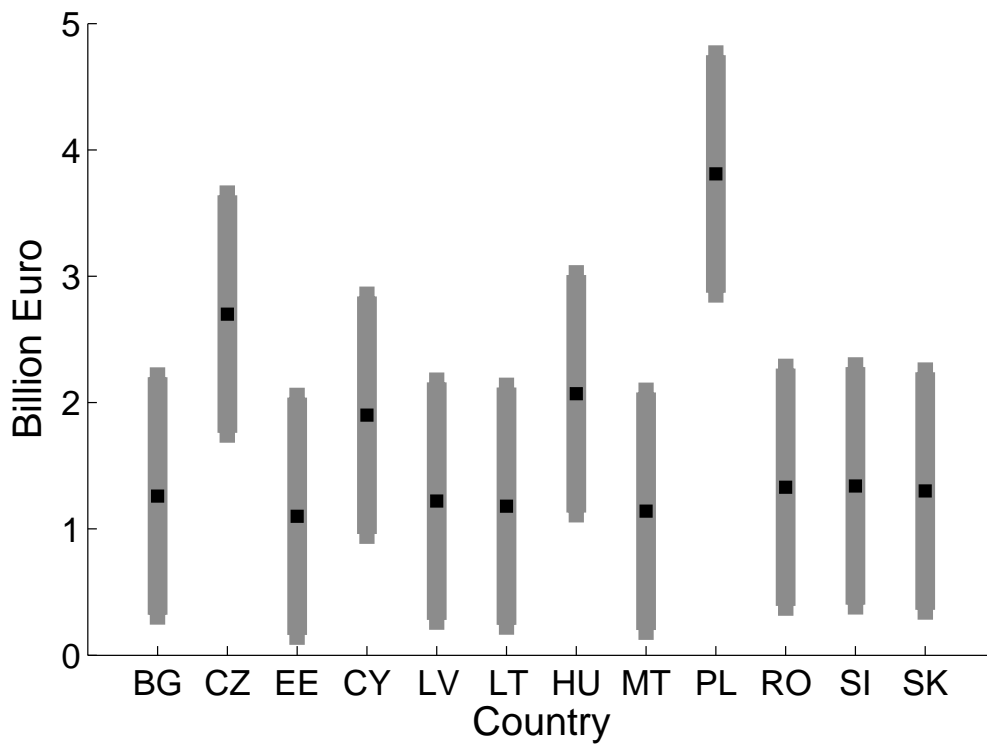


Figure 23: Range of costs for the very high impact Scenario 5 in the EU-12.

Table 12: Minimum, maximum and average intensity ratios for the very high impact Scenario 5.

	Minimum Intensity Ratio	Maximum Intensity Ratio	Mean Intensity Ratio
BE	3.04	11.87	7.46
BG	3.22	22.67	12.94
CZ	3.04	6.30	4.67
DK	3.07	17.86	10.47
DE	3.00	3.57	3.29
EE	3.67	47.63	25.65
IE	3.05	13.74	8.39
GR	3.07	19.10	11.08
ES	3.01	6.00	4.51
FR	3.01	4.88	3.94
IT	3.01	6.28	4.65
CY	3.07	9.16	6.11
LV	3.25	25.21	14.23
LT	3.30	30.00	16.65
LU	3.10	24.46	13.78
HU	3.06	8.20	5.63
MT	3.38	36.50	19.94
NL	3.02	6.96	4.99
AT	3.05	13.33	8.19
PL	3.02	5.02	4.02
PT	3.07	18.43	10.75
RO	3.18	18.86	11.02
SI	3.17	18.33	10.75
SK	3.19	20.40	11.80
FI	3.11	26.72	14.91
SE	3.07	19.51	11.29
UK	3.01	4.75	3.88
EU Average	3.12	16.51	9.81
Ex-ante Aver.	3.14	17.70	10.42
Ex-post Aver.	3.06	12.35	7.71

Source: Data estimated by JRC using all available information.

## 6. The US system

### 6.1 Introduction to the US system

This chapter presents the US deposit protection system and highlights the principal differences with respect to the mechanisms currently adopted by the EU DGS. In particular it describes the US DGS characteristics and the procedure adopted in cases of failure resolution.

The US organisation dedicated to insure deposits of banks and savings associations is the Federal Deposit Insurance Corporation (FDIC); the FDIC is an ex-ante mechanism covering only the depositors of banks and thrifts. The quarterly risk-based contributions are collected and managed in advance and utilized, if necessary, by the FDIC who is usually appointed as receiver by the competent authority. FDIC's primary objectives are to maintain public confidence and stability, to prevent excessive risk taking by members, and to resolve bank failures while minimizing the community costs.

The FDIC was created in 1933 in response to the financial crises occurred of the 1920s and early 1930s. According to its web site<sup>49</sup>, *"since FDIC foundation no depositor has lost a single cent of insured funds, as a result of DGS' member failure"*. This sounds a great success considering that the 2005 level of coverage in US (\$100 000 = €80 379) was around three times the EU average (€29 351) and that the depositors, in most of the cases, were reimbursed on the next business day.

Nowadays the FDIC is consolidated and principally regulated by the Federal Deposit Insurance Act<sup>50</sup> (FDIA) of 1950 and by the Federal Deposit Insurance Corporation Improvement Act<sup>51</sup> (FDICIA) of 1991. In particular the latter was introduced, after the banking crisis of the 1980s, with the aim of appointing and regulating the role of the FDIC as receiver of failed members. Although joining the insurer and the receiver in a single entity simplifies the procedures; giving the responsibility of asset liquidation to the largest creditor is an incentive to maximize possible returns. In February 2006, the Federal Deposit Insurance Reform Act<sup>52</sup> (FDIRA) became law, introducing some changes in the deposit insurance system. For instance, it merged the two existing funds managed by the FDIC (the Bank Insurance Fund, BIF, and the Savings Association Insurance Fund, SAIF) into the new Deposit Insurance Fund (DIF), increased the level of coverage for certain retirement accounts to \$250 000 (€200 948), and established a range for the Fund dimension, linked to the amount of covered deposits.

The remainder of this Section illustrates quantitative data describing the FDIC, gathered on its web-site and referenced to 2005 in order to be comparable with EU survey data. Note that the EU is considered as a single entity, aggregating all DGS, and no single MS is compared with the US. This choice is due to the features of the US and to the heterogeneity of the EU dataset, which is composed by data relating to completely different situations. First, data on the total amount of deposits, the level of coverage and the amount of funds collected by FDIC are presented in order to focus on the main differences with respect to the EU DGS; second, the procedures and the rules of the scheme in case of intervention are described.

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<sup>49</sup> FDIC web-site is: <http://www.fdic.gov/index.html>

<sup>50</sup> The FDIA is available at: <http://www.fdic.gov/regulations/laws/rules/1000-100.html>

<sup>51</sup> The FDICIA is reported in FDIC law at page 8549 et seq.

<http://www.fdic.gov/regulations/laws/rules/8000-120.html>

<sup>52</sup> The FDIR Act is accessible at:

[http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109\\_cong\\_public\\_laws&docid=f:publ171.109.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_public_laws&docid=f:publ171.109.pdf)

## 6.2 Data on US

Comparing US and EU data, it is necessary to pay attention to the impact of the currency exchange rate and on possible discrepancies in the definitions of deposits, due to the different legislations and to the dissimilar data sources. US data has been collected in Dollars and converted into Euros using the average exchange rate for the reference year<sup>53</sup>. This particularly impacts on the amounts of deposits, on the dimension of the fund, on the level of coverage discussed in this section, and also on the costs of interventions presented in the next paragraph.

On the FDIC web site data on two categories of deposits can be found: "*total domestic deposits*" and "*insured deposits*". Only a generic definition of "*total domestic deposits*" is available for the US<sup>54</sup>, referring to the rules of Consolidated Report of Condition<sup>55</sup>. The comparison between these values and EU data is rather delicate since it is not clear whether total domestic deposits are closer in definition to the EU total amount of deposits or to the eligible deposits. This problem is even more enhanced considering that the definition of total amount of deposits applied for the EU explicitly refers to the Directive 94/19/EC (see Article 1(1) of the Directive and Annex VI of the present Report). Concerning the US definition of "*insured deposits*"<sup>56</sup>, it seems closer to the definition of "*covered deposits*" provided in Annex VI: notwithstanding the fact that they are not identical, the purpose of these two measures is similar, that is to assess the total area of intervention of DGS.

Note that these problems do not affect data on the adequacy of available resources, which is linked to the size of the fund and to the percentage of protected deposits. Finally note that these facts have also no effects on the considerations about the efficiency of the schemes, are discussed in the second part of this section and which represent the main differences between the US and the EU systems.

### Data on deposits

The FDIC applies different levels of coverage to different categories of deposits<sup>57</sup>, as illustrated below. The most relevant types of deposits are single accounts<sup>58</sup>, insured until \$100 000 (€80 379) per depositor per insured bank; certain retirement accounts, covered until \$250 000 (€200 948); and trust accounts<sup>59</sup> insured up to \$100 000 (€80 379) for each beneficiary. Table 13 shows different variables for US (second column) and EU DGS (third column); the percentage differences are shown in the last column (the reference being US).

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<sup>53</sup> The Eurostat data for the average exchange rate in 2005 is 1€ = 1.2441\$

<sup>54</sup> The document is available at <http://www4.fdic.gov/SOD/sodHelp.asp?barItem=8#Definitions>

<sup>55</sup> The document is available at: <http://www.fdic.gov/regulations/resources/call/crinst/399RC.pdf>

<sup>56</sup> More details available at: <http://www.fdic.gov/consumers/consumer/information/fdiciorn.html>

<sup>57</sup> The level of coverage are based on FDIA (12 U.S.C. 1811 et seq.) and on the FDIC's regulation relating to insurance coverage (12 C.F.R. Part 330). The FDIC's guide to Deposit Insurance Coverage is available at: <http://www.fdic.gov/deposit/deposits/insured/yid.pdf>

<sup>58</sup> A single account is a deposit owned by one person. The following deposit account types are included in this ownership category: (i) Accounts held in one person's name alone (ii) Accounts established for one person by an agent; (iii) Nominee, guardian, custodian, or conservator, including Uniform Transfers to Minors Act accounts, escrow accounts, and brokered deposit accounts (iv) Accounts held in the name of a business that is a sole proprietorship; (v) Accounts established for a decedent's estate; and (vi) Any account that fails to qualify for coverage under another ownership category.

<sup>59</sup> Trust accounts are created when the account owner signs an agreement—usually part of the bank's signature card – stating that the deposits are payable to one or more beneficiaries upon the owner's death.

Table 13: Comparison between US and EU data.

	US	EU	Differences
Population	298 986 357	491 023 535	64%
Total amount of deposits 2005 (t€)	*4 957 918 174	11 269 797 167	Not applicable
Amount of covered deposits 2005 (t€)	**3 127 490 555	4 161 594 773	33%
Amount of covered deposits/ Total amount of deposits 2005	0.63	0.37	Not applicable
Coverage level 2005 (€)	80 379	29 351	-63%

Source: Survey data; FDIC web site; \* Total Domestic Deposits; \*\* Insured deposits.

As already outlined, the comparison between the total amount of deposits for the US and EU is not completely reliable. In order to get an intuitive insight in the dataset, Table 13 presents in the penultimate row the ratio of the amount of covered deposits over the total amount of deposits.

Concerning cross-border exposures and topping-up, the US rules are based on the Foreign Bank Supervision Enhancement Act<sup>60</sup>. Since 1991, foreign branches are no longer able to offer deposits and to obtain deposit insurance by FDIC. Currently, there are only 11 foreign branches in the US; new foreign banks that want to offer retail deposits in the US are required to establish a subsidiary and to participate in the FDIC fund. Deposits of customers of US banks operating abroad are not covered unless those deposits are specifically designated as being payable in the US. This fact implies that the FDIC has a very low cross-border exposure and that a foreign bank has no option to follow procedures such as the EU topping-up. In this way the FDIC operates like a completely independent fund, without any links to foreign DGS.

### Data on funding

The Deposit Insurance Fund (DIF) is collected before the call for resources (ex-ante mechanism), through the assessment of quarterly risk-based contributions on FDIC's members and through the earnings on the total assets managed. This fund is the principal instrument utilized by FDIC, in case of intervention, to ensure the guarantee on the protected deposits few days after the closure of the failed bank. Periodically the risk of each member is assessed, making use of different indicators, to create four risk categories. The system adjusts contributions by increasing the fee of those members whose risk of default is higher. The increase ranges between 5 and 43 cents per \$100 of assessable deposits. Note that the risk-based assessment was introduced in the US mechanism in only 1993, and it has often been revised.

In order to compare the level of resources in the DIF with the EU resources, only data from EU ex-ante DGS are considered, since funds are not collected by EU ex-post DGS. Table 14 reports the total amount of deposits, total amount of covered deposits, level of coverage, and size of the fund for US (second column) and for the subgroup of EU ex-ante DGS (third column). Note that, for the EU, data on DE (no data on funds are available) and SK (negative fund) is not included. This means that data of 19 out of 27 EU MS are aggregated to obtain figures in Table 14.

<sup>60</sup> It represents the "Title II-Regulatory Improvement" of the FDIC Act of 1991. Available at: <http://www.fdic.gov/regulations/laws/rules/8000-2500.html#8000fdi201>

Table 14: Comparison of funds and Designated Reserve Ratios between US and EU

	US	§Ex-ante EU	Differences
Total amount of deposits 2005 (t€)	*4 957 918 174	3 772 068 011	Not applicable
Covered deposits 2005 (t€)	**3 127 490 555	1 604 152 713	-49%
Fund 2005 (t€)	39 061 651	13 529 952	-65%
Coverage level 2005 (€)	80 379	25 903	-68%
Amount of covered deposits/ Total amount of deposits 2005	0.63	0.42	Not applicable
Designated Reserve Ratio (DRR)	1.25	0.84	-33%

Source: Survey data; FDIC web site; \* Total domestic deposits; \*\* Insured deposits; § Data of ex-ante schemes without DE, SK.

Note that the total amount of deposits of these schemes is only around one third of the total amount of EU deposits (see Table 13). This is due to the fact that DE is not included, and that some ex-post funded DGS account for a high portion of the total amount of deposits. For this subgroup of EU MS, the average level of coverage is lower (€25 903) compared to the EU average (€29 351) and thus very much lower with respect to the US level (€80 379). This fact impacts on the difference between the ratio of the total amount of covered deposits over the total amount of deposits in the US (63%) and in the EU subgroup (42%).

The last row of the table shows the so called Designated Reserve Ratio (DRR), introduced by the FDIC in order to monitor the adequacy of its resources and defined as the amount of funds over the amount of covered deposits<sup>61</sup>. The US regulation establishes a fixed range for this ratio between 1.15 and 1.50, and allows the FDIC to manage the fund's assets within this interval.

The US DRR is higher with respect to that in the EU, not only due to the size of covered deposits but also because of the amount of available funds, thus highlighting that the FDIC collects more contributions compared to EU ex-ante schemes. Owing to the differences between DRR in the EU and US, it is clear that the outcome of an intervention of the same size might be completely different in the US and the EU.

### 6.3 Efficiency of the US system

This subsection is dedicated to the procedures applied by FDIC in case of intervention to insure deposits and eventually to reimburse depositors. In relation to DGS efficiency, besides the objectives of ensuring financial stability, public confidence and minimizing the costs of resolving failed banks, the FDIC also has the task of acting as the receiver of the liquidation process. The first part of the next paragraph describes the US failure resolution procedures, highlighting the main differences with respect to the EU: the procedures applied in the various EU MS are not recalled here (see instead Section 3 and Annex II), since they are all quite different. This is followed by a short comparison of past interventions in the US and EU.

<sup>61</sup> Note that this ratio differs from the coverage ratio of Section 2.3. which is defined in term of the amount of eligible deposits.



## Rules for intervention

In case of intervention, the US mechanism is characterized by two specific features: the intervention of the FDIC before the real banking failure and its role as receiver in the liquidation process. Note that, besides the agencies in charge to officially declare the closure of the failing bank (chartering authorities), no other authority is generally involved in the procedure.

Banks typically fail after a global deterioration, that implies insolvency and illiquidity, rather than after a single adverse event. Insolvency occurs when the value of the total assets managed by the institution is lower than the amount of its liabilities. Illiquidity, in the previous sections referred to as "*unavailability of deposits*", occurs when a bank is not able to meet its current obligations to customers. In most of the cases a bank usually becomes first insolvent and then illiquid.

When the process of deterioration starts, the US regulation requires the FDIC to initiate progressively more-stringent restrictions on the bank's activities (Prompt Corrective Action, PCA). The PCA stipulates that a member with a ratio of tangible equity over assets equal to or less than 2% have to be closed by the entity that charters the bank and which has the authority to revoke its license.<sup>62</sup> In this way members can be closed before they reach book-value insolvency.

In contrast, the EU Directive 94/19/EC refers to illiquidity, without regulating the procedure for insolvent banks. This point represents one of the principal differences between the US and EU legislation on DGS. Early interventions or bank limitations have the aim to reduce the costs of DGS repayment and the impact of the failures. The US chartering authority and the FDIC start their actions when the member is becoming insolvent, this is earlier than the instigation in EU DGS. A pre-closing period of 90 days, before the official member's closure, is set by law. In this period the FDIC works on the resolution of the failure and eventually arranges the reimbursement of insured deposits.

In relation to the role of the DGS in the US<sup>63</sup>, besides its responsibility as the deposit insurer, the FDIC is in general appointed as the receiver of the liquidation procedure, after the closure of the insured bank. Acting as the receiver, i.e. as the principal creditor, the FDIC is strongly incentivised to maximize the asset returns of the failed bank. The FDIC acts in concordance with the "*least-cost principle*" that refers to the resolution method minimizing the present value of net losses incurred by the deposit insurer<sup>64</sup>. Conversely, EU DGS principally act as entities only responsible for the reimbursement and do not take part in the member's liquidation.

As a receiver, the FDIC is in charge of the process of resolving a failed bank (resolution stage) and of the process of liquidating its assets (receivership process). In the resolution stage the FDIC values the assets, solicits bids to sell the bank with the least cost to the insurance fund, and reimburses the depositors. During the receivership process, the FDIC liquidates any remaining assets and eventually distributes proceeds.

There are two types of possible resolution transactions: open-bank assistance (OBA) and closed-bank resolution (CBR). In an OBA transaction, which is used in rare situations, the FDIC provides financial assistance to the bank while it remains open for specific reasons. The advantage of this procedure is that it has less negative effects on the relationships between the banks and its customers; on the contrary it can be more costly and complex for the DGS and might increase moral hazard.

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<sup>62</sup> The chartering authority for state-chartered banks is usually the state banking department; for national banks, the Office of Comptroller of the Currency (OCC); and for federal saving institutions, the Office of Thrift Supervision (OTS).

<sup>63</sup> More details on the Failure resolution procedures are available on FDIC web-site at:

<http://www.fdic.gov/bank/analytical/banking/2001sep/br2001v14n1art1.pdf>

<sup>64</sup> The only exception to the application of the least-cost principle is the so called "*systematic risk exception*", i.e. the case where the option suggested by the least cost principle would undermine the financial stability and have negative effects on the economy.

The standard procedure used is the CBR, where the competent office closes the credit institution and appoints the FDIC as the receiver. CBR can be of two kinds: Purchase-and-Assumption (P&A) transactions and deposit payoffs. In a P&A transaction a healthy bank purchases some or all of the assets of the failed bank and assumes some or all its liabilities. This procedure is often applied in case of sudden failure of a small FDIC member. A different type of P&A is the bridge-bank transaction, in which the FDIC acts temporarily as the acquirer, taking over the operations of the failing bank and maintaining the banking services for the depositors. This resolution is especially useful in particular types of situations, when the failing bank is large or unusually complex, or when there is no time to respect the normal procedures due to the unexpectedness of the failure.

In the case of deposit payoff, no assets or liabilities are assumed by another institution: depositors are reimbursed either by issuing a deposited check (straight deposit payoff) or by transferring the amount of insured deposits to a bank willing to serve as an agent of the FDIC (insured deposit transfer).

Thank to these procedures, in the US the insured deposits are usually available for the depositors on the next business day in almost every bank failure. This is a consequence of the central role of the DGS in the receivership process, which allows arranging the payout as soon as possible, usually with no delays.

Another feature enhancing the efficiency of the US DGS is the way depositors are informed of the occurred failure. Besides the announcement via public press, the FDIC issues a letter to depositors with instructions on how to claim their money. Moreover, the FDIC may organize a claim team for the failed member with the tasks to meet depositors directly and to take information on their claims.

Table 15 shortly summarizes the main characteristics of the US deposit insurance system.

**Table 15: Summary of the US system characteristics.**

	Description
Fund mechanism	Ex-ante
Fund's finance	Quarterly members contributions and earnings on fund assets
Risk-based	A specific risk-based method through composite indicators is applied
Competent authority	The chartering authority closes the member and appoint a receiver (usually FDIC)
Trigger event	Tangible equity to total assets ratio equal to or less than 2%
Event Notification	News in the local newspaper, instructions letter to all depositors
Types of intervention	Generally closed bank resolution (purchase & assumption, deposit payoff)
Pre-closing period	FDIC works on the resolution of members for 90 days before the closure
Reimbursement	One business day

Source: FDIC web site.

### Historical interventions

This part is dedicated to compare US and EU historical interventions from 1994 to 2006. Following the procedure adopted for the EU, US data is referenced to 2005 values. Table 16 shows US data collected from the website and EU aggregated data presented in Section 5.1, comparing the number of actions of the schemes and the aggregated costs. Through the analysis of historical data, it is possible to investigate the DGS role in minimizing the encountered costs.

Between 1994-2006 the FDIC performed 70 interventions all concerning failed members. In 62 cases (88%) the P&A procedure was applied while in 8 cases (12%) a deposit payoff was arranged. In the same period, 32% more interventions (92) were observed in the EU, of which 67 resulted in payouts (73%) and 25 in preventive interventions (27%). The total

costs in the US were less than half of those in the EU, 1 548 b€ compared to 4 830 b€, that is more than the double. Significant information is provided by the average impact of the DGS actions shown in the last row of Table 16, defined as the ratio between the total estimated costs and the number of actions. The EU average impact (22 111 t€) is around 2.4 times the US average impact (52 510 ).

Even discarding the interventions with the highest impact (one in the US in 1999 with a weight on total costs of 28%, and two in the EU in 1994 and in 2003 with a weight on total costs of 43%) the EU average impact remains around twice the US one. However, it is questionable whether or not the early activation of the DGS in the US (i.e. when the bank becomes insolvent rather than when it is illiquid) reduces the average impact. In fact, if only examining the last five years, 2002-2006, the number of EU actions (46) were 2.5 times the number of US cases (18), while the average impact for this period was less in the EU (15 692 t€) than the US (20 078 t€).

**Table 16: Impact of past DGS actions in US and in EU.**

	Number of FDIC actions 1994-2006	US Estimated costs 2005 (t€)	Number of EU DGS actions 1994-2006	EU Estimated costs 2005 (t€)
2006	0	0	11	39 202
2005	0	0	7	72 746
2004	4	2 977	10	18 421
2003	3	53 688	15	584 638
2002	11	304 731	3	6 824
2001	4	217 439	2	387 533
2000	7	25 025	7	658 512
1999	8	479 398	9	692 076
1998	3	176 073	6	147 066
1997	1	3 914	3	69 586
1996	6	47 185	9	325 747
1995	8	86 722	6	188 256
1994	15	150 591	4	1 640 354
<b>Total 1994-2006</b>	<b>70</b>	<b>1 547 743</b>	<b>92</b>	<b>4 830 961</b>
<b>Average impact</b>		<b>22 111</b>		<b>52 510</b>

Source: Survey data; FDIC web site.

## 7. Conclusions

In its Communication on DGS in 2006, the Commission identified the need to focus on the efficiency of current EU DGS to face crises of varying magnitude. This Report has investigated this subject taking into consideration the various meanings that the word "efficiency" can have. To aid the analysis JRC built a database collecting information across EU MS on the way schemes would operate in cases of reimbursement of depositors, other interventions, and on how schemes have functioned in the past in this regard. Besides a detailed description of the ways in which DGS currently operate and an analysis of their effectiveness, a more quantitative analysis, aimed at investigating the capability of the EU MS to handle potential reimbursements of depositors of different size, has also been presented. Particular attention has been put on the exploration of cross-border issues, although only a limited amount of information could be gathered for this. Moreover, JRC also collected and analyzed data relative to historical interventions where payout delays were registered. Additional analysis on this subject will be produced by a dedicated EFDI Working Group.

As mentioned above, the first part of the Report presented the manner in which DGS operate when called into action. A wide spectrum of information covering different aspects has been presented, such as the description of the various steps of the intervention procedure (both in case of payouts and for preventive interventions), the authorities involved and their interaction, and the way DGS manage and invest available funds.

In general, considerably diverse results were obtained across the EU countries, leading to difficulties in drawing general and harmonized conclusions. This is also evident from descriptions of the intervention procedures provided by each DGS and attached in Annex II. This diversity is likely to have an impact on the rapidity of payment and the interoperability of schemes if branches took additional coverage at the host country's scheme (topping up arrangement). Also different standards of robustness may be a factor affecting depositor confidence.

Concerning the reimbursement of depositors, the activation of the DGS follows a declaration of unavailability of deposits by the Central Bank, the Banking Supervisory Authority or, in some specific cases, a competent Court. For preventive interventions (allowed in around 60% of the EU DGS), the same authorities are often involved in the procedure; however, for some DGS (around 33%) the scheme can decide autonomously when to intervene. Noticeably, most of the DGS (about 78% of the DGS which have previously performed a reimbursement of depositors or intervened preventively) declared that no cooperation deficiency, which might slow down the efficiency of the process, had been encountered with the other authorities involved.

The report also analysed the amount of available resources, both in terms of the funds collected by ex-ante DGS and via the investigation of extraordinary resources such as supplementary contributions and borrowings: an indicator for the robustness of schemes is proposed, measuring the percentage of members whose deposits are below the maximum amount of available resources. On average, DGS declared themselves capable of coping with a single crisis of any of the smallest 64% of their members without access to unlimited borrowing and 86% with recourse to unlimited borrowing, thus highlighting that at first sight, systems seem able to cover a reasonable proportion of their members. Values of the indicator without considering the possibility to borrow an unlimited amount of funds are extremely heterogeneous, and range from 0% in MT (i.e. no bank would be covered) to 95% in HU. Note that when allowing unlimited borrowing, the scheme features the "virtual" capability to cover intervention of any size.

Concerning collected funds, 90% of the ex-ante DGS invest their money in national/EU bonds or in short term deposits. Only a few DGS declared that more risky investments are allowed, subject to constraints; for instance related to the rating of the underlying financial instruments. Besides collected funds, the great majority of the DGS are allowed to increase their annual fee and/or can call for additional resources such as extraordinary/supplementary contributions. Moreover, 21 MS DGS are allowed to ask for a loan, and in a great majority of EU countries there is no limit to the amount of money which can be borrowed (only in 2 MS is a limit on borrowing set in the statute).

The report has also presented some statistics on preceding payout delays, focusing on the time necessary to start/complete the procedure and on the percentage of deposits repaid within 3-6-9 months. Concentrating on the 3-month limit set in Directive 94/19/EC, data shows that, although the number of reimbursed claims is on average around 67% of the total, the amount repaid is higher than 92%, highlighting that globally, systems are quite efficient. Data on historical payouts emphasize that the option to extend the three-month period set in the Directive to complete the payout procedure has been exercised in only 25% of the occurred reimbursements. It is worthwhile noticing that in many MS the bankruptcy law allows depositors to claim their money over a longer time horizon, up to 5 years in many MS. Further analysis on the issue of payout delays is left to the EFDI Working Group.

The final part of the Report was dedicated to designing and performing scenario analysis intended at exploring the capacity of the EU DGS to cope with reimbursements of depositors and preventive interventions of various sizes. In order to define the scenarios, a complete dataset on historical interventions was built.

Between 1994 and 2006 a total of 45 reimbursements of depositors were registered across EU MS, 15 in the EU-15 and 30 in the EU-12 (excluding 22 very peculiar reimbursements performed by the UK DGS in relation to the failure of very small Credit Unions, which cannot be considered as representative of the UK framework). Regarding preventive interventions, only 27 cases have occurred, all but one in the EU-15. A measure of the impact of the reimbursements/interventions, the "*intensity ratio*" (defined as 100 times the ratio of the total costs encountered over the total amount of eligible deposits), has been introduced in order to rank and classify historical DGS actions most of which involved small banks. Three classes of impact have been defined: high impact (intensity ratio higher than 0.5), medium impact (intensity ratio between 0.05 and 0.5), and small impact (intensity ratio smaller than 0.05). Historical payouts are characterized by an intensity ratio ranging from 0.0005 to 3.24 (largest case, happened in SK in 2001) with a mean of about 0.27 and higher ratios being related to reimbursements occurring mostly in the EU-12. Concerning preventive interventions, intensity ratios vary between 0.0002 and 0.73, the average being around 0.12.

Three different scenarios representing a payout of depositors have been considered, one for each class of impact: a high-impact scenario (Scenario 1) with an intensity ratio of 3.24; a medium-impact scenario (Scenario 2) with an intensity ratio of 0.81; and a low-impact scenario (Scenario 3) with an intensity ratio of 0.035. Moreover, a fourth scenario (Scenario 4) based on the historical database of preventive interventions has been built, with a medium intensity ratio of 0.16. Since the original scope of the analysis included the assessment of the capacity of the EU MS to face a default of a bank with branches in another EU MS, a fictitious scenario (Scenario 5) has also been designed, describing the failure of a credit institution in one MS with branches in a second MS. The lack of data both on deposits of credit institutions in foreign branches and on past cross border failures has forced the design of a fictitious setting instead of a scenario based on historical data. For Scenario 5 it has been hypothesized that the bank covers 3% of the market of deposits in its home-country; concerning the branch, it is assumed that it can be set in only one MS and that the share of the market for the host-country deposits accounted for by

the branch varies between 0.1% (for a branch of a EU-12 country in one MS of the EU-15) and 2% (for a branch of a EU-15 country in one MS of the EU-12). All possible pairs of home and host countries have been considered, so that the impact of Scenario 5 for each fixed MS resulted in a range of values, each in relation to a different host-country.

The impact of each scenario on the EU MS has been estimated by comparing scenario costs with current available funds. For Scenario 1 (high impact) the costs vary from 0.14 to 61.85 b€: no scheme would be capable of paying out this sum without collecting additional contributions. Ex-ante schemes would have to gather on average 16 times their current funds to cover Scenario 1 costs. To better understand the impact of this scenario, as an example, note that for SE (the EU 15 MS with the highest coverage ratio) current contributions are around 1/30 of current available funds, thus stressing that under a failure of such magnitude the DGS would have to collect an enormous amount of resources to manage. Concerning ex-post schemes, the costs range from 0.4 (SI) to 35.32 b€ (UK), with an average of 13.18 b€.

For Scenario 2 (medium impact), 7 MS (BG, EE, ES, LT, PT, RO, and SE) would have enough funds to cope with the reimbursement without the need to collect any additional contributions. Including all financial means available (ex-ante funds, ex-post contributions and additional borrowing, eventually unlimited), it would appear that 6 MS are not equipped to deal with a mid-sized failure. On average, ex-ante EU schemes would need around 4 times their present funds to tackle the payout. Excluding countries with a very low coverage ratio such as CY and MT, DGS would have to collect between 1 and 3 times their current funds to handle the expenditures. Costs in this scenario lie between 0.035 and 15.49 b€, with an average of 2.18 b€.

As expected, the impact of Scenario 3 is low, and all MS, except CY, not funded ex-post would be able to handle the crisis using current funds. Costs for ex-post DGS vary between 0.004 (SI) and 0.38 b€ (UK), the average being 0.14 b€, values which are lower than the average EU 2005 funds.

Results for Scenario 4 (preventive) lie in between the ones of Scenario 2 (medium impact) and Scenario 3 (low impact). In particular, only three ex-ante MS (FR, CY, MT) would have to gather funds to cope with the costs of such a preventive intervention. On average, ex-ante schemes would only use around 80% of their current funds to handle the expenditures of this preventive scenario (excluding CY and MT this value drops to 35%).

The very high impact scenario, Scenario 5 has a much stronger effect than Scenario 1, with costs ranging from around 1 to almost 63 b€, the average being approximately 13 b€. Clearly, no EU MS would be able to face a crisis of this size without resorting to additional funding. EU-15 ex-ante schemes would have to collect between 5.5 (ES) to 44.26 (IE) times their current funds to handle the payout, with a mean of around 22 times. Excluding CY and MT, for the ex-ante EU-12 countries the amount of additional funds to be collected would have a lower spread of 7.25 (LT) to 24.72 (LV) times current funds. Results show that the consequences of such a Scenario might threaten the stability of the banking system of any EU MS.

To summarize, comparing the impact of these scenarios with one another is rather difficult due to the variations in their definitions. For instance, average EU costs range from 0.09 b€ for the low-impact Scenario 3 to 8.69 b€ for the high-impact Scenario 1 and up to 13.67 b€ for the very high impact Scenario 5 (mean costs over host-countries). Comparing these amounts with the size of available funds implies that, in order to tackle the intervention, EU MS would need to collect, on average, between 4 times (medium-impact Scenario 2) and 50 times (mean costs very high impact Scenario 5) their current resources. Only for the low-impact Scenario 3 would all ex-ante DGS (excluding CY) have enough resources to cope with the associated costs.

To complete the analysis, Scenarios' costs have also been compared with the maximum amount of available money (either provided directly by the DGS or estimated using statutes/laws/bylaws). The comparison, which must be read with particular attention, simply aims at investigating the capability of the schemes to gather extra funds if necessary. Results show that, on average, DGS are capable of collecting nearly 3 times their current resources. However, in terms of impact, significant differences are only evident in a few MS.

The overview of the US system highlights the main differences with the functioning of DGS in the EU. Quantitative information is not completely comparable, but an effort to present similar values has been performed: most relevant differences are given by the level of coverage (€80 379) and the size of the fund (around 39 b€), both higher in US.

Regarding qualitative information on the efficiency of the scheme, the first significant difference is the role played by the FDIC, acting in general as receiver. The second crucial point is that the FDIC intervenes before the closure of the failing bank. Specifically, a process of deterioration of a member is defined to start when the ratio of tangible equity over assets is equal to or less than 2%. In this situation the FDIC starts its action and a pre-closing period of 90 days begins, where the scheme works on the resolution of the failure and organize the eventual reimbursement of depositors. These aspects result in an easy procedure of failure resolution, standardised rules of intervention, and prompt reimbursement of depositors. On the contrary, before EU schemes pay out depositors, they have to wait for the administrative or judicial declaration that bank cannot meet its obligations to depositors. Moreover, the interplay between national DGS laws and the bankruptcy laws could introduce delays

Finally, Annex I is devoted to updating the scenario analysis, assessing the implications of changing the DGS funding mechanisms, performed in the 2007 Report. Compared to the situation depicted in the previous Report, no scheme in the last year has moved from an ex-ante to an ex-post system or vice versa, and none of the ex-ante schemes have adopted a new methodology for estimating their annual premiums. The same four scenarios (three ex-ante and one ex-post) have been explored, the ex-ante scenarios representing various EU countries and being characterized by different coverage ratios. The conclusions of the updated scenario analysis are aligned with the outcomes of the previous scenario analysis. Results confirm that the impact would be high for ex-post schemes: the total yearly contributions to be collected by these DGS would range between 0.3 to 2.4 (last Report 0.3 and 2.3) billion Euro, depending on the scenario. With minor exceptions, all variations with respect to the 2007 Report are attributable to the increase in the amount of eligible deposits or to the increase in the funds available.

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Author(s): J. Cariboni, A. Uboldi

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