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Consultation Paper

Draft EBA Report

on the implementation of the EBA Guidelines on methods for calculating contributions to deposit guarantee schemes

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Responding to this consultation

The EBA invites comments on all proposals put forward in this paper.

Comments are most helpful if they:

- respond to the question stated;
- indicate the specific point to which a comment relates;
- contain a clear rationale;
- provide evidence to support the views expressed/ rationale proposed; and
- describe any alternative regulatory choices the EBA should consider.

Submission of responses

To submit your comments, click on the 'send your comments' button on the consultation page by 28.08.2017. Please note that comments submitted after this deadline, or submitted via other means may not be processed.

Publication of responses

Please clearly indicate in the consultation form if you wish your comments to be disclosed or to be treated as confidential. A confidential response may be requested from us in accordance with the EBA's rules on public access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response is reviewable by the EBA's Board of Appeal and the European Ombudsman.

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Executive Summary

Article 13(3) of the Deposit Guarantee Schemes Directive (DGSD) requires the EBA to issue Guidelines on methods for calculating DGS contributions[1] (the Guidelines) by 3 July 2015. These Guidelines, published by the EBA on 28 May 2015, specify methods for calculating contributions to deposit guarantee schemes (DGSs) and the objectives and principles governing DGS contribution schemes. The deadline for Member States to implement these risk-based calculation methods for contributions was 31 May 2016 at the latest.[2] Based on the risk-based methods applied by DGSs, the DGSD requires the EBA to review the Guidelines by 3 July 2017.

Given that the deadline for the implementation of the Guidelines and the deadline for their review are only 13 months apart, the EBA has interpreted the review as an assessment of the application of the Guidelines with some recommendations on further improvements and amendments of the Guidelines to be considered as part of a wider DGSD review in 2019. This report sets out the methodology and results of that review, along with specific recommendations on further improvements to the Guidelines, to be implemented in the future.

The draft report aims to:

(i) Assess if the risk-based method outlined in the Guidelines ensures adequate differentiation between institutions depending on their risk and is consistent with relevant historical data;

(ii) Assess the balance between consistent application of the Guidelines across the Member States and flexibility to cater to national specificities;

(iii) Assess if the methodology is objective and transparent, does not lead to excessive additional reporting requirements and ensures that confidential information is protected; and

(iv) Identify practical issues or obstacles in the application of the current framework.

The initial conclusions of the report are preliminary. They are based on, so far, limited experience of operating the risk-based contributions systems among most DGSs and data covering only one year of risk-based contributions based on the method outlined in the Guidelines. With time, better quality data and a longer time series will become available reflecting DGSs' and DGS designated authorities' greater experience of designing and operating the DGS risk-based systems as outlined in the Guidelines. Further analysis reflecting this experience will be needed ahead of proposing changes to the Guidelines on methods for calculating contributions to DGSs.

[1] EBA/GL/2015/10.

[2] For those Member States which have availed themselves of the extension period provided for in the third subparagraph of Article 20(1) of the DGSD.

The draft report finds that, based on the data available thus far, the risk-based method as outlined in the Guidelines has broadly met the aim of ensuring differentiation between institutions affiliated to a DGS based on their risk. The difference in differentiation observed between DGSs does not seem to be dissimilar to the levels of inherent riskiness in their sectors. However, importantly, the analysis shows that the method seems to allow flexibility for the authorities to design risk-based systems which provide less differentiation than what would be expected based on the core indicator data. Some elements of the methodology, and in particular, the way the raw indicator data is translated into components of the formula for determining contributions, may need to be revisited in the future.

The report also finds that, in relation to the balance between consistent application of the Guidelines across the Member States, and the flexibility to cater to national specificities, some areas, such as the way the riskiness of an institution is translated into specific components of the risk-based calculation formula, preliminarily point to the need for more consistency. In relation to the use of indicators, at this stage, there does not seem to be much evidence or qualitative assessment from the authorities suggesting the need to remove any particular core indicator. The analysis of this aspect, however, needs to be revisited ahead of proposing any changes to the Guidelines. On the use of additional indicators to determine the riskiness of institutions, the results seem to suggest that the level of flexibility allowed by the Guidelines does not need to increase.

In relation to the transparency of the method, at this stage, on the basis of the responses received, it does not appear that there is a specific need for amendment of the Guidelines to enhance transparency for stakeholders. Similarly, the methodology does not seem to lead to excessive additional reporting requirements, and it therefore seems to be unnecessary to make any specific changes in this regard at present. In terms of information provided to the institutions and to the public, the EBA will continue to monitor the disclosure of information and will consider further specifying what information should be disclosed in the future in the Guidelines in the event that limited disclosure continues to be the case in some Member States and for some DGSs.

Finally, the report notes a number of helpful suggestions raised by the authorities. It proposes to consider them in the course of proposing changes to the Guideline in the future, as outlined in more detail in the conclusions and recommendations.

1. Introduction

1. The Deposit Guarantee Schemes Directive[3] ("**DGSD**") was published in the Official Journal on 12 June 2014. DGSD harmonises the funding mechanisms of deposit guarantee schemes (**DGS(s)**) in the EU and mandates the collection of risk-based contributions ("**RBCs**") by them. In particular, Article 13 of the DGSD requires the contributions of member institutions to DGSs to be based on the amount of covered deposits and the degree of risk incurred by the respective members. DGSs may develop and use their own methods for calculating the RBCs from their members. Each method shall be approved by the competent authority in cooperation with the designated authority.

2. Article 13(2) of DGSD also stipulates that the calculation of contributions shall be proportional to the risk of the members and shall take due account of the risk profiles of the various business models. Those methods may also take into account the asset side of the balance sheet and risk indicators, such as capital adequacy, asset quality and liquidity.

3. Article 13(2) of DGSD requires Member States to inform the EBA of the contribution methods that have been approved. This requirement provides the EBA with an overview of the manner in which Member States have implemented RBCs in their jurisdictions.

4. In order to ensure the consistent implementation of the DGSD in relation to RBCs, Article 13(3) requires the EBA to issue Guidelines on methods for calculating DGS contributions[4] (the "**Guidelines**") by 3 July 2015. The Guidelines specify methods for calculating contributions to DGSs, and include a calculation formula, specific indicators, risk classes for members, thresholds for risk weights assigned to specific risk classes, and other necessary elements. The Guidelines also specify the objectives and principles governing DGS contribution schemes. The deadline to implement these risk-based calculation methods for contributions ("**GL RBCs**"), and to inform the EBA of same, was 31 May 2016 at the latest.[5]

5. Based on the risk-based methods applied by DGSs and following receipt of the notifications submitted from all Member States by 31 May 2016, the DGSD requires the EBA to review the Guidelines by 3 July 2017.

6. Given that the deadline for the implementation and the deadline for the review are only 13 months apart, the EBA has interpreted the review as an assessment of the application of the Guidelines with some recommendations on further improvements and

[3] Directive 2014/49/EU of the European Parliament and of the Council of 16 April 2014 on deposit guarantee schemes.

[4] EBA/GL/2015/10.

[5] For those Member States which have availed themselves of the extension period provided for in the third subparagraph of Article 20(1) of the DGSD.

amendments of the Guidelines to be considered as part of a wider DGSD review in 2019 (as provided for in Article 19(6) of the DGSD[6]). This report sets out the methodology and results of that review, along with specific recommendations on further improvements to the Guidelines, to be implemented in the future.

7. The report is organised as follows:

- Section 2 briefly describes the Guidelines, and the methodology by which they require contributions to DGSs to be adjusted for risk. The core principles in the Guidelines are set out.
- Section 3 outlines the objectives of this review.
- Section 4 describes the methodology by which this review will achieve those objectives.
- Section 5 contains the analysis that has been conducted according to the methodology set out in the previous section; further methodological details are provided where appropriate.
- Section 6 draws conclusions and makes a number of recommendations for adjustments to the Guidelines in light of the analysis and conclusions.
- The Annexes contain various supporting information and charts, including an annex setting out the general rationale for linking contributions to DGSs to the risk profile of the contributing institutions. In addition, the Annexes provide a brief overview of the use of RBCs in the context of resolution financing arrangements, and in an international context.

[6] Article 19(6) of the DGSD sets out two different reports: (i) a Commission's progress report, supported by the EBA, on the implementation of the Directive and (ii) a specific EBA report on calculation models.

2. The risk-based method in the EBA Guidelines on methods for calculating contributions to DGSs

2.1 Background

8. On 28 May 2015, the EBA published Guidelines on methods for calculating contributions to DGSs. The Guidelines have been developed according to Articles 10(3) and 13(3) of DGSD.

9. Article 13 of DGSD lays down a number of criteria for the calculation of contributions to DGSs, and notably that:

- contributions are compulsorily based on the amount of covered deposits and the risk profile of each member institution;
- DGSs are allowed to develop and use their own calculation methods in order to tailor contributions to market circumstances and risk profiles; and
- Member States may provide for lower contributions from institutional protection scheme ("**IPS**") members and low-risk sectors regulated under national law.

10. The Guidelines provide methods for calculating ex-ante contributions to DGSs that are adjusted to the risk profile of each credit institution, thus promoting risk discipline and addressing moral hazard. The Guidelines aim to increase the harmonisation of practices of national DGSs, enhance the level playing field and contribute to greater comparability of risk-based contributions to DGSs across Member States.

2.2 Principles in the Guidelines

11. The Guidelines set out eight principles to be followed by DGSs, competent authorities and designated authorities when developing or approving the methods for calculating contributions to DGSs. Those principles are:

    1) calculation methods should, as far as possible, reflect an increased liability incurred by a DGS as a result of a member's participation,

    2) calculation methods should be consistent with the build-up period envisaged in Directive 2014/49/EU,

    3) incentives provided by contributions to the DGSs should be aligned with prudential requirements,

4) calculation methods should take into account specific characteristics of the banking sector, and should be compatible with the regulatory regime, and accounting and reporting practices in the Member State where the DGS is established,

5) the rules for calculating contributions should be objective and transparent,

6) the required data for the calculation of contributions should not lead to excessive additional reporting requirements,

7) confidential information should be protected, and

8) calculation methods should be consistent with relevant historical data.

2.3 Calculation method

12. DGSs are required by DGSD[7] to reach a particular target level (or fund size) by 3 July 2024. This means that contributions should be collected regularly until that target level has been reached. The Guidelines provide that a contribution rate needs to be set to specify how much money is to be raised in contributions in a given contribution period. This represents the target level for that contribution period. The methodology then works by calculating how much of that target level each individual institution needs to contribute.
13. As required by DGSD, the Guidelines require contributions to be calculated based on the amount of covered deposits and the degree of risk incurred by the respective member. The level of covered deposits in a member of the DGS indicates the maximum potential exposure of the DGS to that member. The degree of risk focuses more on risk indicators which provide an indication of the "probability of default" of a given member.
14. The Guidelines specify five categories of risk indicators in order to ensure that a sufficiently wide range of key aspects of institutions' operations are reflected in the risk classification. The selection of risk categories reflects the minimum elements specified in Article 13 of DGSD, such as capital adequacy, asset quality, liquidity, but also the business model and management, and the need to take into account the potential loss to the DGS.
15. In order to strike the right balance between the need for flexibility required given the diversity of institutions on the one hand, and the need for harmonisation and comparability within the Single Market on the other, the Guidelines specify core risk indicators and provide guidance for assigning weights to the risk categories and indicators. Within each risk category, there are compulsory core risk indicators which should be used in order to promote comparable treatment of institutions. However, competent authorities may exclude, with regard to any type of institutions, a core risk indicator upon justification that this indicator is unavailable due to the legal characteristics of such institutions or supervisory regime in which they operate.

[7] Article 10(2) DGSD.

16. In addition, competent authorities may introduce additional risk indicators if they consider that the core indicators do not sufficiently take into account the characteristics of the member institutions, for example in order to reflect the presence of an IPS, or of institutions in low-risk sectors regulated under national law. A minimum weight is assigned to each core indicator. The sum of all minimum weights equals 75% of the total aggregate weight, which means that authorities and DGSs are able to allocate the remaining 25%, either by increasing the weights of some core indicators above the minima, or by introducing additional risk indicators. In any event, the weight of any additional indicator, or any increase in the weight of a core indicator, may not exceed 15%, except for qualitative risk indicators from the risk category 'Business model and management' representing the outcome of a comprehensive assessment of the member institution's risk profile and management.

2.4 Calculation formula and steps to calculate contributions

17. The Guidelines provide that the annual contributions to a DGS by individual member institutions should be calculated using the formula provided below.

$$C_i = CR \times ARW_i \times CD_i \times \mu$$

Where:

C_i = Annual contribution from member institution 'i'

CR = Contribution rate (identical for all member institutions in a given year)

ARW_i = Aggregate risk weight for member institution 'i'

CD_i = Covered deposits for member institution 'i'

μ = Adjustment coefficient (identical for all institutions in a given year)

18. Upon collecting data from its member institutions, the DGS should take the following steps in order to calculate annual contributions of all its members.

Step	Step description	Relevant provisions from the Guidelines
Step 1	Define the annual target level	Paragraph 37 of the Guidelines
Step 2	Define the contribution rate ("**CR**") applicable to all member institutions in a given year	Paragraphs 39 of the Guidelines
Step 3	Calculate values of all risk indicators	Paragraphs 48-77 of the Guidelines (requirements for indicators); Annex 2 and Annex 3 (formulas for indicators)
Step 4	Assign individual risk scores ("**IRSs**") to all risk indicators for each member institution	Paragraphs 1-5 and 13-17 of Annex 1
Step 5	Calculate the aggregate risk score ("**ARS**")	Paragraphs 41, 54-56 of the Guidelines

	for each institution by summing up all its IRSs (using an arithmetic average)	(requirements for weights of indicators); Paragraphs 6-9 and 18 of Annex 1
Step 6	Assign an aggregate risk weight ("**ARW**") to each member institution (categorising the institution into a risk class) based on its ARS	Paragraphs 43-45 of the Guidelines; Paragraphs 10-12, 19-21 of Annex 1
Step 7	Calculate unadjusted risk-based contributions for each member institution by multiplying the CR by institution's covered deposits ("**CD**") and its ARW	Paragraphs 35 of the Guidelines
Step 8	Sum up the unadjusted risk-based contributions of all member institutions and determine the adjustment coefficient ("**μ**")	Paragraphs 44 of the Guidelines
Step 9	Apply the adjustment coefficient (μ) to all member institutions and calculate adjusted risk-based contributions	Paragraphs 44 of the Guidelines

3. Objectives of the report

19. There has been a relatively short period between the deadline for implementing a system of GL RBCs at Member State level, and this review. In light of this fact, it is not proposed that this review would involve immediate changes to the Guidelines. The focus, instead, is on identifying whether the principles outlined in the Guidelines are being met in practice, and whether there is appropriate and consistent implementation of the Guidelines. To the extent that the report identifies any particular issues with the Guidelines, these are noted, and recommendations for possible changes to the Guidelines are made, possibly to be carried out alongside the review of the DGSD in 2019. Given these considerations, the following are the primary objectives of this report:

(i) Assess if the method ensures adequate differentiation between institutions depending on risk and is consistent with relevant historical data (principle 1 & 8);

(ii) Assess the balance between consistent application of the Guidelines across the Member States and flexibility to cater to national specificities (principle 4);

(iii) Assess if the methodology is objective and transparent (principle 5), does not lead to excessive additional reporting requirements (principle 6) and ensures that confidential information is protected (principle 7); and

(iv) Identify practical issues or obstacles in the application of the current framework.

4. Methodology

4.1 Background

20. Accurate information on the implementation of the Guidelines and practical experience of operationalising them across Member States is vital for a robust and informative report. Taking into account:

    1) the final deadline of 31 May 2016 for the implementation of the GL RBC methods, and

    2) the deadline of 3 July 2017 as per Article 13(3) of the DGSD for the review of the Guidelines,

    this report relies on a limited amount of information on the practical experience of GL RBCs.

4.2 Approach and data sources

21. Given a mix of qualitative and quantitative principles set out in the Guidelines, and the objectives of this report, the methodology must necessarily be a mix of qualitative and quantitative analysis.

22. For the purpose of the analysis, the EBA used information from the following sources:

    1) Mandatory notification requirement on the approved GL RBC methods as per Article 13(2) of the DGSD,

    2) Mandatory notification of the amount of covered deposits and available financial means as per Article 10(10) of the DGSD,

    3) Bank-level covered deposits data submitted to the EBA in November 2015 in anticipation of this review of the Guidelines on risk-based contributions due in 2017 (Article 13(3), third sentence, of the DGSD) and the wider DGSD review in 2019,

    4) Quantitative information on the impact of the GL RBC method in comparison to a non-risk based contributions ("**nRBC**") method on a per-DGS basis from an Excel tool designed by an EBA Project Team and circulated to members of the EBA's Sub-Group on Crisis Management on 26 January 2017,

    5) Information from a survey with quantitative and qualitative questions related to the objectives specified in the Guidelines on RBC on a per-DGS basis. The survey

was designed by an EBA Project Team and circulated to the EBA's Sub-Group on Crisis Management at the same time as the Excel tool.

6) Commercial, bank-level data sources such as SNL.

23. Given the diversity of information used in the report, and a mix of quantitative and qualitative analysis, a more detailed methodology for each part of the analysis is provided separately at the start of each analytical section.

5. Assessment of the implementation of the Guidelines

5.1 Adequate differentiation between institutions and consistency with historical data

24. The DGSD requires contributions to DGSs to reflect the risk profiles of individual credit institutions, including their different business models. It also states that the contributions method should lead to a fair calculation of contributions and provide incentives to operate under a less risky business model[8]. The Guidelines set as their first principle that the 'calculation methods should, as far as possible, reflect an increased liability incurred by a DGS as a result of a member's participation', which includes the likelihood of failure and the potential losses to the DGS stemming from the institution's failure. With these points in mind, it is necessary to assess whether the method as outlined in the Guidelines has met the objective of ensuring adequate differentiation between institutions.

5.1.1 Differentiation between institutions' contributions within DGSs

25. For the purpose of this report, differentiation is understood as a difference in contributions based on institutions' riskiness and, therefore, whether there is a difference vis-à-vis a contribution methodology based purely on covered deposits. For that reason, the assessment checks for the differences between risk-based contributions as per the Guidelines (GL RBC) and non-risk-based contributions (nRBC). This, however, in itself cannot provide the answer to whether the achieved differentiation is adequate. To assess adequacy, the level of differentiation between institutions under the risk-based contributions is also compared with the overall level of heterogeneity in the core indicators among institutions affiliated to a particular DGS. This comparison should highlight if the differentiation achieved by means of the GL RBC method is a reflection of the heterogeneity in the values of the indicators, or stems from other reasons. Furthermore, the analysis is cross-checked against the comparison of the GL RBC method with:

- previous RBC systems, to test if other RBC methods may be more adequate,
- available SREP assessments to test if the contributions method does not depart significantly from other forms of risk assessment,
- available historical data to test if the assessment of riskiness is in line with real life experience of firms being more risky, and ultimately, failing.

[8] Recital 36 of the DGSD.

Methodology

26. For the purpose of assessing the differentiation, the EBA shared with the DGS designated authorities:

    1) A tool which calculates basic statistical information on the comparison between GL RBC and nRBC. The tool required respondents to put in information on covered deposits and GL RBC – it then calculated nRBC based on the covered deposits data and compared the difference in contributions between GL RBC and nRBC. The fact that this method disregarded in the nRBC method the potential use of minimum contributions as allowed in the GL RBC is a simplification, but should not have a significant impact on the results. Respondents reported back the statistical results stemming from this analysis.

    2) A survey asking respondents to provide:

        i) quantitative information on the indicators used in their GL RBC methods, and

        ii) qualitative responses, including on the comparison of GL RBC methods with the previous RBC methods, historical data on institution failures and comparison between the RBC method and SREP assessment.

Data sources and sample

27. Results of the analysis from the tool where submitted in relation to 27 DGSs from 22 Member States. Submission from 23 of those DGSs from 20 Member States included complete information. Four submissions were disregarded: three of them did not include any information, with two stating that the GL RBC method has not been fully implemented yet, and, therefore, it is not possible to report results based on the amounts collected using the risk-based approach. One of those four disregarded submissions reported incomplete results.

28. The data includes information from conventional DGSs as well as from schemes operating as IPSs (which are also DGSs). However, for the purpose of the core analysis, extreme values in relation to some IPS members for which the contributions method based only on covered deposits is not appropriate, have been disregarded. This is because the method, by not focusing on the impact on systems using the extended formula as allowed in paragraph 72 of the Guidelines, misrepresents the impact on such institutions. Where relevant, the IPSs are mentioned separately.

Comparison between GL RBC and nRBC methods

29. Among the 23 DGSs for which complete data was submitted, there are significant differences in the maximum, minimum, average and median differences in contributions between the GL RBC and nRBC methods, even when disregarding the IPS outliers. Due to

specific business features, one DGS has a significantly higher maximum difference in contributions at 3,650% (the maximum difference for one outlier is 20,519,282%) and average difference of 953% (20,585% for one DGS) which impacts the results of the whole sample.

30. In the sample of 23 analysed DGSs, the average difference in contributions between RBC GL and nRBC methods ranges from 953%, 42% and 41% among the four with the highest percentage to just 5%, 6%, 7% and 8% for the DGSs with the lowest percentage. This shows that the new GL RBC method introduced significant differences in contributions in institutions belonging to some DGS, while introducing limited differences in others (see Table 1).

31. Among the 23 DGSs, half reported the average difference in contributions higher than 14% (the median). The maximum difference in GL RBC and nRBC contributions in the sample range from 3,650% increase for an institution, to just a 14% difference as the highest among members of one of the DGSs. In almost half of DGSs there are some institutions for which the GL RBC method did not introduce any change in contributions in comparison to nRBC method.

32. On average, DGSs reported that 42% of institutions contributed more under the GL RBC and 52% contributed less (the figures do not add up to 100% as some Member States reported results which do not add up to 100% which suggests that a proportion of institutions in their jurisdiction contribute the same amount as previously). This result was to be expected as in most populations of institutions affiliated to DGSs the median risk score would be lower than the mean risk score highlighting that there is more scope for institutions to be significantly more risky than the average in comparison to being significantly less risky than the average.

Table 1. Comparison between risk-based contributions based on the Guidelines (GL RBC) and non-risk based contributions (nRBC).

	Average	Median	Max	Min
Maximum difference in contributions:	230%	56%	3650%	14%
Minimum difference in contributions:	2%	0%	19%	0%
Average difference in contributions:	59%	14%	953%	5%
Median difference in contributions	34%	10%	473%	0%
Standard deviation:	58%	14%	1015%	4%
Proportion of institutions contributing more under the RBC	42%	46%	88%	0%
Proportion of institutions contributing less under the RBC	52%	50%	100%[9]	13%

[9] For one DGS, 100% of institution contributed less under the GL RBC method in comparison to the nRBC method. This result stems from the fact that the nRBC was based on the standard GL RBC formula, and not the extended formula allowed in paragraph 72 of the Guidelines and further explained in paragraph 56 of this report. Had the result been disregarded, the second highest figure is 89%.

33. The reported results included information on the proportion of institutions per DGS, for which the GL RBC were different from contributions based purely on covered deposits. More specifically, the tool identified the proportion of institutions for which contributions were either lower or higher by more than 10, 20, 30, 40 and 50% in comparison to nRBC.

34. Within the sample of DGS, on average, contributions from 53% of institutions differed by more than 10% in comparison to what they would have contributed based purely on their amount of covered deposits. On the other hand, on average, for 47% of institutions the GL RBC method would not change their contributions in comparison to nRBC by more than 10%. The median for contributions of more than 10% was 47% suggesting that in the majority of DGSs the risk-based contributions from the majority of institutions would not be different from nRBC by more than 10%. The sample, however, includes a wide range of results. There are DGSs for which GL RBC would be different from nRBC by more than 10% for the vast majority of member institutions – five DGSs reported results as different by more than 10% for more than 85% of their institutions. At the other end, there are six DGSs where for more than 70% of institutions GL RBC in comparison to nRBC would have been different by less than 10%.

35. The contrasts become even starker for contributions different by more than 20, 30, 40 and 50% (see Table 2). For the majority of DGSs, the proportion of institutions for which GL RBC are different from nRBC by more than 50% is below 5%. The average proportion of institutions with contributions different by more than 50% is 11% which is heavily influenced by four DGSs where contributions differ significantly for more than a third of institutions.

Table 2. Proportion of institutions on a per DGS basis with GL RBC different in comparison to nRBC.

Proportion of institutions on a per DGS basis with:	Average	Median	Max	Min
contributions different by more than 50%:	11%	3%	88%	0%
contributions different by more than 40%:	17%	5%	94%	0%
contributions different by more than 30%:	24%	12%	94%	0%
contributions different by more than 20%:	37%	35%	96%	0%
contributions different by more than 10%:	53%	47%	100%	14%

36. In comparison to nRBC, 10 DGSs report contributions from at least half of institutions differing by at least 10%, while for 13 DGSs contributions from more than half of institutions would differ by less than 10%. As expected, the higher the threshold of differentiation, the fewer DGSs have more than half of institutions above that threshold – for example, there is only one DGS where contributions from more than half of institutions differed by more than 50% in comparison to nRBC (see Table 3). This shows that for the majority of DGSs, the differentiation for the majority of their member institutions is modest.

Table 3. Number of DGSs with GL RBC different for more than half of their member institutions in comparison to nRBC.

Number of DGS where contributions from at least half of institutions differ by:	Yes	No
at least 50%	1	22
more than 40%:	3	20
more than 30%:	3	20
more than 20%:	7	16
more than 10%:	10	13

37. It should also be noted that the majority of DGSs include at least some member institutions for which GL RBC would be significantly different in comparison to nRBC. While for only one DGS contributions from more than half of institutions differed by more than 50% in comparison to nRBC, 13 out of 23 DGSs have at least one institution for which the contributions would be different by more than 50%. This shows that in most DGSs, the GL RBC methodology produces outliers with significant differences in contributions in comparison to nRBC. This data alone does not show whether this is a result of the majority of markets including relatively risky institutions or if it stems from particular business models, the national characteristics of the banking sectors of member states, or other reasons.

Conclusions on the differences in contributions based on GL RBC and nRBC

38. The results presented above suggest that, in general, the introduction of the GL RBC introduced modest differentiation between institutions within DGSs. For more than half of DGSs, more than half of institutions contribute a similar amount as they would have contributed under a nRBC model. There are, however, DGSs where the GL RBC made a significant difference to the levels of contributions from particular institutions. Within most DGS there are also at least some outlier institutions for which contributions differed significantly.

39. This data alone is not sufficient to determine whether the GL RBC method introduced adequate differentiation between members of DGSs. Relatively low differences between GL RBC and nRBC may simply reflect the homogeneity of institutions affiliated to a particular DGS. On the other hand, large differences in contributions may be the result of the method introducing adequate differentiation, but may also stem from other factors specific to a given DGS. For that reason, this information should be read in conjunction with the responses on the comparison with the data on specific core indicators and whether they show a high homogeneity across the institutions, the SREP assessment and the categorisation of institutions based on GL RBC, and historical data on bank failures.

40. To prepare ground for the comparison of the differentiation data with the heterogeneity in the raw core indicators, the report categorised DGSs into three groups based on the

differentiation results: low, medium and high. A DGS was categorised as 'low' when the introduction of the GL RBC method led to an average difference in contributions of less than 75% of the average for all DGSs. A DGS was categorised as 'high' when the introduction of the GL RBC method led to an average difference in contributions of more than 125% of the average. DGSs falling into the 75%-125% of the average was categorised as 'moderate' in terms of differentiation introduced by the GL RBC method (for a summary see Table 8). This methodological approach was similar to the steps outlined later in paragraph 45.

5.1.2 Analysis of the differentiation in indicator values used in the GL RBC method across institutions affiliated to the DGSs in the analysis

41. The information on the distribution of institutions' DGS core risk indicator performance shows great diversity of the EU banking sector, both within a specific DGS's membership and across DGSs and so Member State banking sectors. That heterogeneity is observable across all DGS core risk indicators (see Table 4).

42. The diversity of the EU banking sector can be concisely described in terms of its performance in DGS core risk indicators. A comparison of the ranges (a difference between the 95th and the 5th percentile) of the raw indicators for all the DGSs supports the analysis on the degree of heterogeneity (in terms of riskiness) of each DGS's membership (see table 4 below).

43. The degree of heterogeneity of national banking sectors varies across the EU. This is visible in the difference between the ranges across the core indicators in institutions affiliated to different DGSs, even when excluding outliers. To use an example, while the range is very narrow (0.05) for the leverage ratio among the institutions affiliated to one DGS, it reaches 0.85 for a DGS on the other end of the spectrum.

Table 4. Observed range (difference between the 95th and the 5th percentile) of indicator values for core risk indicators10 across groups of DGSs classified according to the aggregate risk score based on these indicators.

		Aggregate risk score based on the core risk indicator			
Core risk indicator	**Measure**	**Homogenous**	**Moderately heterogeneous**	**Heterogeneous**	**All**
Leverage ratio	Average	0.11	0.25	0.51	0.27
	Median	0.10	0.17	0.46	0.18
	Minimum	0.05	0.05	0.29	0.05
	Maximum	0.18	0.52	0.85	0.85
CET1	Average	0.14	0.37	0.81	0.43
	Median	0.14	0.35	0.77	0.36
	Minimum	0.14	0.13	0.69	0.13
	Maximum	0.15	0.71	1.01	1.01
LCR	Average	6.31	28.49	52.02	25.20
	Median	3.83	9.03	32.29	9.08
	Minimum	0.23	0.29	13.58	0.23
	Maximum	18.82	195.20	110.18	195.20
NSFR	Average	0.37	1.55	-	0.98
	Median	0.40	0.86	-	0.40
	Minimum	0.23	0.00	-	0.00
	Maximum	0.48	5.40	-	5.40
NPL	Average	0.15	1.66	0.17	0.98
	Median	0.11	0.21	0.13	0.14
	Minimum	0.00	0.04	0.10	0.00
	Maximum	0.31	13.65	0.34	13.65
RWA/Total assets	Average	0.34	0.56	1.46	0.70
	Median	0.35	0.58	0.86	0.57
	Minimum	0.26	0.23	0.81	0.23
	Maximum	0.41	0.77	3.87	3.87
RoA	Average	0.04	0.17	0.10	0.12
	Median	0.02	0.05	0.07	0.05
	Minimum	0.01	0.01	0.04	0.01
	Maximum	0.08	1.48	0.18	1.48
Unencumbered assets ratio	Average	24.51	1300.99	486600.42	93435.05
	Median	1.53	48.81	2709.66	91.00
	Minimum	0.88	1.18	726.47	0.88
	Maximum	103.96	8711.11	1940255.88	1940255.88

[10] Expressed in absolute terms, e.g. the average range between the 95th and 5th percentile of the leverage ratio distribution being 27 percentage points (0.27).

Methodology

44. For the purpose of assessing whether the population of institutions affiliated to a particular DGS is heterogeneous in terms of core risk indicators used in the GL RBC method, the methodology outlined below has been applied.

45. The difference between the 95th and the 5th percentile values for each indicator for a population of institution affiliated to each DGS, and the average values of these indicators for all DGSs served as a starting point for the analysis. Based on these values, each DGS was ranked on each indicator in comparison to the average value for that indicator across all DGSs, following the same methodological approach as outlined in paragraph 40. The analysis focuses on the difference between the 95th and the 5th percentile for each indicator for each DGS to, on the one hand, ensure that possible outliers do not distort the general assessment of a given market, and, on the other hand, capture the vast majority of DGS members. Where the difference between the 95th and the 5th percentile for a particular indicator for a particular DGS was lower by more than 25% in comparison to the average, the DGS, for that indicator, was classified as having a homogenous set of institutions. Where the difference was within 25% of the average, it was ranked as moderately heterogeneous and where the differences was bigger by more than 25% in comparison to the average, it was ranked as heterogeneous in respect to that indicator. This relative approach assumes that the majority of markets are moderately heterogeneous and that the deviation of more than 25% is a plausible threshold for categorising DGS memberships' based on their inherent diversity.

46. For each DGS, an average score based on the above criteria was calculated disregarding cases where an indicator was not used by a DGS. The lower the value for each indicator (and so the lower the relative heterogeneity in comparison to other DGSs), the lower the average.

47. Based on the average scores per indicator per DGS an overall average score was computed for all DGS. Based on the average score for all DGSs, each of the DGSs was ranked. A DGS with an average score lower by at least 25% in comparison to the average was ranked as having homogenous institutions in respect to the core indicators, a DGS with a score within 25% of the average was ranked as having moderately heterogeneous population of institutions affiliated to it, and a DGS with a score higher by at least 25% than the average was ranked as having high differentiation. The final score is presented in the last column of Table 4.

Assessment

48. The table shows that out of 23 DGSs taken into account in the analysis, six were ranked as having a homogeneous set of affiliated institutions, 12 as moderately heterogeneous and five as heterogeneous. It should be noted, however, that this method is sensitive to the changes in the parameters and caution is needed when drawing conclusions, particularly

given that the data covers only one year of contributions. These results, together with those presented in section 5.2.2 will shed light on whether a level of differentiation achieved by the GL RBC method is an outcome of the level of heterogeneity in a given population of institutions, or if it stems from the decisions taken by the authorities in implementing the GL RBC method.

5.1.3 Differentiation between the contributions based on the GL RBC method and previous RBC methods and the adequacy of the current GL RBC

49. A survey was used to gather information on the implementation of the GLs. It included questions aimed at assessing the differentiation rate between the contributions based on the GL RBC and the previous RBC methods used before the implementation of a common DGS framework on ex-ante contributions. More specifically, the respondents were required to answer the following questions:
    - If relevant, how do the contributions according to the risk-based method outlined in the Guidelines compare to the contributions based on your previous risk-based calculation model?
    - What proportion of institutions contributes more under the new calculation method compared to the previous system?
    - Explain to what extent the change in contribution methodology falls on any specific type of business model or size of institution. Do you consider this result appropriate for your jurisdiction?

Comparison between GL RBC and previous RBC methods

50. Among the 24 responses to the survey, the majority of respondents (14) declared their previous calculation methods were not risk-based (see Table 5). Among those 14, heterogonous systems were previously used, for instance, one respondent reported a contribution system based on the type of institution or, in two cases, flat rate contributions. Two respondents did not provide relevant information, as, in one case, the GL RBC method has not been implemented yet, and in the other case the Member State decided not to fully comply with the Guidelines.

51. Ten DGSs previously used RBC methods. These methods were diverse and included some where: the risk score mostly depended on the likelihood of default, risk scores aligned with the SREP scores, or contributions based on the total risk exposure or the Tier 1 capital ratios. Therefore, substantial divergences existed even regarding the participants which previously implemented a RBC method.

Table 5. Number of DGSs per previous method of DGS contributions.

	Previous RBC method	Previous nRBC method
Number of DGSs	10	14

52. The proportion of institutions contributing more under the RBC GL method differed significantly between respondents – from 88% of institutions contributing more under the new model, to all institution contributing less. The results need to be interpreted carefully as at least some respondents seemed to have compared the absolute values, which may have been influenced by changes to the annual level of contributions, rather than assessed the two methods on the assumption that the total amount of contributions is constant.

53. Among the respondents, ten provided conclusive remarks on the comparison between current and previous levels of contributions. Of these ten, four participants declared a decrease in contributions under the new GL RBC method; five participants reported an increase and one DGS noted a stable amount (see Table 6).

Table 6. Number of DGSs that contributed more or less under the previous RBC method.

	Contribute more under the RBC method	Contribute less under the RBC method	Stable contribution under the RBC method
Number of DGSs	5	4	1

Adequacy of the new GL RBC method for the institution affiliated to a given DGS

54. The introduction of the new GL RBC method seemed to have a differentiated impact on the domestic banking sectors according to the type of institution. Respondents reported an increase of the contribution amounts paid by credit unions and, generally, smaller institutions. On the other hand, respondents reported a decrease in the contribution amounts from commercial banks and the more significant institutions. Respondents also identified “building savings banks”, “foreign banks’ entities”, “securities services banks”, and cooperative banks as the kind of institutions which had contributed more since the implementation of the Guidelines.

55. The complexity of impacts may be the reason why the majority (14) of the respondents did not provide a clear answer in order to determine whether the GL RBC method is appropriate considering the domestic banking sector. In five cases, the answers collected conclude that the GL RBC is appropriate. The method is described as inadequate in two

cases. In one case this inadequacy is clearly visible in extreme values for at least some institutions (see Table 7).

Table 7. Number of DGSs that reported on the appropriatness of the GL RBC method.

	RBC method appropriate	No clear answer	RBC method not appropriate
DGSs & Designated authorities	5	14	2

56. The standard GL RBC formula in paragraph 35 of the GL is based on covered deposits. By using this standard formula, the comparison in this report shows extreme values for some DGSs. This is due to the fact that these DGSs are operating as IPSs. Inside an IPS there are some institutions which are not deposit taking institutions and the standard formula based on covered deposits is not appropriate to accurately capture their riskiness. The Guidelines recognise this issue and, in paragraph 72, allow DGSs, including an IPS officially recognised as a DGS, which use the available financial means for alternative measures in order to prevent the failure of a credit institution, to include an additional factor in their own risk-based calculation based on the risk-weighted assets of the institution. Table 1 shows the results after eliminating those outliers which means that the focus is on the impact of the method on the majority of members in the IPS that hold covered deposits, rather than a number of outliers where the amount of covered deposits may be zero or very low, but the amount of risk-weighted assets may be high. General conclusions from the analysis should be considered carefully in the context of the DGSs using the formula with the additional RWA factor.

57. Furthermore, in one case the inadequacy stems from the need to assign a higher weight to a voluntary indicator on the exposure to non-resident deposits – the reason why the respondent chose not to comply with the Guidelines.

5.1.4 Differentiation between the riskiness assessed using the GL RBC method and the SREP scores

58. The survey included questions aimed at assessing the differentiation between the riskiness calculated using the GL RBC method, and the corresponding SREP scores determined by the relevant supervisory authority. More specifically, the respondents were required to provide:
    - Description of the holistic outcome of key differences between the results of applying the calculation method and the risk assessment performed under the SREP, and answer
    - What proportion of institutions would you classify as categorised differently when assessed based on the SREP methodology and based on the contributions

method? (i.e. proportion of institutions which are, e.g. deemed to have a low SREP score but classified as risky under the contributions method (including anonymised figures where available))?

Data sources and data quality issues

59. Questions related to SREP raised data availability issues. In some Member States, SREP data was not easily accessible due to its highly confidential nature. In other cases, the data was dispersed across several authorities or several internal departments. For these reasons, seven respondents were not able to carry out the comparison. Furthermore, six other respondents highlighted methodological difficulties in comparing these risk scores as the bases for both assessments are different[11]. As a result of these accessibility and methodological difficulties, the majority of respondents did not provide any figures. Six respondents reported the use of a sample to compare GL RBC with SREP results. Only seven respondents provided differentiation percentages or quantitative elements, of which four provided extensive analysis.

Assessment

60. Putting methodological issues aside, most respondents who provided a comparison indicated similarity between the GL RBC scores and the SREP scores. For fourteen DGSs good alignments between the two scores has been reported. According to the answers collected, where there are disparities they are mostly explainable and concentrated on the smallest institutions. Two respondents asserted the relationship between the SREP scores and the GL RBC method is imperfect for their population of institutions. Both quantified the discrepancies observed - one declared that for 28% of institutions the assessment using both methods varied significantly, and the other reported this to be the case for 17% of the institutions. Few details were provided as regards the nature of the deviation. Only one respondent analysed the results deeper and determined that a large proportion of the ARWs were lower than the SREP scores. Only one participant determined what kind of institutions were mostly impacted by the divergences between the risk scores: the ARWs are generally lower for cooperative banks whereas the ARWs and the SREP scores sharply differ for foreign banks and specialised credit institutions.

61. In general, the respondents reported that ARWs calculated in compliance with the GL RBC method are broadly consistent with the risk assessment implemented by the supervisory

[11] For instance, the SREP scores can be attributed both on a consolidated and on a solo basis whereas the ARWs are only calculated on a solo level. Furthermore, the comparison might be performed in a holistic manner e.g. by using samples. As a consequence, the results must be interpreted carefully as not all institutions contributing to the DGS have a SREP score. The scopes of these risk scores are also divergent: the SREP scores only targets the significant institutions. Moreover, the SREP scores include qualitative and quantitative criteria whereas the ARWs focus mainly on quantitative factors. Finally, the SREP scores follow a four-grade linear progression (1 for the safest institutions, 4 for the riskiest institutions) which may not be in line with the domestic breakdown of the ARWs according to the RBC method chosen by the DGS or designated authority.

authorities. The reported alignments ranged from 88% in relation to one DGS to only 9% in another DGS. The average alignment rate was 55% for the respondent who reported at least some figures. Furthermore, it should be noted that even where discrepancies where reported, the ARWs for the majority of institutions affiliated to a given DGS were reported to be broadly aligned with the SREP scores.

5.1.5 Consistency with historical data

62. The survey requested respondents to report the risk scores assigned (or ones which would have been assigned) using the new GL RBC method to the institutions that failed in the past two years in order to determine whether the current GL RBC method correctly reflected the riskiness of the institutions that have failed. More specifically, the respondents were required to answer the following question:

    - Where an institution has failed (or would have failed without a DGS intervention) in the last two years in your jurisdiction, how was it or how would it have been classified in terms of risk based on the risk-based calculation methodology (including anonymised figures, where available)?

63. Ten respondents reported that they had recent institution failures in their jurisdiction. Of those ten, six assessed that the failing institutions were or would have been classified in the highest domestic risk category using the GL RBC method or were assigned with one of the highest ARWs. One respondent stated that the failed institution was classified as a risky one, but the previous RBC method would have classified it as even more risky. Two respondents did not provide information on the GL RBC score of the failed institutions. Another respondent explained that the last failed institution was assigned with a low ARW but this discrepancy between the economic viability and the risk score cannot be taken into account. This is because the institution did not fail as a result of poor risk management but lost its banking license because of other irregularities. This particular case can therefore not be considered relevant to assess the scoring method.

64. While the sample of cases is very small, responses to the survey on recent failures suggest that the current GL RBC method accurately reflects the riskiness of the institutions.

5.1.6 Summary of the results on the differentiation between institutions according to the GL RBC method

65. The analysis presented under section 5.2 shows that the introduction of the RBC method as outlined in the Guidelines introduced some differentiation between institutions affiliated to the EU and EEA DGSs. It also shows that the levels of differentiation vary significantly between DGSs. The analysis further tested whether the differences in the

levels of differentiation stem from inherent differences in the riskiness (as measured by the core indicators) of institutions affiliated to different DGSs, or from the way the method has been implemented by the authorities across Member States.

66. While both elements of the analysis are based on detailed data, the analysis involved judgements which included some arbitrary decisions, mainly on grouping DGSs as having homogenous or heterogeneous members in terms of risk. Taking the two elements of the analysis together, in just two out of 21 DGS, for which there are results of both assessments, the level of differentiation matches the level of inherent riskiness of the population of institutions (see table 8). For the majority of DGSs, the difference is of one degree, for example a DGS classified as using a method which produces low differentiation, has a moderately heterogeneous population of institutions based on their raw indicators. A slightly different choice of parameters in the analysis could yield results which are more aligned. For that reason, caution is warranted and this modest divergence should not be interpreted as a failure of the risk-based method. However, two important conclusions are worth noting:

    - Firstly, in half of the 14 cases where there is a one-degree difference between the two elements, the differentiation achieved by the method is lower than the assessment of the heterogeneity of the market and in seven it is higher. This seems to suggest that the design of the method may under- or overestimate the actual level of riskiness between institutions affiliated to the DGSs. It may also be the case that the result is the outcome of deliberate decisions taken by the authorities in the design of the method. This aspect will be explored in more detail in section 5.2 of the report.

    - Secondly, there are five cases where the difference between the two elements of the analysis is wider. In four out of these five cases the method underestimates the inherent differences in riskiness. It seems to suggest that the method, as outlined in the Guidelines, provides enough flexibility for the authorities to design the system of contributions significantly different from what the inherent riskiness seems to be. This is an important finding which will be explored further in section 5.2.

67. Table 8 also includes further assessment of the adequacy of the method based on the mainly qualitative information provided by the authorities on the comparison of the GL RBC with SREP and with historical data on bank failures. The majority of respondents reported that the GL RBC is consistent with both which seems to suggest that the current method is, in the assessment of the authorities, appropriate to adequately reflect their riskiness.

68. To summarise, the GL RBC method broadly met the aim of ensuring differentiation between institutions affiliated to a DGS based on risk. The differences in differentiation between DGSs do not seem to be dissimilar to different levels of inherent riskiness in their

sector, but, importantly, the analysis shows that the method seems to allow flexibility for the authorities to design GL RBC systems which provide less differentiation than what would be expected based on the core indicator data.

Table 8. Comparison of differentiation assessed by means of 1) difference in GL RBC and nRBC contributions, 2) level of homogeneity of raw indicators used for GL RBC, 3) assessment of GL RBC in comparison to SREP, and 4) to historical data.

DGS	Level of differentiation based on RBC GL vs nRBC[12]	Level of homogeneity across indicator values used in the RBC GL method	Assessment of the adequacy of differentiation in comparison to SREP	Assessment of the adequacy of RBC GL method in comparison to historical data on bank failures
DGS1	Low	Homogeneous	-	Adequate
DGS2	Low	Homogeneous	Adequate	-
DGS3	Low	Moderately heterogeneous	-	Inadequate
DGS4	Low	Moderately heterogeneous	Adequate	-
DGS5	Low	Moderately heterogeneous	Inadequate	-
DGS6	Low	Moderately heterogeneous	-	-
DGS7	Low	Moderately heterogeneous	-	-
DGS8	Low	Moderately heterogeneous	Adequate	-
DGS9	Low	Heterogeneous	Adequate	Inadequate
DGS10	Low	Heterogeneous	Adequate	-
DGS11	Low	Heterogeneous	-	-
DGS12	Low	Heterogeneous	Adequate	Adequate
DGS13	Low	-	-	-
DGS14	Moderate	Homogeneous	Adequate	-
DGS15	Moderate	Homogeneous	Inadequate	-
DGS16	Moderate	Heterogeneous	Adequate	-
DGS17	High	Homogeneous	Adequate	Adequate
DGS18	High	Moderately heterogeneous	Adequate	Adequate
DGS19	High	Moderately heterogeneous	Adequate	-
DGS20	High	Moderately heterogeneous	Adequate	-
DGS21	High	Moderately heterogeneous	Adequate	Adequate
DGS22	High	Moderately heterogeneous	-	-
DGS23	High	-	-	Adequate
DGS24	-	Moderately heterogeneous	-	Adequate

[12] Clear outliers, particularly in the IPSs, were removed from the sample.

5.2 Balance between consistent application of the Guidelines and flexibility to cater to national specificities

69. The Guidelines aim to ensure a level of harmonisation in the methods of calculating risk-based contributions to DGSs. At the same time, conscious of the national specificities and different banking sectors across Member States, the Guidelines allow a level of flexibility in the design of the GL RBC method. This section of the report assesses if adequate harmonisation has been achieved.

5.2.1 Use of indicators and indicator weights

Core indicators

70. Analysis of the responses regarding the **use of indicators** in their GL RBC methods confirms that most DGSs base their methods on the core risk indicators prescribed in the Guidelines (see Table 9). Only for the relatively new liquidity indicators a significant proportion of DGSs so far abstained from using the indicators listed (NSFR) or used alternative, national indicator definitions (LCR), as allowed in the Guidelines. The problem of data unavailability is expected to disappear with the progressing implementation of LCR and NSFR reporting frameworks.

71. The weights assigned to individual indicators vary between DGSs. This was to be expected as the method provides some flexibility in their use. The range of percentages used by the DGSs, and so the difference between the lowest and the highest weight used for that indicator across all DGSs, is narrow for some indicators, such as the leverage ratio or RoA, and much wider for others, such as RWA/TA or Unencumbered assets / Covered deposits (see Table 9). It suggests that some indicators are used in a relatively harmonised manner across the DGSs while the use of others is less consistent. This variance, in at least some cases, shows that some DGSs went beyond the scope required by the methodology prescribed in the Guidelines.

Table 9. Comparison across DGSs of weights assigned to core indicators prescribed by the GLs.

Indicator	Number of DGSs method using the indicator	Minimum % used	Maximum % used	Range of weights used
CET1 ratio	15	9%	18%	9%
Leverage ratio	24	9%	15%	6%
LCR	21	9%	24%	15%
NSFR	9	9%	15%	6%
NPL ratio	23	13%	20%	7%
RWA / Total assets	23	7%	50%	43%
RoA	23	7%	13%	6%
Unencumbered assets / Covered deposits	22	13%	28%	15%

Correlation between core indicators

72. The GL RBC method requires the use of eight core indicators distributed across five risk categories. This implies that for three risk categories ('capital', 'liquidity and funding' and 'business model and management') more than one core risk indicator should be used. To test whether the method could be simplified and fewer indicators could be used, the report looked at the correlation between the results of different core risk indicators. The expectation was that if the correlation between any two indicators was very strong, it may be necessary to consider whether both are needed. If, on the other hand, the correlation between the indicators was not strong, it would suggest that each indicator may be capturing a different facet of riskiness.

73. To test the correlation between core indicators, a commercial database, SNL, was used. The database includes bank-level data for institutions across the EU, with different sample sizes for each indicator. The indicators in the database are not always fully aligned with the indicators in the GL RBC method and so some were used as a proxy[13]. Furthermore, the data, and so the results, should be interpreted carefully as the database represents a diverse set of institutions with different business models, subject to potentially different supervisory approaches.

74. The sample size ranged from 3,658 observations for the RWA-RoA pair, to 299 for the NSFR-expected DGS loss pair. Given the significant differences in the sample sizes between different pairs of indicators, the robustness of the results may vary and so should be interpreted carefully. With that caveat in mind, across most pairs of indicators, there was no evidence of strong correlation between the indicators, with the exception of the link between CET1 and NSFR (75%) and CET1 and leverage ratio (68%) (see Table 10).

[13] Proxies used based on the SNL data base are non-performing loans over loans at amortised cost (for NPL ratio), net income over total assets (for RoA) and liquid assets over deposits (for expected loss to DGS).

Table 10. Correlation between pairs of core risk indicators or their proxies.

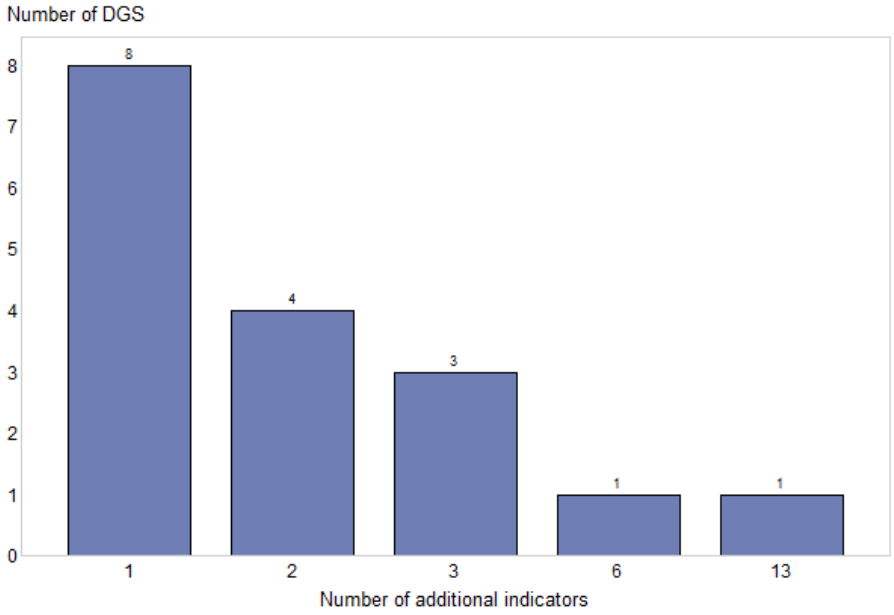
Pairs of core risk indicators (or proxies)	Number of observations	Core indicators used	Correlation between the indicators
Solvency indicators	2436	Supplementary leverage ratio Tier 1 common capital CET1	0.68
Liquidity indicators	303	NSFR Liquid assets	0.19
CET1 ratio - LCR	1621	Liquid assets Tier 1 common capital CET1	0.21
CET1 ratio - NSFR	336	NSFR Tier 1 common capital CET1	0.75
Leverage ratio - LCR	906	Liquid assets Supplementary leverage ratio	0.16
Leverage ratio - NSFR	302	NSFR Supplementary leverage ratio	0.13
LCR - expected DGS loss	1919	Liquid assets - deposits Liquid assets	0.42
NSFR - expected DGS loss	299	NSFR Liquid assets - deposits	0.07
NPL - RWA ratios	2566	RWA NPLS at amortised costs	0.12
RWA - RoA ratios	3658	RoA RWA	-0.03

75. Based on this basic analysis, at this stage there is no clear evidence suggesting the need to reduce the number of core risk indicators. The analysis needs to be revisited in more depth ahead of proposing changes to the Guidelines, if there are further qualitative or quantitative assessments showing the need to consider reducing the number of indicators.

Additional indicators

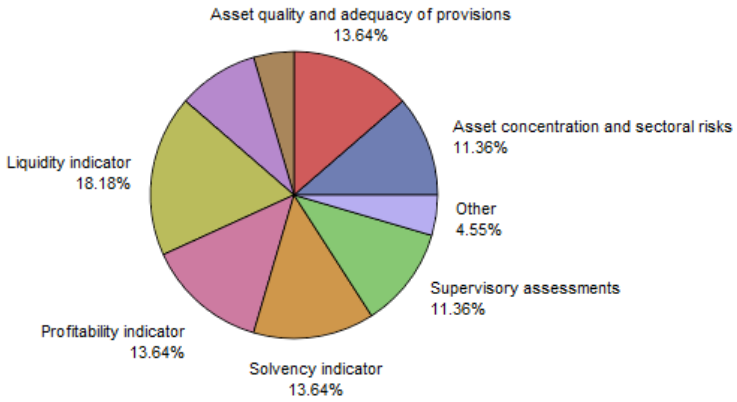
76. Many (17) DGSs make use of the flexibility provided by the Guidelines to use additional risk indicators. These indicators cover a wide scope of relevant areas, such as indicators defined on the basis of covered deposits, MREL ratio, SREP scores and a (national) assessment of a specific bank as systemically important. Hardly any (2) of the DGSs rely on more than three additional indicators and of those using at least one additional indicator, eight DGSs use just one (see Figure 1).

Figure 1. Number of DGSs per number of additional indicators used.



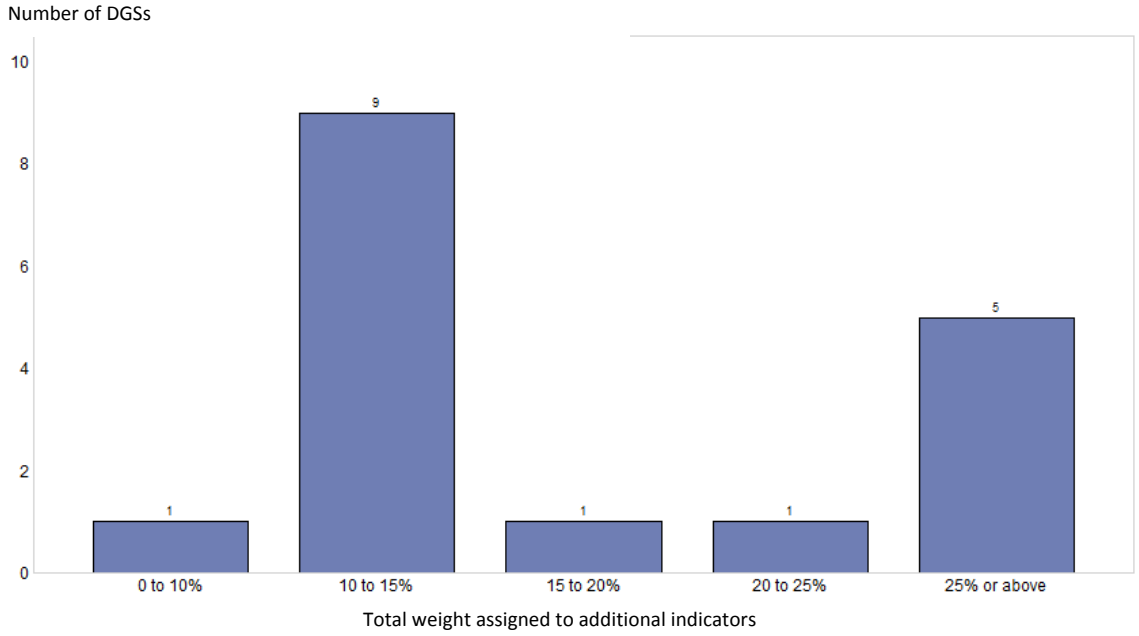
77. The additional indicators are evenly spread out across different risk categories, across the DGSs. Close to one in five of the additional indicators are related to liquidity, with more than one in eight assigned to the asset quality, profitability and solvency. The rest is split between asset concentration, supervisory assessment and other indicators (see Figure 2).

Figure 2. Categories of indicators used by DGSs as additional indicators.



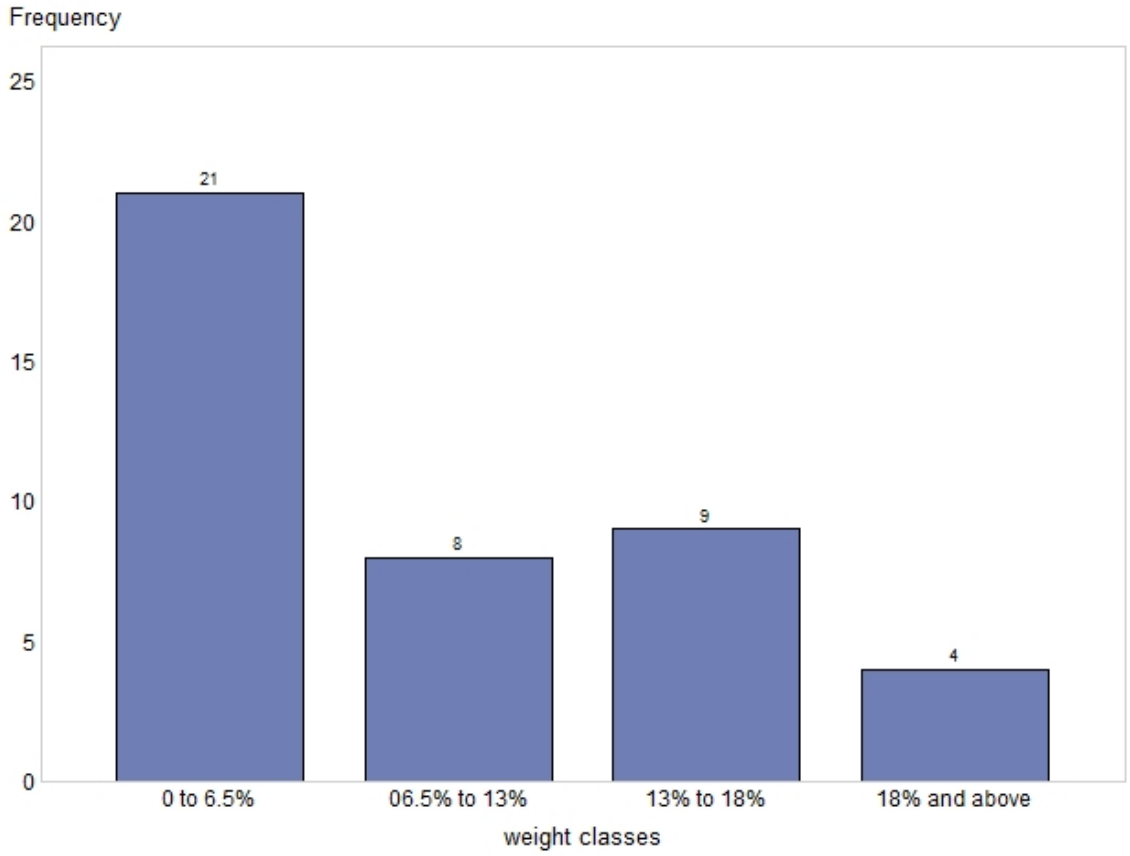
78. The average weight assigned to all additional indicators by a DGS is 23%, but the median weight among the DGSs which use additional indicators is 15% Of the 17 DGSs in the sample using additional indicators, one uses less than 10% of the flexible weight, the majority (9) use the weight between 10-15%, two use the weight between 15-25%, and five use the full 25% allowed by the Guidelines, including some cases where the use is higher than allowed by the Guidelines (see Figure 3). This shows that only a few DGSs use the full flexibility allowed by the Guidelines, while the majority use it to a lesser extent or not use this flexibility at all.

Figure 3. Number of DGSs by the total weight assigned to additional indicators.



79. The maximum weight assigned to an individual additional indicator reaches 24%, with an average weight of 10% for individual additional risk indicators. Almost half of additional indicators used (15 out of 36) are assigned a weight of less than 6.5% which is predominantly due to a few DGS using a large number (more than 5) additional indicators, essentially substituting the EBA methodology, while just four have a weight of more than 18% (see Figure 4).

Figure 4. Number of additional indicators used by DGSs by indicator weight.



80. Based on the information provided above, it seems that there is no one obvious indicator used by the majority of DGSs, which ought to have been included as a core indicator. The use of additional indicators also points to the diversity of the populations of DGSs' members and the need to maintain flexibility in the Guidelines for DGSs to adapt the method to their markets. The majority of DGSs do not take advantage of the full 25% flexibility allowed by the Guidelines or do not use the flexibility at all. The median weight among those using additional indicators is 15%. When taken together with the DGSs which decided not to use the additional indicators at all, 89% of the weights are assigned to core indicators and, on average, only 11% are assigned to additional indicators. These findings seem to suggest that the level of flexibility allowed by the Guidelines does not need to increase.

5.2.2 Individual Risk Scores (IRS)

81. In order to establish whether there is alignment between the raw indicator values and the translation of those values into the IRS, the analysis focuses on the institutions falling into the range between the 75th and the 25th percentile on each core indicator within a given population of institutions affiliated to a DGS. This approach allows avoiding the impact of

outliers or extreme values and sheds light on the impact of the method on the majority of institutions. In order to see whether the authorities translated the raw indicator data into the IRSs according to what would be expected in line with the GLs, the analysis compares the results with the corresponding IRS values (assigned to indicator realisations at the 75th and the 25th percentile). The diversity of the banking sectors and the heterogeneity of the population of institutions affiliated to different DGSs means that perfect alignment between the raw indicator data and the IRS values across all DGSs should not be expected. This is because each method caters to the characteristics of a given population of institutions affiliated to each DGS. These are also the reasons why the GL RBC methodology allows a degree of flexibility in how this translation is to be implemented and did not constrain the method only to the relative basis approach, nor require rigid distributions of institutions across the IRS range. However, one would expect that a DGS with a broad range of results as observed in the raw indicator values should also have a relatively broad range of results on the IRS for that indicator, particularly when using the bucketing approach with an absolute basis as per paragraph 3 of the Annex 1 in the GL. Similarly, a DGS with a narrow range of results on the indicator (and so where the majority of institutions are relatively homogeneous in terms of that indicator) would be expected to also have a relatively narrow range of IRSs. While the effect is impacted by the requirement in the Guidelines that 'the IRSs assigned to buckets should range from 0 to 100' for the bucket method and the determination of the upper and lower boundaries 'should ensure there is sufficient and meaningful differentiation of member institutions' in the sliding scale method, the focus in the analysis on the interquartile values should correct for this inherent feature of each system. Finally, where for a given indicator, the DGS has a broad range of raw indicator values, but the IRS range is narrow it could suggest that the authorities' decision on the design of the method led to a lowering of the importance of the observed differentiation in that indicator on the amount of contributions. In other words, the narrowing of the IRS range vis-à-vis the raw indicator value could be seen as one way to lower the impact of that indicator.

82. Secondly, where there is broad alignment between the range of the raw indicator data and the range of the IRSs for most DGSs in the sample, it could be concluded that a given indicator should, broadly speaking, contribute to the harmonisation of methods between DGSs. Where, on the other hand, the sample of DGSs has highly diverse results on the ranges of a raw indicator data and the IRSs for a given indicator, it could suggest that a given indicator impacts different DGSs' methods, and ultimately institutions, in different ways. This may be the case either because the results for that indicator across populations of DGS members is very diverse, i.e. the value of that indicator vary greatly between DGSs, or because for that particular indicator the decisions on how to translate it into the IRS played a particularly strong role.

83. To illustrate this point the analysis focuses on two indicators: the LCR and the NPL ratio. Concerning the LCR, the interquartile range of the raw indicator seems to be misaligned with the interquartile range for the IRS value. Figures 5 and 6 show that the order of DGSs according to the width of the range on the indicator is not closely matched by the order

of the DGSs based on the width of the IRS range. There are a number of outliers, such as DGS "G" which has one of the widest IRS ranges while being in the middle in terms of raw indicator range. Other DGSs ("V", "Q", "D", and "Y") could also be seen as yielding results outside of what would be expected, which may require further tweaks following the application of the CRR liquidity ratios. Secondly, the shape of the slope on the two figures differs to some extent showing that outliers among the DGS in respect of the raw indicator range are not outliers on the IRS range and vice versa.

84. On the NPL, there seems to be much closer alignment between the order of DGSs by the width of the raw indicator data and the width of the IRS values (see Figures 7 and 8). In other words, DGSs with a broad range of results in the raw indicator data also have a broad range of IRS scores. There are only a few cases which do not match this pattern well (DGS "C", "F", "I"). The shape of the two charts is also similar indicating a similar role the indicator plays across different methods (putting the decision on the weight of the indicator in the method aside).

85. Looking at other indicators (see Figures in Annex 2), CET1 and leverage ratio show an expected level of alignment while RWA/TA, RoA and unencumbered assets indicators are less aligned. The sample of cases for NSFR is too small to draw any conclusions.

86. The information collected shows that a significant proportion of DGSs (up to one quarter) appears to use only a small part of the IRS range in accordance with the requirement in the GL RBC methodology. In other words, DGSs seem to limit the degree of differentiation achieved by the GL RBC method. Furthermore, the degree of differentiation (approximated by the range of IRS assigned) does not necessarily seem to be proportionate to the diversity of the specific DGS's membership or national banking sector. It may stem from specific regulatory requirements or the design of the method chosen by the authorities.

87. The analysis of the consistency of the GL RBC methods across DGSs can also (indicatively) be complemented by looking at the IRS values assigned to the lowest and highest values of risk indicators (see Table 11). An analysis of the IRSs assigned to banks at different points of the indicator distributions shows that for two thirds of the institutions the range of IRS values assigned is maximum, e.g. DGSs differ in their assignment of IRSs as much as methodologically possible, with individual DGSs assigning the min (0) IRS values while other DGSs assign the max (100) to banks at the same point of the indicator distribution. To use an example from Table 11, the value of 100 for the 'min' value of Leverage ratio indicates that within the sample of DGSs there is at least one DGS for which the lowest value of the IRS used is 100. This counterintuitive result is repeated across most indicators.

Figure 5. Interquartile range (25th-75th percentile) for LCR indicator values per DGS.

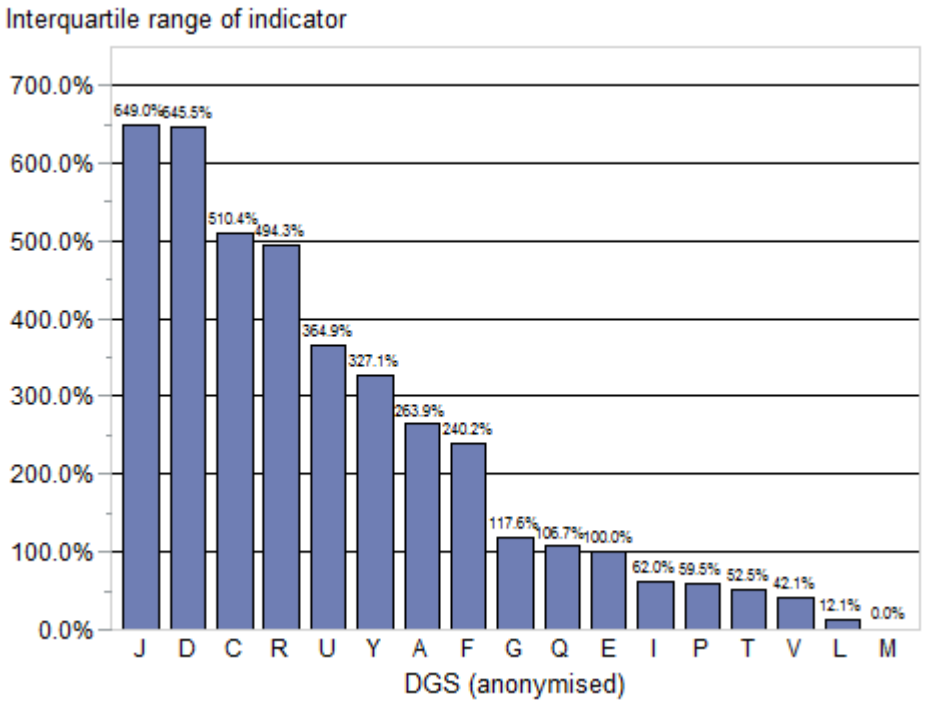


Figure 6. Interquartile range (25th-75th percentile) for LCR IRS values per DGS.

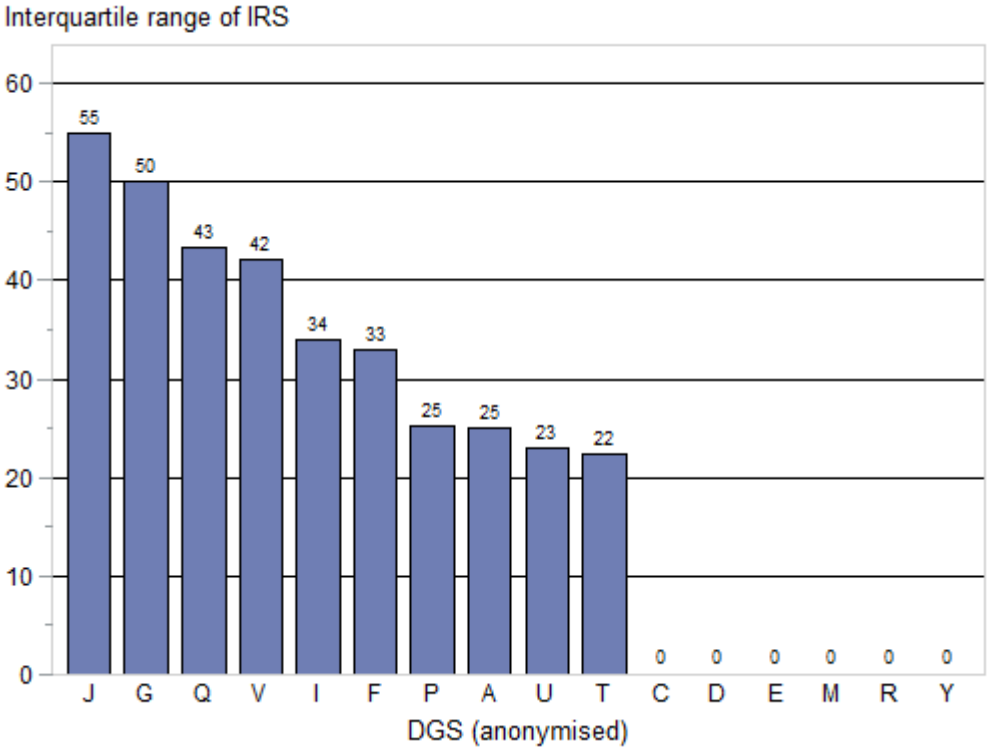


Figure 7. Interquartile range (25th-75th percentile) for NPL indicator values per DGS.

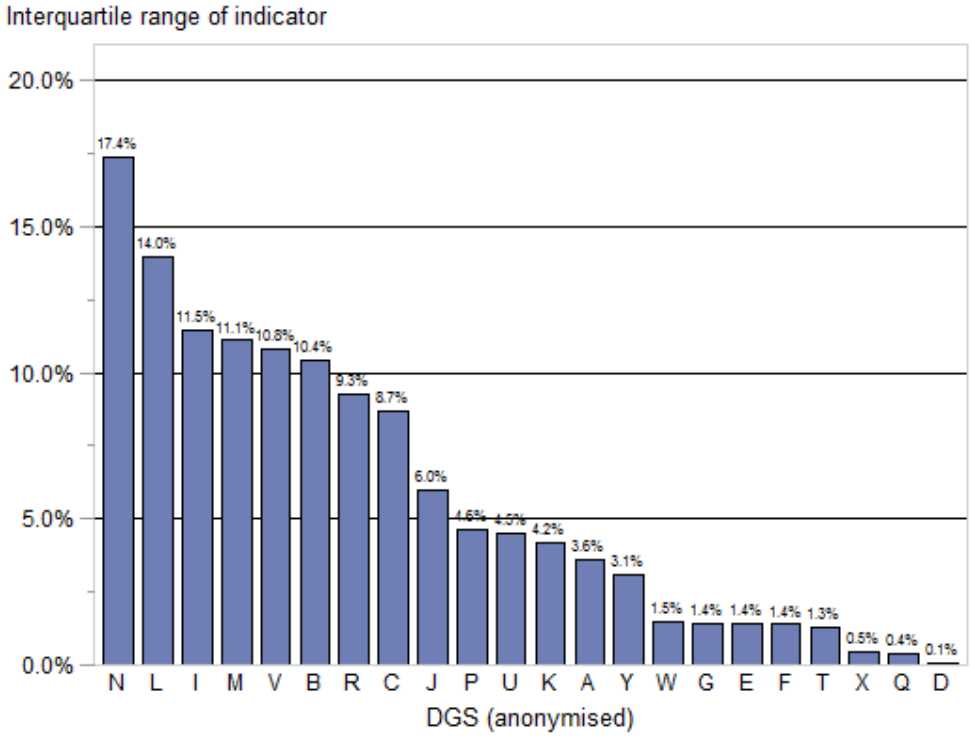
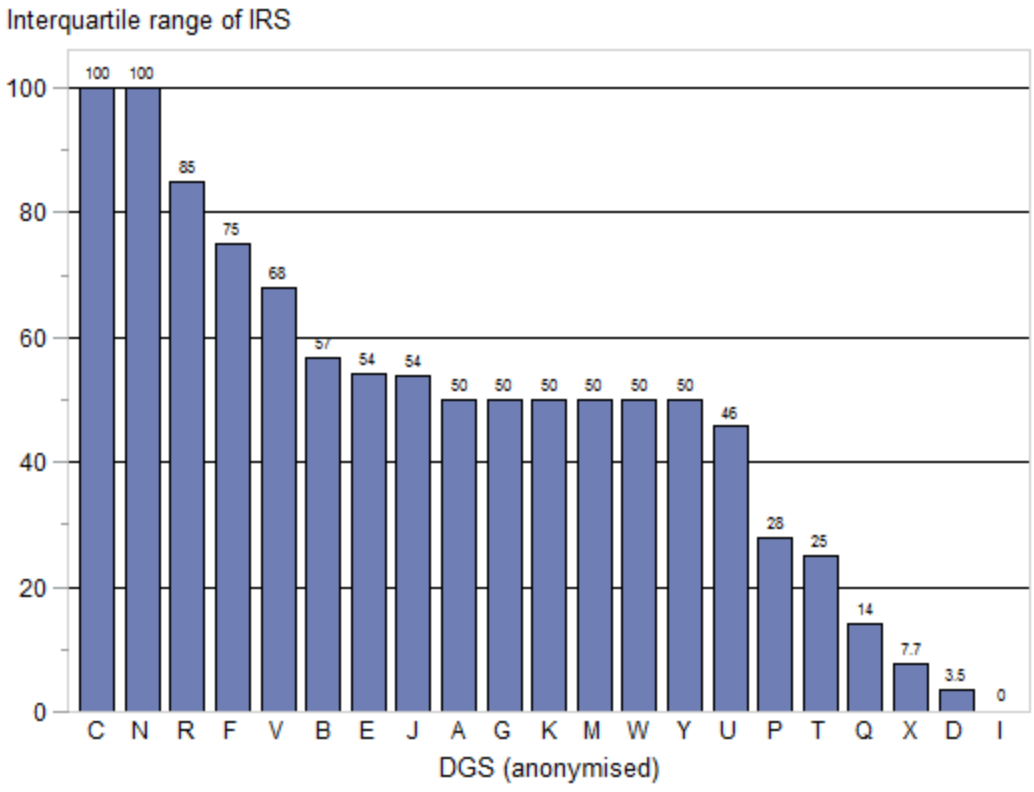


Figure 8. Interquartile range (25th-75th percentile) for NPL IRS per DGS.



88. For nine out of ten points in the distribution, the range between the minimum and the maximum IRS assigned various significantly (range >50) across DGSs. Acknowledging the indicative nature of this analytical approach, it seems to support the above assessment that the diversity and heterogeneity of GL RBC methods applied varies widely across DGSs, to the extent that it raises concerns as regards the appropriateness of the degree of consistency achieved by the Guidelines.

Table 11. Range of IRS values assigned to certain points of distribution of indicator realisations.

Summary Tables for IRS assigned

Risk indicators used	Corresponding IRS value assigned to a particular value of the indicator						
	min	5th perc	25th perc	med	75th perc	95th perc	Max
CET1	100	100	100	75	50	50	100
Leverage ratio	100	100	100	66	100	100	100
LCR	100	100	100	100	69	100	100
NSFR	100	100	60	43	83	100	100
NPL ratio	33	66	100	100	96	88	88
RWA Ratio	33	33	66	100	93	92	92
RoA	100	100	100	100	100	100	100
Unencumbered assets Ratio	100	100	88	100	100	100	100

89. This unclear link between the indicator values and the IRSs assigned to those indicator values is also evident when looking at the (Spearman, rank) correlations between both measures at certain points of the (indicator) distribution. More precisely, Table 12 assesses whether at a specific point of the indicator distribution (percentiles) higher indicator values are correlated with higher IRS scores and vice versa. It must be noted that this statistical method does not take into account the specifics of each DGS membership's distribution and should only be interpreted in conjunction with the results of the other analytical methods. Overall, the table could be interpreted as indicating that the correlation between indicator values and IRS across DGSs is unclear. For four indicators, the correlation coefficient shows the expected sign (assuming that – at certain points of the indicator distribution – riskier banks should be assigned higher IRSs and vice versa[14]). For the other four, the correlation between indicator values and IRSs shows a sign opposite / different to what was expected. Throughout the sample, the correlation is weak (< 0.5). It is unclear whether these irregularities stem from errors in the reported data or the way the method has been implemented.

[14] For the CET1, leverage ratio, LCR, NSFR and Unencumbered Assets Ratios, the expected sign of the correlation coefficient is (-), meaning a higher indicator value is expected to translate into a lower IRS assigned. For the NPL and RWA Ratios a higher indicator value is expected to translate into a higher IRS, e.g. a positive correlation coefficient.

Table 12. Correlation between indicator values and IRS at specific points of the indicator distribution[15].

Correlation analysis for indicator values and scores		
Risk indicators used	**Spearman Coefficient**	**Expected Sign**
CET1	positive (0.1)	negative
Leverage Ratio	positive (0.1)	negative
LCR	neutral (0)	negative
NSFR	positive (0.2)	negative
NPL Ratio	positive (0.3)	positive
RWA Ratio	positive (0.3)	positive
RoA	neutral (0)	negative / positive
Unencumbered Assets Ratio	negative (-0.4)	negative

5.2.3 Aggregate Risk Scores (ARS) and Aggregate Risk Weights (ARW)

90. As set out in the DGSD, the Guidelines require contributions to be calculated based on size (covered deposits) and the degree of risk incurred by the respective credit institution. The degree of risk is represented by the aggregate risk score (ARS) of the credit institution, which is derived from a number of individual risk indicators (IRS). For calculating contributions, the ARS is translated into an aggregate risk weight (ARW) in a further step. Two main approaches (bucket or sliding scale method) are provided by the Guidelines for translating the ARS into the ARW.

91. The objective of this section is to shed light on the differentiation achieved across all DGSs in terms of the ARSs, the translation of ARSs into ARWs and the ARWs. Two caveats must, however, be noted. Firstly, it should be noted that all elements are closely related to each other. More importantly, all elements strongly rely on the applied individual risk indicators (IRS) and the weights assigned to those indicators. Indeed, the calibration of boundaries established for mapping values of risk indicators to IRSs has a significant influence on the risk differentiation achieved by the calculation method. Therefore, it is important to establish these boundaries by setting thresholds at levels which appropriately reflect differences between risk profiles of credit institutions. Section 5.2.2 provides more detailed information on the use of IRSs.

Aggregate Risk Scores (ARS)

92. The magnitude of ARSs depends on various factors such as the choice of (additional) risk indicators or the weights assigned to those indicators. The ARS is calculated by summing

[15] The coefficients shown in this table are calculated as the average of the Spearman correlation coefficients between IRS and indicator values across DGS at the points of the indicator distribution, for which data has been collected (1st, 5th, 25th, 50th, 75th, 95th and 99th percentiles).

up all individual IRSs adjusted for appropriate indicator weights. It is recalled that the value of the ARS lies between 0 and 100, whereby higher ARS indicates higher risk.

93. Two out of 22 DGSs use the full range in practice, i.e. they assign ARSs between 0 and 100. For the majority of DGSs the ranges used are significantly lower. Eight DGSs apply ranges under 50, in one of them even under 40. Wider variations across DGSs are also apparent regarding the minimum ARS assigned by DGSs ranging from 0 to 23 while maximum ranges are between 50 and 100. Seven DGSs assign a maximum ARS below 60 (see Table 13)

Table 13. ARS boundaries by DGS.

	Minimum ARS	Maximum ARS	Range
Minimum ARS for an individual DGS within the sample	0	50	39
The average ARS for DGSs in the sample	8	71	62
Maximum ARS for an individual DGS in the sample	23	100	100

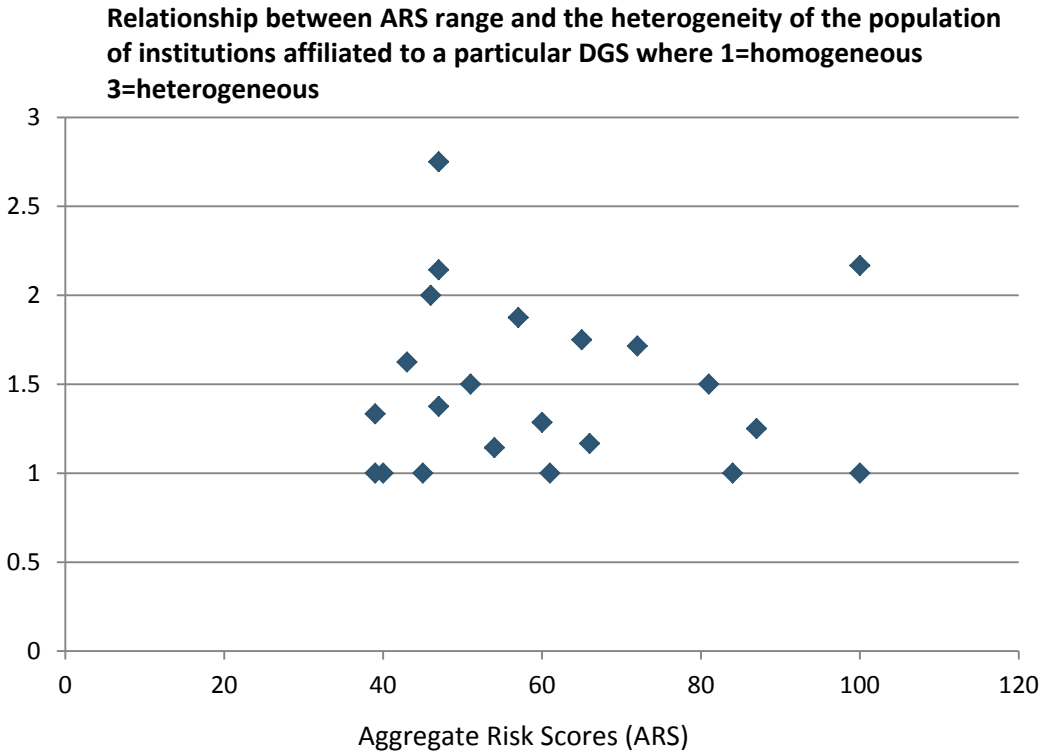
94. For 22 DGSs percentiles (5th, 25th, 75th and 95th) have been calculated to shed light on the extent to which the distribution of ARSs is stretched or squeezed. Dispersion varies between DGSs with a median ARS range between 21 and 53 and an average median range of 36. By looking at interquartile range it is clear that in one case the bulk of ARSs is grouped very closely together (minimum interquartile range of 6). Table 14 illustrates percentiles, median values and interquartile ranges across all the analysed DGSs.

Table 14. Percentiles, median values and interquartile ranges across all DGS.

	5th percentile	25th percentile	Median ARS	75th percentile	95th percentile	Interquartile range
Minimum	3	9	21	31	40	6
Average	17	28	36	45	58	18
Maximum	28	47	53	67	82	34

95. One could argue that risk differentiation should increase with the level of heterogeneity of the institutions affiliated to a DGS. Assuming that the applied ARS ranges indicate risk differentiation, and comparing it to the derived degree of heterogeneity for each DGS (see Table 8 in section 5.1.6), no clear relationship is identifiable across all DGS (see Figure 9). The correlation coefficient is close to zero (0.01). This would suggest that the ARS range is independent of the level of heterogeneity among institutions affiliated to a given DGS. Any interpretation, however, should be treated with caution given the limited data set and possible outliers.

Figure 9. Relationship between the degree of heterogeneity among the institutions and the ARS ranges.



Approaches to translating Aggregate Risk Scores (ARS) into Aggregate Risk Weights (ARW)

96. The Guidelines provide two approaches for translating the ARS into an ARW; the bucket approach and the sliding scale. Under the bucket method boundaries might be determined either on a relative or absolute basis. When using the scale method, the ARS is directly translated into an ARW without the need of setting buckets.

97. Based on the respondents' replies, both approaches are applied. Thirteen out of 24 DGSs indicated the use of the bucket method while 11 DGSs opted for the sliding scale approach. One DGS deployed a "mixed approach", i.e. they use the sliding scale approach for calculating individual risk indicators (IRS) while bucketing is used to derive the ARW. Table 15 summarises statistics on the use of the different approaches.

Table 15. Use of approaches to derive the ARW.

Approaches used	Bucket method				Sliding scale method			
	Absolute basis	Relative basis	Mixed approach	Total	Linear method	Exponential method	Mixed approach	Total
DGSs	9	2	2	13	6	4	1	11

98. The reasons that prompted DGSs to use either the bucket or the sliding scale approach vary widely. Regarding the bucket approach some DGSs stressed its operational simplicity. Several DGSs stated that the bucket approach would be better suited to a homogenous banking sector with a small number of credit institutions. Other DGSs stressed the "discriminatory power" of the approach compared to the sliding scale approach. Accordingly, there would be a strong incentive for credit institutions to move between buckets in order to reduce contributions. The majority of DGS determines the boundaries on an absolute basis. Only 4 out of 13 DGSs prefer the relative basis, whereby two of them apply mixed approaches.

    On the sliding scale approach, DGSs also underlined the operational simplicity. Several DGSs pointed to its accuracy and its potential to provide risk differentiation in heterogeneous banking sectors without discriminating certain credit institutions. A few DGSs also stressed that relative changes of the ARS would have an immediate impact on the ARW (and contributions). Some DGSs emphasised the relevance of the exponential method. This (sub)method allows for more differentiation and provides stronger incentives for credit institutions to have a lower risk score.

99. Overall, no clear pattern emerges by comparing the level of heterogeneity of the raw indicators and the features of the bucket or sliding scale methods (see Table 16). The use of a certain method does not correlate with the heterogeneity of the institutions, i.e. both approaches are applied by DGSs independent of the degree of heterogeneity. To some extent, the choice of the approach is also steered by previous experiences, i.e. methodologies used in the past.

Table 16. Degree of heterogeneity and applied approaches.

DGS	Level of heterogeneity across the raw indicators used in the GL RBC method	Approaches used	Relative/absolute basis	Linear/ exponential method
DGS1	Homogeneous	Bucket	Absolute	-
DGS2	Homogeneous	Sliding scale	Absolute	Linear
DGS3	Homogeneous	Sliding scale	-	Linear
DGS4	Homogeneous	Sliding scale	-	Linear
DGS5	Homogeneous	Sliding scale	-	Linear
DGS6	Moderately heterogeneous	Bucket	Absolute	-
DGS7	Moderately heterogeneous	Bucket	Absolute	-
DGS8	Moderately heterogeneous	Bucket	Absolute	-
DGS9	Moderately heterogeneous	Bucket	Absolute	-
DGS10	Moderately heterogeneous	Bucket	Relative	-
DGS11	Moderately heterogeneous	Bucket	Relative	-
DGS12	Moderately heterogeneous	Bucket	Mixed	-
DGS13	Moderately heterogeneous	Sliding scale	-	Linear
DGS14	Moderately heterogeneous	Sliding scale	-	Exponential
DGS15	Moderately heterogeneous	Sliding scale	-	Linear
DGS16	Moderately heterogeneous	Sliding scale	-	Exponential
DGS17	Moderately heterogeneous	Sliding scale	-	Linear
DGS18	Heterogeneous	Bucket	Absolute	-
DGS19	Heterogeneous	Sliding scale	-	Exponential
DGS20	Heterogeneous	Mixed		
DGS21	Heterogeneous	Sliding scale	-	Exponential
DGS22	-	Bucket	Absolute	-
DGS23	-	-	-	
DGS24	Heterogeneous	Bucket	Mixed	-

Aggregate Risk Weight (ARW)

100. The ARW for a member institution is assigned on the basis of the ARS for that institution. The ARW effectively determines the change in an institution's contribution compared to a nRBC method. As a result, the ARW is a particularly suitable indicator to assess the degree of risk differentiation.

101. It is recalled that the lowest ARW should range between 50% and 75% and the highest ARW between 150% and 200%. A wider interval could be set upon justification that the interval limited to 50%-200% does not sufficiently reflect the differences in business models and risk profiles of member institutions.

102. Ten out of the 20 examined DGS use the minimum range for ARW differentiation (i.e. ARW between 75 and 150%) and four DGS use the widest possible standard interval between 50 and 200%. Two DGSs apply specific intervals, one of them between 20% and 150%, and the other between 75% and 125%. The remaining DGSs use other ranges within the limits allowed by the Guidelines. The average range used is 97% points; with a

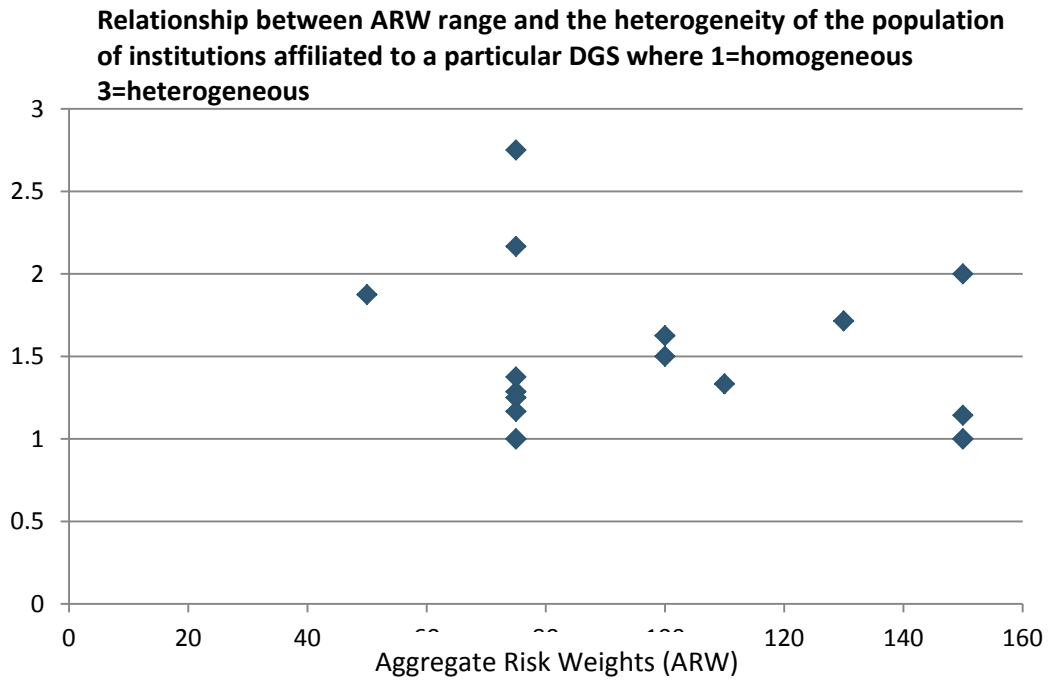
minimum of 50% and a maximum of 150%. As a result, all DGSs but two remain within the bounds determined by the Guidelines. Table 17 provides more detailed statistics on the bounds for ARW assigned by DGSs.

Table 17. ARW boundaries by DGS.

	Minimum in %	Maximum in %	Range in % points
Minimum ARW	20	125	50
Average ARW	66	163	97
Maximum ARW	75	200	150

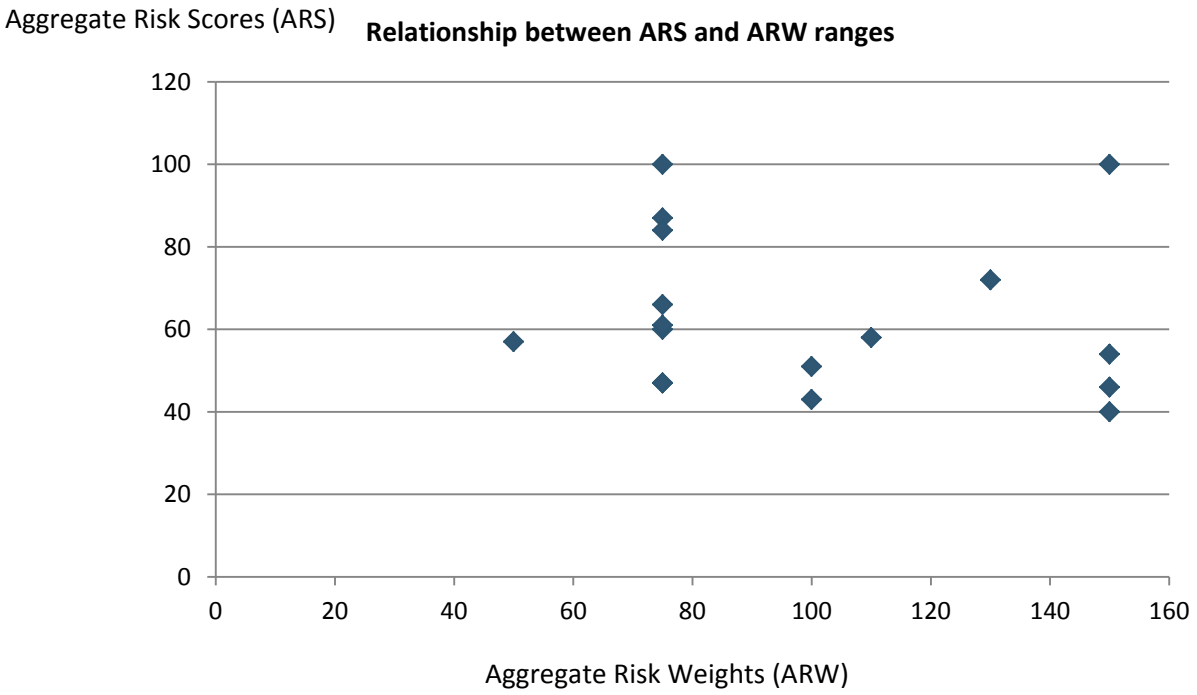
103. Examining the relationship between the range used for ARW, as an indicator for risk differentiation, and the already derived level of heterogeneity (see Table 16 above), one can establish a weak negative correlation (correlation coefficient of -0.21). This suggests that the higher the heterogeneity among the institutions affiliated to a particular DGS, the lower the range of ARW. Given the small data set and outliers, this is, however, to be interpreted with caution.

Figure 10. The relationship between the degree of heterogeneity and ARW range.



104. Figure 11 below shows the relationship between the ranges of ARS and ARW. One could argue that both are to some extent correlated with each other. Indeed, a higher ARS range could indicate a higher ARW range. However, based on the available data for 17 DGSs correlation is slightly negative (-0.12). Again, given the small data set and possible outliers, this result must be interpreted with caution.

Figure 11. The relationship between the ARS and the ARW ranges.



5.3 Objectivity, transparency, reporting burden and confidentiality of information

105. The Guidelines contain a set of high level principles with which the GL RBC models developed by Member States should comply. One of the purposes of this review is to assess the application of those principles in practice. A qualitative assessment was required in respect of some of the principles, namely Principle 5 (The rules for calculating contributions should be objective and transparent),[16] Principle 6 (The required data for the calculation of contributions should not lead to excessive additional reporting requirements),[17] and Principle 7 (Confidential information should be protected).[18] Specific questions were included in the survey to test these principles. This section sets out the results of that qualitative assessment.

106. The questions were deliberately phrased in an open-ended manner to provide respondents with the opportunity to express their views on the application of these principles in practice. The answers received were qualitative in nature. Nevertheless, the phrasing of the questions also allowed respondents to indicate that there were no issues which they had encountered. The answers received were assessed and coded where possible. In many cases, individual respondents made observations which were not made by any other respondent, or did so in a manner that was tailored for their own circumstances. In other cases, the answers received were sufficiently similar to be able to conclude that the same (broad) observation was made by multiple respondents. In a number of cases, no answer to a particular question was received from a respondent; these 'null' responses have been dropped from the sample where relevant for a given question, since it is not possible to determine if the failure to answer corresponds to an affirmative declaration that there were no issues encountered.

[16] Page 12 of the Guidelines: "*Risk-based contribution systems should be objective and ensure that deposit taking institutions with similar characteristics (in particular in terms of risk, systemic importance and business model) are categorised similarly.*

DGS contribution schemes should be transparent, understandable and well explained. As a minimum, the basis and criteria used to calculate contributions should be transparent to member institutions. Transparency will help the member institutions understand the purpose of applying risk-based contributions and will make the scheme predictable for them."

[17] Page 12 of the Guidelines: "*For the purpose of calculating contributions DGSs should, as far as possible, make use of information already available to them or requested from member institutions by competent authorities as part of their reporting obligations. A balance should be struck between requiring information necessary for the calculation of contributions and avoiding making unduly burdensome requests for information from the member institutions.*

The DGSs should only require data that is not already reported on a regular basis if such information is needed for determining the risk that member institutions pose to the DGS.

In cases where the DGS does not gather information directly from member institutions but relies on the information provided by the competent authority, either statutory provisions or formal arrangements should be in place so that the information required for administering the contributions is collected and transmitted on a timely basis."

[18] Page 12 of the Guidelines: "*DGSs should keep confidential the information used for calculating contributions which is not otherwise publicly disclosed. However, the DGSs should disclose to the public at least the description of the calculation method and the parameters of the calculation formula, including risk indicators but not necessarily their respective weights. In contrast, the results of the risk classification and its components for a particular member institution should be disclosed to that institution and not to the public.*"

107. Twenty five responses to the survey questions were received. This includes responses from twenty individual Member States, and one EEA State. In some cases, responses were received in respect of multiple DGSs in a single Member State, and in others, Member States provided separate survey responses for different types of credit institution that were subject to different methodologies.

5.3.1 Objectivity and transparency of the methodology

108. In order to assess whether firms and other stakeholders understood the basis and process for the calculation of GL RBC, and to assess whether it was felt that the methodology was sufficiently transparent, Member States were asked the following questions:

- What steps have you taken to ensure that institutions understood the basis and criteria to calculate contributions?
- What steps have you taken to ensure that institutions understood the purpose of applying risk-based contributions and understood the process?
- Do you believe that the contributions methodology is sufficiently transparent for institutions? If not, what could be done to improve transparency?

109. Based on these responses, a structured response survey was sent to Member states to examine the different steps taken. This included questions on whether:

- The publication of the risk based contribution methodology was understood (through website, legal documents or policy statement, or annual reports),
- Other data were publicly disclosed (aggregate covered deposits, annual target amount of DGS contributions, estimated target level, contribution rate, adjustment coefficient,)
- What information is proactively disclosed to other institutions (their amount due, IRSs, ARS, ARW, the adjustment coefficient (μ), contribution rate, or the bucket classification).

110. Twenty three valid responses were received to the initial survey and nineteen provided additional information in the structured response questionnaire. All respondents indicated steps they had taken to ensure that institutions understood the purpose of the risk based calculation and basis of applying the risk-based criteria. Eighteen responses indicated that the methodology is transparent, and the remaining respondents raised at least one issue with transparency within the current framework.

111. As the questions were qualitative and open-ended, the list of activities undertaken by Member States is likely to have been prioritised rather than comprehensive, while the structured responses to the questionnaire may not fully capture the scope of activities undertaken.

Transparency

112. The responses to the open-ended survey provide a strong indication that the GL RBC method is suitably transparent, with eighteen respondents indicating that they believe the methodology to be suitably transparent for institutions. Three respondents raised concerns that institutions could not calculate their own risk score due to the use of business model risk indicators. One of these respondents noted that a degree of opacity was unavoidable within the current Guidelines.

113. Two respondents indicated that there are potential problems with institutions' understanding of GL RBC. One of them highlighted that institutions can find it difficult to understand μ, while another indicated that understanding the calculation can be difficult for smaller institutions in particular.

Ensuring that institutions understood the basis, criteria, purpose and process

114. All respondents detailed specific measures they had taken to ensure that institutions understood the basis, criteria, purpose and process of GL RBC. The methods used varied between Member States and DGSs, but comprised consultations, policy statements, working groups, information sessions, public disclosure on websites of the calculation methodology, advance notification of the introduction of risk-based contributions, public consultations, disclosure of the aggregate risk weight on contribution invoices, and the ability for institutions to request their individual risk scores. While it does not appear that there has been a consistent approach to ensuring the institutions understand the basis, criteria, purpose and process for risk based levies, it is clear that Member States and DGSs have each taken measures to try and achieve this goal.

115. Responses to the structured questionnaire indicated that most DGSs (ten) had publicly disclosed their risk-based contribution methodology through either publication on a website or a legal / policy document.

116. Nearly all respondents (eighteen) to the structured questionnaire indicated that the amount due from each institution would be proactively provided to institutions (see Table 18). More than half (ten) proactively provided institutions their aggregate risk weight data, the adjustment coefficient and the contribution rate. Nearly half (nine) also proactively provided ARS and IRSs information. Of those respondents that do not provide this information proactively, four indicated that more information is available on request. Four DGSs also proactively provide the bucket classification of the institution.

Table 18. Proactive disclosure of information.

Types of information proactively disclosed by the DGS to the relevant institution	Number of DGSs
Amount of contributions due	18
ARW for each institution	10
IRS for each institution	9
Additional information available on request	7

Conclusions

117. Given the generally positive response to the survey, it appears that the contribution methodology is considered to be sufficiently transparent. It is likely that this response is influenced to some extent by the substantial communications efforts undertaken by different authorities. In some instances, these communication efforts span the entire lifecycle of the introduction of the GL RBC, from public consultations at the stage where the relevant legal basis for the methodology was being introduced, to engagement with industry and institutions through workshops and information sessions, to information disclosure on the website, to detailed information in invoices and helplines for those with individual queries.

118. The EBA would encourage DGSs to adopt a comprehensive communications strategy in respect of the introduction of the methodology in the Guidelines. At this stage, on the basis of the responses received, it does not appear that there is a specific need for amendment of the Guidelines to enhance transparency for stakeholders. The issue of appropriate communication with stakeholders is, instead, a matter for individual authorities and DGSs.

Question 1. Do you agree with the conclusion that the method for calculating contributions to DGSs is sufficiently transparent?

5.3.2 Additional reporting requirements

119. In order to assess if the methodology does not lead to excessive additional reporting requirements, the survey contained the following questions:

- What proportion of data necessary to calculate the contributions have you requested from 1) the competent authority, 2) from the institutions and 3) what percentage did you have already?
- What data did you request from the institutions?

- What steps have you taken to ensure that there are either statutory provisions or formal arrangements to ensure that information from the competent authorities is collected and shared on a timely basis with the DGS?

Sources of data for calculations

120. Twenty five valid responses to the survey questions were received. The responses indicated that data generally was either collected from the national competent authority ("**NCA**") (thirteen respondents) or entirely from institutions (seven respondents). In nine cases, the NCA was the same body as the DGS. In a few cases where data was largely received from the NCA, there was nevertheless a request made to the institutions for covered deposits data. Four other respondents already had all of the data available. One respondent indicated that it collected the data entirely from institutions in 2% of cases, but for the other 98% it collected the data from the NCA. Table 19 summarises the findings.

Table 19. Sources of data for calculations.

Sources of data	DGSs
The national competent authority	13
The institutions	7
The DGS had all data available	4
Combination	1

Data requested from institutions

121. In cases where any information was requested from institutions, it ranged from all necessary information (eight respondents) to information on covered deposits only (nine respondents). In one case, LCR data was requested from institutions in addition to covered deposits data.

Provisions in place for information sharing between DGS and NCAs

122. An overwhelming majority, nineteen respondents, indicated that there were information sharing provisions in place between the DGS and the NCAs. A few have a memorandum of understanding in place, and the data sharing is in many cases supported by governance/institutional overlaps. In the cases where no sharing provisions were in place, all data was collected directly from the institutions.

Conclusions

123. Principle 6 of the Guidelines requires DGSs to make use of data already available to them, or to NCAs, to calculate contributions in order to reduce the reporting burden on institutions. The majority of respondents (seventeen in total) used information they already had in-house, or requested all information from the NCAs (with a request to

institutions for covered deposits data only in a small number of cases). Of the eight respondents indicating that they collected all information necessary from institutions, a number of them are private DGSs which would not otherwise have access to data from NCAs.

124. Principle 6 further requires that appropriate arrangements for information sharing are in place between the DGS and the NCA to facilitate this data sharing. All respondents which indicated that they use data from the NCA mentioned statutory or other arrangements in place to facilitate this sharing, while a number of DGSs which collected data entirely from institutions did not.

125. While it is difficult to draw any definitive conclusions from the responses, the methodology does not appear to lead to excessive additional reporting requirements, and it therefore seems to be unnecessary to make any specific changes in this regard at present. Only a small number of DGSs appear to have information sharing provisions with the NCA in place, but nevertheless request the entirety of the data from institutions. The EBA would remind DGSs that, to the extent possible, data to perform the calculations should be sought from the NCA, and that appropriate information sharing provisions should be put in place to facilitate this where necessary. In this way, the reporting burden on institutions created by the Guidelines should be minimised to the extent possible.

Question 2. Do you agree with the conclusion that the methodology does not appear to lead to excessive additional reporting requirements?

5.3.3 Confidentiality of information provided

126. As described in the Section 3, one of the primary objectives of this report is to "*assess if the methodology ensures that confidential information is protected*" in line with principle 7 of the Guidelines. According to this principle, DGSs should keep confidential the information used for calculating contributions which is not otherwise publicly disclosed. This principle also states that some information with regard to the calculation method should be disclosed to the public by the DGSs whereas other information specifically related to member institutions should only be disclosed to them but not publicly.

127. With the aim of assessing the compliance with this principle, the survey sent to competent and resolution authorities contained the following two qualitative questions:

- What information relating to the contributions have you disclosed to the public?
- What information relating to the contributions have you disclosed to each institution?

128. Twenty two valid responses to the survey questions were received. Four respondents provided invalid answers since they have not disclosed any information either because: (i) the calculation method has not been finalised yet, (ii) the information to be disclosed has not been determined yet, (iii) the method has not been used because the target level has already been reached, and (iv) the answer was not directly relevant to the questions.

129. In addition to the abovementioned survey, a template with additional qualitative questions was sent to the relevant authorities in order to obtain better knowledge about confidentiality and disclosure. Ten respondents to the survey have provided additional information in this template. Furthermore, six DGSs provided information in the template without responding to the original survey. Responses from five of them only concerned the disclosure to institutions.

130. The analysis shown in the following paragraphs has been done taking into consideration the responses both to the survey and to the additional qualitative template.

Information disclosed to the public

131. Twenty two valid responses were received. There was substantial variation in the answers received relating to the type of information disclosed publicly, as well as the manner of its disclosure:

- Eighteen responses alluded to the publication of the methodology itself. Of these responses thirteen explicitly mentioned that the methodology is included in some kind of legal document such as National Law, Ministerial Decision, DGS's Articles of Association or in a policy statement (see Table 20).

Table 20. Public disclosure of the risk-based contributions methodology.

DGSs / Manner of publication			Total
Type of document	Website	Not specified	
Legal document or policy statement	11	2	13
Others (not specified)	3	2	5
Total	14	4	18

- The aggregate annual amount of contributions is published in eight cases. In two of these responses it is noted that the overall aggregate level of covered deposits is also published, one of which also mentions the publication of the estimated target level. This latter piece of information is disclosed by other two respondents[19] as well. A further

[19] Both included among the eight cases mentioned.

respondent indicated that there is public disclosure of the volume of covered deposits and the contribution rate, which means that the annual amount of contributions is published indirectly by this respondent (see Table 21).

Table 21. Public disclosure of the detail of the GL RBC.

Other data disclosed	DGSs
Annual contributions amount	8
Aggregate covered deposits	3
Estimated target level	3
Contribution rate	3
Adjustment coefficient	1
Specific methodology elements	4

- Specific elements of the methodology such as indicators, formulas, buckets, scores, weights are disclosed by four respondents, two of which are not included among the eight referred to in the previous paragraph.

- The contribution rate is published by three respondents, one of which also indicated the disclosure of the adjustment coefficient, μ.

- Four respondents noted that the DGS's annual report is available to the public. Another respondent disclosed "the basis and criteria to calculate contributions in the Financial Stability Review of 2016" so that it is not clear if such information is going to be published on a regular basis.

- One response referred to, along with the methodology, the disclosure of only general information on the contributions with a disclaimer about how the DGS is funded.

- Fourteen respondents indicated that the information is published on the DGS's website.

Information disclosed to institutions

132. Twenty eight valid responses were received. The amount of the institutions' contribution is explicitly disclosed to each institution in all but two DGS, whereby this information can be requested by member institutions. Nineteen respondents indicated that other information was disclosed alongside the amount due by institutions. Among these respondents, the data provided to member institutions included the following[20]: risk indicators, ARW, IRS, final ARS, contribution rate, adjustment coefficient μ, bucket classification, business cycle adjustment, etc.). Four of these responses also stated that additional detailed information could be requested by member institutions.

[20] See table 18 in section 5.3.1

133. Of the seven other responses, according to which the DGS only conveys the "amount due", four respondents indicated that additional detailed information is available on request by institutions. One of the latter mentioned the reduction of the contribution due to the IPS membership.

Conclusions

134. According to the responses, no specific data on the risk classification of the member institutions are publicly disclosed by the DGSs. Thus, the confidentiality of the information is ensured in line with the principle 7 of the Guidelines.

135. It is clear that different approaches are taken to publication and disclosure of data and methodology in different Member States. The EBA would expect that, at a minimum, there would be public disclosure of the methodology employed as it has been calibrated by an individual DGS. The EBA notes that at present, principle 7 of the Guidelines requires the disclosure "*to the public at least the description of the calculation method and the parameters of the calculation formula, including risk indicators but not necessarily their respective weights*". The EBA would also encourage the public disclosure of some elements of the calculation (for instance the adjustment coefficient) that are relevant for the calculation but which do not provide for the possibility of ascertaining the confidential data of individual institutions.

136. In terms of information provided to institutions, the EBA again notes that principle 7 of the Guidelines requires the disclosure to institutions of "*the results of the risk classification and its components for a particular member institution*". Indeed, it is the EBA's position that DGSs should provide as much information as possible to each institution, to include the IRS, ARS, and ARW of that institution. This is information relevant to that institution which does not necessarily reveal the confidential information of other institutions, but that goes some way to giving institutions comfort on the manner in which the calculation has been carried out and methodology applied in practice for their particular circumstances.

137. The EBA will continue to monitor the disclosure of information to the public and to institutions in practice under the Guidelines, and will consider further specifying what information should be disclosed in future in the Guidelines in the event that limited disclosure continues to be the case in some Member States and for some DGSs.

Question 3. Do you have any comments on the current level of disclosure of information to institutions contributing to DGSs?

5.4 Practical and potential obstacles in the application of the Guidelines

138. The methodology prescribed in the Guidelines has been in use for a relatively short period of time, but there are nevertheless useful lessons that can be learned from its application at this early stage. Therefore, one of the objectives of this review of the Guidelines is to identify practical issues in the application of these Guidelines.

5.4.1 Results and Analysis

139. In order to assess practical issues in the application of the Guidelines, the survey sent to competent and resolution authorities contained the following five qualitative questions:

- Have you experienced any practical issues in the application of the current framework (e.g. have you experience data availability issues)?
- Have you received any complaints/suggestions from the institutions concerning the model or the risks scores they received under it, and if yes, what were they?
- Have you encountered any other issues with the model as prescribed by the Guidelines not properly reflecting the riskiness of the institutions in your jurisdiction?
- Do you think the risk-based calculation model could be simplified, and if so, do you have any suggestions?
- Would clearer guidance at EU level by helpful for the development, implementation, and review of the calculation methods at Member State level? If so, in what areas do you believe further guidance is required?

5.4.2 Practical issues in the application of the current framework

140. Twenty four valid responses were received. Of these, 12 responses indicated that no practical issues in the application of the current framework had been encountered. Twelve respondents raised at least one practical issue which they had encountered with the current framework. Perhaps unsurprisingly, a number of the answers focused specifically on data availability issues. The question was not intended only to capture such issues, but the example in parenthesis in the question may have influenced the areas on which respondents chose to write.

141. Where issues were identified, a number of common themes could be observed:

(i) Unavailability of indicators:

The most common issue raised related to the unavailability of a particular indicator where it was not yet part of the national prudential reporting framework; this was identified as an issue by four respondents. The indicators identified as being unavailable were the Net Stable Funding Ratio ("**NSFR**") (three respondents), the Liquidity Coverage Ratio ("**LCR**") (three respondents), and the Leverage Ratio (one respondent). One of these respondents also pointed to an issue with the "Unencumbered assets / covered deposits" indicator, noting that some banks covered by the DGS do not have "covered deposits", which results in a calculation dividing by "0". This respondent has suggested that the problem could be avoided if the indicator was instead defined as "Covered deposits / unencumbered assets". Contrasting the answers to the survey with the information on the actual use of core indicators in the method, one can see that even though only four respondents raised the issue of lack of NSFR data, 13 out of 23 respondents chose not to use this indicator in the method. For the LCR out of four respondents who did not use it in the method, three also flagged the issue in the survey.

(ii) Application of methodology to credit unions or other institutions:

Three respondents raised the issue of the application of the methodology contained in the Guidelines to credit unions, noting that it needed to be adapted to cater for the specific characteristics of that sector. Some respondents indicated that credit unions were not subject to CRD/CRR under national law, and therefore the envisaged indicators were not available for these institutions. As a result, proxies for the relevant indicators needed to be used. An additional respondent noted that third country branches, as well as other non-CRD institutions, do not regularly report all the data necessary to carry out the calculations.

(iii) Group institutions/institutions with waivers:

Two respondents raised the issue of subsidiaries of banking groups which may have waivers on an individual level. The existence of these waivers means that the risk of an individual entity may not be adequately measured on a solo basis notwithstanding that the individual entities are members of the DGS. One of the respondents noted that it had dealt with this issue by ascribing to these subsidiaries the value from the consolidated data of the mother company. In these cases, regulatory reporting is not available for individual institutions at solo level, and thus the risk of individual entities is not being measured where a group value is attributed to each entity in the group.

142. In addition to these common issues, a number of one-off issues were also raised by individual respondents. One respondent noted that institutions can only deliver the necessary data for their accounting dates, and that these do not always align with regulatory reporting dates. The same respondent also noted that the use of regulatory reporting data was problematic when the relevant templates change, and different templates are used within a DGS collection period. One respondent noted that late submission of data had proved to be an issue, and that data validation had taken a

substantial amount of time. One respondent noted that it was modifying the methodology used, on the basis that the LCR did not seem to be a suitable indicator for the purposes of the risk methodology. This respondent pointed out that an increase in the covered deposits of an institution leads to a decreased LCR denominator (required liquidity). This respondent indicated that it intended to include two alternative indicators based on the LCR: (a) liquidity buffer / total assets; and (b) liquidity buffer / covered deposits. Finally, one respondent noted that a strict interpretation of the sliding scale method in the Guidelines would prevent the use of the whole defined scale. As a result, this respondent indicated that it had adjusted the formula to achieve an ARW along the whole defined scale (e.g. from 50% to 200%).

5.4.3 Complaints or suggestions from the institutions concerning the model

143. Twenty four valid responses were received. Of these, nine responses indicated that no complaints or suggestions concerning the model or risk scores had been received from institutions. A further five respondents indicated that the model had not yet been applied, and as a result institutions had not yet been in a position to complain or make suggestions about the model or risk scores they received. Three respondents indicated that no complaints or suggestions were received after clarifications were provided to queries and communications efforts were undertaken.

144. The remaining respondents noted at least one complaint or suggestion that had been received from institutions in their jurisdiction. Some of the issues raised can be loosely grouped together, while others were one-off issues raised by individual respondents.

(i) Methodological complaints:

Some of the complaints related to the methodology used. One respondent noted that certain third country branches had complained about being classed in the riskiest category. Another respondent noted that some institutions had complained about the threshold effect stemming from the use of a bucket methodology, which meant that individual institutions with similar indicator values that happened to be above and below a bucket threshold respectively would be treated substantially differently. The respondent noted that this threshold effect was inherent in a methodology employing a bucket approach. One respondent noted that a bank had criticised the decision to use the sliding scale method, and had suggested that the bucket method should be used instead.

(ii) Issues addressed as part of public consultation processes:

Three of the respondents noted that issues had been raised during a public consultation process. In two of the cases, the respondents indicated that the issues raised had

resulted in changes to the methodology or approach employed by that respondent. In one case, the respondent noted that complaints had been received about a perceived lack of transparency. The respondent undertook further communications efforts targeting market participants in relation to the methods used, including explaining the rationale for using particular indicators. In another case, the respondent noted that a number of complaints had been received regarding the boundaries used for certain indicators. The respondent noted that these were amended in the final methodology. The third respondent noted that it had considered the feedback received in the public consultation, which suggested a sliding scale or finer calibration be used for some of the indicators which were otherwise to be aligned with firm minimum requirements. However, the respondent noted that it did not agree that employing the alternative methodological approach suggested by those submitting responses to the consultation was appropriate at this stage. One respondent noted that a number of institutions expressed concern because they could not calculate their own contribution, in circumstances where the risk scores were not provided to institutions. A final respondent pointed to ongoing litigation concerning the weight of two indicators which it had chosen to include in its methodology, relating to the business models of banks in its banking system.

5.4.4 Other issues with the model not reflecting the riskiness of the institutions

145. Twenty three valid responses were received. Of these, 11 responses indicated that no other issues with the model in the Guidelines not properly reflecting the riskiness of the jurisdiction's institutions had been encountered.

146. The remaining respondents noted at least one issue that they had encountered with the model as prescribed by the Guidelines and the manner in which it reflected the riskiness of the institutions in their jurisdictions. There was one clear common theme amongst some of the responses, while the remainder of the responses highlighted a number of one-off issues.

(i) Issues with flexibility in assigning indicator weights:

Six respondents suggested that greater flexibility was needed in relation to the weights assigned to individual indicators. One respondent noted that it had increased the weight of one of the core indicators substantially in order to account for the particular characteristic of its banking market. Another respondent noted that it had adjusted the weights to put more emphasis on the risk categories that measure the potential loss for the DGS compared to other risk categories. A third respondent indicated that their internal testing had shown that the recommended 25% flexibility to adjust weights or add new indicators was too rigid to make any substantial difference. This respondent suggested that the flexibility should be higher than 25%, or that the recommended allocations set out in paragraph 58 of the Guidelines (where only the core indicators are

being used) should be less rigid. This respondent indicated that it would have to neglect those recommendations in order to come closer to a model that reflects the range of riskiness of its institutions. Another respondent noted that the possibility of validation by back-testing was limited due to the fixed weights of the core indicators, and that more flexibility would enhance the quality of the model. Another respondent noted that more tolerance in determining the weighting of the indicators would allow greater differentiation between institutions.

147. Apart from this clear common issue, a large number of individual additional issues were raised. One respondent once again noted that some institutions had complained about the unfair threshold effect inherent in the bucket method. Another respondent suggested that the model in the Guidelines does not properly reflect the riskiness of its credit union sector, as these institutions do not fall under CRD/CRR. This concern was echoed by a second respondent, which noted that a bespoke methodology had been developed for these institutions in lined with the Guidelines, but drawing on credit union-specific indicators and regulatory returns. This respondent made a similar point in relation to third country branches, noting that many of the relevant data points were not systematically collected from these institutions, and as a result on a pragmatic and proportionate basis all of these institutions were rated as being of average risk. One respondent noted that it was currently reviewing its application of the methodology in order to better take into account the risk stemming from a poor funding mix (e.g. a lack of bail-inable liabilities), as well as the risk stemming from higher interest rates being offered to retail customers. Another respondent suggested that the Guidelines should place more emphasis on qualitative indicators rather than quantitative ones, even if they were harder to quantify. One respondent suggested that the reduction in contributions for membership of an IPS allowed by the Guidelines was not sufficient. This respondent noted that a different approached had been introduced in national legislation, which allowed for a much higher reduction in contribution levels for institutions which were members of an IPS.

148. Finally, two respondents made much more substantial comments relating to possible issue with the Guidelines, and refinements that could be introduced:

(i) One respondent noted that there is an inherent tension in the Guidelines between, on the one hand, the requirement to “optimise” the design and calibration of the model (see principles 1, 4 and 8 in particular) according to a selection and calibration process of individual risk indicators which requires an iterative comparison with certain dependent variables and, on the other hand, the strict requirement to follow the boundaries established for the weights of the core risk indicators under element 3.

This respondent also considered that the Guidelines are silent on the calibration of the lower and upper boundaries of individual risk indicators (or the boundaries between risks buckets on the indicator level, if that approach were chosen). While the Guidelines require a certain distribution of banks over the spectrum of aggregate risk weights,

there are no requirements on the distribution of banks over the spectrum of individual risk indicators. As a result, because the lower and upper boundaries of the risk indicators have just as much an impact on the effective weight that an indicator has on the ARS, designated authorities can thereby effectively override the nominal weight given to an indicator (this respondent suggested that it is even be possible to reduce the effective weight of an indicator to zero while still fully satisfying all requirements of the Guidelines) while still applying the risk weights provided by the Guidelines.

The respondent further opined that the narrowly defined ranges for the risk weights of the core risk indicators provides a false sense of harmonisation and precision because designated authorities can (and should) make their own decisions on the calibrations of the risk indicators. The respondent raised that concern that the strong focus on the nominal risk weights (because they are the most detailed element within the Guidelines) could "distract" national authorities from their duty to satisfy principles 1, 5 and 8 of the Guidelines.

(ii) The second respondent raised a number of individual issues, often with respect to the operation of specific indicators. One such issue related to the "Potential losses for the DGS" indicator, which it noted did not appear to be suitable. It noted that a high level of covered deposits affects this indicator negatively and leads therefore to a worse result for institutions with high levels of covered deposits. The respondent noted that at the same time, covered deposits are also part of the assessment base and are thus already priced into the risk based calculation. It suggested that an institution with substantial covered deposits is generally a low-risk business, but is penalised by the methodology which uses both this indicator and covered deposits in the contribution base. The respondent suggested that institutions might therefore be incentivised to reduce their level of covered deposits by, for instance, lowering interest rates. In addition, the respondent suggested that the "Liquidity and funding" indicators did not appear to be suitable to measure the risk of the banks they covered. The respondent suggested that it should be possible to approve different classification methods for groups of banks by business model or accounting rule. The respondent also suggested that the minimum contribution mechanism allowed by the Guidelines should be more adaptable. The respondent noted that core capital-near reserves are not considered as an indicator in the current Guidelines. The respondent noted that the Guidelines give no consideration to equity components that are accounted for only after approval of the annual accounts. The respondent noted that the methodology in the Guidelines does not consider collateral that might be available in the NPL ratio indicator. The respondent further pointed out that the methodology in the Guidelines does not allow consideration of the relative loan portfolio size. The respondent also suggested that greater flexibility was needed in the definition of the ranges or upper and lower limits of risk indicators. Finally, with respect to the "Unencumbered assets / covered deposits" ratio, the respondent suggested that there is unequal treatment in the case of the (non-) involvement of consortium loans.

5.4.5 Simplification of the risk-based methodology

149. Twenty four valid responses were received. Of these, eleven responses indicated that the GL RBC model could not be simplified further, with a number of these respondents alluding to its already relatively simple nature. A further two respondents indicated that the model had not yet been applied, and as a result they were not yet in a position to identify possible areas where it could be simplified. The remaining respondents point to a number of individual ways in which the calculation model could be simplified. There was little commonality amongst suggestions made, which included one respondent suggested that more flexibility (for instance, with regard to the calculation base, or indicator definitions, weights, and boundaries) would make the model more helpful and capture risk better. Another respondent suggested that the core indicator "Unencumbered assets / covered deposits" should be deleted for IPSs. One respondent noted that it was inappropriate that the methodology used for risk-based contributions to DGSs was different to that used for contributions to resolution funds although many of the same indicators were used, and both were aiming to calculate and collect contributions to crisis management funds on the basis of the riskiness of the contributing institutions. One respondent suggested that further consideration should be given to the indicator "Potential losses for the DGS". In particular, the respondent suggested that consideration should be given to (i) the appropriateness of the minimum risk weight of the category; (ii) the possible addition of further risk indicators to capture the particular risk inherent in potential DGS losses (for example an indicator measuring risk by taking into account the interest rate policy of the credit institution) and (iii) the possible addition of an indicator reflecting the loss absorbing capacity of credit institutions, in order to measure the possible losses that could be suffered by the DGS in case of resolution. One respondent noted that after an extensive national consultation process carried out in January 2017, all of the organisations which responded to the consultation supported the simplification of the calculation principles. In that regard, suggestions were received to reduce the flexibility for national authorities, in order to further standardise the implementation of the Guidelines. Another respondent suggested that further simplification of the Guidelines could be carried out using two methodologies, namely statistical modelling, and by reducing the number of variable in the model. A further respondent suggested that the risk-based calculation model could take into account the business model of credit institutions other than banks, such as credit unions. One respondent suggested that an important issue with the Guidelines related to the overall methodology, based on allocating a fixed annual amount to be raised amongst contributing institutions. The respondent noted that this means that once the fund has reached its target level, new credit institutions, or credit institution with growing deposits, will not contribute in proportion to their risk. The respondent also noted that the Guidelines require a relative assessment of risk, which means that even if all institutions are (objectively) high risk, no individual institution will pay more due to the comparison amongst institutions. The respondent suggests that this issue could be solved by introducing an individual risk-adjusted target level, requiring each institution to

contribute, at a minimum, at least 0.8% of their covered deposits to the DGS fund. Another respondent suggested that the Guidelines should be more prescriptive on the process and principles applied, and less prescriptive on some particular elements of the Guidelines. Another respondent suggested that the method should provide more flexibility concerning the risk weights for each risk indicator. Finally, one respondent suggested that more flexibility should be allowed when deciding to use only the core indicators, and that the 25% weights should be distributed in whatever way the DGS considered best, provided that the minimum weights were always adhered to.

5.4.6 Need for further guidance at EU level for the development, implementation, and review of the calculation methods

150. Twenty two valid responses were received. Of these, fifteen responses indicated that no further or clearer guidance was necessary at EU level for the development, implementation and review of calculation methods at Member State level.

151. The remaining respondents raised a variety of areas where further guidance in relation to the Guidelines at EU level could be beneficial. In that case of one respondent, it was noted that the national consultation process which had been undertaken pointed to the need for further guidance, although no specific area for this additional guidance was identified in the answer. One respondent suggested that further guidance could be given through the development of sample models. A second respondent made a similar suggestion, saying that the EBA could provide more technical assistance on data availability, modelling, calibrating and the technique of developing and updating a model in such a way that it keeps satisfying the requirements of a good, effective and credible model. This respondent also suggested that the EBA could help to foster the partnership between supervision and DGSs on national level in order to strengthen the collaborative process. Another two respondents suggested that additional guidance on the minimum spread of risk weights would be useful, possibly based on empirical findings. Another respondent pointed out that the Guidelines give a clear understanding of how the model should be designed, but that it would be useful to know more about how the model would be adapted to national considerations while still remaining compliant with the Guidelines. This respondent also expressed a wish to learn more from the experience of countries which have already implemented their contribution models. Finally, one respondent noted that the Guidelines had only recently been agreed and implemented and that it was too soon to assess their effectiveness or to make changes. This respondent indicated that it would strongly oppose any consequent loss of flexibility, suggesting that harmonisation would not reflect the diversity of national banking sectors, and would impose a one-size-fits-all approach.

5.4.7 Conclusions

152. A number of useful issues have been raised by respondents. While further analysis and consideration of some of these issues is required, also in light of experience gained from further implementation of the Guidelines, it is clear that a number of issues could benefit from being addressed even at this stage.

153. The issue of unavailable indicators is already dealt with by the Guidelines. Paragraphs 10 and 49 of the Guidelines make clear that on an exceptional basis, core indicators may be excluded "*upon justification that this indicator is unavailable because of the legal characteristics or supervisory regime of such institutions*". Respondents are reminded of these provisions. These provisions are also relevant in the context of non-CRD/CRR institutions such as credit unions, which are often subject to national supervisory regimes.

154. With respect to the "Unencumbered assets / covered deposits" indicator, it is indeed the case that a credit institution which is covered by a DGS may have no covered deposits in its balance sheet, rendering this indicator meaningless. As a result, it could be beneficial to update this indicator to measure "Covered deposits / unencumbered assets", acknowledging that this means that a higher indicator value would represent a riskier institution under this formulation for the purpose of this indicator, rather than the current ratio under which a lower indicator represents a riskier institution.

155. In relation to the issue of flexibility, it appears that a number of respondents had issue with the degree of prescription in the Guidelines, in relation to the distribution of the 25% weighting where only the core indicators were used. The rationale for retaining this prescriptive weight allocation may need to be revisited. More generally, views seem to be split on the need to introduce more or less flexibility in the use of the weights. Results of the analysis in section 5.2.1 also do not seem to support the idea to increase flexibility in the Guidelines.

156. A number of respondents noted that they were introducing, or examining the introduction of, indicators relating to institutions' ratio for the minimum requirement of own funds and eligible liabilities ("MREL"), and the interest rate strategies of institutions. These indicators could be introduced as additional optional indicators in the Guidelines, notwithstanding the fact that authorities are free to use additional indicators already. The analysis in section 5.2.1 does not seem to support introducing changes to the list of core indicators.

Question 4. Do you have any further comments on the practical and potential obstacles in the application of the Guidelines?

6. Conclusions and recommendations

157. The focus of the report is on identifying whether the principles outlined in the Guidelines are met in practice, and whether there is appropriate and consistent implementation of the Guidelines. Where the report has identified any particular issues it provides recommendations for possible changes to the Guidelines, possibly to be carried out alongside the review of the DGSD in 2019.

158. The report assesses if the method ensures adequate differentiation between institutions depending on their riskiness and is consistent with relevant historical data. It concludes that, the introduction of the RBC method as outlined in the Guidelines has introduced some differentiation between institutions affiliated to the EU and EEA DGSs. It also shows that the levels of differentiation vary significantly between DGSs.

159. The analysis further tested whether these differences in the levels of differentiation stem from inherent dissimilarities in the riskiness (as measured by the core indicators) of institutions affiliated to different DGSs, or from the way the method has been implemented by the authorities across Member States. For the majority of DGSs, the difference between the inherent riskiness of their member institutions and the outcome of the risk-based method are divergent. However, the analysis is sensitive to the choice of parameters and so these results should be interpreted carefully, particularly given that the data covers only one year of contributions. Two important conclusions are worth noting: 1) the design of the method may under- or overestimate the actual level of riskiness between institutions affiliated to the DGSs, and 2) the analysis seems to suggest that the method, as outlined in the Guidelines, provides enough flexibility for the authorities to design the system of contributions significantly different from what the inherent riskiness seems to be.

160. The report also includes a qualitative assessment that the GL RBC method is broadly consistent with the SREP analysis and data on recent bank failures. This seems to suggest that the current method is, in the assessment of the authorities, appropriate to adequately reflect the institutions' riskiness.

161. To summarise, the risk-based method as outlined in the Guidelines has broadly met the aim of ensuring differentiation between institutions affiliated to a DGS based on risk. The differences in differentiation between DGSs do not seem to be dissimilar to the levels of inherent riskiness in their sector. However, importantly, the analysis shows that the method seems to allow flexibility for the authorities to design GL RBC systems which provide less differentiation than what would be expected based on the core indicator data. Some elements of the methodology, and in particular, the way the raw indicator data is translated into the IRS, may need to be revisited in the future.

162. The report has also looked at the balance between the consistent application of the Guidelines across the Member States and the flexibility to cater to national specificities. In relation to the use of indicators, at this stage, it appears there does not seem to be much evidence or qualitative assessment from the authorities suggesting the need to remove any particular core indicator. The analysis of this aspect, however, needs to be revisited and studied further ahead of proposing any changes to the Guidelines. On additional indicators, more than half of DGSs use them in their risk-based method, with no clear pattern in relation to the type of indicator added to the method, or the indicators' weights. This suggests that the list of core indicators does not need to be amended by including any of the additional indicators. The majority of DGSs do not take advantage of the full 25% flexibility allowed by the Guidelines or do not use the flexibility at all. The median weight among those using additional indicators is 15%. When taken together with the DGSs which decided not to use the additional indicators at all, 89% of the weights are assigned to core indicators and, on average, only 11% are assigned to additional indicators. These findings seem to suggest that the level of flexibility allowed by the Guidelines does not need to increase.

163. The analysis of the IRS values shows that a significant proportion of DGSs (up to one quarter) appears to use only a small part of the IRS range in accordance with the requirement in the GL RBC methodology. In other words, DGSs seem to limit the degree of differentiation achieved by the GL RBC method. Overall, the analysis seems to suggest that the diversity and heterogeneity of GL RBC methods applied varies widely across DGSs, to the extent that it raises concerns as regards the appropriateness of the degree of consistency achieved by the Guidelines, as already mentioned in paragraph 160.

164. The analysis of the ARS and ARW does not provide conclusive results. The report finds no clear evidence of a link between the ARS and ARW ranges and the inherent heterogeneity among institutions affiliated to a given DGS. Furthermore, the report finds no evidence of a clear pattern in relation to the use of the level of heterogeneity of the raw indicators, and the features of the bucket or the sliding scale method. Any interpretation, however, should be treated with caution given the limited dataset and possible outliers. More analysis would be needed ahead of proposing any further changes.

165. The third aim of the report is to assess if the RBC methodology is objective and transparent, does not lead to excessive additional reporting requirements and ensures that confidential information is protected. In relation to the transparency of the method, at this stage, on the basis of the responses received, it does not appear that there is a specific need for amendment of the Guidelines to enhance transparency for stakeholders. Similarly, the methodology does not appear to lead to excessive additional reporting requirements; therefore the report does not propose any specific changes in this regard at present. In terms of information provided to the institutions and to the public, the EBA will continue to monitor the disclosure of information and will consider further specifying

what information should be disclosed in future in the Guidelines in the event that limited disclosure continues to be the case in some Member States and for some DGSs.

166. Finally, the report has aimed to identify practical issues or obstacles in the application of the current framework. A number of useful issues have been raised by respondents, including changing the "unencumbered assets/covered deposits" indicator to "covered deposits/unencumbered assets", providing more flexibility in the distribution of weights in cases where only the core indicators are used, and potentially suggesting further, optional indicators. The EBA proposes to consider these suggestions in the course of proposing changes to the Guideline in the future.

167. With time, better quality data and a longer time series will become available reflecting DGSs' and DGS designated authorities' greater experience of designing and operating the DGS risk-based systems based on the Guidelines. With more and better quality data, the EBA will be able to draw more robust conclusions and provide firm policy recommendations. Further analysis reflecting this experience will be needed ahead of proposing changes to the Guidelines on methods for calculating contributions to DGSs.

7. Annexes

7.1 Annex 1: Rationale for risk-based contributions to DGSs

168. The objective of the DGSD is to increase the resilience of DGSs and to improve depositors' access to compensation; therefore, DGSD requires all EU DGSs to be pre-financed by credit institutions. Ultimately, the Commission decided to require that the contributions of member institutions to DGSs be adjusted for risk, in accordance with Article 13 of the DGSD and the Guidelines. By adjusting contributions for the riskiness of the contributing member institutions, risk discipline is promoted, risk reductive behaviours are incentivised and moral hazard is addressed.

169. Similarly, recital 36 of DGSD notes the following in respect of the rationale for RBCs:

Contributions to DGSs should be based on the amount of covered deposits and the degree of risk incurred by the respective member. This would allow the risk profiles of individual credit institutions to be reflected, including their different business models. It should also lead to a fair calculation of contributions and provide incentives to operate under a less risky business model. In order to tailor contributions to market circumstances and risk profiles, DGSs should be able to use their own risk-based methods. In order to take account of particularly low-risk sectors which are regulated under national law, Member States should be allowed to provide for corresponding reductions in the contributions while respecting the target level for each DGS.

170. According to the Commission report on risk-based contributions published in 2008, only 8 Member States used a system of RBCs[21] in respect of contributions to DGSs, and the methodologies used were not aligned. Between 2008 and 2010, the European Commission carried out extensive analysis on the topic of RBCs in the context of the introduction of DGSD, including an impact assessment.[22]

171. In its impact assessment, the Commission pointed to a number of compelling arguments in favour of the introduction of RBCs for all DGSs through DGSD. It noted that where risks incurred by banks are not taken into account when calculating contributions, risk-averse banks may consider that they are at a competitive disadvantage and it may act as a disincentive for sound risk management. In turn, this may also make the financial

[21] European Commission, Risk-based contributions in EU Deposit Guarantee Schemes: current practices, Joint Research Centre, Ispra, June 2008 (http://ec.europa.eu/internal_market/bank/docs/guarantee/risk-based-report_en.pdf).

[22] Commission Staff Working Document – Impact Assessment "Accompanying document to the Proposal for a Directive …/…/EU of the European Parliament and of the Council on Deposit Guarantee Schemes [recast] and to the Report from the Commission to the European Parliament and to the Council", Review of Directive 94/19/EC on Deposit Guarantee Schemes, COM(2010) 368, COM(2010) 369, SEC(2010) 835 (http://ec.europa.eu/internal_market/bank/docs/guarantee/20100712_ia_en.pdf).

system more vulnerable and induce adverse selection. A more harmonised approach to bank contributions, consisting of risk-based elements, helps to better reflect the risk profiles of individual banks and provides incentives to operate under a less risky business model. Through the use of a set of core indicators mandatory for all Member States and another set of optional supplementary indicators, harmonisation is introduced gradually, avoiding sudden adaptation costs.

172. The impact assessment also discussed the results of the Commission's public consultation[23] on this issue. The public consultation indicated that a large majority of respondents (above 70%) were in favour of risk-based contributions to DGS, but some of them (over 20%) were against. Proponents emphasised that risk-based contributions would create incentives for more prudent behaviour of banks and improve their risk management, mitigate moral hazard and free riding problems (subsidising riskier banks by safer ones), etc. Opponents were afraid that such contributions may result in pro-cyclical effects and mean double penalisation for banks (since they may already be penalised by supervisors if do not comply with capital requirements).

7.1.1 Other instances of risk-based contributions

173. Given the appropriate incentives which are introduced by adjusting regulatory levies of financial institutions for risk, RBCs are used in other contexts too. In particular, they are used in the context of deposit insurance schemes in other (non-EU jurisdictions), and in the context of contributions to resolution financing arrangements in the EU.

International use of RBCs

174. The International Association of Deposit Insurers ("**IADI**") undertakes an annual survey of its member DGSs, and publishes some of this data on its website for the public to access.[24] The public data in these surveys provides some information on the manner in which deposit insurance schemes around the world and outside of the EU are funded.

175. In its 2015 survey, relating to year end 2014 data, there were 127 respondents, including EU DGSs, or 96 respondents excluding EU DGSs. Of the 96 respondents, 84 indicated that they had an ex ante funded contributions system. When asked about the methodology by which institutions contributed to the DGS, only 23 indicated some form of differentiated approached (many of which are based on the riskiness of contributing institutions), while a further 11 indicated a hybrid approach. For those indicating some form of risk-based approach, it is clear that there is no consistency in the methodologies used, with some relying on a small selection of indicators, or even a single indicator,

[23] The public consultation received 104 responses, from a wide variety of actors including banks, charities, representative organisations, and public authorities. Further details are available here: http://ec.europa.eu/internal_market/consultations/2009/deposit_guarantee_schemes_en.htm

[24] Available online here: http://www.iadi.org/en/core-principles-and-research/deposit-insurance-surveys/

relating variously to accounting measures of risk, prudential measures of risk, as well as external credit ratings.

176. It is clear, therefore, that while the collection of ex ante contributions is the primary international approach to funding deposit insurance schemes, basing those contributions on the riskiness of the contributing institutions is not the most common approach, and even where it is done, there is no consistency to the way in which that risk is measured.

Comparison with contributions to resolution financing arrangements

177. Article 100 of the Bank Recovery and Resolution Directive[25] ("**BRRD**") requires Member States to establish one or more financing arrangements for the purpose of ensuring the effective application by the resolution authority of the resolution tools and powers contained in that Directive.[26] Such financing arrangements are to be built up over time through the collection of contributions to them by institutions covered by the BRRD.[27] The relevant provisions require that such contributions should be based on a flat element related to the balance sheet size and composition of contributing institutions, adjusted for the riskiness of contributing institutions. Various risk factors to be taken into account in that process are outlined, and the Commission is empowered to adopt delegated acts to specify the methodology by which this is to be done in more detail. The Commission has done so in Delegated Regulation (EU) 2015/63. Recital 107 BRRD notes the rationale for a contribution system based on risk:

In order to ensure a fair calculation of contributions and provide incentives to operate under a less risky business model, contributions to national financing arrangements should take account of the degree of credit, liquidity and market risk incurred by institutions.

178. There are important similarities between risk based contributions in both contexts; in particular, they aim at the same objective of building appropriate risk reductive incentives into the contributions system, and they look at many of the same risk indicators. Nevertheless, there are differences between the methodologies by which contributions to resolution financing arrangements and DGSs are calculated. Firstly, differences in the methodology reflect the type of risk being assessed – in the case of

[25] Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council

[26] For those Member States which are part of the Banking Union, the Single Resolution Mechanism Regulation (Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010) ("**SRMR**") provides for the establishment of the Single Resolution Fund, which otherwise functions in a similar manner to national resolution financing arrangements, and the contributions to which are also adjusted for the riskiness of contributing institutions.

[27] Article 103 of the BRRD.

DGSs, it is likelihood of the institution's failure and the potential losses to the DGS stemming from that failure, while in the case of a resolution financing arrangement, it is the risk of a contributing institution undergoing resolution and requiring funds from that resolution financing arrangement. The methodology for resolution financing arrangement contributions allows less flexibility to authorities, and is therefore more harmonised.[28] This potentially reflects the fact that in most cases resolution financing arrangements were new funds established under the BRRD, while DGSs already existed and already operated under heterogeneous funding models, reducing the scope for harmonisation somewhat.

[28] The methodology is set out in Delegated Regulation EU 2015/63.

7.2 Annex 2: Additional charts

179. This annex complements the analysis presented in section 5.2.2. It includes additional charts comparing the distributions of interquartile ranges for core indicators across the DGSs in the sample, and the distribution of interquartile IRS ranges for the corresponding core indicators.

Figure 12. Interquartile range (25th-75th percentile) for CET1 indicator values per DGS.

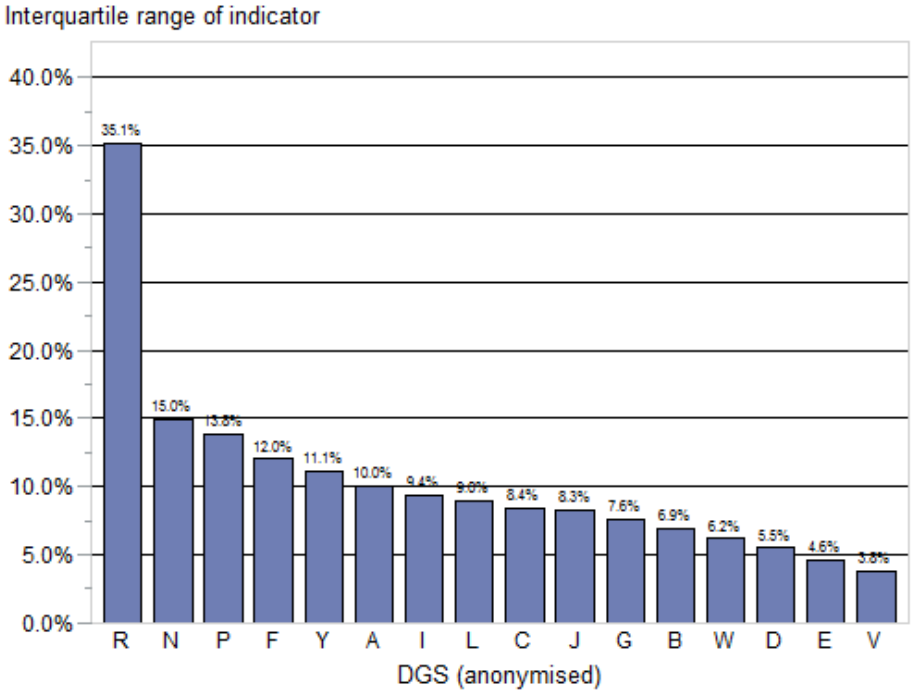


Figure 13. Interquartile range (25th-75th percentile) for CET1 IRS values per DGS.

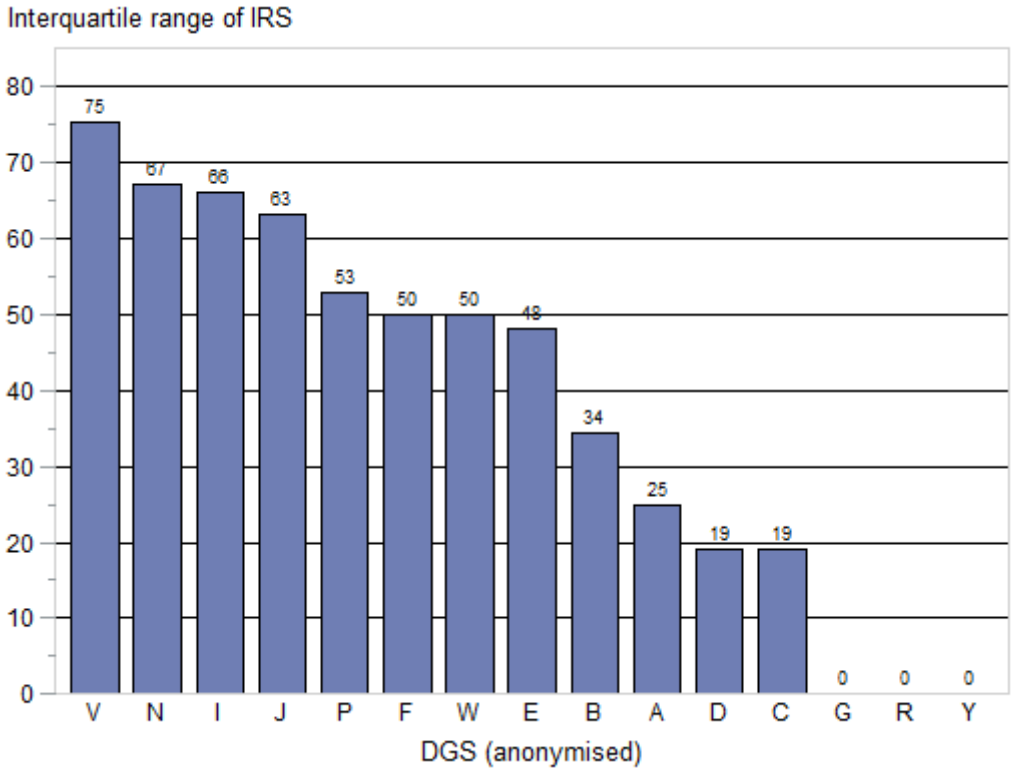


Figure 14. Interquartile range (25th-75th percentile) for leverage ratio indicator values per DGS.

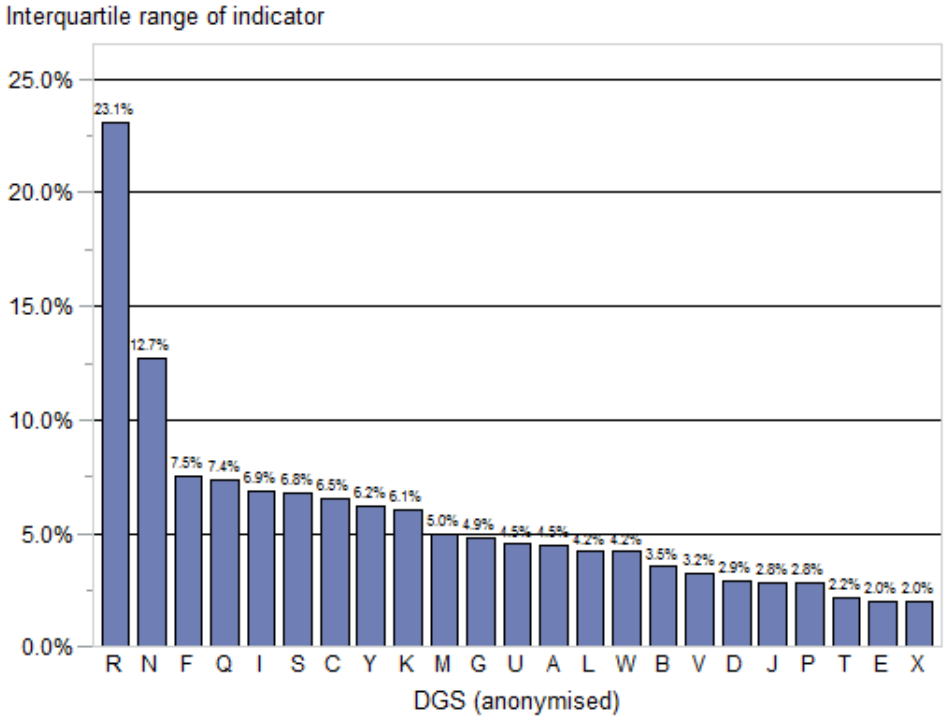


Figure 15. Interquartile range (25th-75th percentile) for leverage ratio IRS values per DGS.

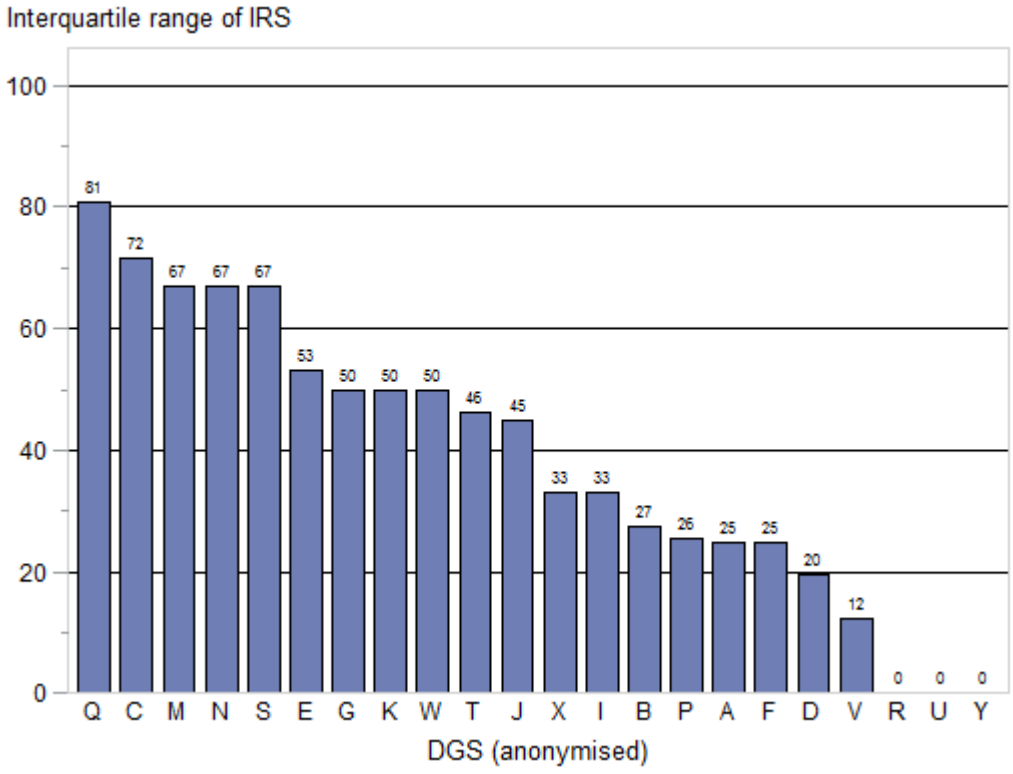


Figure 16. Interquartile range (25th-75th percentile) for NSFR indicator values per DGS.

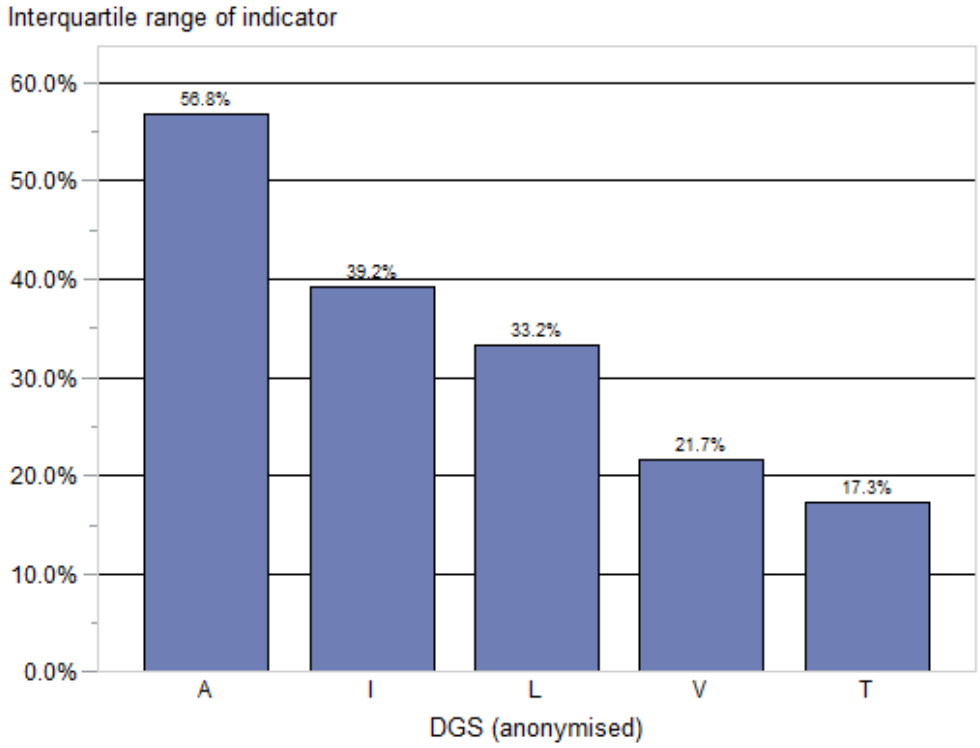


Figure 17. Interquartile range (25th-75th percentile) for NSFR IRS values per DGS.

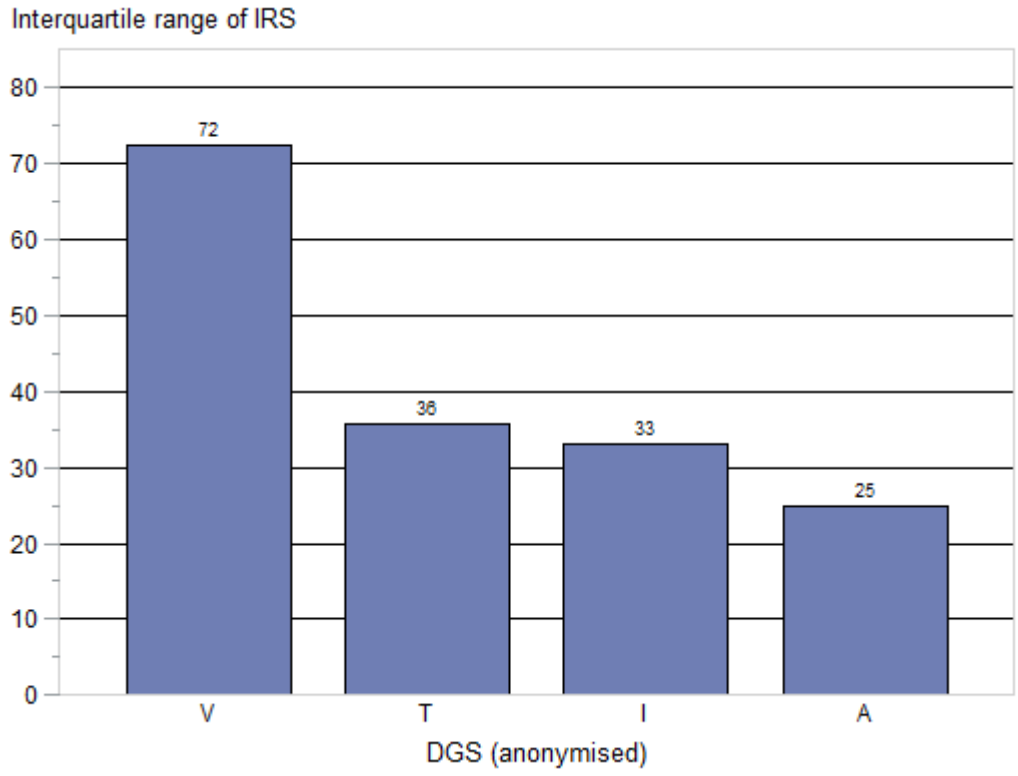


Figure 18. Interquartile range (25th-75th percentile) for RWA/TA indicator values per DGS.

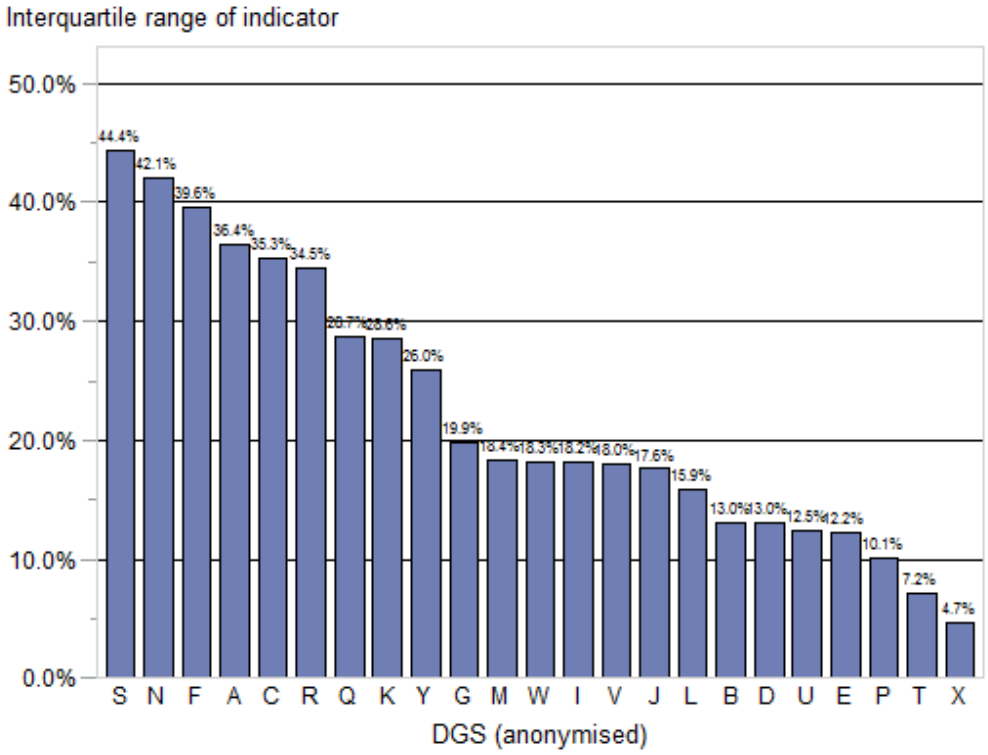


Figure 19. Interquartile range (25th-75th percentile) for RWA/TA IRS values per DGS.

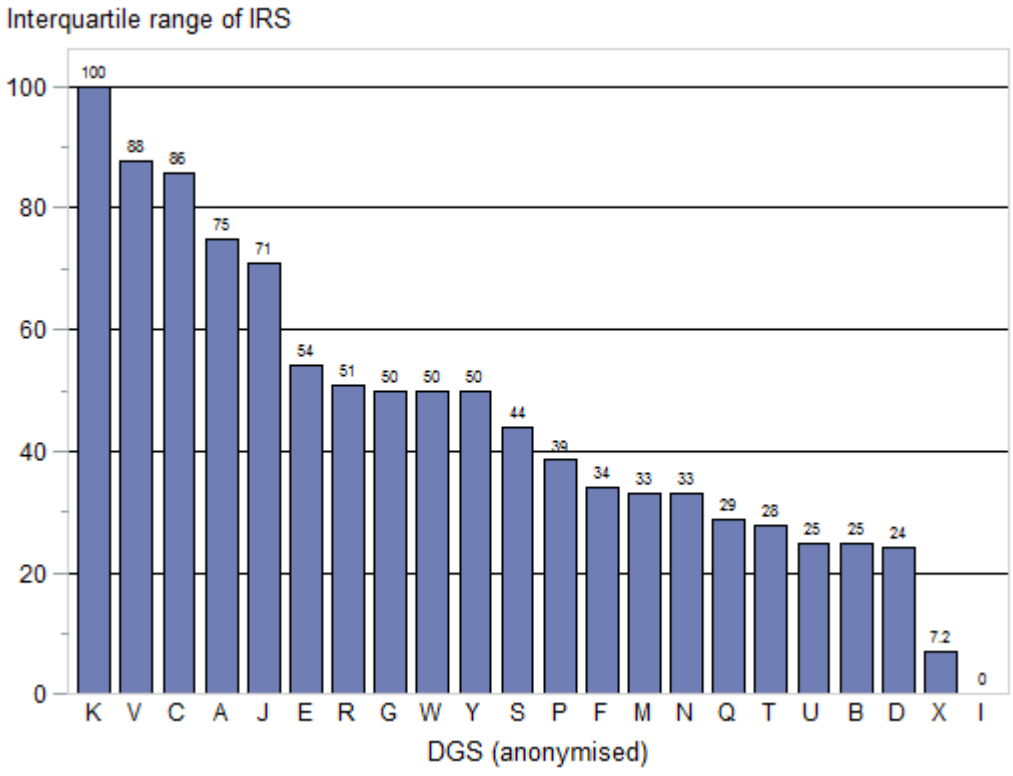


Figure 20. Interquartile range (25th-75th percentile) for RoA indicator values per DGS.

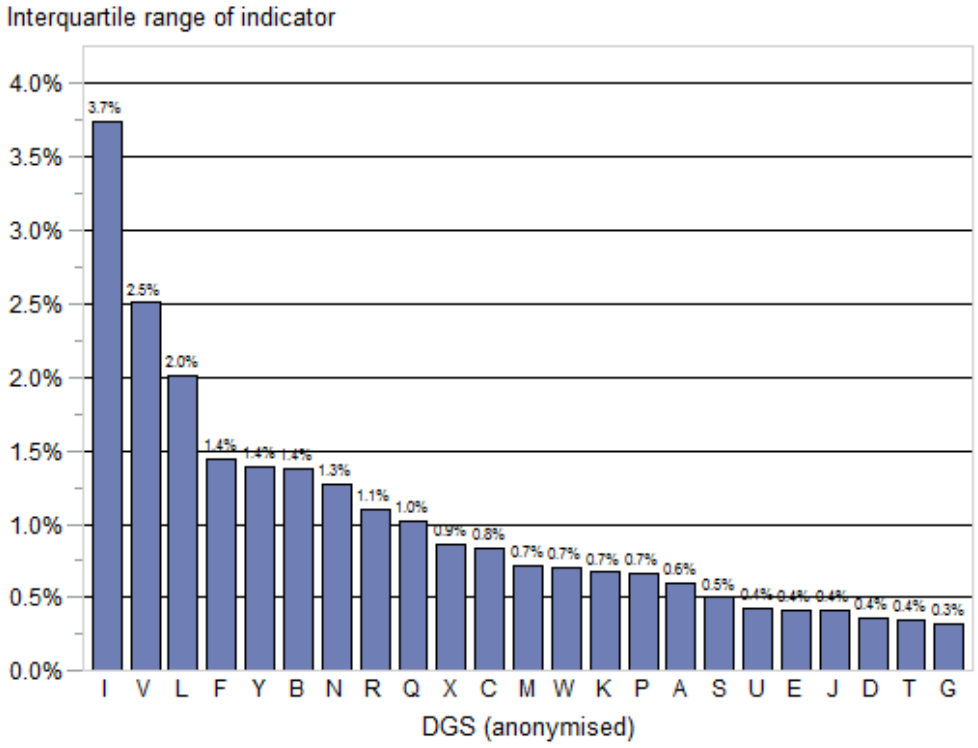


Figure 21. Interquartile range (25th-75th percentile) for RoA IRS values per DGS.

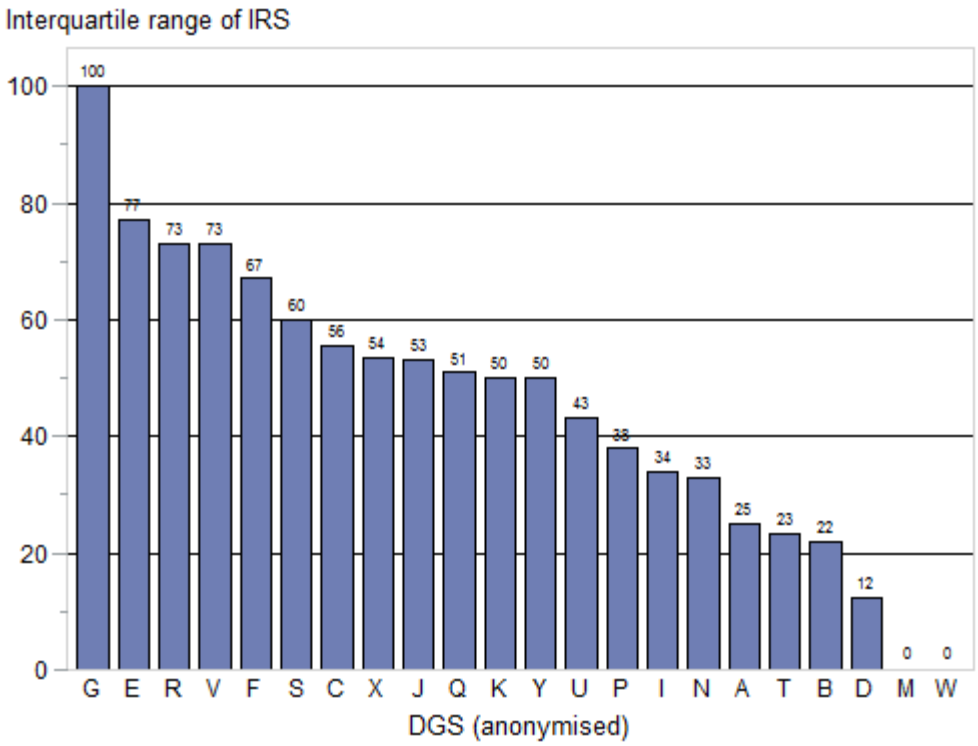


Figure 22. Interquartile range (25th-75th percentile) for Unencumbered assets indicator values per DGS.

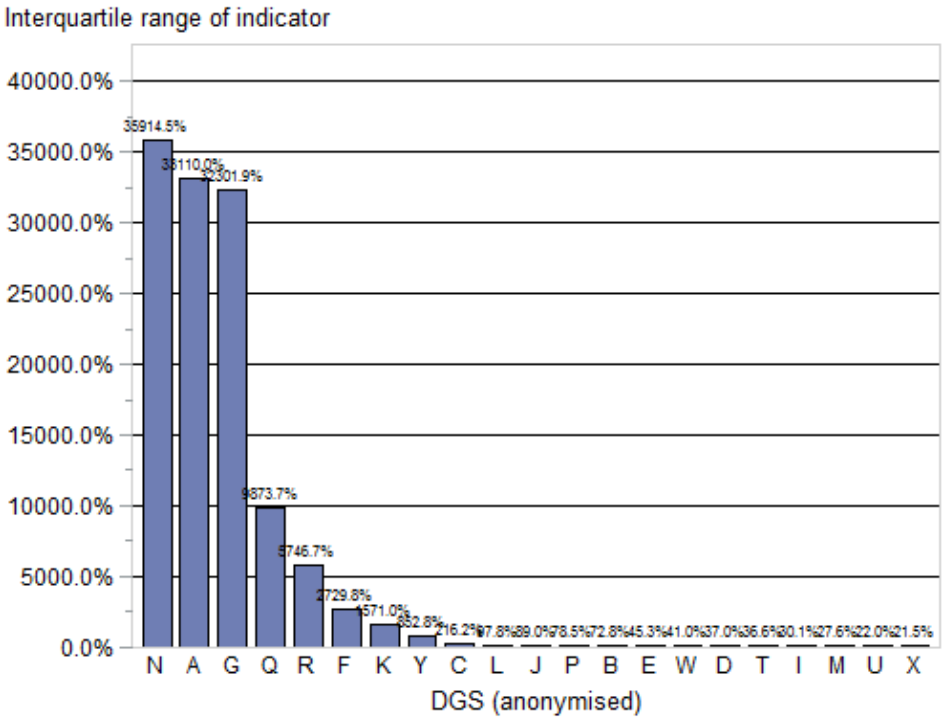
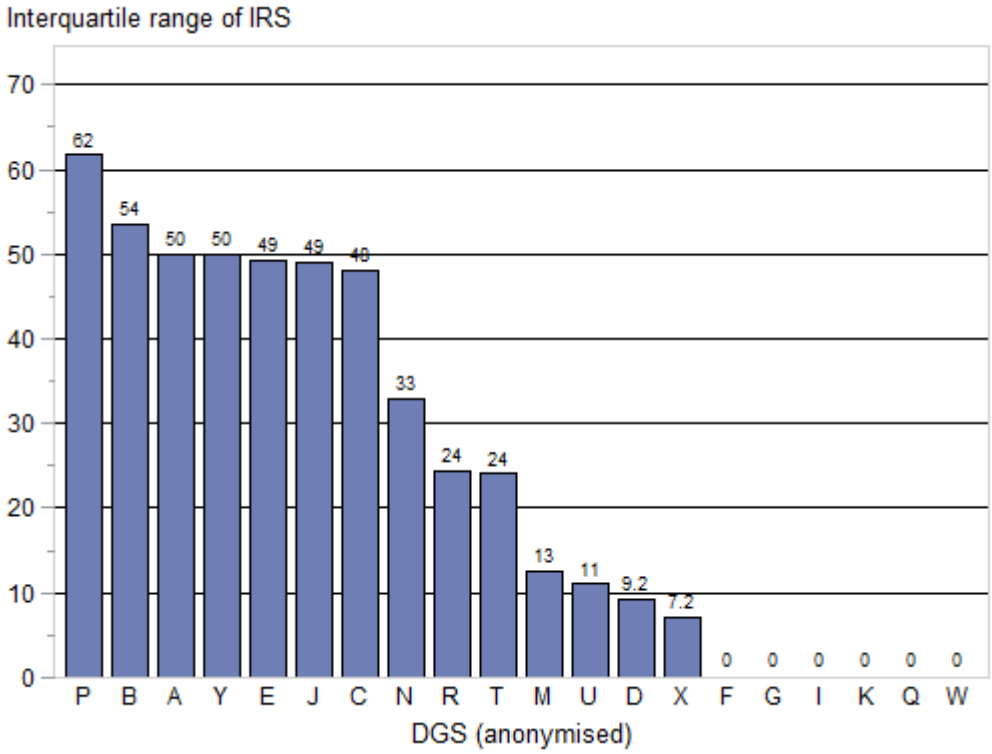


Figure 23. Interquartile range (25th-75th percentile) for Unencumbered assets IRS values per DGS.



7.3 Annex 3: Overview of questions for consultation

Question 1. Do you agree with the conclusion that the method for calculating contributions to DGSs is sufficiently transparent?

Question 2. Do you agree with the conclusion that the methodology does not appear to lead to excessive additional reporting requirements?

Question 3. Do you have any comments on the current level of disclosure of information to institutions contributing to DGSs?

Question 4. Do you have any further comments on the practical and potential obstacles in the application of the Guidelines?