



European Securities and
Markets Authority

Annual peer review of EU CCP supervision

2018 EMIR Peer Review on CCPs' collateral and funding arrangements

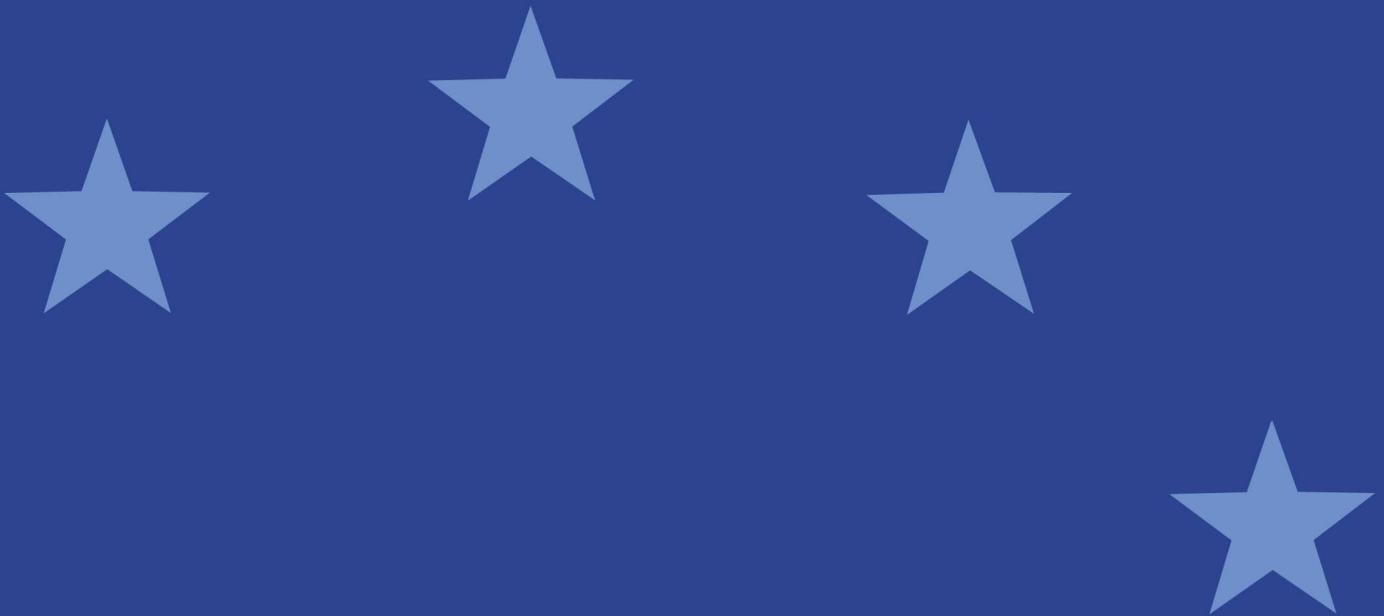


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Acronyms used

CCP	Central Counterparty
EMIR	Regulation (EU) 648/2012 of the European Parliament and Council on OTC derivatives, central counterparties and trade repositories
ESMA	The European Securities and Markets Authority
NCA	National Competent Authority
Q&A	Question and Answer
RTS	Regulatory Technical Standards
RTS on CCPs	Commission Delegated Regulation (EU) No 153/2013 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on requirements for central counterparties
GMRA	Global Master Repurchase Agreement
CRR	Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012

1 Executive Summary

Reasons for publication

The European Securities and Markets Authority (ESMA) is publishing this report pursuant to Article 21 of Regulation (EU) No 648/2012 (EMIR) which provides that in the area of central counterparties (CCP) supervision ESMA shall fulfil a coordination role between competent authorities and across colleges. The objective is to build a common supervisory culture and consistent supervisory practices, ensuring uniform procedures and consistent approaches, to strengthen consistency in supervisory outcomes. For the purposes of such a coordination role, ESMA is required, at least annually, to conduct a peer review analysis of the supervisory activities of all competent authorities in relation to the authorisation and the supervision of central counterparties (CCPs) in accordance with Article 30 of Regulation (EU) No 1095/2010 (ESMA Regulation).

Contents

This peer review assesses the overall functioning of CCP colleges and provides an in-depth analysis of supervisory activities of National Competent Authorities (NCAs) on CCPs with respect to requirements set out in EMIR related to CCPs' collateral and funding arrangements.

This peer review is based on a specific methodology developed for mandatory peer reviews under EMIR. The review was conducted by ESMA staff relying on their experience through participation in CCP colleges and the responses by the NCAs to a predefined questionnaire and, where relevant, tailored follow-up questions. The questionnaire and the findings of the peer review were discussed and agreed among the relevant CCP experts from NCAs within the Post-Trading Standing Committee of ESMA.

Accordingly, this report provides an overview of the approaches followed by NCAs and presents ESMA's assessment of the degree of convergence reached by NCAs. In particular, the report highlights best practices that emerged from the NCAs' responses, and it identifies some considerations in order to further enhance supervisory practices.

Next Steps

This report is for information purposes only. ESMA will follow up on the findings listed in this report in order to identify, where relevant, the most appropriate tools to further enhance supervisory convergence with respect to the considerations included in this report.

2 Introduction

1. Article 21(6)(a) of Regulation EU No 648/2012 (EMIR) requires ESMA to conduct at least annually a peer review analysis of the supervisory activities of the competent authorities in relation to the authorisation and the supervision of CCPs in accordance with Article 30 of Regulation (EU) No 195/2010 (ESMA Regulation).
2. On 14 December 2016, the ESMA Board of Supervisors approved the methodology for mandatory Peer Reviews in relation to CCPs' authorisation and supervision under EMIR (the methodology)¹, whereby the review is conducted by ESMA staff. Each peer review will assess the overall functioning of CCP colleges and provide an in-depth analysis of a specific topic, to be determined within the scope set by EMIR.
3. In line with the methodology, on 11 July 2018, the Board of Supervisors endorsed the Post Trading Standing Committee (PTSC) proposal for the topic of the 2018 Peer Review to be the EMIR requirements on CCPs' collateral and funding arrangements.
4. In particular, this peer review aimed to assess the effectiveness of supervisory practices put in place by competent authorities to assess CCP compliance with the provisions of Article 44 (Liquidity risk controls) and Article 46 (Collateral Requirements) of EMIR and related RTS (namely Article 33, 37 and 39 and Annex 1, Section 1 (a) – (h) of RTS 153/2013 on requirements for CCPs). The review also assessed whether competent authorities in doing so are complying with the relevant general principles and criteria agreed at ESMA e.g. via EMIR Q&A, ESMA Guidelines and Recommendations (e.g. the 2014 Guidelines and Recommendation on the CPMI-IOSCO PFMI), or best practices.
5. The Peer Review covered the relevant National Competent Authorities (NCAs) of CCPs authorised under EMIR as of 1 June 2018. On this date, 16 CCPs were authorised under EMIR in the EU. The Peer Review thus covered the NCAs of the 12 Member States where the above mentioned 16 CCPs are established, namely: DE, EL, ES, FR, IT, HU, NL, AT, PL, PT, SE and UK.
6. The Peer Review considered the NCAs' supervisory activities conducted from April 2017 to June 2018 (the reporting period), with respect to the assessment of a CCP's compliance with the requirements on collateral and funding arrangements in Articles 44 and 46 of EMIR and related RTS, in connection with:
 - a) The yearly review (performed during this period) of the CCP's compliance with the requirements in the scope of the current peer review, pursuant to Article 21 of EMIR²;

¹ See [ESMA71-1154262120-155](#), as published on ESMA website on 05 January 2017.

² Pursuant to Article 21 of EMIR, the review shall address the arrangements, strategies, processes and mechanisms implemented by the CCPs to comply with EMIR, cover all EMIR requirements, be updated at least on an annual basis and include on-site inspections.

- b) The Risk Assessment Report (performed during this period) in connection to an extension of the authorisation under Article 15 of EMIR or the validation of significant changes to risk models and parameters (performed during this period) under Article 49 of EMIR, i.e. where the introduction of new products and services or model changes implied a review of the CCP's collateral and funding arrangements.
7. While the overall functioning of CCP colleges has been assessed on the basis of ESMA staff's experience in the participation in CCP colleges, in line with the methodology, the PTSC also developed a self-assessment questionnaire (the questionnaire – see Annex 1). This provided ESMA staff with detailed information on each NCA's supervisory activities, practices and approaches related to the assessment of CCPs' collateral and funding arrangements.
 8. On 18 July 2018, the covered NCAs were invited to answer the questionnaire by 14 October 2018. Where a Member State had assigned several NCAs under Article 22 of EMIR, the PTSC member authority from this Member State coordinated with the other respective national authorities with relevant responsibilities for the supervision of the CCPs established in that jurisdiction, so that the contribution of a PTSC member authority could represent the coordinated view of all relevant competent authorities in that Member State.
 9. Overall NCAs' answers to the questionnaire were quite comprehensive and informative, although for some specific questions the level of detail provided did not always allow a comparative assessment. Following a preliminary review of the answers, on 26 November 2018 ESMA sent to all NCAs some follow-up questions for response within two weeks (i.e. 10 December 2018). A second round of follow-up questions was carried out during the finalisation of this report in the second half of April 2019, as some clarifications were still needed to draw conclusions with respect to the answers provided by 4 NCAs.
 10. Although the peer review focused on the competent authorities' supervisory activities related to the competent authorities' assessment of the compliance of their CCPs with EMIR requirements, ESMA staff also considered the respective CCPs' collateral and funding arrangements in order to identify where competent authorities have implemented a convergent approach to assessing the compliance of CCPs. Where relevant, ESMA staff took into account the information on the CCPs' collateral and funding arrangements that ESMA has received as a member of CCP colleges or in the context of the ESMA EU-wide Stress Tests of CCPs. This included applications for extension of activities under Article 15 of EMIR, subsequent applications for significant changes to risk models and parameters under Article 49 as well as any other relevant information shared within colleges.
 11. The findings of the peer review are presented in this report, which does not intend to provide an exhaustive representation of all responses submitted by the NCAs, but to provide an overview of the approaches followed by the majority of NCAs. The report is intended to highlight any emerging divergences in an effort to identify potential

opportunities for further supervisory convergence, best practices and, where applicable, identify possible cases of non-compliance. Section 3 assesses the overall functioning of CCP colleges. Section 4 presents a general overview of NCAs' supervisory activities conducted in the reporting period with respect to collateral and funding arrangements and organisational set-up. Section 5 and Section 6 present the outcome of the peer review of specific supervisory activities, respectively, on collateral and funding arrangements.

3 Overall functioning of CCP colleges

12. The review of the functioning of the colleges during the reporting period remains positive. In particular, ESMA appreciated the efforts of chairing NCAs to meet the expectations and best practices highlighted in past peer reviews.
13. Overall, chairing NCAs continue to manage CCP colleges in compliance with EMIR:
 - a. All colleges, except one held at least one in-person meeting each year, where the NCAs reported on their annual review under Article 21, the outcome of their supervisory activities and their next supervisory workplan. In particular, more NCAs have developed a multi-annual work program to ensure a comprehensive assessment of compliance with all EMIR requirements over the time period. One NCA has not yet held any in-person college meeting since July 2016, although in June 2018 it provided the college with an update of the risk assessment on the changes and developments since the previous informal report in November 2017. ESMA urges this NCAs to organise the next in-person college meeting as soon as possible.
 - b. College meetings included a dedicated session with the participation of the CCP, focusing on ongoing developments, upcoming strategic initiatives and projects, and where relevant selected issues of focus and updates, e.g. CCP's responses to supervisory feedback.
 - c. The chairing NCAs reviewed the composition of CCP colleges annually and tested the colleges' communication procedures for emergency situations. In particular, they typically performed simple reachability and connectivity tests. One NCA also conducted a simulation exercise testing the type of information that could be shared under emergency situations.
14. Concerning the CCPs' initiatives for new services and activities or changes to risk models and parameters, the chairing NCAs have more systematically applied the framework developed by ESMA for the identification of new services and activities requiring an extension of the authorisation pursuant to Article 15 of EMIR or significant changes for the purpose of Article 49 of EMIR (see ESMA Opinion³ published on 15 November 2016). Although the chairing NCAs have promptly involved the college upon the request of a college member to further discuss whether an initiative was to be considered significant under either Article 15 or Article 49, they have rarely changed their determination that the

³ See https://www.esma.europa.eu/sites/default/files/library/2016-1574_-_opinion_on_significant_changes_for_ccps.pdf

discussed initiative was non-significant despite the reported objections of some members. In any case, the chairing authorities have generally been available to address any questions for clarification and follow-up.

15. Where an extension of authorisation for new services and activities or a validation of significant changes was sought, chairing NCAs promptly involved the college and ensured a timely process for the adoption of the related college opinion. NCAs normally provided the college with the CCP's material as early as possible, well in advance of any further risk assessment by the competent authorities, and, compared to the previous years they better planned upfront the timeline of the college voting procedures for an efficient internal planning. Overall, the level of engagement and challenge by college members can be considered satisfactory once Article 15 or 49 was triggered, although most college members continue to rely on the review by the chairing NCA and the scrutiny by ESMA.
16. Concerning college meetings, once more, ESMA reminds NCAs of the importance of sharing meeting documents (including the agenda, presentations, risk assessment reports and other background documents) with the college well in advance of the college meeting date, at least 7 calendar days before as per the written agreement, to promote more interactive and effective discussions at college meetings. This practice was not always followed, with most college meetings being organised around presentations which are rarely shared within the above deadline.
17. With reference to the experience in one college with the temporary delegation from the chairing NCA to ESMA of some supervisory tasks related to the assessment of the CCP's compliance with EMIR prudential requirements⁴, the delegation successfully continued until the end of 2017, when the NCA re-established internal capacity to perform such tasks directly.
18. Regarding the qualitative and quantitative information that chairing NCAs have to provide regularly to the colleges, in compliance with the RTS 876/2013 on the functioning of CCP colleges, further complemented by the college written agreement, ESMA welcome the adoption of a standardised template for regular reports as of September 2018⁵, which is expected to allow members in multiple colleges to manage and analyse that information more efficiently.
19. Finally, with respect to the PTSC's initiative to propose each year a coordinated focus area for NCAs to address in their supervisory activities, there was overall a satisfactory response from almost all NCAs, which covered their CCPs' liquidity stress tests (i.e. the coordinated focus area for the 2017-2018 supervisory cycle) through various types of supervisory tasks, ranging from the regular monitoring of liquidity stress tests results or

⁴ This delegation was based on a service level agreement complying both with Article 18(4)(c) of EMIR & Article 6 of Commission Delegated Regulation (EU) No 876/2013, whereby the respective NCA can delegate some quite technical issues to a member of the College, without changing the allocation of the decision-making power of the NCA. As a result, the responsibility and the authority for supervisory decisions remained with the delegated NCA.

⁵ Only one NCA has postponed the implementation of this template by more than 9 months, due to delay in their internal IT data project, while in the meantime it continues to share the relevant information with college members according to the format it used so far.

the annual review under Article 21 of EMIR to ad hoc reviews such as desk-based reviews, on-site inspections or investigations. NCAs reported to CCP colleges on their supervisory activities on liquidity stress tests, more commonly, on the occasion of the annual meeting.

4 General Overview of NCAs activities

4.1 NCA's supervisory assessment of liquidity and market risk of collateral

20. EMIR requires NCAs to assess and review the compliance of CCPs with the EMIR requirements, including on collateral and funding arrangements, under Article 17(4) with respect to authorisations provided under Article 15, under Article 49 with respect to the validation of significant changes to risk model and parameters, and under Article 21 with respect to regular reviews under on-going supervision, including at least an annual review. The NCAs were asked to provide responses to a number of questions on their supervisory approach and practices with respect to the above supervisory activities, as well as on their organisational set-up.
21. The overview of the responses describing the supervisory practices of different NCAs is provided here separately for each type of activities, while the main findings are summarised in the following section.

4.1.1 Supervisory activities related to the review of collateral and funding arrangements

Annual review under EMIR Article 21

22. All NCAs reported that they included the review of the CCPs collateral and funding arrangements in the scope of the annual review under Article 21 of EMIR conducted within the reporting period (or, in the case of one NCA, in the year immediately before).
23. In particular, nine NCAs referred to specific supervisory activities on the CCPs' compliance with either Article 44 or 46, or both, as input to the annual review under Article 21. These included desk-based reviews, sometimes in combination with on-site visits, and 3 on-site inspections.

Extension of Authorisation under EMIR Article 15

24. Six extensions of authorisation were granted under EMIR Article 15 during the reporting period, and two immediately after. The authorising NCAs reported that they assessed relevant implications on collateral and funding arrangements in the context of the risk assessment produced for four of these extensions of authorisation.

Validation of Significant Changes under EMIR Article 49.

25. Only two NCAs reported that they validated (or were validating) significant changes to risk models and parameters under Article 49 of EMIR affecting the CCPs' collateral and funding arrangements.

Other Supervisory Activities, including reviews of other non-significant changes

26. Six NCAs reported to have reviewed ad hoc other non-significant changes to the collateral and funding arrangements, implemented as a follow-up to the addition of new assets as eligible collateral or the review of collateral policies - as in most cases reported in the context of the annual review under EMIR Article 21.
27. Finally, four NCAs also reported having conducted specific reviews on collateral and funding arrangements in the context of follow-up work on the results of CCPs' fire drills, ESMA stress tests, past supervisory on-site inspections or ad-hoc reviews, besides the usual monitoring activities.

4.1.2 NCAs' organisational set-up

28. In total, 15 NCAs in 12 EU Members States have a direct supervisory responsibility to assess the EU CCP's compliance with EMIR requirements on collateral and funding arrangements (EMIR Articles 44 and 46 and related RTS):
- In France three NCAs have shared competences on CCPs (ACPR, AMF and BdF), whereby ACPR leads the assessment of compliance with EMIR Articles 44 and 46 and related RTS and seeks the opinion of the other two authorities on those articles.
 - In Italy, two NCAs have shared competences on CCPs (BdI, Consob).
 - In the Netherlands, the competences regarding the supervision of CCPs are divided between AFM and DNB, whereby DNB is the sole responsible authority for EMIR Articles 44 and 46.
 - In Germany, BaFin is the sole NCA for the supervision of CCPs. However, due to national legislation (German Banking Act) BaFin works in close cooperation with the Deutsche Bundesbank.
 - In Austria, although the FMA is the sole NCA for CCP, the latter has established a close cooperation with the OeNB, whereby on-site inspections are conducted by the OeNB.
29. The number of Full-Time Equivalent (FTE) staff members assigned to the supervision of a CCP (not only to the assessment of compliance with requirements on collateral and funding arrangements) is on average about 3 FTEs per supervised CCP at each NCA, ranging overall between one and six FTEs. These figures are proportional to the importance and the complexity of supervised CCPs.

30. Finally, eight NCAs have adopted internal procedures, guidelines or other tools to help staff dealing with supervisory activities, although not always specifically related to collateral and funding arrangements. Unfortunately, the heterogeneity of type and level of details of the information provided around the NCAs' internal procedures, guidelines or other tools supporting specific supervisory activities, did not allow for their comparative review. Given the similar experience with past annual peer review on CCP supervision, ESMA will consider whether to exclude the review of internal procedures, guidelines and other supporting supervisory tools from the scope of future annual peer review.

4.2 Main findings

31. NCAs reported that, overall, they systematically review the CCP' collateral and funding arrangements through the annual review under Article 21 of EMIR and, where relevant, in the context of formal authorisation under Article 15 of EMIR or validation of significant changes under Article 49 of EMIR.

5 Review of collateral arrangements

32. This section reflects the level of details provided by the NCAs in their answers to the targeted set of questions in the peer review questionnaire aimed to determine which indicators and methodologies are the most commonly used to assess the liquidity and the level of market risk of collateral.

5.1 Overview of NCAs' practices

33. Article 46(1) of EMIR states that CCPs shall accept highly liquid collateral with minimal credit and market risk. Annex II of the RTS on CCPs further specifies the requirements related to liquidity and market risk. In particular, the CCP shall demonstrate to the NCA that the financial instruments accepted as collateral meet the conditions of being of minimal market and liquid risk.

34. This section presents current practices on how the NCAs get satisfied of the liquidity and low market risk of the instruments, as emerged from the responses to the peer review questionnaire.

35. Financial instruments issued by, or explicitly guaranteed by, any of the entities listed in Annex II, paragraph 1(a) of RTS 153/2013, for example governments and central banks, are excluded from the scope of the review on collateral requirements.

Issue 1. Review of the liquidity of financial instruments accepted as collateral

36. No NCA provided a definition of “highly liquid” collateral.⁶ However, a number of NCAs use specific indicators⁷ to determine whether an asset can be classified as highly liquid. The questionnaire proposed a list of non-exhaustive indicators and asked the NCAs which of the indicators of the list they use. From the answers, it emerged that the following indicators are broadly used:
- a. Size of the outstanding issue per ISIN: three NCAs
 - b. Number of trades per day in this ISIN: one NCA
 - c. Average trade size: four NCAs
 - d. Number of days without a trade: two NCAs
 - e. Daily traded volumes: four NCAs
 - f. Traded volumes in times of market stress: two NCAs
 - g. Number of active market participants: two NCAs
 - h. Size of repurchase agreement market: none
37. Three NCAs indicated that they use the fact that the shares are part of a leading equity index as an indicator that they are liquid. However, it is noted that the sole presence of an equity in an index is not a sufficient evidence that the equity is highly liquid.
38. Most commonly, the CCPs provide their NCA with a series of indicators (the first 6 of the list above being the most common ones), and the NCA makes a judgement on their adequacy. Only one NCA indicated that they used a strict pre-determined threshold on these indicators.
39. The criteria can also be used for other purposes, in particular for setting up the collateral haircuts, as noted by two NCAs.
40. The review of whether the acceptable collateral continues to meet liquidity requirements is done at least annually for most NCAs, as well as when a significant change in collateral is submitted to the NCA. In addition, three NCAs indicated that processes at the CCPs they supervise made sure the CCP could monitor liquidity of collateral on a daily basis.
41. One NCA mentioned that it relied on the CCP’s use of ECB liquidity classes. This means that if a security is assigned to a liquidity class between 1 and 3 according to the ECB’s

⁶ It is to be noted that a number of CCPs do not accept any collateral other than cash and the above-mentioned financial instruments which are excluded from the scope of the survey. Therefore, not all NCAs were expected to provide a reply on the definition of “highly liquid” instruments.

⁷ For the avoidance of doubt, the expectation would be for the CCP to perform the calculation as a way to satisfy the NCA of its compliance, as opposed to the NCA performing the calculation.

classification of collateral, then it is considered as liquid⁸. This means that the NCA takes the view that it is acceptable for the CCP to rely on the ECB's classification of securities when assessing the liquidity of an asset.

42. Without reviewing the whole topic of concentration limits and haircuts, the questionnaire enquired whether a link was made between the indicators used to determine that the instruments had sufficient liquidity and the haircuts and/or concentration limits. Since the concentration limits and the haircuts are established in order to ensure the CCP can liquidate the amount of collateral accepted in the limited amount of time allocated for the default management and without losing more than the haircut, the NCA could expect the CCP to demonstrate consistency between the calculation of the concentration limits and the haircuts and the criteria used to determine if an asset is sufficiently liquid to be eligible. For example, the CCP could have put in place a concentration limit or applied a haircut the value of which depends on the value of one or several of the indicators of the list above⁹. Three NCAs indicated that their CCPs made such a link between the daily traded volume and the concentration limit.¹⁰

Issue 2. Level of market risk of collateral

43. As is the case for liquidity, most of the responding NCAs have indicated that they did not have a pre-determined definition of "minimal market risk" as referred to by Annex II of the RTS on CCPs. Only one NCA defined low market risk as the capacity to liquidate the collateral within two days and within the haircuts of the CCP.
44. Three NCAs quoted low volatility or low standard deviation of the assets price returns as an important indicator of low market risk. One of these added criteria related to the availability of price data, free transferability and the trading platform of the securities. The credit risk of the issuer was also cited as an indicator of the market risk of the instrument by 2 NCAs. In addition, two NCA mentioned that stocks included in a major index were likely to be less risky than other stocks. Finally, the level of the haircuts was mentioned by one NCA. When the CCP's own model computes a large haircut, this is taken as evidence that the security has a high level of risk. Therefore, when the computed haircut is large the security is excluded.
45. The NCAs also specified that they assessed the use of the following specific numerical criteria, taken from the most broadly accepted measures of market risk, to determine if an instrument can be considered as having low market risk:

- a. VaR: three NCAs

⁸ Other conditions are applied by the CCP such as a restriction on the maturity of the bond and the currency, but this is not relevant to liquidity assessment.

⁹ By over-simplifying, the CCP could for example accept collateral up to an amount equal to x% of the daily traded volume (possibly the traded volume under stressed market conditions).

¹⁰ Another NCA stated it encouraged the CCP to make a link between the outstanding notional and the concentration limit, but this was for government bonds, hence this is not strictly speaking in scope with this peer review.

- b. Standard deviation of returns: two NCAs
 - c. Behaviour in stressed events: three NCAs
46. One NCA indicated that a CCP uses CDS spreads to monitor the level of risk of collateral, in addition to the rating of the issuer and assorted this metric with a fixed threshold to determine if a security is acceptable or not.
47. The coverage of the indicators, where used, was either at the level of each instrument or per issuer and tenor. None of the NCAs mentioned larger aggregation (e.g. per type of issuer, rating bucket, or even asset class).
48. The frequency of computation of the indicators, when used, is at least annual. One NCA indicated it expected a more frequent re-computation, in particular whenever a market event occurs.
49. While the quantitative indicators listed above were used by the CCPs to compute collateral haircuts, no explicit link between the determination of which securities had sufficiently low market risk to be accepted as collateral and the haircut applied to them was established. This is consistent with the finding related to the assessment of the liquidity of the collateral.

5.2 Main findings

50. The scope of the Peer Review excluded government bonds. Yet, some NCAs reported that their CCPs do not accept financial instruments other than government debt as collateral.
51. Going further, for the NCAs whose CCPs do accept collateral within the scope of the Peer Review, then only a limited number of them have used an approach based on quantitative metrics such as those proposed in the questionnaire.
52. Despite the above scope limitations related to this year's peer review exercise, the responses to the survey allowed to identify the following best practices:
- **Best practice 1.** In order for a CCP to demonstrate that a financial instrument can be considered as highly liquid, NCAs could require the CCP to provide, for the assets it deems the most relevant, a quantitative assessment of the liquidity of the asset, including one or several of the most relevant indicators among those listed in section 5.1 of this report, such as the size of the outstanding issue per ISIN, the average trade size, and the daily traded volumes.
 - **Best practice 2.** Since the concentration limits and haircuts need to reflect the amount of collateral that can be liquidated in a fixed time horizon by the CCP, NCAs could require the CCP to demonstrate the consistency between the way these quantities are computed and the criteria used to determine the liquidity of a financial instrument. The level of haircuts should not be the sole criterion to demonstrate that an asset is highly liquid.

- **Best practice 3.** Where a CCP has not otherwise demonstrated that the level of market risk is minimal, the NCA could ask the CCP to use, for the assets it deems relevant, one or several quantitative measures, such as a VaR, to demonstrate that the level of market risk of the financial instrument is below a certain threshold, or compare the level of this metric to ad-hoc benchmarks.

53. An additional consideration has emerged while analysing the answers and the following questions may be considered in order to further enhance supervisory practices:

- **Consideration 1.** NCAs have relied on the evaluation of quantitative and qualitative criteria to compare assets within an asset class and determine the eligibility of some assets, but no NCA conducted a comparison across asset classes to determine whether the type of asset is on the whole of sufficiently low market risk. ESMA considers that in order to properly determine low market risk, NCAs might ask CCPs to conduct comparisons across asset classes.

6 Funding arrangements

54. Article 44 of EMIR requires CCPs to have, at all times, access to adequate liquidity to perform its services and activities. A CCP shall measure on a daily basis its potential liquidity needs. Moreover, Article 33 of the RTS on CCPs requires the CCP to maintain, in each relevant currency, liquid resources commensurate with its liquidity requirements. The liquid resources shall be limited to the list as set out in Article 33(1)(a) to (e), including the following:

(c) committed lines of credit or equivalent arrangements with non-defaulting clearing members;

(d) committed repurchase agreements;

(e) highly marketable financial instruments that satisfy the requirements of Article 45 and Article 46 and that the CCP can demonstrate are readily available and convertible into cash on a same-day basis using prearranged and highly reliable funding arrangements, including in stressed market conditions.

55. This section presents practices on the criteria and conditions used to assess that credit and repo lines (items (c) & (d)) are committed (*Issue 1*) and funding arrangements (item (e)) are prearranged and highly reliable (*Issue 2*), as emerged from the responses to the peer review questionnaire. Any arrangements involving the liquidity provision from central banks have been excluded from the scope of this review.

6.1 Overview of NCAs' practices

Issue 1. Committed credit and repo lines

56. NCAs were requested to respond to a set of questions that discussed criteria and conditions considered to assess whether credit and repo lines, as defined in Article 33(c) and (d) of the RTS, are committed.

Types of Contractual / Framework Agreements to support Committed Lines

57. Where supervised CCPs use committed lines of credit and/or committed repurchase agreements as part of the liquid resources, the NCAs have responded that these need to be contractual. Moreover, where NCAs provided their supervisory approach despite not having supervised CCPs using such liquidity arrangements, they have also expressed the view that these would have to be contractual in order to be considered as committed. No NCA responded that a committed credit or repo line does not need to be contractual.
58. However, one NCA reported that while it requires credit lines and repurchase agreements to be contractual, it has identified in its last review one liquidity arrangement that was not in line with its requirements. This arrangement was described as an overdraft credit facility provided by a commercial credit institution. As a result of this, the NCA has prompted the supervised CCP to convert this overdraft facility into a contractual committed credit line in order to meet its expectation. According to the latest response received at the time of drafting this report, this issue has not been resolved yet.
59. With regards to repo lines, most NCAs have clearly responded that a standard Global Master Repurchase Agreement (GMRA) would not be considered as committed. According to some of the comments received, the contractual relationship between the CCP and its repo counterparties should indicate the extent to which transactions by such entities will be accepted and under what limitations. An ordinary GMRA will be subject to the limits of risks and controls that the party wishes to establish and, consequently, should not be considered as committed. As also commented by another authority, the GMRA will have to be integrated by supplementary conditions, e.g. a contractual obligation for the repo counterparty to provide liquidity whenever required.
60. Another NCA reported that the CCP has a GMRA that it can use to generate liquidity from Government Debt. It is a GMRA, but is considered a committed repo line, since it also has a contractually defined committed amount that can be drawn, while the contract stipulates the drawdown schedule and the eligible collateral.

Contractually defined Liquidity Amount for Committed Lines

61. All NCAs were also asked whether such committed lines should have a contractually defined maximum liquidity amount that the CCP can draw from. Again, the majority of NCAs have clearly responded that the committed credit/repo lines have a maximum amount that is defined in the contracts with the liquidity providers. A few NCAs have not

provided any insight on their approach as the supervised CCPs do not use committed lines from commercial entities.

62. One NCA reported that the supervised CCP has contractually committed credit lines in the contract of which there are clear indications about the amount of liquidity granted. However, according to their understanding, there is no maximum or minimum amount for other contractually committed liquidity resources such as repos¹¹.

Contractually or otherwise predefined drawdown schedule for Committed Lines

63. The NCAs were asked to explain whether there is a contractually or otherwise predefined drawdown schedule (i.e. time by which the cash should be available) for committed lines. The majority of the NCAs confirmed that the drawdown schedule is stipulated in the contract. For such NCAs, where additional information was provided, the time by which the cash would be available ranged from immediate to same day.
64. One of these NCAs also clarified that it expects committed credit/repo agreements to stipulate the time by which the cash should be available to the CCP. It does not prescribe specific timing to be agreed, however time by which the cash is available to the CCP will dictate when (for which day in the stress test) it can be recognised as a liquidity resource by the CCP in stress testing. In practice, committed repurchase agreements of supervised CCPs stipulate same day settlement (i.e. availability of cash on the day of the request).
65. Two other NCAs reported alternative means that define the drawdown schedule for committed lines. One NCA reported that in some committed credit agreements, while no reference is made to deadlines for drawing on the lines, standard cut-off times apply, which are not defined in the credit agreement, but are made otherwise available to customers using the bank's services. Moreover, another NCA reported that in cases of contractually committed credit lines and repurchase agreements the conditions of requisition are detailed in contracts. Based on these details internal regulations have been elaborated by the supervised CCP. The drawdowns are defined in these internal regulations.

Eligible collateral for Committed Lines

66. Where the supervised CCPs use committed secured credit lines or committed repo lines, the NCAs were asked whether the set of eligible collateral are contractually defined and whether these need to be designated as highly liquid financial instruments and kept under the highly secured arrangements defined under Articles 43 & 44 respectively ('Highly liquid instrument' conditions). The responses are detailed below.
67. It is not clear in many responses if the list of eligible collateral needs to be stipulated in the contracts. With regards to the nature of eligible collateral, the key takeaway is that there

¹¹ The NCA has responded that for other contractually committed liquidity resources such as repos and outright sales, the amount of liquidity gained is based on subject of transaction (e.g.: value of collateral, etc). In their understanding there is no maximum or minimum amount in these cases.

is no regulatory or supervisory requirement for collateral backing committed lines to meet these 'Highly liquid instrument' conditions, although this is met in practice in many cases.

68. One NCA, responded that the contracts mention which kind of collateral is accepted, but do not refer to the abovementioned RTS articles. Another NCA reported that it expects eligible collateral to be stipulated in the committed repo / secured credit lines agreements. The NCA does not prescribe what collateral should be agreed by the CCP and committed line provider, however availability of agreed collateral to the CCP would be considered by the NCA in the evaluation of CCP's stress testing arrangements (e.g. it would not allow recognition of committed repo facility where eligible collateral is not expected to be available to the CCP under stress conditions). Moreover, while the agreement does not stipulate that the collateral needs to qualify as a highly liquid financial instrument under Article 43 of the RTS and is kept under highly secured arrangements under Article 44 of the RTS, practical considerations (market access, pricing, etc.) have as a result that the collateral stipulated in the committed repo lines of supervised CCPs meet in practice the conditions of these Articles. Similarly, according to another NCA's approach, financial instruments to be provided to back the committed credit lines shall satisfy the requirements for eligible collateral under Article 39 of the RTS. However, since the supervised CCP adopts a more stringent collateral policy than the one allowed by Article 39 of the RTS, the securities accepted as collateral and used to back committed credit lines comply with the requirements foreseen in Articles 43 and 44 of the RTS.
69. Another NCA mentioned that the collateral which is used to activate the credit lines corresponds to the collateral that the supervised CCP obtains by investing the members cash in repo arrangements. Therefore, collateral need to be designated as a highly liquid financial instrument under Article 43 of the RTS and kept under the highly secured arrangements defined under Article 44 of the RTS. Finally, one NCA reported different practices with regards to different liquidity lines. For secured credit lines provided by clearing participants, the eligible collateral instruments are defined in the contracts, but the NCA provided no additional information on the nature of these collateral (except for the liquidity provided by another regulated financial market infrastructure, a CSD, in which case the collateral needs to be in line with the respective regulation (CSDR). For repo arrangements, these are used to draw liquidity in the course of clearing participants' default events by involving pledged collateral.

Availability of Liquidity from Committed Lines

70. The NCAs were asked if there are any conditions under which the entity offering such committed lines can decide not to provide the liquidity amount as agreed and where this is the case, what is the nature of such conditions. Moreover, the NCAs were asked to explain how they were satisfied that the committed lines will in fact be available under a stressed scenario. Three NCAs did not provide any response as their supervised CCPs don't use committed lines from commercial entities. Three other NCAs reported that the contractual committed lines do not provide for such clauses, without providing any additional information on how they were satisfied that the committed lines will in fact be available under a stressed scenario.

71. One authority mentioned that the conditions under which the entity offering committed credit lines can decide not to provide the liquidity, include: (i) the liquidity provision being unlawful, e.g. provider being too poorly capitalized to provide the liquidity, which can be mitigated via due diligence, (ii) the CCP itself being in default, which is however designed to withstand extreme but plausible shocks and (iii) a termination notice that has been sent a number of days before the request – this does not allow an immediate termination in case of a crisis. This NCA also expects that during a severe crisis, where multiple large liquidity providers are defaulting, there is always a risk that liquidity may be partially unavailable.
72. Another authority reported that it identified relevant issues in conducted desk-based reviews. With regards to the possibility of not fulfilling committed credit lines, it mentioned that the clearing member acting as liquidity provider must be able and willing to fulfil these lines. This means, if the credit line provider is not able to fulfil these credit lines (e.g. if the member itself is in, or close to, default) and the credit line payment would cause a severe liquidity shortage. The ability of the lender is assessed in regular credit assessments by the CCP. EMIR also stipulates concentration limits to avoid excessive dependence on individual lenders. Depending on the severity and scope of a stress scenario, access to central bank facilities, where available, may be a central defence to avoid undue bank exposures. Committed credit lines customarily include covenants and provisions such as Material Adverse Change or Events of Default which allow the lender not to provide the liquidity or terminate the agreement (times of stress). This is especially the case when a clearing member acting as liquidity provider is facing serious problems to provide these lines (e.g. when this triggers the clearing member's own default). If the clearing member is not willing to fulfil the contract without proper reason, this causes a breach of the contract. The clearing member is then facing consequences up to a termination of the license for extreme cases.
73. One NCA responded that according to the supervised CCP, there are no conditions under which the entities offering committed repo/credit lines can decide not to provide the liquidity. Additionally, the results of the CCP's tests to activate these credit lines did not show any issues. However, the following two situations were mentioned by the CCP. In a situation where there is a substantial change in the functioning of the banking market that could significantly affect the access to funding, the providing bank may decide not to provide the liquidity under the established conditions, being necessary to renegotiate the terms of the loan without, however, prejudice the credit granting. Moreover, under another arrangement, it is noted that the interest rate to be applied depends on market conditions. According to the information provided by the CCP, even under these situations, the liquidity will have to be provided anyway. The only thing that could differ is the cost of funding.
74. Three other NCAs reported that there are no specific conditions under which the commercial banks can decide not to provide the agreed amount, but also provided some insight on how they were satisfied that the committed lines will in fact be available under a stressed scenario. In that respect, one NCA highlighted the high reliability and creditworthiness of the counterparties of such credit lines, evaluated by the supervised

CCP through an internal rating model. Another NCA mentioned that the drawdown of the contractually agreed lines have all been successfully tested in the past. Finally, one NCA expects that the committed repo / credit lines are tested on at least an annual basis from operational perspective (small sample trades are sufficient for this purpose). Its opinion on the availability of a particular committed line in a stress scenario is formed on a case by case basis given characteristics of the facility itself and its provider (e.g. a significant committed repo line with an entity which is not active in a given collateral repo market on a regular basis in material volumes would not normally be accepted). Moreover, in order to be relied upon, committed repo facilities are subject to approval at CCP level by the applicable Second Line of Defence function(s) and/or the Board. In addition, committed repo facilities counterparties are subject to ongoing scrutiny by the applicable control function in relation to their creditworthiness.

Checking if providers of committed lines treat them as committed for complying with their capital requirements

75. Finally, the NCAs were asked if they check or ask the CCP to check or otherwise require / ensure that such committed lines are also treated, by the entity providing it, as committed for the purpose of complying with its regulatory requirements, such as capital requirements under CRR. None of the NCAs reported performing any of these activities when supervising CCPs.

Issue 2. Prearranged and highly reliable funding arrangements for conversion of financial instruments into cash

76. NCAs were requested to respond to a number of questions pertaining to the criteria and conditions used to assess that funding arrangements described in Article 33(1)(e) of the RTS are prearranged and highly reliable. Any arrangements involving liquidity provision from central banks, are again excluded from the scope of the review.
77. According to the received responses, the funding tools that are considered as prearranged and highly reliable funding arrangements involve some form of repos or outright sales of available financial instruments. It is noted that in some responses, the NCAs reported on funding tools that are not considered by the CCPs in their liquidity stress tests to check for the sufficiency of available resource. Such identified tools included security lending, non-prearranged outright sales or in one case provisions to postpone payments to non-defaulting members. These tools are not discussed here, as they are not used to meet the regulatory requirements.
78. In this context, eight out of the 12 NCAs reported having supervised CCPs that use prearranged funding tools designated under RTS Article 33(1)(e). One NCA reported that a supervised CCP has built its stress test on the assumption that it would liquidate the portfolio of a defaulter using a tender agreement. The NCA has assessed this tender as a not EMIR-compliant liquid resource. The NCA has required the CCP to enhance its liquidity framework.

79. The remaining NCAs reported that supervised CCPs only use liquidity provided by central banks or committed lines.

Types of Contractual / Framework Agreements to support Prearranged Repos

80. First, the NCAs were asked if the relevant funding arrangement need to be contractual and if not, what are the requirements used to classify them as prearranged. With regards to repos, two NCAs responded that a GMRA agreement is enough to qualify the repo line as prearranged.

81. In a similar manner, another NCA further commented that a funding arrangement can be considered prearranged if the relationship is governed by a (GMRA or similar) framework agreement. Prearranged facilities provide clarity on terms and conditions, including operational handling, collateral acceptance and valuation criteria, and thus allow greater certainty on the risks and obligations of the cash provider. It is a prerequisite that all required "Know-your-client" (KYC) checks are completed. The supervised CCP also regularly tests GMRA agreements to ensure availability in case of need. The NCA has also commented that although currently not used by a supervised CCP, access to CCP cleared repo markets and committed repo facilities also form prearranged and highly reliable funding arrangements.

82. Similarly, another NCA commented that a standard GMRA is accepted as prearranged arrangement based on analysis of (i) the given CCP's overall repo market arrangements (number of GMRA counterparts, their status e.g. market makers in given security types) in reference to volumes recognised by CCP as prearranged, (ii) CCPs arrangements in respect of testing liquidity of their repo arrangements in a stress scenario and (iii) characteristics of repo market and overall liquidity aspects of applicable collateral (volumes, Central Bank eligibility, historical flight to quality status, etc.).

83. Another NCA responded that it would expect prefunded arrangements to be contractual. A supervised CCP has signed GMRAs but has not put forward these contracts as an EMIR compliant liquidity resource. The NCA has had no reason to challenge that.

84. Another NCA, also reported that with regards to the use of GMRAs, a standard GMRA or similar could form the basis of the pre-arranged agreement, but it should be supplemented by additional conditions relating to the amounts of the engagement and the circumstances in which liquidity would be provided. The same NCA commented that the arrangements used for carrying out this type of financing operation have a contractual basis. In any case, even if it were not so, the short-term or overnight sovereign bond repos market is relatively liquid even in a stress scenario, so it would not be difficult for the CCP to find a counterparty that would offer cash in exchange for a bond. Beyond the normal repo transactions, the supervised CCP considers also the ability to reverse the repo transactions that are used to invest cash overnight, if cash is needed urgently. According to the response, this is part of a tacit commitment between the CCP and the counterparties that are also clearing members. Our understanding is that there is not specific contractual relationship to support this tool, but it is more based on the fact that the counterparties are clearing members and are subject to the CCP's rules procedures and operating practices.

85. A different NCA responded that according to its assessment, the funding arrangements should be contractually prearranged and this arrangement might include various types of contracts. Especially with regards to funding through triparty repo, the supervised CCP uses standard GMRA and additional contractual arrangements, containing most of the relevant aspects of the repo transactions, including the eligibility criteria for the securities accepted as collateral and the value of the haircuts.
86. Finally, one NCA responded that it requires the funding arrangements of the supervised CCP to be contractually binding. If this is the case, they are considered prearranged.

Types of Contractual / Framework Agreements to support Outright Sales

87. With regards to the prearranged/contractual nature of liquidity resulting from outright sales of financial instruments, NCAs reported different practices.
88. For instance, one NCA responded that there are no contractual arrangement for outright sales. Another NCA reported that it expects CCPs to justify the prearranged status of outright sales assumptions based on their BAU investment activity in the market and credible analysis (test) of ability to sell assets under stress conditions.
89. At the same time, four other NCAs responded considering outright sales as prearranged funding tools, and also reported that the supervised CCPs have some form of contractual arrangements to support this. In particular:
- a. One NCA responded that the supervised CCP has entered into quotation arrangements with clearing members who are eligible to convert retail government bond collaterals into cash. In these cases, the rates of conversion are based on daily public price quotations of the clearing participants and the outright sale of these financial instruments is contractually granted.
 - b. In a similar manner, the second NCA, the supervised CCP has signed master cooperation agreements with approved counterparties that also provide for sale transactions.
 - c. According to the third NCA, per the CCP's rulebook, in case of a clearing member default, the CCP is assigning the execution of outright sales of stock collaterals to a Member which acts as a broker on behalf of the CCP. The list of members that are obliged to be ready to execute the outright transactions, as well as their obligations, are predefined in a resolution of the CCP.
 - d. Finally, the fourth NCA reported that the supervised CCP may execute outright transactions through a number of selected dealers with which it has pre-agreed the conditions under which such dealers trade on its behalf. In the view of this NCA, such agreements are sufficient for these funding arrangements to be considered prearranged.

Predefined Liquidity Amount for Prearranged Funding Arrangements

90. The NCAs were also asked if there is a contractually defined (or otherwise predefined) specific or maximum liquidity amount that can be drawn using such funding arrangements. Out of all the authorities that reported supervising CCPs that use such tools, only two NCAs reported that supervised CCPs have maximum defined liquidity amounts in some of the prearranged funding tools. In particular, one NCA expects that the maximum amount that can be drawn from new repo transactions will be specified in the contract. These agreements include a maximum amount that can be binding for the counterparty¹².
91. Moreover, a second NCA reported that, while the arrangement concluded with its main liquidity provider has no maximum liquidity amount that can be drawn by converting collaterals into cash, where this provider is not entitled to convert some government bonds into cash, the funding arrangements concluded with clearing participants have defined maximum liquidity amount that can be drawn.
92. All other NCAs reported that there are no contractually set specific or maximum amounts that can be drawn from such prearranged funding tools. One NCA responded that cleared repo markets are not limited in amount. If needed, the CCP can draw as much liquidity as possible. The CCP also ensures that the amount drawn is split between all counterparts, with the aim to minimize impact on the market and its participants. Another NCA commented that the liquidity amount that can be drawn does not have any contractual limit, the only practical limit being the collateral available. Finally, one NCA detailed how it expects CCPs to support the amounts recognised by credible testing of the prearranged funding arrangements (under stress conditions assumption).

Reliability of funding arrangements, including in stressed market conditions

93. According to the RTS Article 33(1)(e) requirements, the CCP shall demonstrate that the financial instruments are convertible into cash on a same-day basis using highly reliable funding arrangements, including in stressed market conditions. The NCAs were asked to describe the criteria that are being used to demonstrate that. One NCA did not provide any information on how it assesses these conditions. Another NCA repeated that with regards to the main liquidity provider of the supervised CCP, it is contractually obliged to convert the financial instruments into cash on same-day basis even in stressed market conditions.
94. The criteria that were mentioned by the remaining NCAs are presented in the following paragraphs. It should be noted however that none of the NCAs mentioned any specific soft or hard numerical thresholds linked to the conditions discussed below.
95. With regards to the counterparties of such funding arrangements, three NCAs highlighted the importance of diversification of potential counterparties, thus avoiding reliance on a single counterparty that may be unwilling or unable to provide the liquidity during stress

¹² This is not the case for the possibility of reverting repo overnight operations, where there are no maximum guaranteed amounts.

events. Moreover, two NCAs mentioned the assessment of the creditworthiness or the reliability of the counterparties as an important factor. Finally, one NCA responded that in order for a facility to be considered highly reliable, also in stressed markets, the cash provider has to have access to the central bank of issue through which the cash provider is able to generate cash out of central bank eligible collateral.

96. Two NCAs focused on the analysis and tests that need to be performed by supervised CCPs in order to assess the reliability of the tools. One NCA expects that the CCPs perform credible tests of their prearranged funding arrangements. It expects that the tests are specific to the given CCP's circumstances (e.g. repo market depth to CCP's GMRA counterparties, inclusion of dealers given CCP uses in BAU, etc.) and clearly address the stress scenario and same day settlement requirements. Another NCA requires the supervised CCP to provide information and assess the liquidity of the outright sovereign bond market as well as the repo market. This encompasses both a quantitative and qualitative study of the liquidity variables that define the market, and both normal and stress sessions. The purpose of this analysis is to determine whether the CCP will ultimately be able to obtain cash on the same day basis.
97. On the role that the securities play on the reliability of the funding arrangements, two NCA mentioned that the securities used for repos should be also accepted by the central bank as collateral for obtaining central bank liquidity. Finally, one NCA mentioned as a criterion that the securities are to be traded on a market that has proven to be resilient and liquid, also in stressed market conditions, and are also usable in ICSD triparty repo service.

Financial Instruments that are considered as highly marketable

98. According to the Article 33(1)(e) of the RTS the prearranged funding tools shall use highly marketable¹³ financial instruments that satisfy the requirements of Article 45 and Article 46. While Article 46 refers to non-cash collateral (e.g. margin collateral), there are two Articles 45, one referring to the concentration limits for financial instruments and one to highly secured arrangements maintaining cash. The former seems to be more relevant in this case.
99. In order to understand what type of instruments the NCAs consider as highly marketable financial instruments that can be used to generate liquidity under the RTS Article 33(1)(e) funding arrangements, NCAs were asked if the instruments need to be designated as highly liquid financial instruments, under Article 43 of the RTS, and kept under the highly secured arrangements, as defined under Article 44 of the RTS.
100. It is noted that Article 43 and the relevant Annex II of the RTS refer to the instruments that are considered as highly liquid with minimal market and credit risk, in which the CCP may invest its financial resources. The list of those instruments (*eligible investments*) is restricted compared to the list of the instruments that can be accepted as collateral (*eligible*

¹³ One can also note that this specific regulatory requirement refers to 'highly marketable' financial instruments as opposed to the 'highly liquid' financial instruments of Annex II of the RTS that are eligible for CCP's investments.

collateral). The latter is set in Annex I of the RTS. For example, the instruments that are eligible as investments can only be debt instruments that are issued by a government, a central bank, a multilateral development bank¹⁴ or EFSF/ESM. So, the question was aimed to review to what extent NCAs and supervised CCPs consider that liquidity can only result from instruments that are eligible for investment or also other instruments including those that are eligible margin collateral.

101. Out of the seven NCAs that reported having a supervised CCP using prearranged funding arrangements, the majority responded that the CCP(s) only consider instruments that meet the more restrictive Article 43 requirements, i.e. eligible investments. However, it can be noted that it is not clear in all cases if this is a result of a, strictly speaking, requirement from the NCA or a result of CCP's practice that limits these arrangements to instruments resulting from investments.
102. Three NCAs responded that supervised CCPs may also use instruments that do not meet the strict Article 43 requirements. In particular, one NCA mentioned that it also considers the possibility for the supervised CCP to obtain liquidity via repos, provided the securities sold are securities accepted as collateral by the central bank, as highly reliable. The reason is that as long as the buyer in the repo transaction can use the securities received as collateral for borrowing at the central bank there is no incentive for the seller to refuse the CCP to do a repo transaction although the repos are uncommitted. This response referred to covered bonds that are accepted by the central bank as collateral.
103. Moreover, another NCA mentioned that while the collateral available to a CCP will typically mostly consist of highly liquid financial instruments (e.g. as the CCP's investments are restricted to highly liquid financial instruments), it increases the flexibility of the CCP to also allow for the mobilisation of collateral that does not fulfil all conditions of Annex II (e.g. collateral of a defaulting clearing member). In particular, highly marketable financial instruments need to satisfy the requirements of Article 45 and Article 46 and that the CCP can demonstrate are readily available and convertible into cash on a same-day basis using prearranged and highly reliable funding arrangements, including in stressed market conditions. When monitoring its daily available liquid resources, the CCP considers as liquid resources a) the highly liquid financial instruments it has received through its investments, b) cash deposits at central banks and commercial banks and c) committed credit lines. In a default scenario, the CCP would additionally mobilise the defaulter's securities collateral and clearing positions, which may also contain instruments that do not satisfy the requirements of Annex II to highly liquid financial instruments. It is therefore in the interest of strengthening the CCP's resilience to define the collateral criteria under such arrangements as broad as possible.
104. Finally, a third NCA responded that the financial instruments used under such arrangements are equities that comply with the collateral eligibility criteria.

¹⁴ Subject to additional conditions in Annex II (1)(iii) of the RTS.

Checking if liquidity providers treat funding arrangements as committed for complying with their capital requirements

105. To conclude, as in the case of committed lines, all NCAs also reported that when supervising CCPs, they don't somehow check or ask the CCP to check that prearranged funding agreements are also treated, by the entity providing it, as committed for the purpose of complying with its regulatory requirements, such as capital requirements under CRR.

6.2 Main findings

106. The review of funding arrangements focused on the conditions under which lines of credit, repurchase agreements and other funding arrangements¹⁵ can be considered as committed or prearranged.

Issue 1. Committed credit and repo lines

107. For credit and repo lines there is a relatively high degree of convergence of the NCAs supervisory approaches, at least when it comes to the very basic conditions used to identify them as committed. All NCAs expect those to be contractual, while most NCAs also clearly responded that a standard GMRA, without additional conditions, would not be enough to identify a repo as committed. A large majority of NCAs have also responded that the committed credit/repo lines should have a maximum amount and drawdown schedule that is defined in the contracts with the liquidity providers. With regards to the securities that can be used for committed secured credit or repo lines, it was not clear in many responses if the list of eligible securities needs to be stipulated in the contracts.

108. On the nature of those securities, the key finding of the review is that there is no regulatory or supervisory requirement for collateral backing committed lines to meet the 'Highly liquid instrument' conditions, although this is met in practice in many cases. Collateral that is considered eligible for margin purposes but does not meet all 'Highly liquid instrument' conditions can also be used to activate these lines.

109. With regards to the potential conditions under which the entity offering committed lines can decide not to provide the liquidity amount as agreed, many authorities insisted on the fact that liquidity providers are contractually obliged to provide the committed amounts. However, other authorities highlighted potential situations where a provider may not be able or willing to provide the relevant amounts, also mentioning how they were satisfied on the reliability of committed lines.

110. Finally, as described above, one NCA reported that while it requires credit lines and repurchase agreements to be contractual, it has identified in its last review one liquidity arrangement of the supervised CCP that is not in line with these requirements. ESMA

¹⁵ Any arrangements involving liquidity provision from central banks were excluded from the scope of the review.

would then expect this NCA to ensure that this funding arrangement is not considered as part of the liquid resources of the CCP as long as this issue has not been resolved.

111. As a result of the review of the NCAs responses, while the degree of convergence on the very basic conditions that identify committed lines is in general high, ESMA has identified the following best practices with regards to committed lines:

Best Practice 4. NCAs could request CCPs to include, as much as possible, all material provisions of committed lines in the contracts signed with the providers, including the committed liquidity amount, the detailed drawdown schedule and the list of eligible securities.

Best Practice 5. NCAs could consider enhancing their supervisory approach to actively seek assurance that the liquidity from committed lines would in practice be available also in stress conditions, for instance through the regular testing of the lines and the evaluation by the supervised CCP of the clauses included in the contracts and the creditworthiness and reliability of the providers, including for example to what extent they are active in a given market on a regular basis and in volumes that are commensurate with the committed amounts.

112. Moreover, an additional consideration has emerged that could also be considered in order to enhance supervisory practices:

Consideration 2. From the provided responses it was clear that, as part of the supervision of CCPs, none of the NCAs check or ask the CCP to check whether funding arrangements are also treated by the entity providing them, as committed for the purpose of complying with its regulatory requirements. ESMA believes that such a check could be useful to confirm the committed nature of the funding arrangements. Thus, for committed lines, NCAs could ask the supervised CCP to complement its due diligence process to also seek confirmation with the liquidity provider if the committed liquidity amounts are being considered as such (i.e. committed) in the liquidity provider's capital requirements calculation.

Issue 2. Prearranged and highly reliable funding arrangements for conversion of financial instruments into cash

113. With regards to repos, the approaches seem somehow split. On the one hand, for some NCAs a standard GMRA alone is enough, although in some cases subject to additional analysis. On the other hand, other NCAs reported that such a framework arrangement should be complemented by additional contracts in order to be considered as prearranged for liquidity coverage purposes, while one NCA reported that its supervised CCP is not considering existing GMRAs as prearranged tools.

114. Different supervisory practices apply also for arrangements involving liquidity generation from outright sales of securities. Such practices ranged from (a) no requirement to have any contractual relationship, (b) a requirement to provide only an analysis justifying

their prearranged status, or (c) the requirement for some form of contractual relationship¹⁶ with no clear indication in many cases of what this agreement should involve.

115. For the majority of the NCAs, there is no requirement to have a predefined liquidity amount for prearranged funding tools. Only two NCAs reported that CCPs have these provisions and only for some of the prearranged funding tools. At the same time, other NCAs responded that there are no contractually set amounts and the CCP can draw as much liquidity as it wants, subject to the availability of collateral. One NCA noted that it expects CCPs to support the amounts recognised by testing the funding arrangements under stress conditions assumptions.
116. In order to address the requirement to restrict funding tools to highly reliable funding arrangements, including in stressed market conditions, the majority of the NCAs described specific criteria that are being used to demonstrate it. The criteria relate to the counterparties (diversification, creditworthiness, reliability, access to central bank), the analysis performed to assess the reliability of the tools (liquidity / depth of repo / outright market) and finally the role that the securities play on the reliability of the arrangements (eligible as central bank collateral, usable at triparty repo service, traded on a market that has proven to be resilient and liquid also in stressed conditions).
117. ESMA finds it very challenging to conclude that outright sales can in a highly reliable manner produce liquidity on a same day basis under stressed conditions, especially if this is not done on the basis of a prearranged contractual agreement involving some form of commitment from the liquidity provider.
118. On the type of financial instruments considered as highly marketable instruments that can be used to generate liquidity under the RTS Article 33(1)(e) funding arrangements, the majority of NCAs responded that the CCP(s) only consider instruments that meet the more restrictive Article 43 requirements, i.e. eligible investments. However, it can be noted that it is not clear in all cases if this is a result of a supervisory requirement from the NCA or a choice of CCP. At the same time, three NCAs responded that supervised CCPs may also use instruments that do not meet the strict Article 43 requirements but are eligible collateral.
119. It is understood that the current letter of the RTS is not clear with regards to the nature of the 'highly marketable' financial instruments that can be used for prearranged funding arrangements. In particular, due to some mistaken references, it is not clear if these instruments only need to meet the conditions for eligible collateral (Annex I, Section 1 of the RTS) or also need to meet the conditions for eligible investments (Annex II of the RTS). ESMA understands that these mistaken references are due to an inconsistent renumbering at the time of the adoption of the RTS¹⁷ and that the intended (and

¹⁶ NCAs reported the CCPs having quotation agreements, master cooperation agreements, agreements with selected dealers that set conditions under which they should trade on behalf of the CCP or rulebook provisions that require members to act as brokers.

¹⁷ The Articles were renumbered in the published RTS version, without updating the original Article 33 references, as these were included in the ESMA Final Report, resulting to this lack of clarity. This is also evident from the fact that there are two RTS Articles under the number 45 in the published RTS version.

conservative) approach was to apply the stricter conditions (i.e. eligible investments). Under the intended approach in ESMA draft RTS, the CCPs would not be able to consider in their liquidity framework the Article 33(1)(e) prearranged funding arrangements using instruments that only meet the less strict 'eligible collateral' conditions. It should be noted that such instruments could still be used with committed repurchase agreements (Article 33(1)(d)) or committed secured credit lines (Article 33(1)(c)). ESMA thus suggest the Commission issuing a corrigendum of the RTS in order to avoid any uncertainty.

120. One NCA reported that a supervised CCP has built its stress test on the assumption that it would liquidate the portfolio of a defaulter using a tender agreement. The NCA has assessed this tender as a not EMIR-compliant liquid resource. The NCA has required the CCP to enhance its liquidity framework.

121. ESMA has identified the following best practice with regards to prearranged funding agreements.

- **Best Practice 6.** Concerning the requirement to restrict non-committed liquidity tools to highly reliable funding arrangements, including in stressed market conditions, NCAs could ask their supervised CCPs to adopt adequate criteria among those identified in section 6.1¹⁸ relating to the reliability of counterparties and funding tools, and the eligibility of securities used as collateral in such arrangements.

7 Conclusion

122. Concerning the functioning of CCP colleges, the review of colleges' activities during the reporting period remains overall positive. In particular, ESMA appreciated the efforts of chairing NCAs to meet the expectations and best practices highlighted in past peer reviews and with the relevant opinions adopted by ESMA. As a general remark, ESMA reminds NCAs of the importance of sharing meeting documents (including the agenda, presentations, risk assessment reports and other background documents) with the college well in advance of the college meeting date, at least 7 calendar days before as per the written agreement, to promote more interactive and effective discussions at college meetings. Moreover, ESMA urges the one NCA that did not hold yet the in-person annual meeting of the college to schedule it as soon as possible, and the other NCA that did not implement yet the common template for the regular reporting of information to CCP colleges to start using it as soon as possible.

123. Regarding the NCAs' supervisory activities on the CCP's collateral and funding arrangements (focus of the current peer review), the overall outcome of the peer review is satisfactory. NCAs reported that, overall, they systematically review the CCP's collateral and funding arrangements through the annual review under Article 21 of EMIR and, where relevant, in the context of formal authorisation under Article 15 of EMIR or validation of significant changes under Article 49 of EMIR.

¹⁸ Under the title 'Reliability of funding arrangements, including in stressed market conditions'- see paragraphs 95 - 97.

124. However, the peer review showed that only a limited number of NCAs have used an approach based on quantitative metrics calculated by the CCPs to review the CCPs' assessment of the liquidity and low market risk of the financial instruments, within the scope of the current peer review, used as collateral.
125. Concerning the funding arrangements, while the degree of convergence on the very basic conditions that identify committed credit and repo lines is in general high, different supervisory practices apply for pre-arranged funding arrangements involving repos and liquidity generation from outright sales of securities.
126. In particular, diverging practices emerged with respect to the type of financial instruments considered as highly marketable instruments that can be used to generate liquidity under the RTS Article 33(1)(e) funding arrangements, where ambiguity on the applicable RTS was introduced by inconsistent cross-references following the renumbering of the RTS articles at the time of the adoption of the RTS. In order to avoid any uncertainty and ensure supervisory convergence, ESMA suggests the Commission issuing a corrigendum of the RTS to correct any mistaken cross-reference. In particular, Article 33(1)(e) of the RTS should refer to Articles 43 and 44 of the RTS, instead of to Article 45 and 46 of the RTS.¹⁹
127. Box 1 below presents the best practices that emerged from the review of NCAs' supervisory approaches with respect to the assessment of collateral and liquidity arrangements against the relevant requirements in EMIR.
128. Finally, in order to enhance supervisory practices with respect to CCP's collateral and funding arrangements, the following considerations have been put forward:
- **Consideration 1.** NCAs have relied on the evaluation of quantitative and qualitative criteria to compare assets within an asset class and determine the eligibility of some assets, but no NCA conducted a comparison across asset classes to determine whether the type of asset is on the whole of sufficiently low market risk. ESMA considers that in order to properly determine low market risk, NCAs could ask CCPs to conduct comparisons across asset classes.
 - **Consideration 2.** From the provided responses it was clear that, as part of the supervision of CCPs, none of the NCAs check or ask the CCP to check whether funding arrangements are also treated by the entity providing them, as committed for the purpose of complying with its regulatory requirements. ESMA believes that such a check could be useful to confirm the committed nature of the funding arrangements. Thus, for committed lines, NCAs could ask the supervised CCP to complement its due diligence process to also seek confirmation with the liquidity provider if the committed liquidity amounts are being considered as such (i.e. committed) in the liquidity provider's capital requirements calculation.

¹⁹ The corrigendum (or amendment) could also solve the issue of having two articles with the same number, i.e. the two articles 45, e.g. by renumbering the second article as Article 45a and adjust any cross-reference to the latter accordingly.

Box 1: Best Practices

Collateral Arrangement

Best practice 1. In order for a CCP to demonstrate that a financial instrument can be considered as highly liquid, NCAs could require the CCP to provide, for the assets it deems the most relevant, a quantitative assessment of the liquidity of the asset, including one or several of the most relevant indicators listed in section 5.1 of this report, such as the size of the outstanding issue per ISIN, the average trade size, and the daily traded volumes.

Best practice 2. Since the concentration limits and haircuts need to reflect the amount of collateral that can be liquidated in a fixed time horizon by the CCP, NCAs could require the CCP to demonstrate the consistency between the way these quantities are computed and the criteria used to determine the liquidity of a financial instrument.

Best practice 3. In order for a CCP to demonstrate that the level of market risk is minimal, the NCA could ask the CCP to use, for the assets it deems relevant, one or several quantitative measures, such as a VaR, to demonstrate that the level of market risk of the financial instrument is below a certain threshold, or compare the level of this metric to ad-hoc benchmarks.

Liquidity arrangements

Best Practice 4. NCAs could request CCPs to include, as much as possible, all material provisions of committed lines in the contracts signed with the providers, including the committed liquidity amount, the detailed drawdown schedule and the list of eligible securities.

Best Practice 5. NCAs could consider enhancing their supervisory approach to actively seek assurance that the liquidity from committed lines would in practice be available also in stress conditions, for instance through the regular testing of the lines and the evaluation by the supervised CCP of the clauses included in the contracts and the creditworthiness and reliability of the providers, including for example to what extent they are active in a given market on a regular basis and in volumes that are commensurate with the committed amounts.

Best Practice 6. Concerning the requirement to restrict non-committed liquidity tools to highly reliable funding arrangements, including in stress market conditions, NCAs could ask their supervised CCPs to adopt adequate criteria among those identified in section 6.1²⁰ relating to the reliability of counterparties and funding tools, and the eligibility of securities used as collateral in such arrangements.

²⁰ Under the title 'Reliability of funding arrangements, including in stressed market conditions', see paragraphs 95 - 97.

Annex 1 – Survey Questionnaire

1. General Information

1.1 Information on CCPs and supervisory activities

- Please indicate in the table below the CCPs you supervise and the dates of the supervisory reviews conducted in the reference period²¹ with respect to the CCP's collateral and funding arrangements (CFA).

In particular, please, indicate whether such reviews were conducted in the annual review(s) under Article 21 of EMIR, any validation of significant change affecting CFA (if any) under Article 49 of EMIR, any risk assessment related to an extension of authorisation including new or amended CFA (if any) under Article 15 of EMIR, the number of non-significant changes that affected the CCPs' CFA.

CCP(s)	Supervisory activities related to CCP's collateral and funding arrangements (CFA)				
	Annual Review of CFA	Validation of significant changes to CFA	Extension of authorisation incl. new CFA	Non-significant changes to CFA	Other activity involving review of CFA
	dd/mm/yyyy	dd/mm/yyyy (description) dd/mm/yyyy (description)	dd/mm/yyyy (description) dd/mm/yyyy (description)	XX (description)	dd/mm/yyyy (description)

- Please indicate in the table below any supervisory activity related to CFA that was included in the annual supervisory work plan for 2017 and 2018 as input to the yearly review of the CCP compliance with the scope requirements pursuant to Article 21 of EMIR²², whether including on-site inspections or not, the deadline for completion and its current status.

CCP	Supervisory Activity	Reference EMIR/RTS Article	Description	Year	On-site inspection	Status and Deadline
				2017 or 2018	Y/N	closed/open dd/mm/yyyy

²¹ or before, in case no activities involving the review of CFA were conducted during the reference period.

²² See footnote 4.

Please, attach to your answer any related NCA’s report documenting the outcome of the respective supervisory review (where available in English, otherwise in the participating authority’s working language²³).

1.2 Organizational setup of the relevant Competent Authority(-ies)²⁴

- 3. Please, indicate in the table below the competent authorities that have direct supervisory responsibilities to assess the CCP’s CFA compliance with EMIR Articles 44 and 46, and related RTS, specifying the internal department in charge of the supervisory activities and the number of Full-Time-Equivalent staff members (FTEs) assigned to such activities, and whether internal procedures, guidelines or other tools have been developed to help staff dealing with these supervisory activities related to CFA. (If yes, please describe them and provide a copy of the relevant documentation).

Competent Authority	Internal Department	Reference EMIR/RTS Article	N. of FTEs	Internal procedures/handbook/guidelines/other tools
				Y/N

Please, explain and provide a copy/extract of the relevant competent authority’s organizational chart or a list of staff members involved in the supervisory activities related to CFA, with an indication of their title, seniority and background. If applicable, please describe and provide a copy (where available in English, otherwise in the participating authority’s working language²⁵) of the internal procedures, handbook, guidelines or other tools that have been developed to assist supervisors dealing with these supervisory activities related to CFA. If more than one competent authority has shared responsibility in conducting supervisory activities related to CFA, please, explain how cooperation between authorities is ensured and how the relevant activities are coordinated. If applicable, provide any relevant cooperative arrangement (e.g. MoU, information sharing agreement) related to such activities.

²³ A translation in English could be requested by ESMA staff in follow-up interactions.
²⁴ According Article 30(a) of ESMA regulation, the peer review shall inter alia include an assessment of the adequacy of resources and governance arrangements of the competent authority [...].
²⁵ A translation in English could be requested by ESMA staff in follow-up interactions.

2. Supervisory activities on collateral and funding arrangements

Collateral and funding arrangements under Articles 46 and 44 of EMIR and related RTS (153/2013 Requirements for CCPs)

Competent authorities should assess whether CCPs comply with the following regulatory provisions.

1. Article 46 of EMIR relating to the collateral requirements requires the CCP to accept highly liquid collateral with minimal credit and market risk to cover its initial and ongoing exposure to its clearing members. Article 37 of the RTS requires that a CCP shall establish and implement transparent and predictable policies and procedures to assess and continuously monitor the liquidity of assets accepted as collateral and take remedial action where appropriate. Article 39 of the RTS stipulates that financial instruments shall meet the condition listed in Annex I, Section 1 of the RTS to be considered highly liquid collateral, and in particular, the following conditions referring to the market risk and liquidity:
 - “(b) the CCP can demonstrate to the competent authority that the financial instruments have a low market risk based upon an adequate internal assessment by the CCP. In performing such an assessment, the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions;”
 - “(e) they have an active outright sale or repurchase agreement market, with a diverse group of buyers and sellers, to which the CCP can demonstrate reliable access, including in stressed conditions.”
2. Article 44 of EMIR relating to the liquidity risk controls (funding arrangements) requires, for example, the CCP to, at all times, have access to adequate liquidity to perform its services and activities. A CCP shall measure, on a daily basis, its potential liquidity needs. Article 33 (Access to liquidity) of the RTS requires, for example, the CCP to maintain, in each relevant currency, liquid resources commensurate with its liquidity requirements. The liquid resources shall be limited to the list as set out in article 33(1)(a) to (e), including the following:
 - (c) committed lines of credit or equivalent arrangements with non-defaulting clearing members;
 - (d) committed repurchase agreements;
 - (e) highly marketable financial instruments that satisfy the requirements of Article 45 and Article 46 and that the CCP can demonstrate are readily available and convertible into cash on a same-day basis using prearranged and highly reliable funding arrangements, including in stressed market conditions.

2.1 Questions on collateral arrangements

Question 1. Liquidity of collateral

The NCAs are asked to please provide responses to the following questions. If the answer is different for different types of collateral, please provide an answer per category of collateral.

- a. What do you ask CCPs to demonstrate that the collateral is “highly liquid” and what criteria have you used to assess the liquidity of the collateral? Do you apply numerical thresholds to identify what is “highly liquid”? If so, how are they defined?
- b. Have you considered or applied any of the following indicators to assess the liquidity of the relevant collateral? If so, please specify which one:
 - i. Size of the outstanding issue in the same ISIN
 - ii. Number of trades per day in this ISIN
 - iii. Average trade size
 - iv. Number of days without a trade
 - v. Daily traded volumes
 - vi. Traded volumes in times of market stress
 - vii. Number of active market participants
 - viii. Size of repurchase agreement market
- c. For each of the above, if applicable, what is the numerical threshold?
- d. How often is the CCP requested to demonstrate that the acceptable collateral continues to meet the requirements?
- e. What link was made between the quantitative indicators above and the concentration limits/haircuts? For example, are haircuts calculated as a function of the bid-offers, are the number of trades or the traded volumes inputs to the calculation of haircuts, are concentration limits defined as a percentage of the daily traded volume?

Question 2. Low Market risk

The NCAs are asked to please provide answers to the following questions. If the answer is different for different types of collateral, please provide an answer per category of collateral.

- a. What is your definition of collateral with “low market risk” and what criteria have you used to assess whether the collateral was of “low market risk”?
- b. In particular, what numerical thresholds have been used to accept or reject a security (apart from the ones of the suggested list below)?
- c. Have the following indicators been used:

- i. A VaR (and if so at which quantile over what lookback horizon and what margin period of risk) for each security
 - ii. Standard deviation of daily returns
 - iii. Behaviour during identified stress events (for example the worst 5-day loss, or other such metric)
 - iv. Application of another risk model (if so, which one?)
- d. For each of the above, if applicable, what is the numerical threshold?
 - e. How was such threshold determined, how were you satisfied that this was the right threshold?
 - f. What is the coverage of these indicators (e.g. is the criterion measured for each individual security?)
 - g. How often is the measure refreshed?
 - h. What link was made between the numerical indicators above and the concentration limits/haircuts?
 - i. For each type of collateral classified, how is the haircut calculation taking into account the numerical indicators discussed above?

2.2 Questions on funding arrangements

Question 3. Committed Credit/Repo lines

NCAAs are requested to describe the criteria and conditions they use to assess that credit and repo lines as defined in Article 33(c) and (d) of the RTS, and excluding those provided by central banks, are committed.

Please, answer the following questions and clearly indicate if the relevant supervisory approach does not relate to funding arrangements used by a supervised CCP, but rather to a supervisory approach of the participating authority that is not used in practice:

- a. Do committed lines of credit (or equivalent arrangements) and committed repurchase agreements have to be contractual? If not, then what are the conditions used to identify such arrangements as committed?
- b. Would a standard GMRA²⁶ or similar agreement be considered as committed? If yes, then are there any supplementary set of conditions that are used to identify such an agreement as a committed line? If applicable, please describe these conditions.

²⁶ Global Master Repurchase Agreement

- c. Is there a contractually defined (or otherwise predefined, in which case please explain) specific or maximum liquidity amount that the CCP can draw from such committed credit/repo lines?
- d. Is there a contractually defined (or otherwise predefined, in which case please explain) drawdown schedule (i.e. time by which the cash should be available) from such committed credit/repo lines?
- e. Is there a contractually defined (or otherwise predefined, in which case please explain) set of eligible collateral for committed repo lines and secured committed credit lines? Do such collateral need to be designated as a highly liquid financial instruments under Article 43 of the RTS and kept under the highly secured arrangements defined under Article 44 of the RTS?
- f. Are there any conditions under which the entity offering such committed repo/credit lines can decide not to provide the liquidity amount as agreed? What is the nature of such conditions? How were you satisfied that the committed line will in fact be available under a stressed scenario?
- g. Do you check / ask the CCP to check or otherwise require / ensure (please explain) that such committed credit / repo lines are also treated, by the entity providing it, as committed for the purpose of complying with its regulatory requirements, such as capital requirements under CRR?

Question 4. Prearranged and highly reliable funding arrangements for conversion of financial instruments into cash

NCAAs are requested to describe the criteria and conditions they use to assess that funding arrangements described in Article 33(e) of the RTS, excluding liquidity provided by central banks, are prearranged and highly reliable. Please indicate clearly in your response if the relevant supervisory approach does not relate to funding arrangements used by a supervised CCP, but rather to a supervisory approach of the participating authority that is not used in practice.

- a. What is the nature of such prearranged funding arrangements? Do these arrangements include repo / secured credit lines / outright sale of the financial instruments / other? Please list and briefly describe the type of funding arrangement that are considered for the purpose of Article 33(e) of the RTS.
- b. Do these funding arrangements need to be contractual? If not, what are the requirements used to classify such funding arrangements as prearranged? If needed, please list the requirements separately for the different types of funding arrangements (e.g. repo / secured credit lines / outright sale / other, as applicable depending on your answer under item a).
- c. Would a standard GMRA or similar arrangement be considered as prearranged? If yes, then are there any supplementary set of conditions that are required to identify such an

agreement as highly reliable, including in stressed market conditions? If applicable, please describe these conditions.

- d. What are the criteria / conditions used to demonstrate that such arrangements are highly reliable, including in stressed market conditions to convert the financial instruments into cash on a same-day basis? Do these conditions involve any quantitative analysis, also on the basis of the size of the relevant market, liquidity observed during previous stress events, and/or soft/hard thresholds?
- e. Do the financial instruments used under such arrangements need to be designated as highly liquid financial instruments under Article 43 of the RTS and kept under the highly secured arrangements as defined under Article 44 of the RTS?
- f. Is there a contractually defined (or otherwise predefined, in which case please explain) specific or maximum liquidity amount that can be drawn using such funding arrangements?
- g. Do you check / ask the CCP to check or otherwise require / ensure (please explain) that the arrangement for liquidity provision is treated, by the entity providing it, as committed for the purpose of complying with its regulatory requirements, such as capital requirements under CRR?