Report on the peer review of the EBA Guidelines on the management of concentration risk under the supervisory review process (GL 31)

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Abbreviations

BCBS	Basel Committee on Banking Supervision
BoS	Board of Supervisors
CEBS	Committee of European Banking Supervisors
CRD	Capital Requirements Directive
EBA	European Banking Authority
EEA	European Economic Area
EFTA	European Free Trade Association
FTE	full-time equivalent
GL	Guideline
HHI	Herfindahl-Hirschmann index
ICAAP	internal capital adequacy assessment process
LCB	large and complex bank
MS	Member State
NCA	national competent authority
OB	other bank
RAS	risk assessment system
SAQ	self-assessment questionnaire
SREP	supervisory review and evaluation process

1. Executive summary

This report gives an overview of the national competent authorities' (NCAs) peer-reviewed assessments for the EBA's peer review on the credit concentration risk aspects in the EBA Guidelines on the management of concentration risk under the supervisory review process (GL 31). NCAs from 28 EU Member States (MS) and two EEA/EFTA countries[1] were peer reviewed by the EBA regarding the specific parts of GL 31. Below is a summary of the peer-reviewed assessments.

Overall, the peer review results indicate that NCAs 'largely' or 'fully apply' GL 31 regarding credit concentration risk. The individual assessments (93) of the three areas of the guidelines that were reviewed[2] can be broken down into 35 assessments (37.6%) of 'fully applied', 44 (47.3%) 'largely applied', nine (9.7%) 'partially applied', two (2.2%) 'not applied', and three (3.3%) 'non-contributing'. Paragraph 60 and Guideline 7 (on whether the NCAs' supervisory assessments cover credit institutions' use of methodologies and tools to identify their overall credit exposure) are applied more widely than Guideline 8 on NCAs' requirements for the assessment of credit institutions' ability to capture the nature of interdependencies in models and indicators.

The main findings from the peer review are as follows:

- The vast majority of MS have implemented GL 31 regarding credit concentration risk in their existing domestic supervisory regulations/guidelines (predominantly their guidelines on the internal capital adequacy assessment process (ICAAP)/supervisory review and evaluation process (SREP)) and rarely have they issued a specific domestic regulation/guideline dedicated exclusively to credit concentration risk.

- NCAs indicated that their assessment of credit concentration risk is continuous, goes beyond the annual SREP capital calculation and forms an integral part of their risk assessment system for individual institutions and/or ongoing off-site monitoring. Furthermore, NCAs' on-site examinations regularly cover credit concentration risk.

- Almost all NCAs' approaches assess the definition of credit concentration used by credit institutions. However, a number of NCAs did not verify sufficiently whether the credit institution's definition of credit concentration includes the application of forward-looking credit risk mitigation techniques and risks associated with large indirect credit exposures (e.g. to a single collateral issuer).

- Most NCAs' approaches assess whether credit institutions employ methodologies and tools to identify their overall credit risk exposure. However, half of the NCAs do not consider whether

[1] The 28 EU Member States' competent authorities plus the FMA Liechtenstein and the Norwegian Finanstilsynet. The Icelandic Financial Supervisory Authority (FME) did not contribute to the peer review exercise.

[2] This refers to 93 individual observations in total across the three quantitative assessments concerning the three peer-reviewed areas of GL 31. See Figure 1 for further detail below.

the credit institution's framework takes into account the underlying exposures to credit concentration risks that may arise from the structure of the underlying complex products, such as securitised products. Furthermore, those NCAs do not assess whether the credit institution's framework includes the output of the credit institution's stress test to identify hidden areas of credit concentration risk.

- Another three NCAs had further weaknesses. These NCAs were not able to demonstrate fully that they were assessing whether the infrastructure used by the credit institution to aggregate and consolidate credit exposures and manage credit risk limits was sufficiently robust to capture, on an institution-wide basis, the complexity of the credit portfolio from an obligor relationship and subordination perspective, as required by Guideline 7.

- Most NCAs check whether credit institutions fully understand their models and whether the models consider portfolio characteristics. Only half of the NCAs assess the conservatism of the models' underlying assumptions and techniques as well as how a credit institution uses the resulting outputs when it formulates credit policies and limits.

- In its review of the NCAs' self-assessments, the EBA examined the resources committed by NCAs to the review of institutions' management of credit concentration risk. For most NCAs the review of institutions' management of credit concentration risk is a part of their annual SREP capital calculation and in particular the ICAAP review. Accordingly, the review is usually not a separate and quantifiable function but an integrated part of NCAs' on-going supervision.

Various examples of good supervisory practice were identified:

- A large coverage by NCAs of their supervised credit institutions on the application of GL 31 regarding credit concentration risk in the NCAs' annual SREP capital calculation, both through on-site and off-site supervision, constitutes good practice. It would be even better if the supervisory approach facilitates the integration of both the on-site and off-site analyses.

- Regarding NCAs' resource models, both centralised resources and dispersed resource models have benefits. Dedicating staff to individual credit institutions with a close managerial overview had a positive impact on the overall quality of NCAs' supervision.

- Use of domestic central credit registers (public and/or private), where available, can provide valuable reference information to NCAs for assessing credit concentration and credit risk, subject to granularity of the registers' data.

- The capability of large credit institutions to capture adequate credit data, then analyse and monitor their credit concentrations, and produce a comprehensive set of automated supervisory reports strengthens the NCAs' risk analysis. An automated risk analysis system can be used to extract the relevant information from the reports to better analyse inherent risks.[3]

[3] The importance of risk aggregation has also been noted in other reports, e.g. the BCBS's 'Principles for effective risk data aggregation and risk reporting', published by BCBS in January 2013.

- When applying a concise and practical definition of credit concentration, some NCAs require credit institutions to conduct scenario analysis, stress tests and sensitivity analysis to identify hidden concentrations. Some good practices were: considering concentration in collateral issuers apart from guarantors (e.g. Bank of Italy); a direct link between strategy and outputs (e.g. German BaFin).

- NCAs verify the models and indicators used by credit institutions to measure credit concentration risk. For example, one NCA (Central Bank of Hungary) compares the model parameters against experiences from periods of economic stress and parameters used by other credit institutions. The NCA reproduces the credit institutions' model calculations using simulation methods. Also, some NCAs have detailed checklists and specific guidelines included in their supervisory guides and/or handbooks for this purpose.

- Regular peer comparisons by NCAs between credit institutions provide NCAs with a horizontal view for benchmarking the credit concentration risk by sector, industry and/or country.

- The importance of forward-looking supervision was demonstrated by NCAs. For example, credit institutions' funding and capital plans are required twice a year to be submitted (Bank of Portugal) which allows the NCA to assess the institutions' projected funding and capital position over a longer time horizon.

- Establishment and use by NCAs of dedicated teams, focusing on the validation of internal models used by credit institutions, for risk management purposes, as well the use of internal models for the calculation of capital requirements.

- For less complex credit institutions, the use of the Herfindahl-Hirschmann index (HHI) within the Risk Assessment System as an indicator of credit concentration risk to industries/economic sectors.

Consideration should also be given to how NCAs measure their supervisory resources, as this could assist assessing adequacy of resources in future peer reviews.

Also, the EBA should analyse the elements and practices identified in the peer review, when developing the single supervisory handbook[4], and as part of the EBA's ongoing work on guidelines related to supervisory practices linked to the CRD.

[4] The EBA will take the timetable established for developing the single supervisory handbook into account in its overall planning.

2. Background and rationale

2.1 Introduction

This document presents a summary of the EBA's assessment of the peer review on the EBA Guidelines on the management of concentration risk under the supervisory review process (GL 31), regarding the management of credit concentration risk. The peer review was conducted in accordance with the EBA Review Panel Methodology approved in June 2012.

Guideline 31 addresses all aspects of credit concentration risk and promotes a holistic approach to concentration risk management. It is expected that credit institutions will identify and assess all risk concentrations, as a single risk event may result in losses or have a negative impact in more than one risk category. Concentration risk refers not only to risk related to credit granted to individual or interrelated borrowers, but to any other significant interrelated asset or liability exposures which may threaten the soundness of a credit institution. Therefore, NCAs rarely make the assessment of credit concentration risk in isolation and it is recognised as an integral part of general credit risk reviews conducted by competent authorities.

Initially a self-assessment questionnaire (SAQ) containing five questions was issued on 11 December 2013 and NCAs were asked to submit their completed self-assessments to the EBA by 27 January 2014. The period between 1 January 2013 and the date of the self-assessment was chosen as the reference period.

2.2 Mandate

In June 2012, the EBA approved the Review Panel work programme. This included undertaking a peer review assessment of the application of the Guidelines on the management of concentration risk under the supervisory review process, in particular regarding the two guidelines of GL 31 relating to the management of credit concentration risk:

- Guideline 7: *'Institutions should employ methodologies and tools to systematically identify their overall exposure to credit risk with regard to a particular customer, product, industry or geographic location.'*

- Guideline 8: *'The models and indicators used by institutions to measure credit concentration risk should adequately capture the nature of the interdependencies between exposures.'*

Also, GL 31's paragraph 60 of the section on the management and supervision of credit concentration risk has been reviewed intensively, as it provides explanation for several requirements necessary for the effective application of Guidelines 7 and 8:

- *'Institutions should derive a concise and practical definition of what constitutes a credit concentration. The definition should encompass the sub-types of credit concentrations being addressed, including exposures to same counterparties, groups of connected counterparties, and counterparties in the same economic sector, geographic region or from the same activity or commodity, the application of credit risk mitigation techniques, and including in particular risks associated with large indirect credit exposures (e.g. to a single collateral issuer).'*

Concentration risk management was chosen as the topic, building on the EBA's findings following an implementation study on the Guidelines for the joint assessment of the elements covered by the supervisory review and evaluation process (SREP) and the joint decision regarding the capital adequacy of cross-border groups (GL39). A systemic failure in this risk area could have a negative effect on the stability of the financial system and potentially cause reputational damage to supervisory authorities. At the time this topic was selected in mid-2012, the EBA was monitoring trends in risk concentration and deleveraging and their impact on the market.

A declared aim of the peer review is to share good or best practices by competent authorities, identify topical issues/problems encountered in the implementation, and propose amendments to the EBA Guidelines, where appropriate.

All of the 28 voting members of the EBA's BoS were subject to the peer review, plus the observers at the EBA BoS from the EEA/EFTA countries (FME Iceland, FMA Liechtenstein and Finanstilsynet, Norway). A complete list of the NCAs that participated in the peer review can be found in Annex I.

2.3 EBA Regulation

In line with its mandate to assess the degree of convergence by EEA countries with regard to the implementation of the EBA Guidelines, the EBA and its Review Panel conducted independent peer reviews based on self-assessments provided by competent authorities. In line with the so-called 'comply or explain' approach, should an authority not have implemented a given supervisory provision or practice, then it has to explain why.

Peer reviews are conducted in accordance with the provisions of Article 30 of the EBA Regulation and with the EBA Decision establishing the Review Panel. A peer review entails an assessment and comparison of the effectiveness of the supervisory activities and of the implementation of the provisions by competent authorities vis-à-vis those of their peers. The peer reviews include an assessment of:

- the adequacy of resources and governance arrangements of competent authorities especially regarding the application of regulatory technical standards and implementing technical standards (Article 30(2)(a));
- the degree of convergence reached in the application of European Community legislation and in supervisory practices (Article 30(2)(b));
- the best practices developed by competent authorities (Article 30(2)(c)).

At the end of each peer review the EBA expects to:

- issue a report with a description and comparison of supervisory approaches and compliance of the same regards to the guidelines;
- identify examples of good or best practice for supervisors;
- express an opinion on the adequacy of the current guidelines; and
- express an opinion on the need for further guidance.

2.4 Methodology

The peer review followed the EBA Review Panel methodology for the conduct of peer reviews, (June 2012). Each peer review has four phases:

- Phase 1 – preparatory
  - November/December 2013: preparation and finalisation of the SAQ, including benchmarking criteria to provide independent, objective and clear criteria to judge the degree of observance by competent authorities of the guidelines.
- Phase 2 – self-assessment
  - December 2013/January 2014: the SAQ was rolled out to competent authorities, which were asked to submit their initial self-assessments.
  - March 2014: competent authorities were asked to respond to follow-up questions and reconsider their self-assessments.
- Phase 3 – review by peers
  - February-May 2014: reviewers considered the questions, self-assessments and benchmarks revising them as necessary to promote consistency of responses across NCAs. The EBA considered proposed assessments of observance (e.g. from 'fully applied' to 'not applied').
- Phase 4 – on-site visits
  - June 2014: small teams, typically one NCA expert in credit concentration risk and two EBA staff, visited a number of NCAs. The visits were to gather further examples of good/best practice at the NCA.

In the self-assessment phase of the peer review, a SAQ of five questions was issued to EBA BoS members and observers on 11 December 2013. Completed self-assessments were due by 27 January 2014. The EBA and the Review Panel followed up the first set of self-assessment questions with additional questions in March 2014 to clarify NCAs' approaches further.

In the next phase of the peer review, the answers provided by competent authorities to the SAQ were scrutinised further and subjected to challenge by the Review Panel. For each supervisory provision or practice subject to peer review, 'benchmarking criteria' had been devised. These criteria consist of the essential elements and intended outcomes of the supervisory provision or practice. The period between 1 January 2013 and the date of the self-assessment was chosen as the reference period.

For benchmarking purposes, the following grade-scales were used regarding the assessment of paragraph 60 as well as Guidelines 7 and 8 of the overall GL 31 regarding credit concentration risk:

- **'Fully applied'**: A provision is considered to be 'fully applied' when all assessment criteria as specified in the benchmarks are met without any significant deficiencies.
- **'Largely applied'**: A provision is considered to be 'largely applied' when some of the assessment criteria are met with some deficiencies, which do not raise any concerns about the overall effectiveness of the competent authority, and no material risks are left unaddressed.
- **'Partially applied'**: A provision is considered to be 'partially applied' when some of the assessment criteria are met with deficiencies affecting the overall effectiveness of the competent authority, resulting in a situation where some material risks are left unaddressed.
- **'Not applied'**: A provision is considered to be 'not applied' when the assessment criteria are not met at all or to an extensive degree, resulting in a significant deficiency in the application of the provision.
- **'Not applicable'**: A provision under review is to be considered 'not applicable' when it does not apply given the nature of a competent authority's market.
- **'Non-contributing'**: A competent authority shall be classified as 'non-contributing' if it has not provided its contribution within the prescribed deadline.

2.5 Lessons learned

In its work the EBA took into account the main lessons learned from the earlier Report on the peer review of the EBA Stress Testing Guidelines (GL32). Therefore:

- The number of questions was kept to the minimum possible so that observance of the guidelines could be tested.
- The criteria against which NCAs undertook their self-assessment, i.e. the 'benchmarks', were developed and made available before the start of the self-assessment phase of the peer review. In addition, the benchmarking criteria will be published in the final report on the peer review (e.g. see explanations in Sections 3.3-3.5).

- The differentiation between 'large and complex banks' (LCBs) and 'other banks' (OBs)[5] was simplified and proportionality was picked up by one of the self-assessment questions.

The benchmarking criteria avoided qualifying the existing, agreed guidelines above and beyond what they require, unless this was deemed necessary for clarity.

3. Main findings of the peer review regarding credit concentration risk

3.1 Overview

NCAs from 30 EEA countries[6] were peer reviewed by the EBA. Only the Icelandic Financial Supervisory Authority (FME) did not contribute to the peer review exercise. Below is a summary of the peer-reviewed assessments.

Overall, the final peer review results indicate that NCAs largely or fully apply paragraph 60, they require credit institutions to have concise and practical definitions for credit concentration risk as well as Guidelines 7 and 8 assessed from GL 31. On the basis of the individual assessments, 37.6% of all assessments would be considered 'fully applied', 47.3% as 'largely applied', 9.7% as 'partially applied', 2.2% as 'not applied' and 3.3% as 'non-contributing'.

Paragraph 60 and Guideline 7 are applied more widely than Guideline 8. The application of paragraph 60 and Guideline 7 is relatively similar. Considering the individual assessments, paragraph 60 is 'fully' or 'largely applied' by 90.3% of NCAs, while Guideline 7 is 'fully' or 'largely applied' by 87.1% and Guideline 8 by 77.4%. A more detailed breakdown by guideline, including by particular paragraphs can be seen in Sections 3.3-3.5. This also includes specific observations.

Below is a summary of the assessment performed by the EBA. Annex II gives a detailed summary of all peer-reviewed assessments.

[5] The following definition was applied for these two groups: The ECB's Financial Stability Review of December 2010 considers large and complex banking groups (LCBGs) as groups 'whose size and nature of business is such that its failure or inability to operate would most likely have adverse implications for financial intermediation, the smooth functioning of financial markets or other financial institutions operating within the financial system.' In the context of the SAQ, this definition relates first of all to the significance of the bank in connection with the domestic market of the particular Member State.

[6] The 28 EU Member States' competent authorities plus the FMA Liechtenstein and the Norwegian Finanstilsynet.

Figure 1: Overall summary table by number of peer-reviewed assessments

	Number of observations – Fully applied	Number of observations – Largely applied	Number of observations – Partially applied	Number of observations – Not-applied	Number of observations – N/A	Number of observations – Non-contributing	
AT	0	3	0	0	0	0	
BE	0	3	0	0	0	0	
BG	0	2	0	1	0	0	
CY	0	2	0	1	0	0	
CZ	3	0	0	0	0	0	
DE	3	0	0	0	0	0	
DK	2	1	0	0	0	0	
EE	2	1	0	0	0	0	
EL	0	3	0	0	0	0	
ES	3	0	0	0	0	0	
FI	0	3	0	0	0	0	
FR	2	1	0	0	0	0	
HR	0	3	0	0	0	0	
HU	3	0	0	0	0	0	
IE	1	1	1	0	0	0	
IS	0	0	0	0	0	3	
IT	3	0	0	0	0	0	
LI	1	2	0	0	0	0	
LT	3	0	0	0	0	0	
LU	0	3	0	0	0	0	
LV	2	1	0	0	0	0	
MT	0	0	3	0	0	0	
NL	2	1	0	0	0	0	
NO	0	2	1	0	0	0	
PL	0	0	3	0	0	0	
PT	3	0	0	0	0	0	
RO	0	2	1	0	0	0	
SE	0	3	0	0	0	0	
SI	0	3	0	0	0	0	
SK	1	2	0	0	0	0	
UK	1	2	0	0	0	0	
Total	**35**	**44**	**9**	**2**	**0**	**3**	**93**

3.2 General implementation by NCAs

In accordance with paragraph 18 of GL 31, MS are expected to implement the guidelines into national supervisory guidelines and its content should be reflected in national supervisory manuals/handbooks. Ultimately, the national supervisory practices should be in line with the guidelines.

Question 1 of the SAQ collected information on how GL 31 has been implemented into the national supervisory frameworks of individual EEA countries with regard to credit concentration risk. The three main aspects of the implementation were assessed:

- how Member States transposed the guidelines in their legislative framework, i.e. whether the national parliament/government/ministry enacted any legislation (law, decree or any other legal act) and/or whether the NCAs issued any binding or non-binding instruments to implement GL 31 regarding credit concentration risk;
- to what extent the NCAs implemented the guidelines into supervisory manuals/handbooks and/or internal measures;
- whether the assessment of credit concentration risk forms part of the NCAs' supervisory review process, and if so, how.

Implementation into national legislative frameworks

The peer review concluded that all peer-reviewed EEA countries implemented GL 31 regarding credit concentration risk or parts of the guidelines in their national legislative framework, with the exception of the ACPR France and the FMA Liechtenstein. The EBA observed a variety of options for implementation, as can be seen from the table below.

In this context, 'legal basis and/or background' refers to the fundamental concepts of (credit) concentration risk laid down in national laws/regulations and should not be interpreted as the mere empowerment of the NCAs in respect to banking supervision.

Figure 2: Summary table of NCAs' form of implementation of GL 31 regarding credit concentration risk

EEA Country	Forms of implementation
HU, HR	National law or legislation provides the legal basis and/or background and
	The NCA issues a binding instrument and
	The NCA issues a further non-binding instrument.
DE, LU, MT, NL, SI, SK	National law or legislation provides the legal basis and/or background and
	The NCA issues a binding instrument.
AT[7], BG, CZ, DK, EE, EL, ES, FI, IT, LT, LV, PL, PT, RO, UK	The NCA issues a binding instrument.
BE, SE	The NCA issues a non-binding instrument.
CY, IE, NO	A letter/circular was sent out by the NCA notifying credit institutions about the issuance of GL 31 regarding credit concentration risk.

A general conclusion is that the vast majority of Member States have transposed GL 31 regarding credit concentration risk in their existing domestic supervisory regulations/guidelines (most often ICAAP/SREP guidelines) and rarely have they issued a domestic regulation/guideline dedicated exclusively to concentration risk.

As the FMA Liechtenstein is an EEA/EFTA supervisory authority, and as the EEA/EFTA adaptation of the ESA regulations is pending, FMA Liechtenstein is not legally obliged to implement GL 31, and FMA Liechtenstein, until recently, lacked the legal basis for declaring CEBS/EBA guidelines as binding. As a result, GL 31 has not been officially implemented by the FMA Liechtenstein, nevertheless, the FMA Liechtenstein have informed the EBA that they informally encouraged their credit institutions to apply the GLs.

The French ACPR stated answers were not available for sub-questions Q1, Q1(i), Q1(ii) (see Annex III, Figure 12), since the French ACPR had neither enacted any legislation nor issued any binding or non-binding instructions to implement GL 31 regarding credit concentration risk.[8]

[7] Article 3(1) and Article 7 of the Austrian Risk Management Regulation require that CEBS/EBA guidelines have to be fully applied by all credit institutions under supervision. Furthermore, Article 69(5) of the Austrian Federal Banking Act requires the 'FMA shall take into account European convergence in respect of supervisory tools and supervisory practices. To this end the FMA shall participate in the activities of the EBA, cooperate with the ESRB, follow the guidelines and recommendations and other measures passed by the EBA, as well as comply with the warnings and recommendations issued by the ESRB under Article 16 of Regulation (EU) No 1092/2010. The FMA may deviate from those guidelines and recommendations where justified grounds exist, in particular in the event of a conflict with provisions of federal law.'

Implementation into supervisory practices

The EBA confirmed, based on the evidence provided by NCAs that the assessment of credit concentration risk forms an integral part of the NCAs' supervisory review and evaluation process (SREP), except regarding the FMA Liechtenstein (see below). Many NCAs indicated that the assessment of concentration risk goes beyond the annual SREP capital calculation and forms an integral part of their risk assessment system for individual institutions and/or ongoing off-site monitoring. On-site examinations also cover credit concentration risk regularly.

In Liechtenstein, while external audit companies perform certain plausibility checks on the credit portfolio, the FMA's assessment of credit concentration risk under its SREP is limited to only qualitative assessments.

The vast majority of EEA countries introduced the requirements on the concept of the assessment of concentration risk into their internal supervisory manuals/handbooks and provided guidance or other means of support to supervisors (AT, BE, CY, EL, ES, FI, HR, IT, LU, LV, NL, NO, PL, PT, SI, SK and UK).

3.3 General – paragraph 60

The Guidelines on the management of concentration risk under the supervisory review process (GL 31, paragraph 60) note that:

> *'institutions should derive a concise and practical definition of what constitutes a credit concentration. The definition should encompass the sub-types of credit concentrations being addressed, including exposures to [the] same counterparties, groups of connected counterparties, and counterparties in the same economic sector, geographic region or from the same activity or commodity, the application of credit risk mitigation techniques, and including in particular risks associated with large indirect credit exposures (e.g. to a single collateral issuer).'*

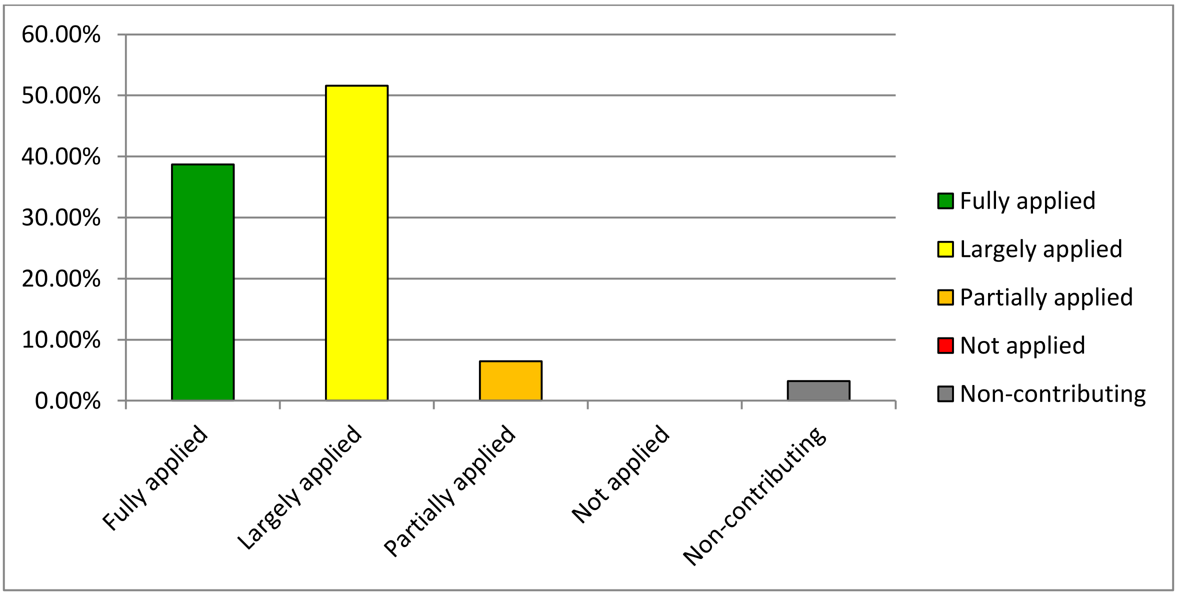
The requirements set out in paragraph 60 of GL 31 have been deemed to be 'fully applied' by 12 NCAs, 'largely applied' by 16 and 'partially applied' by two.

[8] The French ACPR explained that no specific law or guideline to implement GL 31 was enacted because other regulation had already been issued beforehand, e.g. regulations on large exposures and internal controls.

Figure 3: Summary table of NCA peer-reviewed assessment responses – paragraph 60

EBA GL Paragraph Reference	Paragraph 60		
MS	Assessment	MS	Assessment
AT	Largely applied	IT	Fully applied
BE	Largely applied	LI	Largely applied
BG	Largely applied	LT	Fully applied
CY	Largely applied	LU	Largely applied
CZ	Fully applied	LV	Largely applied
DE	Fully applied	MT	Partially applied
DK	Fully applied	NL	Fully applied
EE	Fully applied	NO	Largely applied
EL	Largely applied	PL	Partially applied
ES	Fully applied	PT	Fully applied
FI	Largely applied	RO	Largely applied
FR	Fully applied	SE	Largely applied
HR	Largely applied	SI	Largely applied
HU	Fully applied	SK	Largely applied
IE	Fully applied	UK	Largely applied
IS	Non-contributing		

Figure 4: Summary chart of NCA peer-reviewed assessments – paragraph 60



Paragraph 60 relates to whether the NCAs' review covers the assessment, whether credit institutions have a concise and practical definition of what constitutes a credit concentration in place, such that it covers the required sub-types of credit concentrations:

'How does your supervisory assessment ensure that credit institutions have a concise and practical definition of what constitutes a credit concentration, such that it covers the sub-types of credit concentrations being addressed, including:

- *exposures to the same counterparties,*
- *exposures to groups of connected counterparties,*
- *exposures to counterparties in the same economic sector, geographic region or from the same activity or commodity,*
- *the application of forward-looking credit risk mitigation techniques,*
- *in particular risks associated with large indirect credit exposures (e.g. to a single collateral issuer).'*

Assessment of answers

The independent review-by-peers of NCAs' self-assessments was performed in accordance with benchmarking criteria, in which three basic criteria were identified:

- the scope of the supervisory assessment;
- the range and frequency of the supervisory assessment;
- the process, procedures and methods of the supervisory assessment.

Below benchmarking criteria were defined for the possible level of compliance. For an assessment of 'fully applied', the following criteria must be satisfied:

- the supervisory assessment by the NCA includes an assessment of the definition of credit concentration used by banks.

- the NCA verifies if the bank's definition of credit concentration covers exposures to the same counterparties and to groups of connected counterparties.

- the NCA verifies if the bank's definition of credit concentration covers exposures to counterparties in the same economic sector, geographic region or from the same activity or commodity, the application of forward-looking credit risk mitigation techniques and risks associated with large indirect credit exposures (e.g. to a single collateral issuer).

- the NCA assesses the definition of credit concentration used by banks as part of the annual SREP in an off and/or on-site supervision context (or less than annually where proportionality is judged to apply).

For an assessment of 'largely applied', the following criteria must be satisfied:

- the supervisory assessment by the NCA includes an assessment of the definition of credit concentration used by banks.

- the NCA verifies if the bank's definition of credit concentration covers exposures to the same counterparties and to groups of connected counterparties.

- the NCA verifies if the bank's definition of credit concentration covers exposures to counterparties in the same economic sector, geographic region or from the same activity or commodity.

- the NCA assesses the definition of credit concentration used by banks as part of the annual SREP in an off and/or on-site supervision context (or less than annually where proportionality is judged to apply) *if there are documented reasons to suspect that they may not be satisfactory.*

For an assessment of '<u>partially applied</u>', the following criteria must be satisfied:

- the supervisory assessment by the NCA includes an assessment of the definition of credit concentration used by banks.

- the NCA verifies if the bank's definition of credit concentration covers exposures to the same counterparties and to groups of connected counterparties.

- the NCA assesses the definition of credit concentration used by banks on a less than annual basis as part of the SREP in an off and/or on-site supervision context *(or a less than relevant time scale for periodic reassessments of elements of the SREP where proportionality is judged to apply) if there are reasons to suspect that they may not be satisfactory.*

For an assessment of '<u>not applied</u>':

- Any of the criteria for 'partially applied' are not met.

In the initial NCA self-assessments of applying the requirements set out in paragraph 60 of GL 31, most NCAs considered themselves in their self-assessment as 'fully applied' (15 NCAs) or 'largely applied' (14 NCAs). Only one NCA self-assessed itself as 'partially applied'.

To ensure a fair assessment, the EBA addressed follow-up questions to 23 NCAs (AT, BE, BG, CY, CZ, DK, EE, EL, ES, FI, HR, IE, LI, LT, LU, LV, MT, NL, NO, PL, SE, SK and UK) with a view to obtain more detailed information or missing information. After the reassessment performed by the EBA's review-by-peers exercise, the allocation of the compliance with the benchmarks was changed in several cases.

The independent review-by-peers of the self-assessment by NCAs was made on the basis of given NCAs' self-assessments; it provided evidence in the form of detailed descriptions, reference materials and additional clarifications. As a result of the peer review, the self-assessments of 27 NCAs were confirmed by the EBA. The self-assessments of three NCAs have been revised by the EBA.

Regarding paragraph 60 of GL 31, it would seem that for the most part the assessed paragraph 60 was applied to a similar degree across NCAs. Generally, the supervisory approaches of all (30) peer-reviewed NCAs include an assessment of the definition of credit concentration used by credit institutions.

However, there are some differences in the approaches of individual NCAs, e.g. differences in the scope, range, or in the frequency of the assessment. There are also some differences regarding the level of application between 'large and complex banks' and 'other banks' and also regarding process and methods of the supervisory assessment.

For most NCAs the supervisory assessment of the definition of credit concentration used by credit institutions is a part of the annual ICAAP/SREP in off and/or on-site supervision.

Almost all NCAs assess whether the definition of credit concentration used by credit institutions is (largely) commensurate with the required scope. However, a number of NCAs did not verify sufficiently whether the credit institution's definition of credit concentration included the application of forward-looking credit risk mitigation techniques and risks associated with large indirect credit exposures (e.g. to a single collateral issuer). Improvements could still be made by virtually all NCAs that were deemed to be not applying the GL 31 'fully' in this area.

Most NCAs conduct their assessments of credit institutions annually for 'large and complex banks' and for 'other banks' less frequently. This is because a number of NCAs differentiate in their supervisory approaches between 'large and complex banks' and 'other banks', taking into account the principle of proportionality. The review of 'large and complex banks' is usually done more thoroughly. Only a few NCAs (i.e. the Croatian National Bank and the FMA Liechtenstein) involve external parties (such as auditing firms) in performing the assessments.

3.4 Guideline 7

The Guideline 7 of GL 31 states:

> *'Institutions should employ methodologies and tools to systematically identify their overall exposure to credit risk with regard to a particular customer, product, industry or geographic location.'*

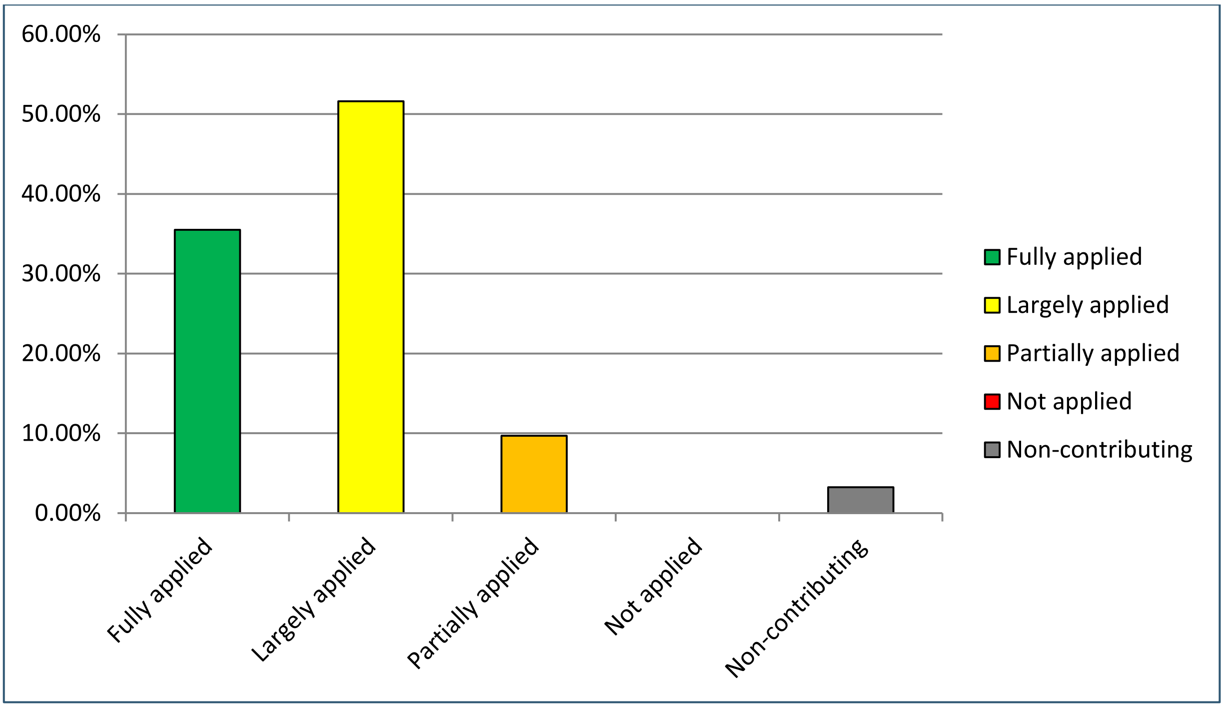
The requirements specified in Guideline 7 of GL 31 have been deemed to be 'fully applied' by 11 NCAs, 'largely applied' by 16 and 'partially applied' by three.

Figure 5: Summary table of NCA peer-reviewed assessment responses – Guideline 7

EBA GL Paragraph Reference	Guideline 7, Paragraphs 61-65		
MS	**Assessment**	**MS**	**Assessment**
AT	Largely applied	**IT**	Fully applied
BE	Largely applied	**LI**	Largely applied
BG	Largely applied	**LT**	Fully applied
CY	Largely applied	**LU**	Largely applied
CZ	Fully applied	**LV**	Fully applied

DE	Fully applied	MT	Partially applied
DK	Largely applied	NL	Largely applied
EE	Largely applied	NO	Largely applied
EL	Largely applied	PL	Partially applied
ES	Fully applied	PT	Fully applied
FI	Largely applied	RO	Largely applied
FR	Fully applied	SE	Largely applied
HR	Largely applied	SI	Largely applied
HU	Fully applied	SK	Fully applied
IE	Partially applied	UK	Fully applied
IS	Non-contributing		

Figure 6: Summary chart of NCA peer-reviewed assessments – Guideline 7



Guideline 7, paragraphs 61-65 relate to whether the NCAs' supervisory assessment covers the use of methodologies and tools by credit institutions to identify their overall credit risk exposure:

> *To what extent does your supervisory assessment take into account the following (please refer to subparagraphs (i) to (vi)) when assessing whether a credit institution employs methodologies and tools to systematically identify their overall exposure to credit risk with regard to a particular customer, product, industry or geographic location:*
>
> *In answering this question, explain how your supervisory authority:*
>
> *(i) assesses whether the credit institution's setting of internal controls and credit risk limits adequately reflects the credit concentration risk appetite relative to the credit institution's size, complexity and nature of its business;*

(ii) *assesses whether the credit institution's infrastructure used to aggregate and consolidate credit exposures and manage credit risk limits is sufficiently robust to capture, on an institution-wide basis, the complexity of the credit portfolio from an obligor relationship and subordination perspective;*

(iii) *assesses whether the credit institution's framework takes into account the inter-obligor relationships that may arise from exposures having the support of guarantees or utilising other forms or credit enhancement;*

(iv) *assesses whether the credit institution's framework takes into account the underlying exposures to credit concentration risks that may arise from the structure of the underlying complex products, such as securitised products;*

(v) *assesses whether the credit institution's framework takes into account the banking and trading book and requires institutions to identify significant exposures in the trading book to instrument types exposed to the same idiosyncratic risk;*

(vi) *assesses whether the credit institution's framework takes into account the output of the credit institution's stress test to further identify hidden areas of credit concentration risk, and interconnectedness not previously identified.*

Assessment of answers

Below benchmarking criteria were defined for the possible level of compliance. For an assessment of '<u>fully applied</u>', the following criteria must be satisfied:

- the adequacy of a firm's methodologies and tools to systematically identify their overall exposure to credit risk is assessed as part of the annual SREP in an off and/or on-site supervision context (or less than annually where proportionality is judged to apply).

- in assessing a firm's methodologies and tools to systemically identify their overall exposure to credit risk, all criteria (i)–(vi) are assessed (see above).

For an assessment of '<u>largely applied</u>', the following criteria must be satisfied:

- the adequacy of a firm's methodologies and tools to systematically identify their overall exposure to credit risk is assessed as part of the annual SREP in an off and/or on-site supervision context (or less than annually where proportionality is judged to apply) *if there are documented reasons to suspect that they may not be satisfactory*.

- in assessing a firm's methodologies and tools to systematically identify their overall exposure to credit risk, at least all of *(i)-(iii) and (v)* are assessed.

For an assessment of '<u>partially applied</u>', the following criteria must be satisfied:

- the above specified elements involved in assessing the adequacy of a firm's methodologies and tools to systematically identify their overall exposure to credit risk are assessed on a less-than-annual basis as part of the SREP in an off and/or on-site supervision context *(or a less* *than relevant time scale for periodic reassessments of elements of the SREP where proportionality is judged to apply) if there are reasons to suspect that they may not be satisfactory*; and

- in assessing a firm's methodologies and tools to systematically identify their overall exposure to credit risk, at least *(i) and (ii)* are assessed.

For an assessment of '<u>not applied</u>':

- Any of the criteria for 'partially applied' are not met.

In the initial self-assessments, 14 NCAs (45.2%) considered they had 'fully' applied the requirements set out in Guideline 7 of GL 31, 'largely applied' by 13 NCAs (41.9%) and 'partially applied' by three NCAs (9.7%). According to their self-assessed answers, almost all the NCAs 'fully' or 'largely' applied the related Guideline 7 provisions.

To ensure a fair assessment, the EBA addressed follow-up questions to 25 NCAs (AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, LI, LT, LV, MT, NL, NO, PL, SE, SI and UK) with a view to obtain more detailed information or missing information. After the reassessment performed by the EBA's review-by-peers exercise, the allocation of the compliance with the benchmarks was changed in several cases.

As a result of the peer review, two NCAs' assessments were upgraded from 'partially applied' to 'largely applied', two NCAs assessments were downgraded from 'fully' to 'largely applied', one from 'largely' to 'partially applied' and one from 'fully applied' to 'partially applied'.

Almost all NCAs' approaches take into account whether credit institutions employ methodologies and tools to identify their overall credit risk exposure, including internal controls and credit risk limits; the credit institution's infrastructure; inter-obligor relationships and whether credit institutions take into account both the banking and the trading book.

However, the 16 NCAs that have been deemed to 'largely' apply Guideline 7 have not been able to demonstrate that they apply criteria (iv) and/or (vi). Accordingly, it is assumed that those NCAs do not assess whether the credit institution's framework takes into account the underlying exposures to credit concentration risks that may arise from the structure of the underlying complex products, such as securitised products. Furthermore, they do not assesses whether the credit institution's framework takes into account the output of the credit institution's stress test to identify hidden areas of credit concentration risk, and interconnectedness not previously identified.

Furthermore, three NCAs have been deemed to 'partially' apply Guideline 7 (Central Bank of Ireland, Malta FSA and KNF Poland). These NCAs did not fulfil the requirements specified for being 'largely applied' but showed further room for improvement. Regarding the Central Bank of Ireland, this NCA was not able to demonstrate fully that it assesses whether the credit institution's infrastructure used to aggregate and consolidate credit exposures and manage credit risk limits is sufficiently robust to capture, on an institution-wide basis, the complexity of the credit portfolio from an obligor relationship and subordination perspective. However, the EBA noted that the frameworks of the Central Bank of Ireland for credit concentration risk assessment is adequate overall and, therefore, assigned these to 'partially applied'.

In the case of the Maltese FSA, the overall supervisory framework that has been implemented did not appear to be comprehensive. The assessment on whether the credit institution's framework takes into account the inter-obligor relationships was deemed to be lacking as well as the consideration of both banking and trading book exposures.

The Polish KNF was unable to demonstrate that it sufficiently assesses whether the frameworks employed by credit institutions take into account inter-obligor relationships and underlying exposures to credit concentration risks that may arise from the structure of the underlying complex products, such as securitised products, and both banking and trading book exposure.

3.5 Guideline 8

Guideline 8 lays down the requirements that NCAs should include in their supervisory practices when reviewing credit institutions' management of their credit concentration risk, regarding the assessment of the credit institutions' ability to capture the nature of interdependencies. It states:

> *'The models and indicators used by institutions to measure credit concentration risk should adequately capture the nature of the interdependencies between exposures.'*

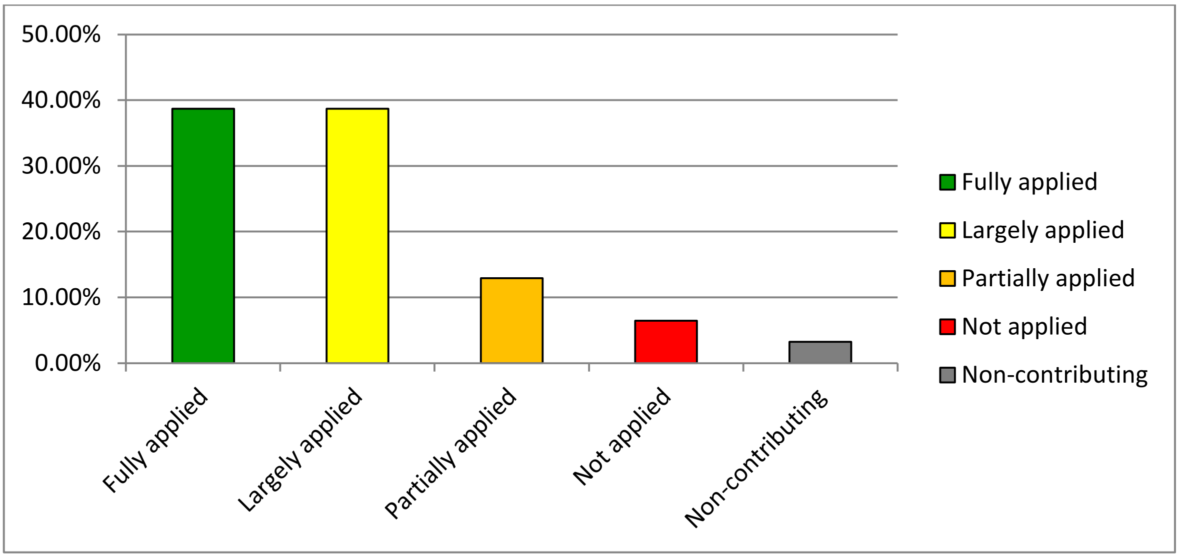
After the peer review the requirements specified in Guideline 8 of GL 31 have been deemed to be 'fully applied' by 12 NCAs, 'largely applied' by 12, 'partially applied' by four and 'not applied' by two.

Figure 7: Summary table of NCA peer-reviewed assessment responses – Guideline 8

EBA GL Paragraph Reference	**Guideline 8, Paragraphs 66-70**		
MS	**Assessment**	**MS**	**Assessment**
AT	Largely applied	**IT**	Fully applied
BE	Largely applied	**LI**	Fully applied
BG	Not applied	**LT**	Fully applied
CY	Not applied	**LU**	Largely applied
CZ	Fully applied	**LV**	Fully applied
DE	Fully applied	**MT**	Partially applied
DK	Fully applied	**NL**	Fully applied
EE	Fully applied	**NO**	Partially applied
EL	Largely applied	**PL**	Partially applied
ES	Fully applied	**PT**	Fully applied
FI	Largely applied	**RO**	Partially applied
FR	Largely applied	**SE**	Largely applied
HR	Largely applied	**SI**	Largely applied

HU	Fully applied	**SK**	Largely applied
IE	Largely applied	**UK**	Largely applied
IS	Non-contributing		

Figure 8: Summary chart of NCA peer-reviewed assessments – Guideline 8



To assess the way competent authorities evaluate the models and indicators that are used by credit institutions to measure credit concentration risk adequately capture the nature of the interdependencies between exposures, they had to explain how they:

(i) assess whether the credit institution's model takes into account interdependencies between exposures;

(ii) assess whether the credit institution's model is fully understood by the credit institution and whether its structure fits the characteristics of the institution's portfolios;

(iii) assess the conservatism of any model's underlying assumptions and techniques, including: the quality of any data used to measure exposures; the sample period used to calibrate the model; and the principles used to aggregate different types of exposures across the business lines of an institution; and

(iv) assess whether the credit institution takes account of the outputs of any models/indicators in formulating its credit policies and limits.

Assessment of answers

Below benchmarking criteria were defined for the possible level of compliance. For an assessment of 'fully applied', the following criteria had to be satisfied:

- concentration risk is assessed as part of the annual SREP in an off and/or on-site supervision context (or less than annually where proportionality is judged to apply).
- in assessing concentration risk, all criteria (i)–(iv) are assessed.

For an assessment of 'largely applied', the following criteria must be satisfied:

- concentration risk is assessed as part of the annual SREP in an off and/or on-site supervision context (or less than annually where proportionality is judged to apply) *if there are documented reasons to suspect that they may not be satisfactory.*

- in assessing concentration risk, at least *(i) and (ii)* are assessed.

For an assessment of 'partially applied', the following criteria must be satisfied:

- concentration risk is assessed on a less than annual basis as part of the SREP in an off and/or on-site supervision context *(or a less than relevant time scale for periodic reassessments of elements of the SREP where proportionality is judged to apply) if there are reasons to suspect that they may not be satisfactory*; and

- in assessing concentration risk, at least *(i)* is assessed.

For an assessment of 'not applied':

- Any of the criteria for 'partially applied' are not met.

In the initial self-assessments, 14 NCAs (45.2%) considered they 'fully' apply requirements set out in Guideline 8 of GL 31, 'largely applied' by 13 NCAs (41.9%) and 'partially applied' by three NCAs (9.7%). According to their self-assessed answers, almost all NCAs 'fully' or 'largely' apply the related Guideline 8 provisions.

To ensure a fair assessment, the EBA addressed follow-up questions to 23 NCAs (AT, BE, BG, CY, CZ, DE, DK, ES, FI, FR, HR, HU, IE, LI, LT, LU, MT, NL, NO, PL, RO, SI and UK) to obtain more detailed or missing information. After the reassessment by the EBA's review-by-peers exercise, the level of compliance with the benchmarks was changed in several cases.

As a result of the peer review, two NCAs assessments were downgraded from 'fully' to 'largely applied', a further three from 'largely' to 'partially applied' and two from 'partially applied' to 'not applied'.

After the review-by-peers, it was concluded that a vast majority of the NCAs in the EEA (almost four out of five) assess concentration risk in 'large and complex banks' at least annually in the framework of SREP when unsatisfactory, taking into account interdependencies between exposures.

Most NCAs check whether the credit institutions fully understand their models and whether the structure of the models takes into account the characteristics of the portfolio. However, only half of the NCAs (i.e. just two out of five competent authorities which are assessed as 'largely applied' or below) are able to assess the conservatism of the models' underlying assumptions and techniques as well as how a credit institution uses their resulting outputs when it formulates credit policies and limits.

In some cases, NCAs require credit institutions to assess all their material risks and create a risk profile, taking into account exposures, countries, customers, etc. (inter- and intra-risk concentration). In parallel, credit institutions have to implement a risk control unit which is responsible for the risk assessment, the risk limitation and the risk reporting to the management board. Whenever required to implement an adequate business and risk strategy taking risk concentration explicitly into account, NCAs conduct an assessment of that strategy during on-site inspections.

It was deemed pertinent to have issued regulation containing specific provisions which allow for a simplified implementation depending on the size of the institution, its core business activities and its risk profile, i.e. to implement the proportionality principle. In this regard, it is expected that larger credit institutions with complex business activities and complex business models implement more complex and refined risk management systems.

A minority of national supervisors (i.e. one out of eight) assess concentration risk on a less than annual basis and limit their analysis to the interdependencies between exposures. Four NCAs (Maltese FSA, Norwegian Finanstilsynet, KNF Poland and the National Bank of Romania) have been deemed to 'partially' apply Guideline 8. In addition to the above regarding NCAs that 'largely' apply the guideline, these NCAs were not able to demonstrate whether they assess that a credit institution's model is fully understood by the credit institution and whether its structure fits the characteristics of the institution's portfolios.

Moreover, two additional NCAs (the Bulgarian National Bank and Central Bank of Cyprus) responses do not demonstrate that they meet at least these criteria. These NCAs had further room for improvement. These NCAs did not fully assess whether the credit institution's model takes into account interdependencies between exposures. However, in Bulgaria most of the banks do not use models but apply simpler approaches for the measurement of credit concentration risk. Those credit institutions that do use models are subsidiaries of cross-border banking groups.

3.6 Analysis of resource and governance arrangements

This section provides an approximate overview of resources committed by NCAs on appropriate processes and governance arrangements regarding the management of credit concentration risks, noting differing national supervisory practices and lack of consistency in available data on NCA staffing levels. As noted above, GL 31 addresses all aspects of concentration risk; credit institutions are expected to identify and assess all risk concentrations. However, NCAs rarely make the assessment of credit concentration risk in isolation and it is recognised as an integral part of general credit risk reviews. Furthermore, specific national issues (e.g. differences in business models) must also be accounted for in NCAs' resource commitments and governance arrangements.

For most NCAs, the review of institutions' management of credit concentration risk is an integral part of their SREP and in particular the review of the ICAAP of credit institutions. Accordingly, the review is usually not a separate and quantifiable function but an integrated part of the NCAs' ongoing supervision of credit institutions. Hence, most NCAs have not been able to quantify, for instance, the number of FTEs committed to the review of the management of credit concentration risk.

The frequency for the SREP is typically annual. Though, the review of the management of concentration risk is not necessarily covered in full annually. Furthermore, typically NCAs review the management of credit concentration risk both on-site and off-site. However, the frequency of on-site visits differs substantially and is often rather on an ad hoc basis, if off-site supervision or other indicators point towards deficiencies at institutions. Additionally, most NCAs differentiate in their approach between 'large and complex banks' and 'other banks', taking into account the proportionality principle. Therefore, the review of 'large and complex banks' is usually more intense (i.e. including more frequent on-site visits) than for 'other banks'.

Only a few NCAs mention that they involve external parties (such as auditing firms) at various stages in the supervisory review process. Furthermore, the reporting frequency seems to differ between NCAs. Some NCAs, for example, receive dedicated concentration risk reports, which could lend themselves towards good practices. In some countries, the off-site supervision relies on the testified annual financial statements, which comprise an evaluation of the whole risk management by an external auditor to assess the adequacy and compliance of the credit institution's risk management with the current legislation.

Resources and time committed

As noted above, for most NCAs an assessment of the resource and time committed towards this topic has not been possible. However, for those that have provided estimates, the numbers seem to differ substantially, which is also due to different bases for these estimates. Estimates varied considerably in terms of man-days per bank per year. This is due to different intensities of supervision but in some cases also due to the use of external parties or the different risk profile of credit institutions.

Proportion of institutions covered

Most NCAs have provided numbers regarding the proportion of credit institutions covered regarding the supervisory assessment of credit concentration risk in terms of total assets for 2012 and 2013. For most NCAs this number is around 80-100%, which would mostly just represent where the supervisory review is conducted off-site and/or on-site. A few NCAs, however, reported a lower coverage, sometimes below 50%.

Outputs of assessment

Regarding the output of the supervisory assessment, almost all NCAs include these in their SREP reports. On-site inspection reports are specifically mentioned as well by AT, BE, CZ, DE, DK, EL, FI, HR, IT, LV, MT, NO, PT and SK. The Risk Assessment System (RAS) is mentioned by AT, BE, CZ, DE, DK, ES, HR, IE, IT, LU, LV, MT, PT, RO, SK and UK.

Individual credit concentration risk reports are produced by AT, CZ, DE, EL, ES, FI, HR, LU and PT. Reports on the fulfilment of supervisory measures are undertaken by HR, IT, LU and LT. Furthermore, the Croatian National Bank, for example, includes concentration risks in its quarterly Reports on the banking system for the management of its supervision department (including specific topics like information on distribution, exposure on loans by activities on an individual level as well as on a system level).

The dissemination of the SREP typically takes place within NCAs and institutions are normally informed with regards to the outcomes, and the resulting supervisory measures directed towards them.

Measures applied

Generally, the need for follow-up measures would also depend on the nature, size, risk profile, business model and complexity of the credit institution, and on whether the SREP is performed on or off-site.

Some NCAs provided examples of the supervisory measures they had taken. For instance, the Czech National Bank noted that in several cases they applied a capital add-on under Pillar 2 to cover risks connected with credit concentrations and went into further detail with regards to the withdrawal of authorisation in a specific case of a smaller credit union where a few customers constituted almost its entire credit portfolio. The Swedish Finansinspektionen seemed to have had a similar case at a larger credit institution, where also a Pillar 2 capital add-on was applied.

The Bank of Italy explained further their interventions on credit risk concentration involving both the categories of 'large and complex banks' and 'other banks'. Regarding 'large and complex banks', for example:

- The holding company's internal control functions were requested to perform specific controls on the effectiveness of large exposures limits;
- Specific intervention on organisation and IT systems was requested; formalisation of internal rules on the granting by the holding company of a guarantee within risk participation agreements where the regulatory limit was exceeded; implementation of specific information flows to the holding company; clear and specific responsibilities of managers where there are exposures of different entities within the Group.

Furthermore, many NCAs noted that credit concentration risk is linked to housing markets or mortgage lending, and that in some MS consideration is given to employ macro-prudential measures beyond the supervisory toolkit to address the risk to property markets.

Specialist supervisory resources

The assessment of the management of credit concentration risk is usually not a separate and quantifiable function but an integrated part of the on-going supervision of credit institutions. However, some NCAs had developed more expertise regarding the supervision of this area or employ other specific tools. For example, the Bank of Spain forms specific teams responsible for reviewing credit risk and its management. In the organisational structure of the Bank of Spain, there are horizontal teams dedicated to reviewing models of credit risk in both its regulatory and economic side, including, among other aspects, concentration risk.

As another example, the UK PRA has a capital management team within the risk specialists division which supports supervisors in carrying out the SREP for 'large and complex banks'.

The Croatian National Bank explained that in its supervision department approximately 20% of total supervisory resources can be associated with credit risk specialists that experienced specific training and education regarding credit risk management including concentration risk issues.

4. Specific findings from on-site visits

The EBA conducted two on-site visits in connection with the peer review of GL 31 regarding credit concentration risk.[9] These took place in early June 2014. The visiting teams consisted of one NCA expert (experts nominated by their NCA) in credit risk and two EBA staff. The visits were to gather further examples of good/best practice at the NCA and each visit lasted one day. The Bank of Portugal and the Czech National Bank were subject to the visits.

The visits took place on the premises of the NCAs, and were based on interviews and a review of the NCA's documentation of the credit concentration risk assessments. The staff interviewed at the NCAs were chosen before the visit, and included a mixture of senior management and credit concentration risk specialists/line supervisors. NCAs were asked to provide the visiting teams with relevant documentation on the application of GL 31 regarding credit concentration risk. Confidentiality was guaranteed either by a 'dark room' environment or by redaction (striking out certain passages) of documents.

The EBA noted that the evaluation of evidence on the ground helped to understand the individual situation better, in particular as follows:

- The EBA on-site visit teams and NCAs had useful discussions on the benefits of centralised resources versus dispersed resources. Similar to the conclusions of the peer review of GL 32, it was viewed that generally both have benefits. Furthermore, dedicating staff to individual credit institutions with a close managerial overview was identified as having a positive impact on the overall quality of NCAs' supervision.

  - Comprehensive and clear supervisory methodologies/handbooks were noted as being of particular importance to guide line supervisors.

[9] The EBA undertook in the peer review of GL 31 regarding credit concentration risk only two on-site visits due to resource constraints faced by NCAs given the comprehensive assessment led by the European Central Bank related to the establishment of the Single Supervisory Mechanism.

- NCAs' specialist functions (e.g. regarding ICAAP analysis and credit risk) can usefully support line supervisors in their assessment of credit institutions' credit concentration risk, e.g. through the use of multidisciplinary teams.

- The RAS with all its components form an integral part of the ICAAP/SREP assessment. Both indicators and models are assessed and tested under adverse circumstances in the SREP process. Regarding credit risk models, the Bank of Portugal examines whether the model takes into account concentrations in certain activities, geographies, types of products and furthermore whether correlation matrixes or other aggregation techniques properly capture these relations between exposures. The conservatism of the model is very important and the scenarios used are compared with historical data to make sure they are appropriately severe.

- Intense on-site inspections: at the Czech National Bank, on-site inspection teams consist of 25 staff (including credit risk specialists) and inspections often last around 3-4 months. Altogether, including the preparation of the inspections and ex post analysis, a single on-site inspection process can take up to six months. On-site inspections feature an intense review of a substantial sample of the bank's credit portfolio, including the comprehensive review of all relevant files containing to a sample of individual loans. At on-site inspections, the CNB also assesses groups of interconnected parties.

- The importance of forward-looking supervision was demonstrated by NCAs. For example, funding and capital plans are required twice a year by the Bank of Portugal to be submitted by credit institutions which allow the NCA to assess the institutions' projected funding and capital position over a longer time horizon. Within the framework of this forward-looking plan, the HHI is computed to include all credit exposures to corporate clients. The changes in name concentrations tested under an adverse scenario are reflected in a percentage add-on to the RWAs of the exposures considered in the calculation of the HHI. As the Czech Republic's macroprudential authority, the CNB has at its board level quarterly discussions of the appropriateness of national macroprudential measures, which are also attended by microprudential supervisors.

- Central credit registers (both public and private) can provide valuable reference information to NCAs for assessing credit concentration and credit risk, subject to the granularity of the register's data. Information on clients, collaterals, off-balance items, write-offs can be used during on-site examinations.

- Data regarding economically related groups is also analysed by NCAs. As a result of the RAS, Pillar 2 capital add-ons may be required from the credit institution in some cases. The capability of large credit institutions to capture adequate credit data, analyse and monitor their credit concentrations, and produce a comprehensive set of automated supervisory reporting strengthen NCAs' risk analysis. Ideally, advanced risk analysis systems are used by NCAs to extract the relevant information automatically from the reporting to support supervisors in analysing inherent risks.[10]

- Indirect credit exposures (based on e.g. collateral) are considered automatically when total exposures by clients/counterparties are determined. Collaterals are being taken into account in the form of off-balance sheet items.

- Regular peer comparisons by NCAs between credit institutions provide NCAs with a horizontal view for benchmarking credit concentration risk by sector, industry and/or country. This can be usefully supported by data on individual loans contained in the central credit register. The systematic follow-up of NCAs' recommendations for credit institutions was monitored closely by NCAs so that shortcomings are addressed.

Further information about the specific on-site visits is expressed in the examples of good practice below.

5. Examples of good practice

5.1 General practices identified across NCAs

Below is an overview of some examples of good practice identified in the peer review of the EBA's GL 31 regarding credit concentration risk. This is a non-exhaustive list. In some cases, the examples provide illustrations of good practice in only some NCAs although similar practice could also be observed in other NCAs.

Concerning the general legal form of implementation of GL 31 regarding credit concentration risk, no clear relationship between this and the final peer-reviewed assessments has been found. Nonetheless, the review of credit institutions' frameworks for the management of credit concentration risk should be part of the annual SREP.

A large coverage by NCAs of their supervised credit institutions on the application of GL 31 regarding credit concentration risk in the NCAs' annual SREP, both through on-site and off-site supervision, constitutes good practice. It would be even better if the supervisory approach facilitates the integration of both the on-site and off-site analyses to a high degree, e.g. by closely involving off-site supervisors in on-site inspections. NCAs should also include in their on-site examinations the review of concentration risk management. In addition, a detailed review of a comprehensive sample of individual credit files takes place in some cases.

[10] Reference can be made to the BCBS's 'Principles for effective risk data aggregation and risk reporting', published in January 2013.

When applying a concise and practical definition of credit concentration, some NCAs require credit institutions to conduct scenario analysis, stress tests and sensitivity analysis to identify hidden concentrations. Furthermore, correlations also have to be taken into account.

NCAs should also require credit institutions to have tools in place to systematically identify their overall exposure to credit risk with regard to a particular customer, groups of economically connected groups, product, industry or geographic location. NCAs should assess whether the credit institution's infrastructure used to aggregate and consolidate credit exposures and manage credit risk limits is sufficiently robust to capture, on an institution-wide basis, the complexity of the credit portfolio from an obligor relationship and subordination perspective. A comprehensive set of automated supervisory reports was noted as being beneficial for NCAs' risk analysis.

Central credit registers (both public and private) can provide valuable information to NCAs depending on the amount of available granular data. Regular peer comparisons between credit institutions provide NCAs with a horizontal view for benchmarking credit concentration risk. This can be usefully supported by data on individual loans contained in the central credit register.

NCAs should verify the models and indicators used by credit institutions to measure credit concentration risk. For example, some NCAs have detailed checklists and specific guidelines included in their supervisory guides/handbooks for this purpose.

Establishment and use by NCAs of dedicated teams focusing on the validation of internal models used by credit institutions for risk management purposes as well the use of internal models for the calculation of capital requirements was considered good practice.

For less complex credit institutions, the use of the HHI within the Risk Assessment Systems as an indicator of concentration risk to industries/economic sectors was also considered good practice.

5.2 Specific practice per topic

5.2.1 General implementation by NCAs

Regarding the general implementation of GL 31 regarding credit concentration risk, the supervisory practices below are examples of good practice:

- GL 31 regarding credit concentration risk was taken into account when the NCA developed the audit software being used for conducting on-site examinations (FMA Austria).
- The on-site supervisory manual includes a separate questionnaire for credit concentration risk (Bank of Greece), or a questionnaire was developed to facilitate supervisors in the assessment of different forms of concentration risk (Central Bank of Cyprus).
- In terms of implementation, the DNB (Netherlands) was selected as an example of good practice, because the NCA went beyond strictly implementing GL 31 regarding credit concentra-

tion risk and issued rules which covered specific concentrations that were relevant locally (e.g. regarding emerging market exposures).

- Specific risk cards have been developed for internal use providing more explanation and guidance to supervisors on assessing country/sector concentration risk (DNB Netherlands).
- An internal risk matrix assessment guide addresses concentration risk explicitly (Bank of Spain). The criteria included in this guide are shared with the credit institutions' risk officers at meetings held during the annual review process of their ICAAP reports.
- On-going in-house training on the supervisory standards with regard to the Pillar 2 requirements including concentration risk (CSSF Luxembourg) or initial training courses (NBB Belgium, Croatian National Bank).

5.2.2 Paragraph 60

The good (individual) practices were identified mainly in five NCAs (DE, ES, FR, IT and PT) and individual good practices relating to basic criteria (the scope/range and frequency/process, procedures and methods of supervisory assessment) were summarised into one general good practice:

'The supervisory assessment of the definition of credit concentration used by banks is conducted:

- *to assess the internal policies on concentration risk, the implementation of techniques compliant with prudential requirements, the correct application of the definition of credit concentration risk and its consistency with the general framework*
- *in required scope, such that the assessment covers all required sub-types of credit concentrations:*
    - *exposures to the same counterparties*
    - *exposures to groups of connected counterparties*
    - *exposures to counterparties in the same economic sector, geographic region or from the same activity or commodity*
    - *the application of forward-looking credit risk mitigation techniques*
    - *risks associated with large indirect credit exposures (e.g. to a single collateral issuer)*
    - *annually in range of all banks or annually in range of all 'large and complex banks' and less than annually where proportionality is judged to apply*
- *in a duly formalised process, (incl. procedures and methods) as a part of the annually SREP in an off-site and/or on-site supervision context (and if assessment is a part of annually off-site SREP, the frequency of on-site supervision depends on the institution's SREP score).'*

The EBA noted other specific examples of good practice. Credit institutions are required by the Estonian Financial Supervision Authority to conduct scenario analysis, stress tests and sensitivity analysis to identify hidden concentrations and correlations also have to be taken into account.

The Bank of Spain explained that credit institutions have to consider all their direct risk exposures in the EU regardless of the portfolio (trading, available-for-sale or long-term) in which they are included to calculate sectorial and individual concentration indices. Exposures include discounted commercial paper, credit, loans, fixed-income securities, equity securities, liquid assets, off-balance-sheet exposures, guarantees including CDSs. Since 2014 the sector concentration definition has taken into account provisions and value chain dependencies. In addition, credit institutions must calculate a sectoral concentration index based on 12 sectoral groupings.[11]

As another example of a potential good practice, the Bank of Portugal requires credit institutions to establish appropriate prudential provisions for significant exposures to individual counterparties or a group of connected counterparties; significant exposures to groups of counterparties whose probability of default arises from common underlying risk drivers (e.g. economic sector, geographic area or currency); and indirect credit exposures stemming from the application of indirect risk mitigation techniques.

5.2.3 Guideline 7

In the re-assessment process, based on the NCAs' answers the following good practices regarding the assessment of the adequacy of an institution's methodologies and tools to systematically identify its overall exposure to credit risk with regard to a particular customer, product, industry or geographic location, were identified:

- One NCA (Czech National Bank) has developed a comprehensive framework for credit risk concentration assessment whereby the on-site and off-site analyses are appreciably integrated to fulfil a best review performed under the SREP/ICAAP. The Czech National Bank in its on-site examinations includes the review of concentration risk management. Furthermore, a detailed review of a large sample of individual credit files takes place. This includes the assessment of which limits are in place (e.g. single name concentrations, sector concentrations) and whether they are in line with the business model of the credit institution as well as with the regulatory limits. The Czech National Bank reviews whether the credit institution performs any industry analyses to identify potential risk in certain sectors and whether the credit institution has in place a classification of industries/economic sectors.

- Another NCA (Bank of Portugal) has also developed a comprehensive framework for credit risk concentration assessment as well as considerable practices concerning the institutions' infrastructures used to aggregate and consolidate credit exposures and manage credit risk limits and stress testing. The Bank of Portugal assesses whether the credit institution's infrastruc-

[11] These are real estate; basic materials; non-banking finance; industries; consumer discretionary; information technologies & telecommunication services; transport & logistics; business & professional services; staples; utilities; health & social work activities; fossil energy.

ture used to aggregate and consolidate credit exposures and manage credit risk limits is sufficiently robust to capture, on an institution-wide basis, the complexity of the credit portfolio from an obligor relationship and subordination perspective. Also, an assessment on whether the credit institution's framework takes into account the underlying exposures to credit concentration risks that may arise from the structure of the underlying complex products, such as securitised products, takes place.[12]

The EBA noted other specific examples of good practice, for example, the Bank of Spain has recently introduced the requirement that risks with institutions of collective investment on movable assets, non-mortgage backed securitisation funds and other vehicles of investment (including holding societies) have to be included in the main grouping of the underlying assets, if this grouping exceeds four-fifths of the total. Risks will be distributed to their content proportionally ('look-through').

Furthermore, the ACPR France explained that, as part of the annual SREP, concentration risk is first assessed through its off-site SREP, which is at least annual, and second through on-site supervision. The ACPR's SREP contains a list of indicators for analysis: i) concentration risk by counterparty, using notably the prudential reporting for large exposures; ii) sectorial concentration risk, using notably the reporting to the French Credit Risk Register; iii) geographical concentration risk, using notably the reporting for the balance of payments.

The Bank of Italy provides for its on-site supervision specific guidelines regarding complex situations/specific markets (e.g. leasing, factoring, guarantees, corporate finance, retail finance, securitisation products, credit default swaps) to better understand concentration risk exposures.

5.2.4 Guideline 8

The peer review of the answers given by NCAs in their self-assessments allowed the identification of several good practices regarding the assessment of models and indicators used by credit institutions to measure credit concentration risk. However, NCAs rarely make the assessment of credit concentration risk in isolation, which is especially relevant for the assessment of models used by credit institutions. Some good practices, like considering concentration in collateral issuers apart from guarantors (e.g. Bank of Italy) or a direct link between strategy and outputs (e.g. by the German BaFin), as well as compelling relevant institutions to use models (e.g. at the Czech National Bank), tended to be, on the contrary, the exception.

In fact, some NCAs verify the models and indicators used by credit institutions to measure credit concentration risk as part of the annual SREP in an off-site and on-site supervision context at least annually. For example, the Central Bank of Hungary compares the model parameters against experiences from periods of economic stress and parameters used by other credit institutions. This NCA reproduces the credit institution's model calculations using simulation methods. Some NCAs

[12] The importance of risk aggregation has also been noted in other reports, e.g. the BCBS's 'Principles for effective risk data aggregation and risk reporting', published by BCBS in January 2013.

even assess all risks twice a year if a credit institution is assigned a negative-area score in a preliminary review (Bank of Italy).

To assess the concentration risk models, some NCAs have detailed checklists and specific guidelines included in the supervisory guides (Bank of Italy).

NCAs have dedicated teams focusing on the validation of internal models used by credit institutions for risk management purposes, as well the use of internal models for calculating capital requirements.

The use of the HHI within credit institutions' risk assessment systems as one of the indicators of concentration risk of individual credit institutions to industries/economic sectors was also considered a good practice (Czech National Bank). In addition to concentration/diversification indices, the use of other related indicators (e.g. Gini coefficients, concentration curves) was also noted positively.

NCAs that assessed both quantitative instruments (e.g. limit or traffic light systems) and qualitative instruments (e.g. regular risk assessments) used by credit institutions also qualified as good practices (BaFin Germany). The EBA identified other specific examples of good practices. For instance, the Croatian National Bank was noted for giving special attention to the local customisation of group-wide models used by credit institutions regarding credit concentration risk (both qualitatively and quantitatively as well as their integration to internal reporting systems).

The Dutch Central Bank (DNB) calculates risk indicators from various regulatory reports to benchmark concentration risk add-ons by credit institutions. Furthermore, the DNB calculates the HHI based on the risk weighted assets per sectors/industry classification. The ranges for the various HHIs' outputs are coupled to capital add-ons. Similarly, this is also done for the HHI regarding credit concentrations to various countries, and for single-name concentrations.

The Swedish Finansinspektionen explained that the methodology they employ to a separate capital charge is calculated for name concentration, industry (line of business) concentration and geographical concentration. Credit institutions are required to split their total credit exposure across a number of predefined industries. On this basis, the Finansinspektionen calculates the HHI in order provide a measure of the industry concentration of the credit institution. To convert the HHI to a capital charge, the Swedish methodology contains a table with intervals for HHI, each interval corresponding to a capital charge expressed as a percentage of the Pillar 1 capital requirement for credit risk. This is similarly done for name concentration, industry concentration and geographical concentration. Finally, the Finansinspektionen sums the three resulting separate capital charges to a total charge for credit concentration risk.

The National Bank of Hungary assesses the conservatisms of credit institutions' models and the quality of the data. Comparisons of model parameters against historical experiences (e.g. financial crises) are made by the NCAs.

5.2.5 Resource and governance arrangements

Regarding the resource commitment by NCAs, some NCA's approaches covered the whole banking sector in the off-site review of credit concentration risk and, to a very large extent, through on-site inspections which review credit concentration risks, albeit not on an annual basis.

One NCA was also noted for the macroprudential measures that it has taken during the financial crisis, although these were due to the specific nature of its banking sector.

A number of NCAs have undertaken thematic reviews especially focusing on the management of credit concentration risk. For example, one NCA undertook thematic reviews on the credit risk embedded in the mortgage loan portfolios, the corporate loan portfolios and the sovereign loan portfolios of domestic credit institutions. Apart from these thematic reviews, three specific on-site assignments have been performed during the period under scrutiny. Also, another NCA conducted thematic reviews in selected credit institutions or on selected issues in all credit institutions. In recent years, this NCA has conducted thematic reviews of concentration of loans to commercial property, agriculture and private customers. Similarly, another NCA has conducted a separate thematic review in the context of credit risk assessment.

Some NCAs carry out the analysis of credit concentration risk on an on-going basis, using the quarterly prudential reports and, if necessary, data coming from their national central credit register.

6. Conclusions and recommendations

The analysis of the peer review results on the Guidelines on the management of concentration risk under the supervisory review process (document known as GL 31) found that, overall, competent authorities in Europe (EU Member States and EEA/EFTA countries) largely apply the existing guidelines regarding credit concentration risk. The vast majority of Member States have implemented GL 31 in their existing domestic supervisory regulations/guidelines and domestic regulations/guidelines dedicated exclusively to concentration risk are rare. The NCAs' assessment of credit concentration risk forms an integral part of the NCAs' SREP. Consideration should also be given to how NCAs measure their supervisory resources, as this could assist in assessing the adequacy of resources in future peer reviews.

Also, the EBA should analyse the elements and practices identified in the peer review when developing the single supervisory handbook[13], and as part of the EBA's ongoing work on guidelines related to supervisory practices linked to the CRD.

[13] The EBA will take the timetable established for developing the single supervisory handbook into account in its planning.

Annex I

Figure 9: Table of country codes and acronyms of competent authorities

Country Code	Country	Competent Authority[14]
AT	Austria	Finanzmarktaufsicht (Financial Market Authority, FMA), Oesterreichische Nationalbank (OeNB)
BE	Belgium	National Bank of Belgium (NBB)
BG	Bulgaria	Българска народна банка (Bulgarian National Bank)
CY	Cyprus	Κεντρική Τράπεζα της Κύπρου (Central Bank of Cyprus)
CZ	Czech Republic	Ceska Narodni Banka (Czech National Bank, CNB)
DE	Germany	Bundesanstalt für Finanzdienstleistungsaufsicht (Federal Financial Supervisory Authority, BaFin), Deutsche Bundesbank
DK	Denmark	Finanstilsynet (Danish Financial Supervisory Authority, Danish FSA)
EE	Estonia	Finantsinspektsioon (Financial Supervision Authority)
EL	Greece	Τράπεζα της Ελλάδος (Bank of Greece)
ES	Spain	Banco de España (Bank of Spain)
FI	Finland	Finanssivalvonta (Finnish Financial Supervisory Authority)
FR	France	Autorité de Contrôle Prudentiel et de Résolution (Prudential Supervisory & Resolution Authority, ACPR)
HR	Croatia	Hrvatska Narodna Banka (Croatian National Bank)
HU	Hungary	Magyar Nemzeti Bank (National Bank of Hungary)
IE	Ireland	Central Bank of Ireland
IT	Italy	Banca d'Italia (Bank of Italy)
IS	Iceland	Fjármálaeftirlitið (Icelandic Financial Supervisory Authority - FME)
LI	Liechtenstein	Finanzmarktaufsicht - FMA (Financial Market Authority)
LT	Lithuania	Lietuvos Bankas (Bank of Lithuania)
LU	Luxembourg	Commission de Surveillance du Secteur Financier (Commission for the Supervision of Financial Sector, CSSF)
LV	Latvia	Finansu un Kapitala Tirgus Komisija (Financial and Capital Market Commission)
MT	Malta	Malta Financial Services Authority
NL	Netherlands	De Nederlandsche Bank (Dutch Central Bank, DNB)
NO	Norway	Finanstilsynet (Norwegian Financial Supervisory Authority)
PL	Poland	Komisja Nadzoru Finansowego (Polish Financial Supervision Authority, KNF)
PT	Portugal	Banco de Portugal (Bank of Portugal)
RO	Romania	Banca Naţională a României (National Bank of Romania)
SE	Sweden	Finansinspektionen (Swedish Financial Supervisory Authority)
SI	Slovenia	Banka Slovenije (Bank of Slovenia)
SK	Slovakia	Narodna Banka Slovenska (National Bank of Slovakia)
UK	United Kingdom	Prudential Regulation Authority (PRA)

[14] Also includes central banks with supervisory tasks.

Annex II

Figure 10: Complete summary table

MS	Question 2 (Paragraph 60)	Question 3 (Guideline 7)	Question 4 (Guideline 8)
AT	Largely applied	Largely applied	Largely applied
BE	Largely applied	Largely applied	Largely applied
BG	Largely applied	Largely applied	Not applied
CY	Largely applied	Largely applied	Not applied
CZ	Fully applied	Fully applied	Fully applied
DE	Fully applied	Fully applied	Fully applied
DK	Fully applied	Largely applied	Fully applied
EE	Fully applied	Largely applied	Fully applied
EL	Largely applied	Largely applied	Largely applied
ES	Fully applied	Fully applied	Fully applied
FI	Largely applied	Largely applied	Largely applied
FR	Fully applied	Fully applied	Largely applied
HR	Largely applied	Largely applied	Largely applied
HU	Fully applied	Fully applied	Fully applied
IE	Fully applied	Partially applied	Largely applied
IS	Non-contributing	Non-contributing	Non-contributing
IT	Fully applied	Fully applied	Fully applied
LI	Largely applied	Largely applied	Fully applied
LT	Fully applied	Fully applied	Fully applied
LU	Largely applied	Largely applied	Largely applied
LV	Largely applied	Fully applied	Fully applied
MT	Partially applied	Partially applied	Partially applied
NL	Fully applied	Largely applied	Fully applied
NO	Largely applied	Largely applied	Partially applied
PL	Partially applied	Partially applied	Partially applied
PT	Fully applied	Fully applied	Fully applied
RO	Largely applied	Largely applied	Partially applied
SE	Largely applied	Largely applied	Largely applied
SI	Largely applied	Largely applied	Largely applied
SK	Largely applied	Fully applied	Largely applied
UK	Largely applied	Fully applied	Largely applied

Annex III

Figure 11: Self-assessment questionnaire

No.[15]	Self-Assessment Question
1	To what extent has your national parliament/government/ministry enacted any legislation (law, amendment to a former law, decree or any other legal act) to implement GL 31? *If yes, please provide a link to the specific regulatory framework, a short description and the date of implementation.*
i	To what extent has your NCA issued any (other) instruments (e.g. soft law, codes, etc.) to implement GL 31? *If yes, please provide a link to this as well as a short description.*
ii	To what extent has your NCA issued a non-binding instruction (soft law) to implement GL 31? *If yes, please provide a link to the specific regulation as well as a short description of the instruction.*
iii	To what extent has your NCA implemented GL 31 in supervisory manuals/handbooks and/or internal measures (e.g. supervisory practices, specialist resource, workshops or training)? *If yes, please provide a link to the specific regulation (if applicable) as well as a short description of the supervisory manuals/handbooks/internal measures.*
iv	How does an assessment of the credit institution's comprehensive processes to identify, manage, monitor and report credit concentration risk form part of your supervisory review?
2	How does your supervisory assessment ensure that credit institutions have a concise and practical definition of what constitutes a credit concentration, such that it covers the sub-types of credit concentrations being addressed, including: - exposures to the same counterparties, - exposures to groups of connected counterparties, - exposures to counterparties in the same economic sector, geographic region or from the same activity or commodity, - the application of forward-looking credit risk mitigation techniques, - in particular risks associated with large indirect credit exposures (e.g. to a single collateral issuer).
3	To what extent does your supervisory assessment take into account the following (please refer to subparagraphs i to vi) when assessing whether a credit institution's employs methodologies and tools to systematically identify their overall exposure to credit risk with regard to a particular customer, product, industry, or geographic location: In answering this question, explain how your supervisory authority: (i.) assesses whether the credit institution's setting of internal controls and credit risk limits adequately reflects the credit concentration risk appetite relative to the credit institution's size, complexity and nature of its business; (ii.) assesses whether the credit institution's infrastructure used to aggregate and consolidate credit exposures and manage credit risk limits is sufficiently robust to capture, on an institution-wide basis, the complexity of the credit portfolio from an obligor relationship and subordination perspective; (iii.) assesses whether the credit institution's framework takes into account the inter-obligor relationships that may arise from exposures having the support of guarantees or utilising other forms or credit enhancement; (iv.) assesses whether the credit institution's framework takes into account the underlying expo-

[15] Please note that the quantitative grade-scales for benchmarking purposes (see Section 2.4) were only applied for questions 2-4.

	sures to credit concentration risks that may arise from the structure of the underlying complex products, such as securitised products; (v.) assesses whether the credit institution's framework takes into account the banking and trading book and requires institutions to identify significant exposures in the trading book to instrument types exposed to the same idiosyncratic risk; (vi.) assesses whether the credit institution's framework takes into account the output of the credit institution's stress test to further identify hidden areas of credit concentration risk, and interconnectedness not previously identified.
4	To what extent does your supervisory authority assess that the models and indicators used by credit institutions to measure credit concentration risk capture adequately the nature of the interdependencies between exposures, given the size, nature and complexity of the credit institution? *Please describe your approach and whether it differs depending on the type of institution and/or its business model.* In answering this question, explain how your supervisory authority: (i.) assesses whether the credit institution's model takes into account interdependencies between exposures; (ii.) assesses whether the credit institution's model is fully understood by the credit institution and whether its structure fits the characteristics of the institution's portfolios; (iii.) assesses the conservatism of any model's underlying assumptions and techniques, including: the quality of any data used to measure exposures; the sample period used to calibrate the model; and the principles used to aggregate difference types of exposures across the business lines of an institution; and (iv.) assesses whether the credit institution takes account of the outputs of any models/indicators in formulating its credit policies and limits.
5	Please provide information that demonstrates that your NCA applies appropriate processes and governance arrangements for the assessment of credit institutions' approach to the management of credit concentration risks, such as:
i	To what extent do your NCA's supervisory processes cover the assessment of credit institutions' credit concentration risk management framework and governance as part of your supervisory review? Please explain how, including providing information on: - the frequency of your NCA's assessment (to the extent not covered above) - whether your assessment is made as part of your (a) off-site work; (b) on-site inspections or (c) both - if the review is conducted as part of your NCA's review of the ICAAP, and/or whether it is part of your NCA's other supervisory work focusing only on concentrations risk, and if so please describe. - if the NCA's supervisory review includes the assessment of the how an institution addresses concentration risk within the institution's governance and risk management frameworks - Other (e.g. use of external parties in the supervisory review), and if so, please explain
ii	How much resource and time (e.g. man-days, if available, on a best efforts basis, etc.) did your NCA devote to this specific topic?
iii	What proportion of the credit institutions that you supervise (in terms of total assets), did your supervisory assessments of credit concentration risk cover in the years 2012 and 2013?
iv	Please provide a short description on what is the output of your assessment? Also please describe as to whom you address your analysis and conclusions within your NCA, and/or public, and/or institution?
v	Please provide examples of measures that your NCA has taken under your SREP to address issues concerning credit risk concentrations (e.g. capital add-ons, etc.) during 2012 and 2013.
vi	Do you have a specialist supervisory resource for the assessment of the management of concentration risk, and if so, please provide details?