Committee on Payment and Settlement Systems

Technical Committee of the International Organization of Securities Commissions

Assessment methodology for the principles for FMIs and the responsibilities of authorities

Consultative report

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This assessment methodology is being issued now for public consultation. Comments should be sent **by 15 June 2012** to both the CPSS secretariat (cpss@bis.org) and the IOSCO secretariat (fmi@iosco.org). The comments will be published on the websites of the BIS and IOSCO unless commentators have requested otherwise.

A cover note, published simultaneously and also available on the BIS and IOSCO websites, provides background information on why the assessment methodology has been issued and sets out some specific points on which comments are particularly requested.

Contents

1.0. Introduction

This document provides a methodology for assessing observance of the 24 principles and five responsibilities as defined in the CPSS-IOSCO report on *Principles for financial market infrastructures* (PFMI Report), published by the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO) in April 2012. The CPSS and IOSCO developed the assessment methodology (AM) with the aim of promoting observance of the principles. Key benefits include objectivity and comparability across the assessments of observance of the principles and the responsibilities in different jurisdictions.[1]

This AM was developed in parallel with and as an adjunct to the PFMI Report. Accordingly, the AM and PFMI Report should be taken together as closely related and supporting documents. The AM avoids repetition of the discussions of the principles and responsibilities that are contained in the PFMI Report; any elaborating commentary is intended to help explicate practical considerations that arise when performing assessments, not to amend or expand upon those discussions.

1.1. Use of the Assessment Methodology

The PFMI Report emphasizes the need for concerted effort by various stakeholders to implement the principles. While primary responsibility for implementation lies with the designers, owners, and operators of FMIs, the PFMI Report stresses the need for central banks, market regulators, and other relevant national authorities to promote implementation by undertaking their own assessments of FMIs' observance of the principles in their jurisdictions and by identifying steps, where necessary, for completing implementation and achieving observance. All CPSS and IOSCO members intend to apply the principles to the relevant FMIs in their jurisdictions to the fullest extent possible. Members also intend to apply the responsibilities when discharging their regulation, supervision, and oversight responsibilities.

The CPSS and IOSCO intend to promote implementation and ongoing observance of the principles and responsibilities through periodic assessments of observance performed by a variety of parties:

- FMIs may have to conduct formal periodic full or partial self-assessments of observance of the principles, where this is consistent with national practice.
- As part of their responsibilities for regulation, supervision, and oversight of FMIs, the relevant national authorities are expected to regularly assess observance of the principles by FMIs in their respective jurisdictions in connection with such authorities' supervisory and oversight programs. Authorities are also encouraged to conduct periodic self-assessments of their observance of the responsibilities to gauge their ability to ensure ongoing observance of the principles.
- The CPSS and IOSCO are also encouraging external assessments of FMI observance of the principles and authorities' observance of the responsibilities, including assessments conducted by international financial institutions (IFIs), namely, the International Monetary Fund and the World Bank, in particular as part of

[1] The World Bank (WB) and International Monetary Fund (IMF) co-chaired the Sub-Group, the members of which were experienced experts who have collectively performed numerous assessments through the IMF-WB Financial Sector Assessment Program (FSAP) and other diagnostics of payment systems, central securities depositories (CSDs), securities settlements systems (SSSs), and central counterparties (CCPs) as external assessors and as overseers of national and international systems.

their Financial Sector Assessment Program (FSAP). National authority peer-reviewers may also be considered external assessors.

Among these various types of assessors, the common objective is to determine whether the FMI observes the principles. However, individual objectives may differ somewhat:

- An FMI may conduct an assessment to identify matters that require structural improvement and prioritize resources to address identified areas of improvement.
- National authorities conduct FMI assessments as part of their supervision and oversight regimes to identify possible risks and induce changes at the FMI. They may also be involved in cooperative arrangements with authorities in other jurisdictions regarding cross-currency and/or cross-border FMIs. Moreover, national authorities may want to self-assess how effectively they discharge their responsibilities as regulators, supervisors, and overseers.
- Finally, external assessors may conduct assessments to identify vulnerabilities to global financial stability and potential areas for improvement; they may also draw comparisons at the international level to identify best practices. They can also use the assessment tool in the context of technical assistance to identify development needs and build assessment capacity.

This AM is primarily intended for external assessors at the international level, in particular the IFIs. It also provides a baseline for national authorities to assess FMIs under their supervision and oversight against the principles or to self-assess the way they discharge their own responsibilities as regulators, supervisors, and overseers. National authorities should use this AM as it is or take it into consideration when developing equally effective methodologies for their national supervision and oversight processes.

Different types of assessors may communicate the outcome of their assessments of FMIs differently, depending on their specific objectives. This is particularly the case with respect to rating assignments and the communication of assessment outcomes. Therefore, the expected use of the AM rating scheme, by assessor type, is as follows:

- Where consistent with national practice, FMIs should use this rating scheme.
- National authorities may choose to use the AM rating scheme or may choose to use another rating scheme, in particular when they are legally bound to use a different assessment methodology. If a national authority uses a different rating scheme, it should be equally effective for assessing FMIs as the AM rating scheme and must enable the assessor to form a judgment regarding the level of observance of the principles. The suggested AM rating scheme is expected to be used in the context of cross-border cooperative oversight arrangements unless agreed otherwise by the authorities that are participating in such arrangements.
- External assessors, in the context of FSAPs or peer-reviews, need a rating framework that is consistent with other sets of standards, such as the Basel Committee's *Core principles for effective banking supervision*, and provides comparability over time and between countries.[2] The IFIs therefore will use the rating scheme presented in this AM in the context of the FSAP. Technical assistance (TA) assessors are not necessarily expected to use a rating scheme. TA assessments are likely to achieve their goals best by communicating outcomes through dialogue with local FMI management and authorities, rather than relying on formal ratings.

[2] See Basel Committee on Banking Supervision, *Core principles for effective banking supervision*, December 2011.

1.2. Customization of the assessment of the principles according to each type of FMI

This AM is designed to cover all of the types of FMIs to which the principles apply, that is, systemically important payment systems, central securities depositories (CSDs), securities settlement systems (SSSs), central counterparties (CCPs), and trade repositories (TRs). Annex D of the PFMI Report provides a description of the various institutional designs associated with different generic types of payment systems, SSSs, and CCPs. The assessor might have to exercise some judgment in the identification and classification of an FMI, in particular where multiple FMIs belong to the same legal entity, where individual FMIs perform multiple functions, or where the clearing and settlement processes are divided.

As specified in the PFMI Report (see specifically Table 1 and Annex E), certain principles or key considerations are applicable only to specific types of FMI. For example, the PFMI Report reflects the fact that TRs do not face credit or liquidity risks, and therefore the principles and key considerations pertaining to these risks do not apply. Likewise, this AM specifies to which types of FMIs key elements and the associated assessment questions apply in a manner consistent with the PFMI Report.

1.3. Applicability of the AM to public sector-owned FMIs

This AM is also intended to assist assessors in correctly applying the principles and key considerations to both private and public sector FMIs that are objects of an assessment, taking into account differences in private and public ownership structures and organizational forms, as specified in the PFMI Report. In general, the principles are fully applicable to FMIs owned or operated by the public sector, in particular central banks. Central banks and other public sector entities should apply the same standards to FMIs that they own or operate as those that are applied to similar private-sector FMIs. However, due to the circumstances of their ownership, public-sector FMIs are out of the scope of some assessment questions, and require specific guidance under a few principles and responsibilities. Appropriate questions have been formulated to help assess observance by public sector-owned FMIs for Principle 2 on governance, Principle 15 on general business risk, Principle 21 on efficiency and effectiveness, and Responsibility D on application of the PFMI Report.

1.4. Practical considerations in conducting an assessment

This sub-section provides guidance on practical matters to be considered when conducting an assessment: (a) access to information, (b) assessment of actual practice, (c) assessors' background, experience, and training, and (d) assessment obstacles.

Access to information – when conducting an assessment, assessors should be given access to all relevant information and interested parties. In particular, external assessors will need to meet with a range of individuals and organizations, including, the oversight authority or authorities, banking supervisory authority or authorities, other domestic supervisory authorities, any relevant government ministries, market participants and industry associations, auditors, and other financial sector participants. For all assessments, relevant information may include public information, such as relevant laws, regulations and policies, and also non-public information, such as internal self-assessments, policies, procedures, data, and metrics. In the case of an external assessment, relevant information will also include operational guidelines for supervisors and overseers and completed supervisory assessments of individual FMIs. Special note should be made in the assessment report of instances when any required information or access to key staff is not provided, as well as the implications for the completeness and accuracy of the assessment.

Assessment of actual practice – strong emphasis should be placed on the actual practice and enforcement of the principles and responsibilities to ensure the safety and soundness of FMIs. Assessors should evaluate not only the legal and regulatory framework and the rules of the FMI, but also the way in which such legislation and rules are applied and achieved in practice within the jurisdiction. This is most relevant in the case of Principle 1 on legal basis, Principle 2 on governance, Responsibility D on application of the principles, and Responsibility E on cooperation with other authorities.

Assessors' background, experience, and training – the use of professional judgment when carrying out an assessment requires qualified individuals possessing both practical and relevant experience. Therefore, the assessment should be conducted by persons with appropriate knowledge and understanding of FMIs.

Assessment obstacles – assessors should note any factors that facilitated or impaired the assessment, with particular reference to the degree of cooperation encountered in carrying out the analysis and should indicate in the assessment report the extent to which these factors may have affected the comprehensiveness of the assessment.

2.0. Assessment methodology framework

This section describes the five steps involved in an assessment against the principles and responsibilities. These steps are: (i) determining the appropriate scope of an assessment; (ii) gathering facts useful to evaluate the key considerations; (iii) developing key conclusions for each key consideration; (iv) assigning a rating category to each principle or responsibility; and (v) indicating an appropriate timeframe for addressing each identified issue of concern, including a discussion on priorities.

2.1. Step 1: Scope of the assessment

Before beginning an assessment, careful consideration should be given to the appropriate scope, which should be clearly communicated to the assessed entities in advance of it being undertaken.

Which FMIs to assess

According to the PFMI Report, national authorities are expected to regularly assess FMIs that they have deemed systemically important (see the PFMI Report for further discussions on systemically important FMIs).

External assessors would normally rely on the domestic authorities' designation of FMIs as systemically important, but may define certain FMIs as being out of scope for the assessment, for example, national FMIs processing small-value transactions that pose little contagion risk outside the domestic jurisdiction. They may also decide to focus on the FMIs that are the most relevant for global financial stability.

Which assessment perimeter to define

Each FMI should be assessed separately. According to the PFMI Report, an FMI is defined as a multilateral system among participating financial institutions, including the operator of the system, used for the purposes of recording, clearing, or settling payments, securities, derivatives, or other financial transactions.[3] FMIs can differ significantly in organization, function, and design. FMIs can be legally organized in a variety of forms, including associations of financial institutions, non-bank clearing corporations, and specialized banking organizations. They can be defined as separate legal entities or parts of another legal entity. The functional definition of an FMI includes five key types of FMIs: payment systems, CSDs, SSSs, CCPs, and TRs.

Assessors must determine the functions to be covered (for example central counterparty clearing of OTC derivatives, securities settlement, or large-value payment settlement) and identify the institution(s) to be assessed for each assessment (such as, a legal entity, part of a legal entity, or several legal entities). Assessors should ensure that all of the critical functions of the FMI are included in the scope of the assessment. If the FMI subject to the assessment has established links to settle cross-border trades, assessors will need to

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[3] The general analytical approach of the PFMI report and this AM is to consider FMIs as multilateral systems, inclusive of their participants, as stated in the definition of FMI. In market parlance, however, the term FMI may be used to refer only to a legal or functional entity that is set up to carry out centralised, multilateral payment, clearing, settlement, or recording activities and, in some contexts, may exclude the participants that use the system. This difference in terminology or usage may introduce ambiguity at certain points in the PFMI report. To address this issue, the PFMI report and this AM may refer to an FMI and its participants, or to an FMI including its participants, to emphasize the coverage of a principle or other text where this is not clear from the context. The definition of FMIs excludes bilateral relationships between financial institutions and their customers, such as traditional correspondent banking.

consider how best to cooperate with the authorities in those relevant jurisdictions to fulfil the assessment obligation.

Which principles to use

Assessors should also determine which principles will be the subject of the assessment, as not all may be applicable in every situation. For instance, an assessment might be conducted (a) against all principles, as part of a periodic comprehensive review of an FMI's safety and efficiency; (b) against one or more individual principles that may be impacted by a proposed new service offering or a proposed material change to an FMI's risk-management framework; (c) against one or more individual principles that may be targeted for a thematic (or "horizontal") review across one or more FMIs; or (d) against one or more individual principles that are relevant to certain problems identified prior to the assessment.[4]

Which authorities to assess

In general, the authorities are assessed at a jurisdictional level (not at the level of the FMI or the individual regulatory, supervisory, or oversight authority). This allows the assessor to perform a comprehensive assessment of the authorities' observance of the responsibilities and to identify potential regulatory gaps or overlaps in the way they are discharged in the jurisdiction. This approach is consistent with Responsibility E which deals, inter alia, with cooperation between domestic authorities. There are situations, however, where assessing the regulatory, supervisory, and oversight framework that applies to a specific FMI may be appropriate, such as in the case of an FMI with cross-border activity. Foreign authorities, for example, may be interested not only in obtaining information about the general adherence of the domestic authorities to the responsibilities but also in a more specific assessment of the way the responsibilities are applied with respect to a particular FMI in which they have an interest. It may also be appropriate to assess the responsibilities in conjunction with a category of FMIs (to understand how national authorities discharge their responsibilities towards payment systems or CCPs for example). In addition, a relevant national authority may assess its own observance of the responsibilities.

2.2. Step 2: Fact gathering

Assessors should gather sufficient facts to be able to develop key conclusions for each key consideration. This AM provides key elements for each key consideration to organize the fact finding process. In addition, the AM includes a set of related questions for each key element to guide assessors in gathering relevant facts (see Appendix 3: Questions by key considerations for the principles and Appendix 4: Questions by key considerations for the responsibilities).

Key elements and the related questions are derived from and based on the key considerations for each of the 24 principles and five responsibilities. The key considerations for each principle and responsibility elaborate on the principles that FMIs or authorities are expected to observe. The key elements associated with each key consideration are indicators to help determine whether an FMI or an authority is actually achieving the key considerations and hence the principles. The list of questions is a tool to help assessors gather facts to make this determination.

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4 In this case, the assessment may cover several FMIs.

Additionally, this information collecting process may serve as an early indicator of the extent to which the FMI (or authority) being assessed is meeting expectations for providing access to information.

Throughout the process of populating the key elements, assessors must develop a general understanding of the FMI's (or authority's) basic business processes, operations, and activities. Obtaining this macro view will provide context for an assessment and position assessors to seek the full set of information needed. Therefore, assessors should keep in mind the following overarching questions for each principle during the assessment:

1. What is the FMI's approach/method for observing the principle?
2. What analyses, processes, and rationale did the FMI use in developing, identifying, selecting, and ensuring the effectiveness of its approach/method for observing the principle?
3. How does the FMI measure and monitor its ongoing performance in observing the principle?
4. What other evidence is available (for example, assessments performed by the FMI's direct regulator or other separately available information) to help gauge the FMI's ongoing performance in observing the principle?

A similar approach applies to the assessment of observance of the responsibilities by the relevant authorities. Assessor should have in mind the following overarching questions for each responsibility that is being assessed:

1. What is the authorities' approach for fulfilling the responsibility?
2. What analyses, processes, and rationale did the authorities use in developing, identifying, selecting, and ensuring the effectiveness of their approach for fulfilling the responsibility?
3. How do the authorities measure and monitor their ongoing performance in fulfilling the responsibility?
4. What other evidence is available to help gauge the authorities' ongoing performance in fulfilling the responsibility?

The questions are not intended to be exhaustive and assessors could, at their discretion, pose additional or different questions as needed depending on the circumstances, in particular to address the different levels of complexity of the FMI. In some instances, assessors may want to modify specific questions to adjust to particular risk factors or circumstances specific to the assessment. For example, they may want to pose additional probing questions. The list of questions used by assessors should provide at least an equivalent level of information as the one included in this AM.

The questions included in this AM may have to be revised in the future to ensure they stay up to date.

2.3. Step 3: Key conclusions for each key consideration

Key conclusions are an assessor's overall determination of the extent to which the intent of a key consideration is met by the entity being assessed. A key conclusion for each key consideration should be drawn. Key conclusions are provided in the form of a narrative summary based on facts gathered by assessors. In drawing a key conclusion, assessors should:

1. Summarize the FMI practices and achievements, as warranted.
2. Identify any observed gaps and shortcomings with respect to each key consideration, as they emerge from the facts gathered by assessors, using the questions as guidance.
3. For each of the identified gaps and shortcomings, describe the risks, concerns or other issues associated with that gap or shortcoming, and the implications for meeting the key consideration.

Key conclusions will then serve as building blocks for Step 4 in assigning a rating category, as described in the following sub-section.

2.4. Step 4: Rating framework

This sub-section illustrates the AM's rating framework and provides guidance for assigning a rating category. As noted, the IFIs will use the framework described in this sub-section, particularly in the FSAP context. National authorities may also adopt the proposed rating framework.

Observance is assessed at the level of each principle and responsibility. The rating and language for communicating the assessment results applies to each principle and responsibility, respectively.

Rating scale and language for communicating the assessments results – Principles

The rating scale is built on the gravity and urgency to remedy identified "issues of concern". For the purpose of this scale, an "issue of concern" is a risk management flaw, a deficiency, or a lack of transparency or effectiveness that needs to be addressed.

Observed	The FMI observes the principle. Any identified gaps and shortcomings are not issues of concern and are minor, manageable, and of a nature that the FMI could consider taking up in the normal course of its business.
Broadly Observed	The FMI broadly observes the principle. One or more issues of concern have been identified that the FMI is encouraged to address and follow up to better manage risks or improve operations. The FMI should pursue such improvements in a defined timeline.
Partly Observed	The FMI partly observes the principle. The assessment has identified one or more issues of concern that could become serious if not addressed in a timely manner. The FMI should accord a high priority to address these issues.
Not Observed	The FMI does not observe the principle. The assessment has identified one or more serious issues of concern that warrant immediate action. Therefore, the FMI must accord the highest priority to address these issues in a timely manner.
Not Applicable	The principle does not pertain to the type of FMI being assessed because of the particular legal, institutional, structural, or other characteristics of the FMI.[5]

[5] The case of a principle not being assessed does not fall within this category. A list of principles not covered in the assessment, and an accompanying explanation of the reasons for the exclusion, are part of the

Rating scale and language for communicating the assessments results – Responsibilities

The rating scale is built on the gravity and urgency to remedy identified "issues of concern". For the purpose of this scale, an "issue of concern" is an oversight or supervisory flaw, a deficiency, or a lack of transparency or effectiveness that needs to be addressed.

Observed	The authorities fulfil the responsibility. Any identified gaps and shortcomings are not issues of concern and are minor, manageable, and of a nature that the authorities can consider taking up in the normal conduct of their activities.
Broadly Observed	The authorities are broadly fulfilling the responsibility. The assessment has identified one or more issues of concern that authorities are encouraged to address and follow up in a defined timeline.
Partly Observed	The authorities partly fulfil the responsibility. The assessment has identified one or more issues of concern that could seriously affect the reliable discharge of the responsibility by the authorities if not addressed in a timely manner. The authorities to which these concerns apply should accord a high priority to their resolution.
Not Observed	The authorities are not fulfilling the responsibility. The assessment has identified one or more serious issues of concern in the current discharge of the responsibility by the authorities that warrant immediate action. The authorities to which these concerns apply should accord the highest priority to their resolution.
Not Applicable	This responsibility does not pertain because of the particular institutional framework or other conditions faced by the authorities with respect to this responsibility.[6]

Translating key conclusions into the relevant ratings

Assessors assign ratings to reflect conditions at the time of the assessment. Plans for improvements should be mentioned in the introduction and comments section of the assessment report where appropriate, but should not influence judgments about observance of the principles or responsibilities.

The assessment should note if and why observance of a particular principle or responsibility could not be adequately assessed. For example, certain information may not have been provided or key individuals or institutions may have been unavailable to discuss important issues. Unsatisfied requests for information or meetings should be documented in writing. In such cases, the assessors may treat such information gaps as evidence of a concern.

For Principles

The rating is built on the key conclusions and reflects the assessors' judgment regarding the type or impact of the risks, concerns, or other issues associated with each identified gap or shortcoming.

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introduction to the Assessment (see Appendix 1: assessment report template on the observance of the principles for FMIs).

6 The case of a Responsibility not being assessed does not fall within this category. A list of Responsibilities not covered in the assessment, and an accompanying explanation of the reasons for the exclusion, are part of the introduction to the Assessment (see Appendix 2 on the assessment report template on the observance of the responsibilities of central banks, market regulators, and other relevant authorities for FMIs).

First, assessors should identify principles that are not applicable: this is the case when a principle does not apply to the type of FMI being assessed (e.g. Principle 4 on credit risk for a TR, Principle 6 on margins for a PS). This can also be the case when the principle applies to the type of FMI being assessed but the specific, legal, institutional, structural, or other characteristics of the FMI's jurisdiction or design make the principle irrelevant (e.g. Principle 4 on credit risk for a RTGS with no (intraday) credit provided to participants).

For rating applicable principles, assessors should determine whether they are observed. For a principle to be observed, any identified gaps and shortcomings should not be issues of concern. Minor, manageable gaps and shortcomings that are of a nature that the FMI could consider taking up in the normal course of an FMI's business would be acceptable for an observed rating. Any recommendations provided by the assessors, in this instance, should only further strengthen the FMI's observed status, follow evolving international best practices, or should prepare the FMI to adapt for future changes of the regulatory, operational, or legal environment. These recommendations should be scaled to the relevance of the FMI for financial stability. There is no requirement or specified timeline for implementing these recommendations, so the FMI can consider taking them up in the normal course of its business.

When the principle is applicable but not fully observed, assessors must decide the degree of observance. It is important to note that there may be multiple issues with differing degrees of concern. In such cases, the assessor should assign the principle a rating that reflects the severity of the most serious concerns identified:

- If assessors have identified one or more serious issues of concern that need to be addressed immediately with the highest priority, the principle should be rated as not observed.
- If the above condition does not apply, but the assessors have identified one or more issues of concern that could lead to the emergence of serious risks or other significant issues and that should be addressed with high priority, the principle should be rated as partly observed.
- If the above conditions do not apply, but the assessors have identified one or more issues of concern that should be addressed in a defined timeline to better manage risks or improve operations, the principle should be rated as broadly observed.

For Responsibilities

The rating is built on the key conclusions and reflects the assessors' judgment regarding the impact of the risks, concerns, or other issues associated with each identified gap and shortcoming.

First, assessors should identify responsibilities that are not applicable: this is the case when the particular institutional framework makes the responsibility irrelevant (e.g. Responsibility E on cooperation between authorities when there is only one relevant authority).

For rating-applicable responsibilities, assessors should first determine whether they are observed. For a responsibility to be observed, any identified gaps and shortcomings should not be issues of concern. Minor, manageable gaps and shortcomings that are not issues of concern would be acceptable for an observed rating. The assessor may provide suggestions to strengthen observance of the responsibility, in particular to follow evolving international best practices or prepare the authorities to adapt for future changes of the regulatory, operational, or legal environment. There is no requirement or specified timeline for implementing these suggestions, so the authorities can consider taking them up in the normal course of their activities.

When the responsibility is applicable but not fully observed, assessors must decide the degree of observance. It is important to note that there may be multiple issues with differing degrees of concern. In such cases, the assessor should assign the responsibility with a rating that reflects the severity of the most serious concerns identified:

- If assessors have identified one or more serious issues of concern in the ability of the authorities to fulfil the responsibility that need to be addressed immediately with the highest priority, the responsibility should be rated as not observed.
- If the above condition does not apply, but the assessors have identified one or more issues of concern that could seriously affect the ability of the authorities to fulfil the responsibility and that should be addressed with high priority, the responsibility should be rated as partly observed.
- If the above conditions do not apply but the assessors have identified one or more issues of concern that authorities are encouraged to address in a defined timeline, the responsibility should be rated as broadly observed.

2.5. Step 5: Timeframe for addressing each identified concern

An assessment report should conclude with (a) a clear identification of the issues of concern that would need to be addressed, (b) an indication of an appropriate timeframe for addressing each identified issue of concern, and (c) an identification of the parties that are best positioned to address each identified issue of concern. This sub-section provides guidance on how to prepare the follow-up on assessment findings.

For Principles

There is no simple recipe for defining an appropriate timeframe, but some basic steps may be useful to consider. Assessors should identify the areas in which less-than full observance of principles may lead to serious risks. The CPSS and IOSCO have not assigned degrees of importance to the individual principles because the principles as a group contribute to the creation of a safe and efficient FMI. However, assessors will have to come to an understanding on priorities based upon their judgment as to the deficiencies that pose the greatest risks or greatest lack of transparency or effectiveness to the FMI.

Having identified priority areas, assessors should then determine the types of actions needed in each area. In the case of assessments completed by domestic authorities, the FMI itself is often expected to prepare an action plan for review by the authorities. In the case of assessments completed by external assessors, the assessors often prepare recommendations and discuss them with the authorities. In each case, the party best positioned to initiate each action or recommendation should be identified.

A reasonable timeframe in which an issue of concern should be addressed should also be specified.

For Responsibilities

As in the case of the principles, assessors should identify the areas in which less-than full observance of responsibilities leads to serious risks, and, will have to come to an understanding on priorities based upon their judgment as to the deficiencies that pose the greatest risks or greatest lack of transparency or effectiveness.

Having identified priority areas, assessors should then determine the types of actions needed in each area. Where domestic authorities conduct self-assessments, they would prepare the action plan themselves. In the case of assessments completed by external assessors, the assessors often prepare recommendations and discuss them with the authorities. In each case, the party best positioned to initiate each action or recommendation should be identified.

A reasonable timeframe in which an issue of concern should be addressed should also be specified.

3.0. Guidelines for preparing the assessment reports

Assessment report templates for assessing an FMI against the principles and authorities against the responsibilities are provided in Appendixes 1 and 2, respectively. Each assessment report consists of two parts: (1) a summary assessment and (2) a detailed assessment.

3.1. Assessment report on an FMI

Assessors should not combine several FMIs in the same assessment report but rather complete an assessment report for each FMI.

In general, the assessment report should identify the main areas of concern that impact financial sector stability and the main sources of inefficiency and risks in the FMI, and provide an appropriate timeframe to address them. The first part of the assessment report should clearly define the scope of the assessment, mention the sources of information and the methodology used, provide an overview of the applicable payment, clearing, and settlement landscape, and summarize the main findings of the assessment, including the proposed follow-up. The second part of the assessment report should provide a principle-by-principle assessment of observance, supported by a description of facts for each key element and based on key conclusions for each key consideration.

3.2. Assessment report on relevant authorities

In general, the assessment report should identify the main areas of concern that impact financial sector stability, the main sources of inefficiency and risks in the regulatory, supervisory, and oversight framework, and provide an appropriate timeframe to address them. The first part of the assessment report should clearly define the scope of the assessment, mention the sources of information and the methodology used, provide an overview of the relevant payment, clearing, and settlement landscape and regulatory framework for relevant FMIs, and summarize the main findings of the assessment, including the proposed follow-up. The second part of the assessment report should provide a responsibility-by-responsibility assessment of observance, supported by a description of facts for each key element and based on key conclusions for each key consideration.

Appendix 1:
Assessment report template
on the observance of the principles for FMIs

Abbreviations

BCP	Business Continuity Plan
CSD	Central Securities Depository
CCP	Central Counterparty
CPSS	Committee on Payment and Settlement Systems
DVD	Delivery versus Delivery
DVP	Delivery versus Payment
IOSCO	International Organization of Securities Commission
ISO	International Organization for Standardization
PS	Payment System
SSS	Securities Settlement System
TR	Trade Repository

Assessors should list other terms that are used in the assessment report

I. Background, Key Findings, and Follow-up

Summary

An executive summary should highlight the key relevant findings of the assessment.

Introduction

Assessor and objective: identify the entity and assessor(s) conducting the assessment, and the objective and context of the assessment.

Scope of the assessment: identify the FMI being assessed.

Scope of coverage of the FMI: identify the FMI's scope of coverage, i.e. instruments (e.g. large value payments, securities, or derivatives), markets (exchange-traded and/or OTC transactions), and functions (such as CSD and SSS).

Methodology and information used for the assessment

Assessors should mention the process followed in conducting the assessment. If not all principles are assessed, assessors should explain why and list the principles that are assessed. Assessors should also explain which questions are used.

This section should identify the main sources of information used in making the assessment. Information sources may be public and non-public. These sources may include written documentation (such as other assessments, surveys, questionnaires, reports, studies, and relevant laws, regulations, or regulatory or industry guidance) and oral discussions with oversight, regulatory, or supervisory bodies, the FMIs themselves, and relevant industry stakeholders (such as, participants, staff, payment committees, stock exchanges, custodians, securities brokers, or end user associations).

Any practical difficulties in applying the assessment methodology should be mentioned, such as lack of information or cooperation and any factors limiting the assessment process or its scope. An account of any information requested but not obtained should be given.

Payment, clearing, and settlement landscape - overview

This section should begin with a general description of the role of the FMI in the overall relevant payment, securities, or derivatives clearing and settlement infrastructure.

The section should continue with a general description of the FMI's basic business processes, operations, and activities. The description should include sufficient transaction data to understand the scope of the FMI's activities, including by comparison with other FMIs of the same type, either from the same country, or from other relevant countries.

The section should also provide a general description of the regulatory and supervisory framework relating to the FMI in the jurisdiction and a brief description of the oversight, regulatory and supervisory bodies with authority over the FMI.

Finally, this section should describe major changes implemented in the recent past or scheduled for the near future.

Key findings and follow-up

This section should summarize the key findings of the detailed assessment. Assessors should state the main findings of the detailed assessment of observance of the principles under the following main categories: (a) General organization (Principles 1 to 3); (b) Credit and liquidity risk management (Principles 4 to 7); (c) Settlement (Principles 8 to 10); (d) Central securities depositories and exchange-of-value settlement systems (Principles 11 to 12); (e) Default management (Principles 13 to 14); (f) General business and operational risk management (Principles 15 to 17); (g) Access (Principles 18 to 20); (h) Efficiency (Principles 21 to 22); and (i) Transparency (Principles 23 to 24).

Under each category, assessors should:

– Highlight FMI key practices and achievements;

– List identified issues of concern, gaps or shortcomings;

– Comment separately on the principles which are not fully observed and provide the main reasons for assessing broad, partial or non-observance; indicate the risk factors that might influence the significance of the degree of non-observance; and indicate whether the issues of concern are being addressed, as well as the degree of observance that will be achieved if current efforts proceed as envisaged.

– Conclude the summary with a table collating the results of the principle-by-principle assessment of observance by reference to the assessment categories:

Table 1

Ratings Summary

Assessment category	Principle
Observed	e.g. Principles 1, 3, 6, 8
Broadly observed	
Partly observed	
Not observed	
Not applicable	

Recommendations

In Table 2, assessors should list issues of concern and other identified gaps or shortcomings in the FMI's observance of the principles, along with recommendations to address them.

Assessors should distinguish among three categories of issues of concern; (a) items warranting immediate action, (b) items to be implemented in a timely manner, and (c) items to be implemented in a defined timeline. If an FMI has plans for improvements under way, this should be noted (although the future impact of those plans will not be reflected in the current assignment of assessment category). Any specific obstacles to observance should be noted. Assessors should explain the manner in which the recommended action would lead to an improvement in the level of observance of the principle. The parties that are best positioned to address each identified issue of concern should be indicated.

Assessors should also note any other identified gaps and shortcomings that are not issues of concern and that are of a nature that the FMI could consider taking up in the normal course of business. Assessors should explain the manner in which the recommended action would lead to an improvement in the safety/efficiency of the FMI. The parties that are best positioned to address each identified gap and shortcoming should be indicated.

Some principles may be listed multiple times in the table when both issues of concern and gaps or shortcomings that are not issues of concern have been identified, or when multiple issues of concern warranting different levels of attention have been identified.

Table 2

List of Prioritized Recommendations

Principles	Issues of concern and other gaps or shortcomings	Recommended action	Relevant parties	Comments
Serious and warranting immediate action				
To be addressed in a timely manner				
To be addressed in a defined timeline				
For consideration in the normal course of business				

II. Detailed Assessment

The detailed assessment should provide a description of the FMI with regard to a particular key consideration, key conclusions for each key consideration, and an assessment rating for each by principle (see Table 3).

Description by key consideration. This section should provide information on the practices of the FMI that apply to the principle being assessed. In providing the description, assessors should be guided by the relevant key considerations and the related key elements. Only the key considerations and key elements applying to the category of FMI being assessed should be selected. Responses should reflect the actual practices followed by FMI operators and participants. The list of questions in Appendix 3 is a tool to help assessors gather facts to populate the key elements. The specific answers to each of these questions should not, per se, be part of the assessment report.

Key conclusions. Key conclusions are a narrative summary of key information collected by the assessor during the assessment of the key considerations. They should summarize the FMI practices and achievements, as warranted, identify any observed gaps or deficiencies with respect to the key considerations, describe the seriousness of any issues of concern, and provide recommendations associated with each identified gap or shortcoming.

Assessment of the principle. This section should state whether the principle is observed, broadly observed, partly observed, not observed, or not applicable and give the rationale for the rating in the Comments section.

Table 3

Detailed Assessment of Observance

For each Principle	
Principle X	Principle's headline
Key consideration X.X	Key consideration's headline
Descriptive part	Supporting facts by key elements
Key consideration X.X	Key consideration's headline
Descriptive part	Supporting facts by key elements
Key conclusion(s) and comments	Summary of notable achievements, issues of concern, and other identified gaps and shortcomings by key consideration, as warranted. Recommended action for each identified issue of concern and other gap or shortcoming. Any other relevant comments or remarks.
Assessment of Principle X	Rating Comments

Appendix 2:
Assessment report template on the observance of the responsibilities of central banks, market regulators, and other relevant authorities for FMIs

Abbreviations

BCP	Business Continuity Plan
CSD	Central Securities Depository
CCP	Central Counterparty
CPSS	Committee on Payment and Settlement Systems
DVD	Delivery versus Delivery
DVP	Delivery versus Payment
IOSCO	International Organization of Securities Commission
ISO	International Organization for Standardization
PS	Payment System
SSS	Securities Settlement System
TR	Trade Repository

Assessors should list other terms that are used in the assessment report

I. Background, Key Findings, and Follow-up

Summary

An executive summary should highlight the key relevant findings of the assessment.

Introduction

Assessor and objective: identify the entity and assessor(s) conducting the assessment, and the objective and context of the assessment.

Scope of the assessment: identify the authorities and the responsibilities being assessed.

Scope of coverage of the authorities: identify the authorities' scope of coverage, that is, FMIs and functions.

Methodology and information used for the assessment

This section should identify the main sources of information used in making the assessment. Information sources may be public and non-public. These sources may include written documentation (such as other assessments, surveys, questionnaires, reports, studies, and relevant laws, regulations, or regulatory guidance) and oral discussions with oversight, regulatory or supervisory bodies, the FMIs themselves, and relevant industry stakeholders (such as participants, staff, payment committees, stock exchanges, custodians, securities brokers, or end user associations).

Assessors should mention the process followed in conducting the assessment. Any practical difficulties in applying the assessment methodology should be mentioned, such as lack of information or cooperation and any factors limiting the assessment process or its scope. An account of any information requested but not obtained should be given.

Payment, clearing, and settlement landscape – overview

This section should provide a general description of the relevant payment, clearing, and settlement infrastructure.

The section should also provide a description of the regulatory and supervisory framework relating to the FMIs in the jurisdiction and a brief description of the oversight, regulatory and supervisory bodies with authority over the FMIs.

Finally, this section should describe major reforms implemented in the recent past or scheduled for the near future.

Key findings and follow-up

This section should summarize the key findings of the detailed assessment. Assessors should state the main findings of the detailed assessment of observance of the responsibilities.

For each responsibility, the assessment should:

– Highlight authorities' key practices and achievements;

– List identified issues of concern;

– Comment separately on the responsibilities that are not observed and provide the main reasons for assessment of broad, partial or non-observance; indicate the risk factors that might influence the significance of the degree of non-observance; and indicate whether the issues of concern are being addressed, as well as the degree of observance that will be achieved if current efforts proceed as envisaged.

– Conclude the summary with a table collating the results of the responsibility-by-responsibility assessment of observance by reference to the assessment categories:

Table 1

Ratings Summary

Assessment category	Responsibility
Observed	e.g. Responsibilities A, C
Broadly observed	e.g. Responsibilities B, D, E
Partly observed	
Not observed	
Not applicable	

Recommendations

In Table 2, assessors should list issues of concern and other identified gaps or shortcomings in the authorities' observance of the responsibilities, along with recommendations to address them.

Assessors should distinguish among the three categories of issues of concern; (a) items warranting immediate action, (b) items to be implemented in a timely manner, and (c) items to be implemented in a defined timeline. If authorities have plans for improvements under way, this should be noted (although the future impact of those plans will not be reflected in the current assignment of assessment category). Any specific obstacles to observance should be noted. Assessors should explain the manner in which the recommended action would lead to an improvement in the level of observance of the responsibilities. The parties that are best positioned to address each identified issue of concern should be indicated.

Assessors should also note any other identified gaps and shortcomings that are not issues of concern and are of a nature that authorities could consider taking up in the normal course of business should also be noted. Assessors should explain the manner in which the recommended action would lead to an improvement in the way authorities fulfil the responsibilities. The parties that are best positioned to address each identified gap and shortcoming should be indicated.

Some responsibilities may be listed multiple times in the table when both issues of concern and gaps or shortcomings that are not issues of concern have been identified, or when multiple issues of concern warranting different levels of attention have been identified.

Table 2

List of Prioritized Recommendations

Responsibilities	Issues of concern and other gaps or shortcomings	Recommended action	Relevant parties	Comments
Serious and warranting immediate action				
To be addressed in a timely manner				
To be addressed in a defined timeline				
For consideration in the normal course of business				

II. Detailed Assessment

The detailed assessment should provide a description with regard to a particular key consideration, key conclusions for each key consideration, and an assessment rating for each responsibility (see Table 3).

Description by key consideration. This section should provide information on the Responsibility being assessed. In providing the description, assessors should be guided by the relevant key considerations and the related key elements included in the Assessment Methodology. Responses should reflect the actual practices followed by the authorities. The list of questions in Appendix 4 is a tool to help assessors gather facts to populate the key elements. The specific answers to each of these questions should not, per se, be part of the assessment report.

Key conclusions. Key conclusions are a narrative summary of information collected by the assessor during the assessment of the key considerations. They should summarize the FMI practices and achievements, as warranted, identify any observed gaps or deficiencies with respect to the key considerations and describe the seriousness of the any issues of concern associated with each identified gap or shortcoming.

Assessment of the responsibility. This section should state whether the responsibility is observed, broadly observed, partly observed, not observed, or not applicable and give the rational for the rating in the Comments section.

Table 3

Detailed Assessment of Observance

For each Responsibility	
Responsibility X	Responsibility’s headline
Key consideration X.X	Key consideration’s headline
Descriptive part	Supporting facts by key elements
Key consideration X.X	Key consideration’s headline
Descriptive part	Supporting facts by key elements
Key conclusion(s) and comments	Summary of notable achievements, issues of concern, and other identified gaps and shortcomings by key consideration, as warranted. Recommended action for each identified issue of concern and other gap or shortcoming. Any other relevant comments or remarks.
Assessment of Principle X	Rating Comments

Appendix 3:
Questions by key consideration for the principles for FMIs

Principle 1: Legal basis									
An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	**X**

KC 1.1	*The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Identification of each material aspect of the FMI's activity requiring legal certainty.					Q.1.1.1: What are the material aspect(s) of the FMI's activities that require legal certainty (for example, rights and interests in financial instruments, settlement finality, and netting)?				
KE 2. Identification of all relevant jurisdictions for the FMI's activities.					Q.1.1.2: What are all of the relevant jurisdictions for each material aspect of the FMI's activities?				
KE 3. Assurance of high degree of legal certainty for each aspect of the FMI's activities in all relevant jurisdictions.					Q.1.1.3: What is the legal framework and how does it provide a high degree of legal certainty for each material aspect of the FMI's activities in all relevant jurisdictions? Do/Does the legal opinion(s)/analysis(es) examine all relevant legal aspects regarding the different perspectives (for example, the FMI's perspective or the participant's perspective)?				

KC 1.2	*An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Clarity of the FMI's rules, procedures, and contracts.					Q.1.2.1: How has the FMI demonstrated that its rules, procedures, and contracts are clearly and understandably formulated?				
KE 2. Consistency of the FMI's rules, procedures, and contracts with relevant laws and regulations.					Q.1.2.2: How does the FMI ensure that its rules, procedures, and contracts are consistent with relevant laws and regulations? For example, has a legal opinion confirmed that these are consistent with relevant laws and regulations? Are the FMI's rules, procedures, and contracts reviewed or assessed by external authorities or entities? Do the FMI's rules, procedures, and contracts have to be approved before coming into force, by whom and how? Have any inconsistencies been identified and remedied?				

<table>
<tr><td>KC 1.3</td><td colspan="9">An FMI should be able to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers, in a clear and understandable way.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Ability of the FMI to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers.</td><td colspan="5">Q.1.3.1: How does the FMI articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers?</td></tr>
</table>

<table>
<tr><td>KC 1.4</td><td colspan="9">An FMI should have rules, procedures, and contracts that are enforceable in all relevant jurisdictions. There should be a high degree of certainty that actions taken by the FMI under such rules and procedures will not be voided, reversed, or subject to stays.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Enforceability of the FMI's rules, procedures, and contracts in all relevant jurisdictions.</td><td colspan="5">Q.1.4.1: How does the FMI achieve a high level of confidence that its rules, procedures, and contracts related to its operations are enforceable in all relevant jurisdictions identified in KC 1.1? For example, has a legal opinion verified that the FMI's rules, procedures (including default procedures), and contracts are enforceable in all relevant jurisdictions when a participant defaults or becomes insolvent, or when the FMI is implementing its plan for recovery or orderly wind-down?</td></tr>
<tr><td colspan="5">KE 2. Degree of certainty that actions taken under the FMI's rules, procedures, and contracts will not be voided, reversed, or subject to stays.</td><td colspan="5">Q.1.4.2: What legal precedence, if any, could void or reverse the FMI's actions under its rules, procedures, and contracts?

Q.1.4.3: How does the FMI achieve a high degree of certainty that its rules, procedures, and contracts will not be voided, reversed, or subject to stays?

Q1.4.4: Has a court in any relevant jurisdiction ever failed to enforce any of the FMI's activities or arrangements?</td></tr>
</table>

<table>
<tr><td>KC 1.5</td><td colspan="9">An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Identification of potential conflict of laws across jurisdictions.</td><td colspan="5">Q.1.5.1: If the FMI conducts business in multiple jurisdictions or deals with contracts governed by a different law, what potential conflict of laws issues has the FMI identified and analysed?

Q.1.5.2: How is the legal analysis for identifying potential conflict-of-laws issues regularly reviewed?</td></tr>
<tr><td colspan="5">KE 2. Mitigation of risks arising from conflict of laws across jurisdictions.</td><td colspan="5">Q.1.5.3: What steps has the FMI taken to mitigate the legal risks identified in operating in multiple jurisdictions?</td></tr>
</table>

<table>
<tr><th colspan="10">Principle 2: Governance</th></tr>
<tr><td colspan="10">An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
</table>

<table>
<tr><td>KC 2.1</td><td colspan="9">An FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Identification of the FMI’s objectives.</td><td colspan="5">Q.2.1.1: What are the FMI’s objectives, and are they clearly identified?

Q.2.1.2: How is the FMI’s performance in meeting its objectives assessed?</td></tr>
<tr><td colspan="5">KE 2. Prioritisation of safety and efficiency in the FMI’s objectives.</td><td colspan="5">Q.2.1.3: How does the FMI prioritise safety and efficiency in its objectives?</td></tr>
<tr><td colspan="5">KE 3. Explicit support for financial stability and other relevant public interests in the FMI’s objectives.</td><td colspan="5">Q.2.1.4: How do the FMI’s objectives reflect explicit support for financial stability?

Q.2.1.5: How are other relevant public interest considerations identified, and how are they reflected in the FMI’s objectives?</td></tr>
</table>

<table>
<tr><td>KC 2.2</td><td colspan="9">An FMI should have documented governance arrangements that provide clear and direct lines of responsibility and accountability. These arrangements should be disclosed to owners, relevant authorities, participants, and, at a more general level, the public.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Identification of the governance arrangements under which the board and management operate.</td><td colspan="5">Q.2.2.1: What are the FMI’s governance arrangements under which the board and management operate including a description of the FMI’s corporate group and its ownership structure and organisational form?</td></tr>
<tr><td colspan="5">KE 2. Identification of lines of responsibilities and accountability within the FMI.</td><td colspan="5">Q.2.2.2: What are the lines of responsibilities and accountability within the FMI?

Q.2.2.3: How does the FMI provide accountability to owners, participants, and other relevant stakeholders?</td></tr>
<tr><td colspan="5">KE 3. Disclosure of the identified governance arrangements.</td><td colspan="5">Q.2.2.4: How are the governance arrangements disclosed to owners, relevant authorities, users, and the public?</td></tr>
</table>

KC 2.3	*The roles and responsibilities of an FMI's board of directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address, and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Identification of the roles and responsibilities of the FMI's board of directors (or equivalent).	Q.2.3.1: What are the roles and responsibilities of the FMI's board of directors (or equivalent), and are they clearly identified?
KE 2. Identification of procedures for the functioning of the board.	Q.2.3.2: What are the procedures of the board? For example, describe how the board committees have been established to facilitate the functioning of the board. What are the roles, responsibilities, and composition of such committees?
KE 3. Identification of processes to identify, address, and manage conflicts of interest of members.	Q.2.3.3: How does the board identify, address, and manage conflicts of interest? What document describes these processes? Are such documents public or available to owners, relevant authorities, and users?
KE 4. Review of board's performance.	Q.2.3.4: What are the procedures established to review the performance of the board as a whole? Q.2.3.5: What are the procedures established to review the performance of individual board members?

KC 2.4	*The board should contain suitable members with the appropriate skills and incentives to fulfil its multiple roles. This typically requires the inclusion of non-executive board member(s).*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Identification of the appropriate skill sets for board members.	Q.2.4.1: What skill sets are necessary for the FMI's board members? What are the processes for identifying potential board members with the required skills?
KE 2. Identification of appropriate incentives for board members.	Q.2.4.2: What are the incentives that the FMI provides to members of the board, particularly incentives to attract and retain members of the board with appropriate skills? Q.2.4.3: How do these incentives reflect the long-term achievement of the FMI's objectives?
KE 3. Inclusion of non-executive board members.	Q.2.4.4: What is the FMI's policy on the composition of its board of directors (or equivalent), including whether there has to be a minimum number of non-executive and/or independent directors. How does the FMI define independent board members? Q.2.4.5: How does the FMI assess the independence of the board member(s)?

KC 2.5	*The roles and responsibilities of management should be clearly specified. An FMI's management should have the appropriate experience, a mix of skills, and the integrity necessary to discharge their responsibilities for the operation and risk management of the FMI.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Identification of the roles and responsibilities of the FMI's management.	Q.2.5.1: What are the roles and responsibilities of management? Q.2.5.2: How are the roles and objectives of senior management set?
KE 2. Identification of skills, experience and integrity of management.	Q.2.5.3: What is the process and criteria for selecting senior management? Q.2.5.4: What processes are there for ensuring senior management positions are filled by staff with the required skills necessary for the operation and risk management of the FMI? Q.2.5.5: How is management performance assessed? Q.2.5.6: What is the process to remove senior management if necessary?

KC 2.6	*The board should establish a clear, documented risk-management framework that includes the FMI's risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies. Governance arrangements should ensure that the risk-management and internal control functions have sufficient authority, independence, resources, and access to the board.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Identification of the risk-management framework established by the board.	Q.2.6.1: What is the risk-management framework that has been established by the board? Q.2.6.2: How does this framework address the FMI's risk-tolerance policy, assign responsibilities and accountability for risk decisions (such as limits on risk exposures), and address decision making in crises and emergencies?
KE 2. Identification of board processes to determine, endorse, and regularly review the risk-management framework.	Q.2.6.3: What is the process for determining, endorsing, and reviewing the risk-management framework?
KE 3. Identification of authority, independence, resources, and access to the board of the risk-management and internal control functions in governance arrangements.	Q.2.6.4: What are the roles, responsibilities, authority, reporting lines, and resources of the risk-management and audit functions? Q.2.6.5: What is the board's role regarding the adoption and use of risk-management models? How are these models and the related methodologies validated?

KC 2.7	*The board should ensure that the FMI's design, rules, overall strategy, and major decisions reflect appropriately the legitimate interests of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, the public.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Identification of how the legitimate interests of direct and indirect participants and other relevant stakeholders are reflected in the FMI's design, rules, strategy, and major decisions.					Q.2.7.1: How does the FMI identify and take account of the interests of the FMI's participants and other relevant stakeholders in its decision making in relation to its design, rules, overall strategy, and major decisions? Q.2.7.2: How does the board solicit, assess, and incorporate the views of direct and indirect participants and other relevant stakeholders on these decisions? How are conflicts of interest identified, and how are they addressed?				
KE 2. Identification of how the FMI discloses major decisions to relevant stakeholders and, where appropriate, the public.					Q.2.7.3: How does the FMI disclose major decisions made by the board to relevant stakeholders and, where appropriate, the public?				

Principle 3: Framework for the comprehensive management of risks									
An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	**X**

KC 3.1	*An FMI should have risk-management policies, procedures, and systems that enable it to identify, measure, monitor, and manage the range of risks that arise in or are borne by the FMI. Risk-management frameworks should be subject to periodic review.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Identification of types of risk and risk-management policies and procedures.	Q.3.1.1: What types of risk arise in the FMI? Q.3.1.2: What are the FMI's policies and procedures in place that help the FMI identify, measure, monitor, and manage the risks that arise in the FMI?
KE 2. Identification of risk-management systems.	Q.3.1.3: What risk-management systems are used by the FMI to help identify, measure, monitor, and manage its range of risks? Q.3.1.4: How do these systems provide the capacity to aggregate exposures across the FMI or other relevant parties, such as the FMI's participants and their customers?
KE 3. Review of risk-management policies, procedures, and systems.	Q.3.1.5: How does the FMI assess the effectiveness of risk-management policies, procedures, and systems? Q.3.1.6: What is the process for developing, approving, and maintaining risk-management policies, procedures, and systems? Q.3.1.7: Do these reviews properly take into account fluctuation in risk intensity, changing environments, and market practices?

KC 3.2	*An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Identification of incentives provided to the FMI's participants and their customers to manage and contain risk.	Q.3.2.1: What incentives does the FMI provide for participants and their customers to monitor and manage the risks they pose to the FMI?
KE 2. Identification of information provided by the FMI to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.	Q.3.2.2: What information does the FMI provide to its participants and their customers to monitor the risks they pose to the FMI? For example, does the FMI provide them information on their credit and liquidity exposures, overall credit and liquidity limits, and the relationship between the exposures and limits?
KE 3. Review of the policies and procedures for allowing participants and their customers to manage and contain their risks.	Q.3.2.3: What policies and systems does the FMI have to enable participants to understand and manage risks? How does the FMI ensure that its policies and systems are effective over time in allowing their participants and customers to manage and contain their risks?

<table>
<tr><td>KC 3.3</td><td colspan="9">An FMI should regularly review the material risks it bears from and poses to other entities (such as other FMIs, settlement banks, liquidity providers, and service providers) as a result of interdependencies and develop appropriate risk-management tools to address these risks.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Identification of material risks that the FMI bears from and poses to other entities as a result of interdependencies.</td><td colspan="5">Q.3.3.1: What material risks has the FMI identified that it bears from and poses to other entities as a result of interdependencies?

Q.3.3.2: How are these risks identified, measured, and monitored?</td></tr>
<tr><td colspan="5">KE 2. Development of risk-management tools that address risks arising from interdependencies with other entities.</td><td colspan="5">Q.3.3.3: What risk-management tools are used by the FMI to address the risks arising from interdependencies with other entities?

Q.3.3.4: How does the FMI assess the effectiveness of its risk-management tools that examine interdependencies?</td></tr>
</table>

<table>
<tr><td>KC 3.4</td><td colspan="9">An FMI should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. An FMI should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, an FMI should also provide relevant authorities with the information needed for purposes of resolution planning.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Identification of the scenarios that may potentially prevent the FMI from being able to provide its critical operations and services.</td><td colspan="5">Q.3.4.1: What are the FMI's processes to identify scenarios that may potentially prevent the FMI from being able to provide its critical operations and services? What scenarios have been identified as a result of these processes?

Q.3.4.2: How do these scenarios take into account both independent and related risks which the FMI is exposed to?</td></tr>
<tr><td colspan="5">KE 2. Preparation of appropriate plans for recovery or orderly wind-down.</td><td colspan="5">Q.3.4.3: What plans does the FMI have for its recovery or orderly wind-down?

Q.3.4.4: What are the FMI's key recovery or orderly wind-down strategies regarding the identified critical operations and services? How can these be implemented?

Q.3.4.5: How and how often are the plans for the FMI's recovery and orderly wind-down reviewed and updated?</td></tr>
</table>

Principle 4: Credit risk									
An FMI should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions.									
PS	**X**	**CSD**		**SSS**	**X**	**CCP**	**X**	**TR**	

KC 4.1	*An FMI should establish a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Establishment of a framework for managing credit exposures from participants.	Q.4.1.1: What is the FMI's framework for managing credit exposures from its participants? Q.4.1.2: How are current exposures and, where they exist, potential future exposures taken into account in the FMI's framework to manage credit risks?
KE 2. Establishment of a framework for managing credit risks from the FMI's payment, clearing, and settlement processes.	Q.4.1.3: What is the FMI's framework for managing credit risks from its payment, clearing, and settlement processes? Q.4.1.4: What evidence supports the validity of the framework for managing credit risks from the FMI's payment, clearing, and settlement processes (for example, backtesting)?

KC 4.2	*An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Identification of the FMI's sources of credit risk.	Q.4.2.1: What are the sources of credit risk to the FMI?
KE 2. Measuring and monitoring credit exposures.	Q.4.2.2: How does the FMI measure credit exposures? Q.4.2.3: How frequently does, and how frequently can, the FMI recalculate these exposures? How timely is the information?
KE 3. Use of tools to control credit risk.	Q.4.2.4: What tools does the FMI use to eliminate, limit, or mitigate credit risk (for example, offering an RTGS or DvP settlement mechanism, limiting net debits or intraday credit, establishing concentration limits, or marking positions to market on a daily basis)?

KC 4.3	*A payment system or SSS should cover its current and, where they exist, potential future exposures to each participant fully with a high degree of confidence using collateral and other equivalent financial resources (see Principle 5 on collateral). In the case of a DNS payment system or DNS SSS in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing, and settlement processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system.*								
PS	X	CSD		SSS	X	CCP		TR	
KE 1. Coverage of current and potential future exposures to each participant.					Q.4.3.1: What composition of financial resources does the FMI use to cover its current and potential future exposures? Q.4.3.2: To what extent do these financial resources cover the FMI's current and potential future exposures fully with a high degree of confidence?				
KE 2. (For DNS payment systems and DNS SSSs in which there is no settlement guarantee) Coverage of the exposures of the two participants and their affiliates that would create the largest aggregate exposure in the system.					Q.4.3.3: If the FMI is a DNS payment system or DNS SSS that does not provide a settlement guarantee, do its participants face credit exposures arising from the payment, clearing, and settlement processes? If there are credit exposures in the system, how does the system measure these exposures? Q.4.3.4: If the FMI has credit exposures among its participants, do the FMI's financial resources cover, at a minimum, the default of the two participants and their affiliates that would create the largest credit exposure in the system?				

KC 4.4	*A CCP should cover its current and potential future exposures to each participant fully with a high degree of confidence using margin and other prefunded financial resources (see Principle 5 on collateral and Principle 6 on margin). In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount of total financial resources it maintains.*								
PS		CSD		SSS		CCP	X	TR	
KE 1. Coverage of current and potential future exposures to each participant.					Q.4.4.1: What composition of financial resources does the CCP use to cover its current and potential future exposures? Q.4.4.2: To what extent do these financial resources cover the CCP's current and potential future exposures fully with a high degree of confidence?				

KE 2. Additional financial resources to cover a wide range of potential stress scenarios.	Q.4.4.3: What additional financial resources does the CCP maintain to cover a wide range of potential stress scenarios that include, but are not limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure in extreme but plausible market conditions? Q.4.4.4: If the CCP is systemically important in multiple jurisdictions or involved in activities with a more-complex risk profile, do the additional financial resources cover, at a minimum, the default of the two participants and their affiliates that would create the largest credit exposure in the CCP in extreme but plausible market conditions? Q.4.4.5: Has the CCP considered whether it is systemically important in multiple jurisdictions when setting its level of financial resources? Q.4.4.6: Has the CCP considered its risk profile when setting its level of financial resources (in particular, the clearing of financial instruments that are characterised by discrete jump-to-default price changes or that are highly correlated with potential participant defaults)? Q.4.4.7: What is the frequency at which the FMI evaluates these additional resources to determine their sufficiency?
KE 3. Documentation and governance arrangements relating to total financial resources.	Q.4.4.8: How does the CCP document its policies regarding its holdings of total financial resources? Q.4.4.9: What governance arrangements are in place relating to the amount of total financial resources at the CCP?

<table>
<tr><td>KC 4.5</td><td colspan="9">A CCP should determine the amount and regularly test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP and to use these results to evaluate the adequacy of and adjust its total financial resources. Stress tests should be performed daily using standard and predetermined parameters and assumptions. On at least a monthly basis, a CCP should perform a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining the CCP's required level of default protection in light of current and evolving market conditions. A CCP should perform this analysis of stress testing more frequently when the products cleared or markets served display high volatility, become less liquid, or when the size or concentration of positions held by a CCP's participants increases significantly. A full validation of a CCP's risk-management model should be performed at least annually.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td></td><td>SSS</td><td></td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Details of the CCP's total financial resources and stress testing program.</td><td colspan="5">Q.4.5.1: How does the CCP stress test to assess the sufficiency of its total financial resources?</td></tr>
</table>

KE 2. Communication and use of stress testing results.	Q.4.5.2: How are stress-testing results communicated to relevant parties? How are these results used to evaluate the adequacy of and adjust the CCP's total financial resources?
KE 3. Frequency of stress testing.	Q.4.5.3: How often does the CCP perform stress testing to check the adequacy of total financial resources in the event of default in extreme but plausible market conditions?
KE 4. Analysis of stress-testing scenarios, models, and underlying parameters and assumptions.	Q.4.5.4: How does the CCP's stress-testing program take into account various conditions, such as a surge in position and price volatility, position concentration, change in market liquidity, and model risk including shift of parameters? How often does the CCP assess the effectiveness and appropriateness of stress-testing assumptions and parameters? Q.4.5.5: What is the process of review for the stress testing program?
KE 5. Validation of the CCP's risk-management model.	Q.4.5.6: How does the CCP carry out a validation of its risk-management model? How often does it perform this validation?

KC 4.6	*In conducting stress testing, a CCP should consider the effect of a wide range of relevant stress scenarios in terms of both defaulters' positions and possible price changes in liquidation periods. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions.*								
PS		CSD		SSS		CCP	X	TR	
KE 1. Identification of scenarios for stress testing financial resources.					Q.4.6.1: In conducting stress testing, what scenarios does the CCP consider? What analysis supports the use of these particular scenarios?				

KC 4.7	*An FMI should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI. These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds an FMI may borrow from liquidity providers. These rules and procedures should also indicate the FMI's process to replenish any financial resources that the FMI may employ during a stress event, so that the FMI can continue to operate in a safe and sound manner.*								
PS	X	CSD		SSS	X	CCP	X	TR	
KE 1. Explicit rules and procedure to address fully any credit losses.					Q.4.7.1: According to the FMI's rules and procedures, how are uncovered credit losses to be allocated, including in relation to the repayment of any funds an FMI may borrow from liquidity providers?				
KE 2. Process for the replenishment of financial resources during a stress event.					Q.4.7.2: What are the FMI's rules and procedures on the replenishment of the financial resources that are exhausted during a stress event?				

Principle 5: Collateral									
An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.									
PS	**X**	**CSD**		**SSS**	**X**	**CCP**	**X**	**TR**	

KC 5.1	*An FMI should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Identification of acceptable collateral for the FMI.	Q.5.1.1: What guidelines are used in determining whether a specific asset can be accepted as collateral, including for collateral to be accepted on an exceptional basis and the circumstances that would qualify as an exceptional basis? Q.5.1.2: How frequently does the FMI adjust its requirements for acceptable collateral? Q.5.1.3: How does the FMI identify and mitigate possible specific wrong-way risk, for example, by limiting the collateral it accepts?
KE 2. Tools available to the FMI to check acceptability of posted collateral.	Q.5.1.4: How does the FMI control that the posted collateral meets the applicable acceptance criteria?

KC 5.2	*An FMI should establish prudent valuation practices and develop haircuts that are regularly tested and take into account stressed market conditions.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Identification of the FMI's valuation practices for collateral.	Q.5.2.1: How frequently does the FMI mark its collateral to market, and does it do so at least daily? Q.5.2.2: To what extent is the FMI authorised to exercise discretion in valuing assets when market prices do not represent their true value?
KE 2. Identification of the FMI's haircutting practices.	Q.5.2.3: How does the FMI determine haircuts? Q.5.2.4: How and how often does the FMI test the sufficiency of haircuts and validate its haircut procedures, including with respect to the potential decline in the assets' value in stressed market conditions involving the liquidation of collateral?

<table>
<tr><td>KC 5.3</td><td colspan="9">In order to reduce the need for procyclical adjustments, an FMI should establish stable and conservative haircuts that are calibrated to include periods of stressed market conditions, to the extent practicable and prudent.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td></td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Establishment of stable and conservative haircuts to reduce the need for procyclical adjustments.</td><td colspan="5">Q.5.3.1: How does the FMI identify and evaluate the potential procyclicality of its haircut calibrations?

Q.5.3.2: How does the FMI incorporate periods of stressed market conditions during the calibration of haircuts to reduce the need for procyclical adjustments?</td></tr>
</table>

<table>
<tr><td>KC 5.4</td><td colspan="9">An FMI should avoid concentrated holdings of certain assets where this would significantly impair the ability to liquidate such assets quickly without significant adverse price effects.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td></td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Identification of policies and procedures to avoid the concentration of certain assets held as collateral.</td><td colspan="5">Q.5.4.1: How does the FMI identify and avoid the concentration of collateral holdings to limit potential adverse price effects at liquidation?

Q.5.4.2: What factors (for example, adverse price effects or market conditions) are considered when determining these policies?

Q.5.4.3: How and how often does the FMI review and evaluate concentration policies and practices to determine their adequacy?</td></tr>
</table>

<table>
<tr><td>KC 5.5</td><td colspan="9">An FMI that accepts cross-border collateral should mitigate the risks associated with its use and ensure that the collateral can be used in a timely manner.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td></td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Identification of risks resulting from accepting cross-border collateral.</td><td colspan="5">Q.5.5.1: What are the legal, operational, market, and other risks the FMI is exposed to by accepting cross-border collateral?</td></tr>
<tr><td colspan="5">KE 2. Mitigation of risks from accepting cross-border collateral.</td><td colspan="5">Q.5.5.2: How, and to what extent, has each of these risks been mitigated?</td></tr>
<tr><td colspan="5">KE 3. Ability of the FMI to ensure cross-border collateral can be used in a timely manner.</td><td colspan="5">Q.5.5.3: How does the FMI ensure and verify that cross-border collateral can be used in a timely manner?</td></tr>
</table>

<table>
<tr><td>KC 5.6</td><td colspan="9">An FMI should use a collateral management system that is well-designed and operationally flexible.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td></td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5" rowspan="2">KE 1. Design of the FMI’s collateral management system.</td><td colspan="5">Q.5.6.1: How, and to what extent, does the FMI track the reuse of collateral and the rights of the FMI to the collateral provided, and accommodate the timely deposit, withdrawal, substitution, and liquidation of collateral?</td></tr>
<tr><td colspan="5">Q.5.6.2: How, and to what extent, does the FMI’s collateral management system, where relevant, allow for the timely calculation and execution of margin calls, management of margin call disputes, and the daily reporting of initial and variation margins?</td></tr>
<tr><td colspan="5" rowspan="2">KE 2. Operational flexibility of the FMI’s collateral management system.</td><td colspan="5">Q.5.6.3: How, and to what extent, does the FMI’s collateral management system accommodate changes in the ongoing monitoring and management of collateral?</td></tr>
<tr><td colspan="5">Q.5.6.4: To what extent is the collateral management system staffed to ensure smooth operations even during times of market stress?</td></tr>
</table>

Principle 6: Margin									
A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.									
PS		**CSD**		**SSS**		**CCP**	**X**	**TR**	

KC 6.1	*A CCP should have a margin system that establishes margin levels commensurate with the risks and particular attributes of each product, portfolio, and market it serves.*
PS / CSD / SSS / CCP: X / TR	
KE 1. Framework of margin system.	Q.6.1.1: How would the CCP describe the general framework of its margin system particularly with respect to current and potential future exposures? If the CCP does not use a margining system, what risk-management measures does it take to mitigate its risks?
KE 2. Determinants of credit exposure and margin requirements.	Q.6.1.2: What are the determinants of the credit exposures of the CCP, with respect to the attributes of each product, portfolio, and market it serves? Q.6.1.3: How do the CCP's margin requirements reflect the credit exposures the CCP faces?
KE 3. Documentation of the margin methodology.	Q.6.1.4: In which document is the margin methodology described? Q.6.1.5: Is the detail of the CCP's margin methodology available to the participants for use in their individual risk-management efforts?
KE 4. Timeliness and possession of margin payments.	Q.6.1.6: How does the CCP enforce timelines for margin collection and payment? Q.6.1.7: How does the CCP address the risk of a participant payment failure that would cause a shortage of required margin to the participant's position? Q.6.1.8: How does the CCP enforce timelines for margin payments? If the CCP has participants from different time zones, how does the CCP address issues posed by differences in local funding markets and operating hours of relevant payment and settlement systems?

KC 6.2	*A CCP should have a reliable source of timely price data for its margin system. A CCP should also have procedures and sound valuation models for addressing circumstances in which pricing data are not readily available or reliable.*
PS / CSD / SSS / CCP: X / TR	
KE 1. Reliability of price data for margin systems.	Q.6.2.1: How does the CCP determine that the price data it receives is appropriate for the margin system? Q.6.2.2: How does the CCP evaluate the reliability and accuracy of the prices provided by any third-party pricing services?

KE 2. Identification of valuation models for calculating margin requirements when market prices are not readily available or reliable.	Q.6.2.3: When prices are not readily available or reliable, how does the CCP estimate prices to calculate margin requirements? Q.6.2.4: How does the CCP validate models used to estimate prices or margin requirements when price data are not readily available or reliable?

KC 6.3	*A CCP should adopt initial margin models and parameters that are risk-based and generate margin requirements sufficient to cover its potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default. Initial margin should meet an established single-tailed confidence level of at least 99 percent with respect to the estimated distribution of future exposure. For a CCP that calculates margin at the portfolio level, this requirement applies to each portfolio's distribution of future exposure. For a CCP that calculates margin at more-granular levels, such as at the subportfolio level or by product, the requirement must be met for the corresponding distributions of future exposure. The model should (a) use a conservative estimate of the time horizons for the effective hedging or close out of the particular types of products cleared by the CCP (including in stressed market conditions), (b) have an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products, and (c) to the extent practicable and prudent, limit the need for destabilising, procyclical changes.*								
PS		CSD		SSS		CCP	X	TR	

KE 1. Features of the initial margin methodology.	Q.6.3.1: What is the design of the CCP's initial margin model? What is the methodology used to measure potential future exposure in the margin model? Q.6.3.2: What are the assumptions of the margin model? Q.6.3.3: How does the CCP estimate the margin model, in particular upon what does the CCP base its determination of the sample periods for historical data for its initial margin model?
KE 2. Close out and sample periods for margin model.	Q.6.3.4: How does the CCP determine an appropriate close-out period for each product? In particular, how does the CCP account for potentially increased liquidation times during stressed market conditions? What factors are considered in this analysis (for example market liquidity, impact of a participant's default on prevailing market conditions, adverse effects of position concentration, and the CCP's hedging capability)? Q.6.3.5: How does the CCP determine an appropriate sample period for historical data used in the margin model? What factors are considered (for example reflection of new, current, or past volatilities or use of simulated data for new products without much history)? Q.6.3.6: How does the CCP consider the trade-off between prompt liquidation and adverse price effects?

<table>
<tr><td>KE 3. Procyclicality and specific wrong-way risk in the CCP’s margin system.</td><td>Q.6.3.7: How does the CCP address procyclicality in the margin methodology, in particular, does the CCP adopt forward-looking and relatively stable and conservative margin requirements to limit the need for destabilising procyclical changes?

Q.6.3.8: How does the CCP identify and mitigate specific wrong-way risk?</td></tr>
</table>

<table>
<tr><td>KC 6.4</td><td colspan="9">A CCP should mark participant positions to market and collect variation margin at least daily to limit the build-up of current exposures. A CCP should have the authority and operational capacity to make intraday margin calls and payments, both scheduled and unscheduled, to participants.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td></td><td>SSS</td><td></td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Features of the variation margin methodology.</td><td colspan="5">Q.6.4.1: What is the design of the CCP’s variation margin model? Describe the model in detail including the method used to measure current exposure, frequency of mark-to-market and schedule of margin collection, and intraday margin call capabilities.</td></tr>
<tr><td colspan="5">KE. 2. Determination of the CCP’s authority and operational capacity to make intraday calls and payments, both scheduled and unscheduled, to participants.</td><td colspan="5">Q.6.4.2: What evidence is there that the CCP has the authority and operational capacity to make and complete intraday margin calls for initial and variation margin?</td></tr>
</table>

<table>
<tr><td>KC 6.5</td><td colspan="9">In calculating margin requirements, a CCP may allow offsets or reductions in required margin across products that it clears or between products that it and another CCP clear, if the risk of one product is significantly and reliably correlated with the risk of the other product. Where two or more CCPs are authorised to offer cross-margining, they must have appropriate safeguards and harmonised overall risk-management systems.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td></td><td>SSS</td><td></td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Identification of methodology used for offsets or reductions in margin requirements.</td><td colspan="5">Q.6.5.1: How does the CCP measure its potential future exposure at the product and portfolio level? How does the CCP’s portfolio margining methodology account for offsets or reductions in required margin across products that it clears?

Q.6.5.2: How does the cross-margining arrangement offset or reduce required margin both among products and among CCPs?</td></tr>
<tr><td colspan="5">KE 2. Robustness of the methodology.</td><td colspan="5">Q.6.5.3: How does the CCP confirm the robustness of its portfolio and cross-margining methodologies? How does the CCP’s methodology account for the degree of price dependency, its stability in stressed market conditions, and the impact of default arrangements on overall financial resources?</td></tr>
<tr><td colspan="5">KE 3. Identification of risks from cross-margining and implementation of appropriate safeguards and harmonised risk-management programmes at the CCPs.</td><td colspan="5">Q.6.5.4: In the case of cross-margining, how do the CCPs harmonise their approaches to risk management?

Q.6.5.5: What are the legal and operational arrangements to govern the cross-margining arrangements?</td></tr>
</table>

KC 6.6	*A CCP should analyse and monitor its model performance and overall margin coverage by conducting rigorous daily backtesting and at least monthly, and more-frequent where appropriate, sensitivity analysis. A CCP should regularly conduct an assessment of the theoretical and empirical properties of its margin model for all products it clears. In conducting sensitivity analysis of the model's coverage, a CCP should take into account a wide range of parameters and assumptions that reflect possible market conditions, including the most-volatile periods that have been experienced by the markets it serves and extreme changes in the correlations between prices.*								
PS		CSD		SSS		CCP	X	TR	

KE 1. Margin model performance.	Q.6.6.1: Describe in detail the backtesting methodologies and model performance including both target confidence level and the result of overall margin coverage. Does such testing address portfolio effects within and across asset classes within the CCP and cross-margining programmes with other CCPs? Q.6.6.2: What procedures will the CCP follow if the model does not perform as expected?
KE 2. Sensitivity analysis of model performance and overall margin coverage.	Q.6.6.3: Describe in detail the sensitivity analysis of model performance and overall margin coverage initial margin methodology. What range of parameters, assumptions, historical and hypothetical market conditions, and participant positions including stressed conditions are covered by the analysis? Q.6.6.4: What are the identified potential shortcomings of the margin model?
KE 3. Disclosure of backtesting and sensitivity analysis results.	Q.6.6.5: How does the CCP disclose the results of its backtesting and sensitivity analysis?

KC 6.7	*A CCP should regularly review and validate its margin system.*								
PS		CSD		SSS		CCP	X	TR	

KE 1. Regular review and validation of the margin system.	Q.6.7.1: How does the CCP regularly review and validate its margin system including its theoretical and empirical properties? How frequently is this done? Q.6.7.2: How does the CCP incorporate material revisions and adjustments of the margin methodology including parameters into its governance arrangement? Q.6.7.3: How does the CCP disclose both the method and the results of this review and validation?

Principle 7: Liquidity risk									
An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.									
PS	**X**	**CSD**		**SSS**	**X**	**CCP**	**X**	**TR**	

KC 7.1	*An FMI should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers, and other entities.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Identification of liquidity risks in each currency.	Q.7.1.1: What are the nature and size of the liquidity needs, and the associated sources of liquidity risks, that arise in the FMI in each relevant currency? Q.7.1.2: How does the FMI take into account the potential aggregate liquidity risk presented by an individual entity and its affiliates that may play multiples roles with respect to the FMI? Q.7.1.3: In light of the FMI's particular payment and settlement structure, how, and to what extent, are the liquidity risks in each currency borne directly by the FMI, by its participants, or both?
KE 2. Establishment of a framework for measuring, monitoring, and managing liquidity risks in each currency.	Q.7.1.4: What is the FMI's framework for measuring, monitoring, and managing the identified liquidity risks in each currency and across all currencies?

KC 7.2	*An FMI should have effective operational and analytical tools to identify, measure, and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Identification of operational and analytical tools to identify, measure, and monitor settlement and funding flows on an ongoing and timely basis.	Q.7.2.1: What operational and analytical tools does the FMI have to identify, measure, and monitor settlement and funding flows? Q.7.2.2: How do these tools enable the FMI and its participants to monitor the size, and to identify the potential materialisation, of the identified liquidity risks they face in a timely manner? Q.7.2.3: How do these tools enable the FMI to monitor and to deploy in a timely manner the available liquid resources it has to address liquidity risks that might materialise?

<table>
<tr><td>KC 7.3</td><td colspan="9">A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement, and where appropriate intraday or multiday settlement, of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td></td><td>SSS</td><td>X</td><td>CCP</td><td></td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Quantification of the minimum liquidity resource requirement in each currency.</td><td colspan="5">Q.7.3.1: What is the estimated size of the liquidity shortfall in each currency that would need to be covered to effect settlement of payment obligations, following the default of the participant and its affiliates that would generate the largest aggregate payment obligation in each currency in extreme but plausible market conditions?

Q.7.3.2: How, and to what extent, is the FMI's process for estimating the size of this minimum liquidity resource requirement in each currency integrated into the FMI's overall liquidity-risk management framework (see KC 7.1) and its stress-testing program for determining the adequacy of its liquidity resources (see KC 7.9)?</td></tr>
<tr><td colspan="5">KE 2. Quantification of additional liquidity resource requirements.</td><td colspan="5">Q.7.3.3: What is the estimated size of any additional liquidity shortfall in each currency that would need to be covered to effect of payment obligations under a wide range of other relevant stress scenarios identified by the FMI?

Q.7.3.4: How, and to what extent, is the FMI's process for estimating the size of this additional minimum liquidity resource requirement in each currency integrated into the FMI's overall liquidity risk-management framework (see KC 7.1) and its stress-testing program for determining the adequacy of its liquidity resources (see KC 7.9)?</td></tr>
</table>

<table>
<tr><td>KC 7.4</td><td colspan="9">A CCP should maintain sufficient liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments, and meet other payment obligations on time with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td></td><td>SSS</td><td></td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Minimum liquidity resource requirement in each currency to cover a participant default.</td><td colspan="5">Q.7.4.1: What is the estimated size of the liquidity shortfall in each currency that would need to be covered, following the default of the participant and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions?

Q.7.4.2: How, and to what extent, is the CCP's process for estimating the size of this minimum liquidity resource requirement in each currency integrated into the CCP's overall liquidity risk-management framework (see KC 7.1) and its stress testing program for determining the adequacy of its liquidity resources (see KC 7.9)?</td></tr>
<tr><td colspan="5">KE 2. Additional minimum liquidity resource requirements.</td><td colspan="5">Q.7.4.3: What is the estimated size of any additional liquidity shortfall in each currency that would need to be covered under a wide range of other relevant stress scenarios identified by the CCP?

Q.7.4.4: How, and to what extent, is the CCP's process for estimating the size of this additional minimum liquidity resource requirement in each currency integrated into the CCP's overall liquidity risk-management framework (see KC 7.1) and its stress testing program for determining the adequacy of its liquidity resources (see KC 7.9)?</td></tr>
</table>

KE 3. Consideration to cover the default of two participants by a CCP involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions.	Q.7.4.5: How, and to what extent, is the CCP involved in activities with a more-complex risk profile or systemically important in multiple jurisdictions? Q.7.4.6: What is the estimated size of the liquidity shortfall in each currency that would need to be covered following the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP? Q.7.4.7: Within the CCP's overall liquidity risk-management framework (see KC 7.1) and when conducting its stress-testing program for determining the adequacy of its liquidity resources (see KC 7.9), how does the CCP consider the additional liquidity resources that would be needed to cover the default of the two participants and their affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions?

KC 7.5	*For the purpose of meeting its minimum liquid resource requirement, an FMI's qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transactions with) the relevant central bank. All such resources should be available when needed.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Composition of qualifying liquid resources.	Q.7.5.1: What is the size and composition of the FMI's liquid resources in each currency that is held? Q.7.5.2: How, and on what basis, has the FMI determined that its prearranged funding arrangements to convert its readily available collateral and investments into cash would be highly reliable in extreme but plausible market conditions? Q.7.5.3: If the FMI has access to routine credit at the central bank of issue, what is the FMI's relevant borrowing capacity for meeting its minimum liquidity resource requirement in that currency?
KE 2. Coverage and availability of qualifying liquid resources.	Q.7.5.4: To what extent does the size and the availability of the FMI's qualifying liquid resources cover its identified minimum liquidity resource requirement in each currency to effect settlement of payment obligations on time?

<table>
<tr><td>KC 7.6</td><td colspan="9">An FMI may supplement its qualifying liquid resources with other forms of liquid resources. If the FMI does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps, or repos on an ad hoc basis following a default, even if this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if an FMI does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. An FMI should not assume the availability of emergency central bank credit as a part of its liquidity plan.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td></td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Composition of supplemental liquid resources.</td><td colspan="5">Q.7.6.1: What is the size of any supplemental liquid resources following a default?

Q.7.6.2: How, and on what basis, has the FMI determined that these assets are likely to be saleable or acceptable as collateral to obtain the relevant currency, even if this cannot be reliably prearranged or guaranteed in extreme market conditions?

Q.7.6.3: What proportion of these supplemental assets qualifies as collateral at the relevant central bank?</td></tr>
<tr><td colspan="5">KE 2. Use, coverage, and availability of supplemental liquidity resources.</td><td colspan="5">Q.7.6.4: When, and how would, the FMI use its supplemental liquid resources in advance of, or in addition to, using its qualifying liquid resources?

Q.7.6.5: To what extent does the size and availability of the FMI’s supplemental liquid resources, in conjunction with its qualifying liquid resources, cover the relevant liquidity needs identified through the FMI’s stress testing program for determining the adequacy of its liquidity resources (see KC 7.9)?</td></tr>
</table>

<table>
<tr><td>KC 7.7</td><td colspan="9">An FMI should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the FMI or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider’s performance reliability with respect to a particular currency, a liquidity provider’s potential access to credit from the central bank of issue may be taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td></td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Identification of the FMI’s minimum required qualifying liquid resources.</td><td colspan="5">Q.7.7.1: Who are the providers of the FMI’s minimum required qualifying liquid resources?</td></tr>
<tr><td colspan="5">KE 2. Due diligence by the FMI to assess the sufficiency of information for each liquidity provider to understand and to manage its associated liquidity risks.</td><td colspan="5">Q.7.7.2: How, and on what basis, has the FMI determined that each of its liquidity providers has sufficient information to understand and to manage its associated liquidity risk in each relevant currency on an ongoing basis?</td></tr>
</table>

KE 3. Due diligence by the FMI to assess the capacity of each liquidity provider to perform as required under its commitment.	Q.7.7.3: How, and on what basis, has the FMI determined that each of its liquidity providers has the capacity to perform on its commitment in each relevant currency on an ongoing basis? Q.7.7.4: How, and to what extent, does the FMI take into account a liquidity provider's potential access to credit at the central bank of issue? Q.7.7.5: How does the FMI regularly test the timeliness and reliability of its procedures for accessing its liquid resources at a liquidity provider?

KC 7.8	*An FMI with access to central bank accounts, payment services, or securities services should use these services, where practical, to enhance its management of liquidity risk.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Access to central bank accounts, payment services, or securities services.	Q.7.8.1: To what extent does the FMI currently have, or is the FMI eligible to obtain, access to accounts, payment services, and securities services at each relevant central bank that could be used to conduct its payments and settlements and to manage liquidity risks in each relevant currency?
KE 2. Use of central bank services to enhance management of liquidity risk.	Q.7.8.2: To what extent does the FMI use each of these services at each relevant central bank to conduct its payments and settlements and to manage liquidity risks in each relevant currency? Q.7.8.3: If the FMI employs services other than those provided by the relevant central banks, to what extent has the FMI analysed the potential to enhance the management of liquidity risk by expanding its use of central bank services? Q.7.8.4: What, if any, practical or other considerations to expanding its use of relevant central bank services have been identified by the FMI?

<table>
<tr><td>KC 7.9</td><td colspan="9">An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of and adjust its liquidity risk-management framework. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs), and where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td></td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5" rowspan="2">KE 1. Identification of the FMI’s stress testing program.</td><td colspan="5">Q.7.9.1: How and how frequently does the FMI use stress testing to determine and to test the sufficiency of the size and composition of its liquid resources in each currency?</td></tr>
<tr><td colspan="5">Q.7.9.2: How is this stress testing program integrated into the FMI’s overall liquidity risk-management framework (see KC 7.1), the FMI’s quantification of its minimum liquidity resource requirements (see KC 7.3 for a payment system or SSS, and KC 7.4 for a CCP), and the FMI’s establishment of its supplementary liquid resources?</td></tr>
<tr><td colspan="5" rowspan="2">KE 2. Communication and use of stress testing results.</td><td colspan="5">Q.7.9.3: What is the process for reporting on an ongoing basis the results of its liquidity stress tests to appropriate decision makers at the FMI, for the purpose of supporting their timely evaluation and adjustment of the size and composition of its liquidity resources and the FMI’s liquidity risk-management framework?</td></tr>
<tr><td colspan="5">Q.7.9.4: What is the process for using the results of the stress tests for timely adjustment of the size and composition of the FMI’s liquidity resources and of the FMI’s liquidity risk-management framework?</td></tr>
</table>

KE 3. Analysis of stress-testing scenarios, models, and underlying parameters and assumptions.	Q.7.9.5: What scenarios are used in the stress tests, and to what extent do they take into account a combination of peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions? Q.7.9.6: How do the scenarios and stress tests take into account the FMI's particular payment and settlement structure (for example, real-time gross or deferred net; with or without a settlement guarantee; DVP model 1, 2, or 3 for SSSs), and the extent to which liquidity risks are borne directly by the FMI, by its participants, or both? Q.7.9.7: How do the scenarios and stress tests take into account the nature and size of the liquidity needs, and the associated sources of liquidity risks, that arise in the FMI to settle its payment obligations on time, including the potential that individual entities and their affiliates may play multiples roles with respect to the FMI?
KE 4. Documentation and governance.	Q.7.9.8: Where and to what extent does the FMI document its supporting rationale for, and its governance arrangements relating to, the amount and form of total liquid resources it maintains?

KC 7.10	*An FMI should establish explicit rules and procedures that enable the FMI to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations on time following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the FMI's process to replenish any liquidity resources it may employ during a stress event, so that it can continue to operate in a safe and sound manner.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Identification of explicit rules and procedures to enable the FMI to settle following any individual or combined default among its participants.	Q.7.10.1: What are the rules and procedures that would enable the FMI to settle payment obligations on time following any individual or combined default among its participants? Q.7.10.2: How, and to what extent, would these rules and procedures address unforeseen and potentially uncovered liquidity shortfalls to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations?
KE 2. Identification of a process to replenish any liquidity resources employed during a stress event.	Q.7.10.3: What rules and procedures does the FMI have in place for replenishing any liquidity resources employed during a stress event?
KE 3. Documentation and communication.	Q.7.10.4: To what extent are these rules and procedures discussed with and communicated to participants?

Principle 8: Settlement finality									
An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.									
PS	**X**	**CSD**		**SSS**	**X**	**CCP**	**X**	**TR**	

KC 8.1	*An FMI's rules and procedures should clearly define the point at which settlement is final.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Identification of the point at which settlement is final based on the FMI's rules and procedures.	Q.8.1.1: At what point is the settlement of a payment, transfer instruction, or other obligation final, meaning irrevocable and unconditional? Q.8.1.2: How does the FMI's legal framework and rules, including the insolvency law, acknowledge the discharge of a payment, transfer instruction, or other obligation between the FMI and its participants, or between participants? Q.8.1.3: How does the FMI ensure that finality is achieved under all relevant jurisdictions? Q.8.1.4: In case of a SSS, how is consistency of finality achieved between the SSS and, if relevant, the LVPS where the cash leg is settled? Q.8.1.5: In case of a CCP for cash products, what is the relation between the finality of obligations in the CCP and the finality of the settlement of the CCP claims and obligations balances in other systems, depending on the rules of the relevant CSD/SSS and payment system?
KE 2. Clarity of the documentation.	Q.8.1.6: Where is the FMI's definition of the point of settlement finality defined? How is this information disclosed, and to whom is it disclosed?

KC 8.2	*An FMI should complete final settlement no later than the end of the value date, and preferably intraday or in real time, to reduce settlement risk. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Occurrence of final settlement no later than the end of the value date.	Q.8.2.1: Is the FMI designed to provide final settlement on the value date (or same-day settlement)? How does the FMI ensure that final settlement occurs no later than the end of the intended value date? Q.8.2.2: Has the FMI experienced any deferral of final settlement to the next business day? If so, under which circumstances? What steps have been taken to prevent a similar situation in the future?

KE 2. Occurrence of intraday or real-time final settlement.	Q.8.2.3: How does the FMI provide intraday or real-time final settlement? Q.8.2.4: If settlement occurs through multiple-batch processing, what is the frequency of the batches and within what timeframe do they operate? What happens if a participant does not have enough funds or securities at the settlement time? Are transactions entered in the next batch? If so, what is the status of those transactions and when would they become final? Q.8.2.5: Does the FMI inform participants of final account balances as quickly as possible, preferably in real time?
KE 3. Consideration of the potential risk-reducing benefits of changing current processes to adopt RTGS, to adopt multiple-batch processing, and/or to complete final settlement earlier in the day, as applicable.	Q.8.2.6: If settlement does not occur intraday or in real time, how has the LVPS or SSS considered the introduction of either of these modalities?

<table>
<tr><td>KC 8.3</td><td colspan="9">An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td></td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Identification of the points after which unsettled payment, transfer instructions, or other obligations may not be revoked by a participant.</td><td colspan="5">Q.8.3.1: How does the FMI define the point at which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant? How does the FMI prohibit the unilateral revocation of accepted and unsettled payments, transfer instructions, or obligations after this time?

Q.8.3.2: Under what circumstance can an instruction or obligation accepted by the system for settlement still be revoked (for example, queued obligations)? Who can revoke unsettled payment or transfer instructions?

Q.8.3.3: Under what conditions does the FMI allow exceptions and extensions to the revocation deadline?</td></tr>
<tr><td colspan="5">KE 2 .Clarity of the documentation.</td><td colspan="5">Q.8.3.4: Where does the FMI define this information? How is this information disclosed, and to whom is it disclosed? Is the information clearly articulated to the FMI's participants?</td></tr>
</table>

Principle 9: Money settlements									
An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risks arising from the use of commercial bank money.									
PS	**X**	**CSD**		**SSS**	**X**	**CCP**	**X**	**TR**	

KC 9.1	*An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.*								
PS	X	CSD		SSS	X	CCP	X	TR	
KE 1. Identification of money settlement assets.				Q.9.1.1: What types of money settlement does the FMI carry out? What are the different cases according to types of operations and currencies, if relevant? Q.9.1.2: How does the FMI complete these money settlements using central bank money and/or commercial bank money? What factors were considered in determining the settlement asset?					

KC 9.2	*If central bank money is not used, an FMI should conduct its money settlements using a settlement asset with little or no credit or liquidity risk.*								
PS	X	CSD		SSS	X	CCP	X	TR	
KE 1. Credit or liquidity risk of settlement assets used for money settlement.				Q.9.2.1: If commercial bank money is used, how does the FMI assess the credit and liquidity risk of the settlement asset used for money settlement?					

KC 9.3	*If an FMI settles in commercial bank money, it should monitor, manage, and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, an FMI should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision, creditworthiness, capitalisation, access to liquidity, and operational reliability. An FMI should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks.*								
PS	X	CSD		SSS	X	CCP	X	TR	
KE 1. Identification of strict criteria for settlement banks.				Q.9.3.1: What criteria has the FMI established for selecting its settlement banks? In particular, how does the FMI evaluate the banks' regulation, supervision, creditworthiness, capitalisation, access to liquidity, and operational reliability?					
KE 2. Assessment of the FMI's monitoring of settlement banks' adherence to the criteria mentioned in KE 1.				Q.9.3.2: How does the FMI monitor the banks' adherence to those criteria?					

KE 3. Management of the concentration of credit and liquidity risks to the commercial settlement banks.	Q.9.3.3: How does the FMI monitor, manage, and limit its credit and liquidity risks arising from the commercial settlement banks? Q.9.3.4: How does the FMI monitor and manage the concentration of credit and liquidity exposures to the banks? Q.9.3.5: How does the FMI assess its potential losses and liquidity pressures as well as those of its participants if there is a failure of its largest settlement bank?

KC 9.4	*If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.*								
PS	X	CSD		SSS	X	CCP	X	TR	
KE 1. Risks associated with money settlements on the books of the FMI.					Q.9.4.1: How does the FMI conduct money settlements on its own books? Q.9.4.2: How does it minimize and strictly control its credit and liquidity risks?				

KC 9.5	*An FMI's legal agreements with any settlement banks should state clearly when transfers on the books of individual settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.*								
PS	X	CSD		SSS	X	CCP	X	TR	
KE 1. Provisions of the FMI's legal agreements with its settlement banks.					Q.9.5.1: Do the FMI's legal agreements with its settlement banks state when transfers occur, that transfers are final when effected, and that funds received are transferable? Q.9.5.2: Are funds received transferable by the end of the day at the latest? If not, why? Are they transferable intraday? If not, why?				

Principle 10: Physical deliveries									
An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.									
PS		**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	

KC 10.1	*An FMI's rules should clearly state its obligations with respect to the delivery of physical instruments or commodities.*								
PS		CSD	X	SSS	X	CCP	X	TR	

KE 1. Identification and documentation of the FMI's obligations with respect to the delivery of physical instruments or commodities.	Q.10.1.1: Which asset classes does the FMI accept for physical delivery? Q.10.1.2: How does the FMI define its obligations and responsibilities with respect to the delivery of physical instruments or commodities? Q.10.1.3: In which documents are these responsibilities defined? What is the disclosure status of these documents? Q.10.1.4: Is there evidence that the participants have an understanding of their obligations and the procedures for effecting physical delivery?

KC 10.2	*An FMI should identify, monitor, and manage the risks and costs associated with the storage and delivery of physical instruments or commodities.*								
PS		CSD	X	SSS	X	CCP	X	TR	

KE 1. Identification, management, and monitoring of the risks and costs of the storage and delivery of physical instruments or commodities.	Q.10.2.1: What procedures, processes, and controls has the FMI put in place to identify, monitor, and manage the risks and costs associated with storage and delivery of physical instruments or commodities? Q.10.2.2: How do the FMI's policies and procedures ensure that the FMI's record of physical assets accurately reflects its holding of assets?
KE 2. Matching participants for delivery and receipt for FMIs serving commodity markets.	Q.10.2.3: Under what circumstances will the FMI match participants for delivery and receipt? Q.10.2.4: Are legal obligations for delivery clearly expressed in the rules in such instances? Do they address the compensation issue in the event of a loss? Q.10.2.5: For an FMI holding margins, when does it release the margin of the matched participants? Q.10.2.6: How does the FMI ensure that its participants have the necessary systems and resources to be able to fulfil their physical delivery obligations?

Principle 11: Central securities depositories									
A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.									
PS		**CSD**	**X**	**SSS**		**CCP**		**TR**	

KC 11.1	*A CSD should have appropriate rules, procedures, and controls, including robust accounting practices, to safeguard the rights of securities issuers and holders, prevent the unauthorised creation or deletion of securities, and conduct periodic and at least daily reconciliation of securities issues it maintains.*								
PS		CSD	X	SSS		CCP		TR	
KE 1. Rules, procedures, and controls to safeguard the rights of securities issuers and holders (including accounting practices).					Q.11.1.1: What are the accounting practices used by the CSD? Q.11.1.2: How are the rights of securities issuers and holders safeguarded by the rules, procedures, and controls of the CSD? Q.11.1.3: Are frequent end-to-end audits conducted to examine the procedures and internal controls used in the safekeeping of securities? Do audits review whether there are sufficient securities to satisfy customer rights? Q.11.1.4: How are key aspects of the CSD's rules and procedures identified in KE 1 described and made available to participants?				
KE 2. Rules, procedures, and controls to prevent the unauthorised creation or deletion of securities.					Q.11.1.5: What are the CSD's internal procedures to authorise the creation and deletion of securities? Q.11.1.6: What are the internal controls to prevent the unauthorised creation and deletion of securities?				
KE 3. Rules, procedures, and controls for conducting periodic and at least daily reconciliation of securities issues.					Q.11.1.7: Does the CSD conduct periodic and at least daily reconciliation of the totals of securities issues in the CSD for each issuer (or its issuing agent)? Does the CSD ensure that the total number of securities recorded in the CSD for a particular issue is equal to the amount of securities of that issue held on the CSD's books? Q.11.1.8: Is the CSD the official registrar of the issues held on its books? If not, how does the CSD reconcile its records with official registrar?				

KC 11.2	A CSD should prohibit overdrafts and debit balances in securities accounts.								
PS		CSD	X	SSS		CCP		TR	
KE 1. Prohibition of overdrafts or debit balances in securities accounts.					Q.11.2.1: What are the CSD's policies for prohibiting overdraft or debit balances in securities accounts? Q.11.2.2: How are debit positions in securities accounts prevented?				

<table>
<tr><td>KC 11.3</td><td colspan="9">A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry. Where appropriate, a CSD should provide incentives to immobilise or dematerialise securities.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td>X</td><td>SSS</td><td></td><td>CCP</td><td></td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Immobilisation or dematerialisation of securities.</td><td colspan="5">Q.11.3.1: Are securities issued or maintained in a dematerialised form? What percentage of securities is dematerialised, and what percentage of the total volume of transactions applies to these securities?

Q.11.3.2: If securities are issued as a physical certificate, is it possible to immobilise them and allow the holding and transfer of these securities in a book-entry system? If relevant, what percentage of securities is immobilised, and what percentage of the total volume of transactions applies to immobilised securities?

Q11.3.3: How does the CSD provide incentives to immobilise or dematerialise securities?</td></tr>
</table>

<table>
<tr><td>KC 11.4</td><td colspan="9">A CSD should protect assets against custody risk through appropriate rules and procedures consistent with its legal framework.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td>X</td><td>SSS</td><td></td><td>CCP</td><td></td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Rules and procedures for protecting assets from custody risk.</td><td colspan="5">Q.11.4.1: How do the CSD's rules and procedures protect participants' assets against custody risk, including the risk of loss because of the CSD's negligence, misuse of assets, fraud, poor administration, inadequate recordkeeping, or failure to protect participants' interests in their securities?

Q.11.4.2: Are those rules and procedures consistent with the legal framework?

Q.11.4.3: What other methods, such as insurance or other compensation schemes, does the CSD employ to protect its participants against misappropriation, destruction, and theft of securities?</td></tr>
</table>

<table>
<tr><td>KC 11.5</td><td colspan="8">A CSD should employ a robust system that ensures segregation between the CSD's own assets and the securities of its participants and segregation among the securities of participants. Where supported by the legal framework, the CSD should also support operationally the segregation of securities belonging to a participant's customers on the participant's books and facilitate the transfer of customer holdings.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td>X</td><td>SSS</td><td></td><td>CCP</td><td></td><td>TR</td></tr>
<tr><td colspan="5">KE 1. Identification of segregation mechanisms for securities.</td><td colspan="4">Q.11.5.1: What policies and procedures ensure that the securities belonging to the CSD are segregated from those of participants?

Q.11.5.2: What segregation arrangements are in place at the CSD? Does the CSD provide separate accounts to segregate the securities belonging to participants?

Q.11.5.3: Where supported by the legal framework, does the CSD support the operational segregation of securities belonging to participants' customers from the participants' book? Does the CSD facilitate the transfer from these customers' accounts to another participant?</td></tr>
</table>

<table>
<tr><td>KC 11.6</td><td colspan="8">A CSD should identify, measure, monitor, and manage its risks from other activities that it may perform; additional tools may be necessary in order to address these risks.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td>X</td><td>SSS</td><td></td><td>CCP</td><td></td><td>TR</td></tr>
<tr><td colspan="5">KE 1. Identification, measurement, monitoring, and management of risks to the CSD deriving from other activities it may perform.</td><td colspan="4">Q.11.6.1: Does the CSD provide services other than central safekeeping and administration of securities and settlement? If so, what services?

Q.11.6.2: How does the CSD identify, measure, monitor, and manage the risks associated with those activities, including potential credit and liquidity risks?</td></tr>
</table>

Principle 12: Exchange-of-value settlement systems									
If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.									
PS	**X**	**CSD**		**SSS**	**X**	**CCP**	**X**	**TR**	

KC 12.1	*An FMI that is an exchange-of-value settlement system should eliminate principal risk by ensuring that the final settlement of one obligation occurs if and only if the final settlement of the linked obligation also occurs, regardless of whether the FMI settles on a gross or net basis and when finality occurs.*								
PS	X	CSD		SSS	X	CCP	X	TR	

KE 1. Elimination of principal risk by linking the two settlement obligations.	Q.12.1.1: How does the FMI's settlement mechanism ensure that the final settlement of relevant financial instruments eliminates principal risk? What procedures ensure that the final settlement of one obligation occurs if and only if the final settlement of a linked obligation also occurs? Q.12.1.2: Are each of the linked obligations settled on a gross or net basis?
KE 2. Achievement of final settlement of two linked obligations.	Q.12.1.3: Is the finality of settlement of linked obligations simultaneous? If not, what is the timing of finality for both obligations? Is the length of time between the blocking and final settlement of both obligations minimised? Are blocked assets protected from a claim by a third party?

Principle 13: Participant-default rules and procedures									
An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	

KC 13.1	*An FMI should have default rules and procedures that enable the FMI to continue to meet its obligations in the event of a participant default and that address the replenishment of resources following a default.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	

KE 1. Identification of default rules and procedures.	Q.13.1.1: Do the FMI's rules and procedures clearly define an event of default (both a financial and an operational default of a participant) and the method for identifying a default? Q.13.1.2: How do the FMI's rules and procedures address the following key aspects: (a) the actions that the FMI can take when a default is declared; (b) the extent to which the actions are automatic or discretionary; (c) changes to normal settlement practices; (d) the management of transactions at different stages of processing; (e) the expected treatment of proprietary and customer transactions and accounts; (f) the probable sequencing of actions; (g) the roles, obligations, and responsibilities of the various parties, including non-defaulting participants; and (h) the existence of other mechanisms that may be activated to contain the impact of a default?
KE 2. Use and sequencing of financial resources.	Q.13.1.3: How do the FMI's rules and procedures allow the FMI to use promptly any financial resources that it maintains for covering losses and containing liquidity pressures arising from default, including liquidity facilities? Q.13.1.4: How do the FMI's rules and procedures address the order in which the financial resources can be used?
KE 3. Identification of default rules and procedures that address the replenishment of resources following a participant default.	Q.13.1.5: How do the FMI's rules and procedures address the replenishment of resources following a default?

KC 13.2	*An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	
KE 1. Preparation of an FMI to implement its default rules and procedures.					Q.13.2.1: Does the FMI's management have clearly articulated plans to address a participant default which delineate roles and responsibilities, including in respect to any discretionary procedures? Q.13.2.2: What type of communication procedures does the FMI have to reach in a timely manner all relevant stakeholders, including regulators, supervisors, and overseers? Q.13.2.3: How frequently are the internal processes to manage a default reviewed?				

KC 13.3	*An FMI should publicly disclose key aspects of its default rules and procedures.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	
KE 1. Disclosure of key aspects of default rules and procedures to the public.					Q.13.3.1: How are the key aspects of the FMI's participant-default rules and procedures made publicly available? Q.13.3.2: Do they include: (a) the circumstances in which action may be taken; (b) who may take those actions; (c) the scope of the actions which may be taken, including the treatment of both proprietary and customer positions, funds, and assets; (d) the mechanisms to address an FMI's obligations to non-defaulting participants; and (e) the mechanisms to help address the defaulting participant's obligations to its customers?				

KC 13.4	*An FMI should involve its participants and other stakeholders in the testing and review of the FMI's default procedures, including any close-out procedures. Such testing and review should be conducted at least annually or following material changes to the rules and procedures to ensure that they are practical and effective.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	
KE 1. Testing and review of the default procedures with participants and other stakeholders.					Q.13.4.1: How does the FMI engage with its participants and other relevant stakeholders in the testing and review of its participant-default procedures? At what frequency does it engage in these tests and reviews? Are these tests performed following material changes to the related rules and procedures? Q.13.4.2: What range of potential participant-default scenarios and procedures do these tests cover? How does the FMI test the implementation of the resolution regime for its participants? Q.13.4.3: How are the test results used? Are the results shared with the board, risk committee, and relevant authorities?				

Principle 14: Segregation and portability									
A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.									
PS		**SSS**		**CSD**		**CCP**	**X**	**TR**	

KC 14.1	*A CCP should, at a minimum, have segregation and portability arrangements that effectively protect a participant's customers' positions and related collateral from the default or insolvency of that participant. If the CCP additionally offers protection of such customer positions and collateral against the concurrent default of the participant and a fellow customer, the CCP should take steps to ensure that such protection is effective.*								
PS		CSD		SSS		CCP	X	TR	

KE 1. Identification of the segregation and portability arrangements that protect customer positions and related collateral.	Q.14.1.1: What are the segregation arrangements that the CCP has in place to permit the identification and separate treatment of participants' customers' positions and collateral? Q.14.1.2: What are the CCP's portability arrangements? Q.14.1.3: If the CCP serves a cash market and does not provide segregation arrangements, how is protection of customers' assets achieved?
KE 2. Legal support for such segregation and portability arrangements under applicable law.	Q.14.1.4: What evidence is there that the legal framework provides a high degree of assurance that it will support the CCP's arrangements to protect and transfer the positions and collateral of a participant's customers? Q.14.1.5: What analysis has the CCP conducted regarding the enforceability of its customer segregation and portability arrangements, including with respect to any foreign/remote participants? In particular which foreign laws has the CCP determined to be relevant to its ability to segregate or transfer customer positions and collateral? How have any identified issues been addressed?

KC 14.2	*A CCP should employ an account structure that enables it readily to identify positions of a participant's customers and to segregate related collateral. A CCP should maintain customer positions and collateral in individual customer accounts or in omnibus customer accounts.*								
PS		CSD		SSS		CCP	X	TR	
KE 1. Identification of the account structure for positions of a participant's customers and related collateral.					Q.14.2.1: What account structure does the CCP use for the positions and related collateral of participants' customers? In particular, are customers' positions and collateral segregated from participants' positions and collateral, and the CCP's positions and collateral? Are collateral and positions belonging to customers maintained in individual or omnibus accounts?				
KE 2. Ability of the CCP to readily identify positions of its participants' customers and to segregate related collateral.					Q.14.2.2: If the CCP (or its custodians) holds collateral supporting customers' positions, what does this collateral cover (e.g., initial margin or variation margin requirements)? Q.14.2.3: Does the CCP rely on the participant's records containing the sub-accounting for individual customers to ascertain each customer's interest? If so, describe how the CCP ensures its access to this information. Is customer margin obtained by the CCP from its participants collected on a gross or net basis? Is a customer's collateral exposed to "fellow-customer risk"?				

KC 14.3	*A CCP should structure its portability arrangements in a way that makes it highly likely that the positions and collateral of a defaulting participant's customers will be transferred to one or more other participants.*								
PS		CSD		SSS		CCP	X	TR	
KE 1. Identification of the CCP's portability arrangement.					Q.14.3.1: In which ways do the CCP's portability arrangements make it highly likely that the positions and collateral of a defaulting participant's customers will be transferred to one or more other participants? How do the CCP's rules and procedures require participants to facilitate the transfer of customer positions and collateral? Q.14.3.2: How does the CCP obtain the consent of the participant(s) to which positions and collateral are to be ported? Are the consent procedures set out in the CCP's rules, policies, or procedures? If so, please describe them. If there are any exceptions, how are they disclosed? Q.14.3.3: Has the CCP had any actual experience in transferring the positions and collateral belonging to customers of a defaulting participant? If so, please describe this experience.				

KC 14.4	*A CCP should disclose its rules, policies, and procedures relating to the segregation and portability of a participant's customers' positions and related collateral. In particular, the CCP should disclose whether customer collateral is protected on an individual or omnibus basis. In addition, a CCP should disclose any constraints, such as legal or operational constraints, that may impair its ability to segregate or port a participant's customers' positions and related collateral.*								
PS		CSD		SSS		CCP	X	TR	
KE 1. Disclosure of the rules, policies, and procedures relating to the segregation and portability of a participant's customers' positions and related collateral.					Q.14.4.1: How are the CCP's segregation and portability arrangements disclosed? Q.14.4.2: How does the CCP disclose whether a participant's customers' collateral is protected on an individual or omnibus basis?				
KE 2. Disclosure of any constraints that may impair the CCP's ability to segregate or port a participant's customers' positions and collateral.					Q.14.4.3: Where and how are the risks, costs, and uncertainties associated with the CCP's segregation and portability arrangements identified and disclosed? How does the CCP disclose any constraints (such as legal or operational), that may impair the CCP's ability fully to segregate or port a participant's customers' positions and collateral?				

Principle 15: General business risk									
An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	**X**

KC 15.1	*An FMI should have robust management and control systems to identify, monitor, and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Management and control systems to identify, monitor, and manage general business risks.					Q.15.1.1: How does the FMI identify and monitor its general business risks, including new and emerging business risks? What are the general business risks identified by the FMI? Q.15.1.2: Has the FMI developed the capacity to assess its business risks on an ongoing basis? Q.15.1.3: How does the FMI manage the general business risks that it has identified?				

KC 15.2	*An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time required to achieve a recovery or orderly wind-down, as appropriate, of its critical operations and services if such action is taken.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Amount of liquid net assets funded by equity held by the FMI.					Q.15.2.1: How is the required amount of liquid net assets funded by equity to cover the FMI's general business losses calculated? How would the FMI cover losses that exceed the amount of liquid net assets funded by equity set aside for business risk? Q.15.2.2: How does the FMI analyse its business risk profile when determining an appropriate amount of liquid net assets funded by equity to hold? How does the FMI determine the length of time and associated operating costs of achieving an orderly recovery or wind-down of critical operations and services?				

<table>
<tr><td>KC 15.3</td><td colspan="9">An FMI should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity to implement this plan. At a minimum, an FMI should hold liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Identification of a viable plan to achieve a recovery or orderly wind-down.</td><td colspan="5">Q.15.3.1: Has the FMI developed a plan to achieve a recovery or orderly wind-down?

Q.15.3.2: If so, what does this plan take into consideration (for example, the operational, technological, and legal requirements for participants to establish and move to an alternative arrangement)?</td></tr>
<tr><td colspan="5">KE 2. Minimum holdings of liquid net assets funded by equity.</td><td colspan="5">Q.15.3.3: Does the FMI hold liquid net assets funded by equity to cover general business risk that is at least the maximum of:

• six months of current operating expenses; or

• the amount of liquid net assets funded by equity needed to implement the FMI’s plan discussed in Q.15.3.2?

Q.15.3.4: How are the resources designated to cover business risks and losses separated from resources designated to cover the default of a member?</td></tr>
<tr><td colspan="5">KE 3. Inclusion of capital held under international risk-based capital standards.</td><td colspan="5">Q.15.3.5: Does the FMI include capital held under international risk-based standards to cover general business risks?</td></tr>
</table>

<table>
<tr><td>KC 15.4</td><td colspan="9">Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Identification of assets to cover general business risk.</td><td colspan="5">Q.15.4.1: In which high quality assets are the FMI’s liquid net assets funded by equity held? How will the FMI convert these assets into cash at little or no loss of value in adverse market conditions?

Q.15.4.2: How does the FMI regularly assess the quality and liquidity of its liquid net assets funded by equity to meet its current and projected operating expenses under a range of scenarios?</td></tr>
</table>

<table>
<tr><td>KC 15.5</td><td colspan="9">An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Identification of a viable plan for raising additional equity capital.</td><td colspan="5">Q.15.5.1: What are the main features of the FMI’s plan to replenish equity capital should it approach or fall below minimum requirements?

Q.15.5.2: How often is the plan to replenish equity capital regularly reviewed and updated?</td></tr>
<tr><td colspan="5">KE 2. Approval of the plan to replenish capital by the FMI’s board of directors (or equivalent).</td><td colspan="5">Q.15.5.3: What is the role of the FMI’s board (or equivalent) in reviewing and approving the FMI’s plan to raise additional equity capital if needed?</td></tr>
</table>

Principle 16: Custody and investment risks									
An FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	

KC 16.1	*An FMI should hold its own and its participants' assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	
KE 1. Characteristics of the entities at which the FMI holds it assets.					Q.16.1.1: What is the FMI's custody policy? With which entities does the FMI hold its assets, such as cash and securities, including assets provided by its participants? How does it check that these entities are supervised and regulated?				
KE 2. Ability of the entities to protect the FMI's and its participants' assets.					Q.16.1.2: How does the FMI verify that these entities have robust accounting practices, safekeeping procedures, and internal controls that fully protect its and its participants' assets?				

KC 16.2	*An FMI should have prompt access to its assets and the assets provided by participants, when required.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	
KE 1. Prompt access to the FMI's and its participants' assets.					Q.16.2.1: How has the FMI established that it has a sound legal basis to support enforcement of its interest or ownership rights in assets held in custody? Q.16.2.2: How does the FMI ensure that it can have prompt access to its assets, including securities that are held with a custodian in another time zone or legal jurisdiction, in the event of participant default?				

KC 16.3	*An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	
KE 1. Evaluation of the FMI's exposure to its custodian banks.					Q.16.3.1: How does the FMI evaluate and understand its exposures to its custodian banks? In managing those exposures, how does it take into account the full scope of its relationship with each custodian bank? For instance, does the FMI use multiple custodians for the safekeeping of its assets to diversify exposure to any single custodian? How does the FMI monitor concentration of risk exposures to its custodian banks?				

<table>
<tr><td>KC 16.4</td><td colspan="9">An FMI's investment strategy should be consistent with its overall risk-management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation with little, if any, adverse price effect.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Investment strategy of the FMI.</td><td colspan="5">Q.16.4.1: How does the FMI ensure that its investment strategy is consistent with its overall risk-management strategy?

Q.16.4.2: Are all of the FMI's investments secured by, or claims on, high-quality obligors?

Q.16.4.3: How does the FMI consider its overall exposure to an obligor in choosing investments? What investments are subject to limits to avoid concentration of credit risk exposures? Does the FMI invest in participants' own securities or those of its affiliates?</td></tr>
<tr><td colspan="5">KE 2. Disclosure of the FMI's investment strategy to participants.</td><td colspan="5">Q.16.4.4: How does the FMI disclose its investment strategy to its participants?</td></tr>
<tr><td colspan="5">KE 3. Characteristics of the FMI's investments.</td><td colspan="5">Q.16.4.5: How does the FMI ensure that its investments allow for quick liquidation?

Q.16.4.6: How does the FMI ensure that its investments are exposed to little, if any, adverse price effects?</td></tr>
</table>

Principle 17: Operational risk									
An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	**X**

KC 17.1	*An FMI should establish a robust operational risk-management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Identification of operational risk.	Q.17.1.1: What are the FMI's policies and processes for identifying the full range of operational risks on an ongoing basis? Q.17.1.2: What are the sources of operational risks identified by the FMI? How do the FMI's processes ensure that the full range of operational risks is identified, whether these risks arise from internal sources (for example, the arrangements of the system itself, including human resources), from the FMI's participants, or from external sources? How has the FMI identified and addressed potential single points of failure in its operations?
KE 2. Operational risk-management framework.	Q.17.1.3: What are the FMI's systems, policies, procedures, and controls addressing the identified operational risks? Where are these systems, policies, procedures, and controls defined? Q.17.1.4: What policies, processes, and controls does the FMI employ to ensure that operational procedures are implemented appropriately? To what extent do the FMI's systems, policies, processes, and controls take into consideration relevant international, national, and industry-level operational risk-management standards? Q.17.1.5: What are the FMI's human resources policies to hire, train, and retain qualified personnel, and to mitigate the effects of high rates of personnel turnover or key-person risk? Moreover, how do the FMI's risk-management policies address fraud prevention? Q.17.1.6: How, and to what extent, do the FMI's change-management and project-management policies and processes ensure that changes and major projects do not affect the smooth functioning of the system?

KC 17.2	*An FMI's board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI's operational risk-management framework. Systems, operational policies, procedures, and controls should be reviewed, audited, and tested periodically and after significant changes.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Identification of roles and responsibilities for operational risk.	Q.17.2.1: How has the board of directors defined the key roles and responsibilities for operational risk management?
KE 2. Endorsement of the operational risk-management framework by board of directors (or equivalent).	Q.17.2.2: How, and how frequently, does the FMI's board explicitly review and endorse the FMI's operational risk-management framework?
KE 3. Auditing and testing.	Q.17.2.3: How, and how frequently, does the FMI review, audit and test its systems, operational policies, procedures, and controls, including its operational risk-management arrangements with participants? Q.17.2.4: To what extent is the FMI's operational risk-management framework subject to external audit?

KC 17.3	*An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Operational reliability objectives.	Q.17.3.1: What are the FMI's operational reliability objectives, both qualitative and quantitative? Where and how are they documented? Q.17.3.2: How do these objectives ensure a high degree of security and operational reliability?
KE 2. Policy to achieve the operational reliability objectives.	Q.17.3.3: How, and to what extent, are the FMI's reliability objectives integrated into its operational risk-management framework (see KC 17.1)? Q.17.3.4: How and to what extent are these objectives integrated into the FMI's review, auditing, and testing of its systems, operational policies, procedures, and controls (see KC 17.2)? Q.17.3.5: What are the processes to review the FMI's objectives and performance and take appropriate action as needed?

KC 17.4	*An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Scalable capacity.	Q.17.4.1: How, and how frequently, does the FMI review, audit, and test the scalability and adequacy of its capacity? Q.17.4.2: How frequently are capacity plans reviewed and tested and how are the test results used? How are situations where operational capacity is neared or exceeded addressed?

KC 17.5	*An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Physical security policies.	Q.17.5.1: What are the FMI's policies and processes for identifying, monitoring, assessing, and managing the full range of physical vulnerabilities and threats on an ongoing basis? Q.17.5.2: To what extent do the FMI's policies, processes, controls, and testing take into consideration relevant international, national, and industry-level standards for physical security? How are deviations from the security policies and risk mitigations documented? Q.17.5.3: How, and to what extent, do the FMI's change-management and project-management policies and processes ensure that changes and major projects do not affect the physical security of the system?
KE 2. Information security policies.	Q.17.5.4: What are the FMI's policies and processes for identifying, monitoring, assessing, and managing the full range of information security vulnerabilities and threats on an ongoing basis? Q.17.5.5: To what extent do the FMI's policies, processes, controls, and testing take into consideration relevant international, national, and industry-level standards for information security? Q.17.5.6: How, and to what extent, do the FMI's change-management and project-management policies and processes ensure that changes and major projects do not affect the information security of the system? What reliance is placed on outside expertise to test resilience?

<table>
<tr><td>KC 17.6</td><td colspan="9">An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The plan should be designed to enable the FMI to complete settlement by the end of the day of the disruption, even in case of extreme circumstances. The FMI should regularly test these arrangements.</td></tr>
<tr><td>PS</td><td>X</td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td>X</td><td>TR</td><td>X</td></tr>
<tr><td colspan="5">KE 1. Business continuity plan.</td><td colspan="5">Q.17.6.1: How, and to what extent, does the FMI’s business continuity plan reflect objectives, policies, and procedures that allow for the rapid recovery and timely resumption of critical operations following a wide-scale or major disruption?

Q.17.6.2: How, and to what extent, are the FMI’s business continuity objectives and plan aimed at being able to resume operations within two hours following disruptive events, and to complete settlement by the end of the day even in the case of extreme circumstances?

Q.17.6.3: How does the contingency plan ensure that the status of all transactions can be identified in a timely manner, at the time of the disruption and if there is a possibility of data loss, what are the procedures to deal with such loss (for example, reconciliation with participants or third parties)?</td></tr>
<tr><td colspan="5">KE 2. Crisis management and communication.</td><td colspan="5">Q.17.6.4: How, and to what extent, does the FMI’s crisis management procedures address the need for effective communications internally and with key external stakeholders and authorities?</td></tr>
<tr><td colspan="5">KE 3. Adequate secondary site.</td><td colspan="5">Q.17.6.5: How, and to what extent, has the FMI set up a secondary site with sufficient resources, capabilities, functionalities, and appropriate staffing arrangements that would not be affected by a wide-scale disruption and would allow the secondary site to take over operations if needed?

Q.17.6.6: To what extent is the secondary site located at a geographical distance from the primary site that is sufficient for the secondary site to have a distinct risk profile from that of the primary site?

Q.17.6.7: Has the FMI considered alternative arrangements to allow the processing of time-critical transactions in extreme circumstances?</td></tr>
</table>

KE 4. Review and testing of business continuity arrangements.	Q.17.6.8: How, and how often, are the FMI's business continuity and contingency arrangements reviewed and tested, including with respect to scenarios related to wide-scale and major disruptions? Q.17.6.9: How, and how often, does review and testing involve the FMI's participants, critical service providers, and linked FMIs as relevant (see KC 17.7)?

KC 17.7	*An FMI should identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations. In addition, an FMI should identify, monitor, and manage the risks its operations might pose to other FMIs.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Identification, monitoring, and management of risks posed by participants, other FMIs, and service and utility providers.					Q.17.7.1: How, and to what extent, does the FMI identify, monitor, manage, and mitigate both direct and indirect effects on its ability to process and settle transactions from risks that stem from an external operational failure of participants, other FMIs, and service and utility providers? Q.17.7.2: If the FMI has outsourced some of its operations to an external service provider, how, and to what extent, does the FMI ensure that those operations meet the same reliability and contingency requirements they would need to meet if they were provided internally?				
KE 2. Identification, monitoring, and management of risks posed by the FMI to other FMIs.					Q.17.7.3: How, and to what extent, does the FMI identify, monitor, and mitigate the risks it may pose to another FMI? Q.17.7.4: How, and to what extent, does the FMI coordinate its business continuity arrangements with those of other interdependent FMIs?				

Principle 18: Access and participation requirements									
An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	**X**

KC 18.1	*An FMI should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Access policies of the FMI.					Q.18.1.1: What are the FMI's criteria and requirements for participation (including fees and other costs)? Q.18.1.2: What evidence is there that these requirements allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs? Q.18.1.3: For a TR, how do the terms of access for use of its services help ensure that competition and innovation in post-trade processing are not impaired? Q.18.1.4: For a TR, how do the terms of access support interconnectivity with other FMIs and service providers?				

KC 18.2	*An FMI's participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI's specific risks, and be publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI should endeavour to set requirements that have the least-restrictive impact on access that circumstances permit.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Description of participation requirements.					Q.18.2.1: How are the participation requirements for the FMI justified in terms of the safety and efficiency of the FMI and the markets it serves, and tailored to and commensurate with the FMI's specific risks? Q.18.2.2: Are there participation requirements that are not risk-based but required by law or regulation? If so, what are these requirements? Q.18.2.3: Are all classes of participants subject to the same access criteria? If not, what is the rationale for the different criteria (for example, size or type of activity, additional requirements for participants that act on behalf of third parties, additional requirements for participants that are non-regulated entities)?				

KE 2. Impact of requirements on access.	Q.18.2.4: How, and how often, are the access restrictions and requirements reviewed to ensure that they have the least restrictive access that circumstances permit, consistent with maintaining acceptable risk controls?
KE. 3. Disclosure of participation requirements.	Q.18.2.5: How, and to whom, are participation criteria, including restrictions in participation, disclosed and explained?

KC 18.3	*An FMI should monitor compliance with its participation requirements on an ongoing basis and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Monitoring of compliance with participation requirements.	Q.18.3.1: How does the FMI monitor the participants' ongoing compliance with the access criteria? How does the FMI ensure that the information it uses to monitor compliance with participation criteria is timely and accurate? Q.18.3.2: What duties do participants have to report on developments that may affect their ability to fulfil the participation requirements? Q.18.3.3: What are the FMI's policies for conducting enhanced surveillance of, or imposing additional controls on, a participant whose risk profile deteriorates?
KE 2. Procedures for facilitating the suspension and orderly exit of a participant that fails to meet participation requirements.	Q.18.3.4: What are the FMI's procedures for managing the suspension and orderly exit of a participant that breaches, or no longer meets, those requirements? Q.18.3.5: How and to whom are the FMI's procedures for managing the suspension and orderly exit of a participant disclosed?

Principle 19: Tiered participation arrangements									
An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	**X**

KC 19.1	*An FMI should ensure that its rules, procedures, and agreements allow it to gather basic information about indirect participation in order to identify, monitor, and manage any material risks to the FMI arising from such tiered participation arrangements.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Ability to gather and assess information on risks to the FMI arising from tiered participation arrangements.					Q.19.1.1: What tiered participation arrangements does the FMI have? Q.19.1.2: How does the FMI gather information about indirect participants? Which information is collected and how often is it updated? Q.19.1.3: How does the FMI evaluate its risks arising from these dependencies?				

KC 19.2	*An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Identification of dependencies between direct and indirect participants that can affect the FMI.					Q.19.2.1: What are the interdependencies considered and how are they identified?				

KC 19.3	*An FMI should identify indirect participants responsible for a significant proportion of transactions processed by the FMI and indirect participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the FMI in order to manage the risks arising from these transactions.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Identification of key indirect participants.					Q.19.3.1: Has the FMI identified (a) the proportion of activity that direct participants conduct on behalf of indirect participants in relation to the direct participants' capacity, (b) direct participants that act on behalf of a material number of indirect participants, (c) indirect participants responsible for a significant proportion of turnover in the system, and (d) indirect participants whose transaction volumes or values are large relative to the capacity of the direct participant through which they access the FMI to manage risks arising from these transactions?				
KE 2. Management of the risks arising from transactions of key indirect participants.					Q.19.3.2: How does the FMI manage the risks arising from its key indirect participants?				

KC 19.4	*An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Review of risks arising from tiered participation arrangements.					Q.19.4.1: What are the FMI's policies for reviewing its rules and procedures in order to mitigate risks to the FMI arising from tiered participation?				
KE 2. Implementation of mitigating actions.					Q.19.4.2: What are the FMI's criteria to determine when mitigating actions are required? What steps can the FMI take, or has the FMI taken, to mitigate its risks?				

Principle 20: FMI links									
An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.									
PS		**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	**X**

KC 20.1	*Before entering into a link arrangement and on an ongoing basis once the link is established, an FMI should identify, monitor, and manage all potential sources of risk arising from the link arrangement. Link arrangements should be designed such that each FMI is able to observe the other principles in this report.*								
PS		CSD	X	SSS	X	CCP	X	TR	X

KE 1. Identification of potential sources of risk arising from prospective link arrangements.	Q.20.1.1: What process is used to identify potential sources of risk (such as, legal, credit, liquidity, custody, and operational risks) arising from prospective links? How does this affect the FMI's decision whether to establish the link?
KE 2. Identification, monitoring, and management of risk arising from established links.	Q.20.1.2: What links have been established with other FMIs? Q.20.1.3: What processes are in place to identify, monitor, and manage risks arising from an existing link on an ongoing basis? What is the policy for updating this analysis?
KE 3. Effect of link arrangements on observance of other principles.	Q.20.1.4: How does the FMI ensure that link arrangements allow for it to remain observant of the other principles? How often is this analysis conducted?

KC 20.2	*A link should have a well-founded legal basis, in all relevant jurisdictions, that supports its design and provides adequate protection to the FMIs involved in the link.*								
PS		CSD	X	SSS	X	CCP	X	TR	X

KE 1. Legal basis to support operation of any link arrangements.	Q.20.2.1: What is the relevant legal framework supporting any link arrangements? Q.20.2.2: How does the FMI validate that its links have a well-founded legal basis and provide it with adequate protection against legal risk? Q.20.2.3: How does the FMI ensure that the well-founded legal basis and adequate protection are maintained over time?

<table>
<tr><td>KC 20.3</td><td colspan="9">Linked CSDs should measure, monitor, and manage the credit and liquidity risks arising from each other. Any credit extensions between CSDs should be covered fully with high-quality collateral and be subject to limits.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td></td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Measurement, monitoring, and management of credit and liquidity risk arising from linked CSDs.</td><td colspan="5">Q.20.3.1: What processes are in place to measure, monitor, and manage credit and liquidity risks arising from any established links?

Q.20.3.2: If a CSD extends credit to a linked CSD, what processes exist to ensure that credit extensions to the linked CSD are fully covered by high-quality collateral and that credit limits are appropriate?</td></tr>
</table>

<table>
<tr><td>KC 20.4</td><td colspan="9">Provisional transfers of securities between linked CSDs should be prohibited or, at a minimum, the retransfer of provisionally transferred securities should be prohibited prior to the transfer becoming final.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td></td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Restrictions on provisional transfer of securities between linked CSDs.</td><td colspan="5">Q.20.4.1: If the link permits provisional transfers of securities across the link, is the retransfer of these securities prohibited until the first transfer is final?</td></tr>
</table>

<table>
<tr><td>KC 20.5</td><td colspan="9">An investor CSD should only establish a link with an issuer CSD if the arrangement provides a high level of protection for the rights of the investor CSD's participants.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td></td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Level of protection for investor CSD's participants.</td><td colspan="5">Q.20.5.1: For any established link, how has the investor CSD determined that the rights of its participants have a high level of protection?

Q.20.5.2: How often is reconciliation of holdings conducted by the entities holding the securities in custody?

Q.20.5.3: What safeguards does the investor CSD have in place to provide a high-level of protection for the rights of its participants (including, segregation and portability arrangements and asset protection provisions for omnibus accounts)?</td></tr>
</table>

<table>
<tr><td>KC 20.6</td><td colspan="9">An investor CSD that uses an intermediary to operate a link with an issuer CSD should measure, monitor, and manage the additional risks (including custody, credit, legal, and operational risks) arising from the use of the intermediary.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td>X</td><td>SSS</td><td>X</td><td>CCP</td><td></td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Investor CSD's measurement, management, and monitoring of the risks arising from the use of an intermediary.</td><td colspan="5">Q.20.6.1: What are the criteria used by the CSD to select intermediaries? Are these criteria risk-based?

Q.20.6.2: If the CSD uses any intermediaries to operate links, what are the respective liabilities of the two linked CSDs and the intermediaries?

Q.20.6.3: What processes exist to measure, monitor, and manage the risks arising from use of the intermediary?</td></tr>
</table>

<table>
<tr><td>KC 20.7</td><td colspan="9">Before entering into a link with another CCP, a CCP should identify and manage the potential spill-over effects from the default of the linked CCP. If a link has three or more CCPs, each CCP should identify, assess, and manage the risks of the collective link arrangement.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td></td><td>SSS</td><td></td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Identification, assessment, and management of potential spill-over effects of a linked CCP's default.</td><td colspan="5">Q.20.7.1: Prior to establishing any links, what analysis was undertaken by the CCP to identify and assess the spill-over effects of a linked CCP's default?</td></tr>
<tr><td colspan="5">KE 2. Identification, assessment, and management of the potential spill-over effects in case of networks of links between CCPs.</td><td colspan="5">Q.20.7.2: Prior to establishing any links, what analysis was conducted by the CCP to identify and assess the potential spill-over effects of a link arrangement involving three or more CCPs?

Q.20.7.3: In the case of links involving more than two CCPs, what processes are in place for the collective link arrangement to identify, assess, and manage risks arising from the links? What specific risk-management measures have been adopted to address the risks arising from the collective link arrangements?

Q.20.7.4: In case of a network of links between CCPs, is there a clear definition of the respective liabilities of the different CCPs?</td></tr>
</table>

<table>
<tr><td>KC 20.8</td><td colspan="9">Each CCP in a CCP link arrangement should be able to cover, at least on a daily basis, its current and potential future exposures to the linked CCP and its participants, if any, fully with a high degree of confidence without reducing the CCP's ability to fulfil its obligations to its own participants at any time.</td></tr>
<tr><td>PS</td><td></td><td>CSD</td><td></td><td>SSS</td><td></td><td>CCP</td><td>X</td><td>TR</td><td></td></tr>
<tr><td colspan="5">KE 1. Ability to cover exposures to the linked CCP.</td><td colspan="5">Q.20.8.1: What processes are in place to measure, monitor, and manage inter-CCP exposures?

Q.20.8.2: How does the CCP ensure, on an ongoing basis, that it can cover its current exposure fully?

Q.20.8.3: How does the CCP ensure that it covers its potential future exposure with a high degree of confidence, without reducing its ability to fulfil its own obligations?</td></tr>
<tr><td colspan="5">KE 2. Contribution to linked CCP's default funds.</td><td colspan="5">Q.20.8.4: What arrangements do the linked CCPs have in place to manage the risks arising from the link (such as, a separate default fund, increased margin requirements, or contributions to each other's default funds)?

Q.20.8.5: If the CCPs contribute to each other's default funds, how is it ensured that the contribution to another CCP's default fund does not affect the ability of the CCP to fulfil its obligations to its own participants at any time?</td></tr>
<tr><td colspan="5">KE 3. Potential sharing of uncovered losses.</td><td colspan="5">Q.20.8.6: How do the linked CCPs ensure that participants are informed about their exposures to the potential sharing of uncovered losses from the link arrangement?</td></tr>
</table>

KC 20.9	*A TR should carefully assess the additional operational risks related to its links to ensure the scalability and reliability of IT and related resources.*								
PS		CSD		SSS		CCP		TR	X
KE 1. Assessment of operational risk from links to ensure scalability and reliability of IT and related resources.					Q.20.9.1: How does the TR ensure the scalability and reliability of its IT and related resources to take into account the additional operational risks associated with a link to another FMI? Q.20.9.2: How often does the TR validate the adequacy of its scalability and reliability?				

Principle 21: Efficiency and effectiveness									
An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	**X**

KC 21.1	*An FMI should be designed to meet the needs of its participants and the markets it serves, in particular, with regard to choice of a clearing and settlement arrangement; operating structure; scope of products cleared, settled, or recorded; and use of technology and procedures.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Design of the FMI to meet the needs of its participants and the markets it serves.					Q.21.1.1: How does the FMI's design, including its clearing and settlement scheme, its operating structure, its delivery systems and technologies, and its individual services and products take into account the needs of its participants and the markets it serves? Q.21.1.2: What methods does the FMI use to determine whether it is meeting the requirements of its participants and other users and continues to meet those requirements as they change? How, and how regularly, does the FMI gauge customer satisfaction with its effectiveness and efficiency of its contributions to the markets it serves?				

KC 21.2	*An FMI should have clearly defined goals and objectives that are measurable and achievable, such as in the areas of minimum service levels, risk-management expectations, and business priorities.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. FMI's goals and objectives.					Q.21.2.1: What are the FMI's goals and objectives as far as the effectiveness of its operations is concerned? Q.21.2.2: Have the goals and objectives been achieved? What mechanisms does the FMI have to measure and assess this?				

KC 21.3	*An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. FMI review of its efficiency and effectiveness.					Q.21.3.1: What processes and metrics does the FMI use to evaluate its efficiency and effectiveness? Q.21.3.2: How often does the FMI evaluate its efficiency and effectiveness?				

Principle 22: Communication procedures and standards									
An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	**X**

KC 22.1	*An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Use or accommodation of internationally accepted communication procedures.	Q.22.1.1: How do the FMI's operational procedures, processes, and systems use or otherwise accommodate internationally accepted communication procedures to interact with participants, the customers of participants, and other connected parties (including, where relevant, other linked FMIs)? Q.22.1.2: If the FMI engages in cross-border operations, how do the FMI's operational procedures, processes, and systems use or otherwise accommodate internationally accepted communication procedures for cross-border operations?
KE 2. Use or accommodation of internationally accepted communication standards.	Q.22.1.3: How do the FMI's operational procedures, processes, and systems use or otherwise accommodate internationally accepted communication standards for message formats and reference data to identify financial instruments and counterparties? Q.22.1.4: If the FMI engages in cross-border operations, how do the FMI's operational procedures, processes, and systems use or otherwise accommodate internationally accepted communication standards for cross-border operations? Q.22.1.5: If no international standard is used, how does the FMI accommodate systems that translate or convert message format and data from international standards into the domestic equivalent and vice versa? Q. 22.1.6: What processes and procedures does the TR follow to ensure that data recorded is supported both operationally and technically?

Principle 23: Disclosure of rules, key procedures, and market data									
An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.									
PS	**X**	**CSD**	**X**	**SSS**	**X**	**CCP**	**X**	**TR**	**X**

KC 23.1	*An FMI should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Clarity and comprehensiveness of rules and procedures.					Q.23.1.1: Which documents comprise the system's rules and procedures? Q.23.1.2: How does the FMI determine that relevant rules and key procedures are clearly articulated? Q.23.1.3: What information do the FMI's rules and procedures contain on procedures it will follow in non-routine events?				
KE 2. Disclosure of rules and procedures to participants.					Q.23.1.4: How are rules and procedures disclosed to participants?				
KE 3. Disclosure of relevant rules and key procedures to the public.					Q.23.1.5: How are relevant rules and procedures disclosed to the public?				

KC 23.2	*An FMI should disclose clear descriptions of the system's design and operations, as well as the FMI's and participants' rights and obligations, so that participants can assess the risks they would incur by participating in the FMI.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X
KE 1. Description of the system's design and operations.					Q.23.2.1: Which documents comprise information about the system's design and operations? Q.23.2.2: How and to whom does the FMI disclose the system's design and operations? Q.23.2.3: How and to whom does the FMI disclose the processes it follows for changing its rules and procedures? Q.23.2.4: How and to whom does the FMI disclose the degree of discretion it can exercise over the operation of the system?				
KE 2. Description of participants' rights and obligations.					Q.23.2.5: What information does the FMI provide to its participants about their rights, obligations, and risks incurred through participation in the FMI?				

KC 23.3	*An FMI should provide all necessary and appropriate documentation and training to facilitate participants' understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. FMI documentation and training for its participants.	Q.23.3.1: How does the FMI facilitate its participants' understanding of the FMI's rules, procedures, and the risks associated with participating? Q.23.3.2: Is there evidence that the means described above enable and actually result in participants' understanding of the FMI's rules, procedures, and the risks they face from participating in the FMI? Q.23.3.3: In the event that the FMI identifies a participant who demonstrates a lack of understanding, what remedial actions are taken by the FMI?

KC 23.4	*An FMI should publicly disclose its fees at the level of individual services it offers as well as its policies on any available discounts. The FMI should provide clear descriptions of priced services for comparability purposes.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Public disclosure of service fees and discounts.	Q.23.4.1: What fee and other material cost information on its pricing (i.e. services and associated fees and discounts) does the FMI publicly disclose? Q.23.4.2: How is this information made available to the public? Q.23.4.3: What is the FMI's process for notifying participants and the public of changes to services and fees and what policy is followed regarding the timing of such notifications?
KE 2. Description of priced services.	Q.23.4.4: How does the FMI define its priced services? Is there evidence that service definitions are clearly described in a manner that allows for comparability? Q.23.4.5: Does the FMI disclose information on its technology and communication procedures, or any other factors that affect the costs of operating the FMI?

KC 23.5	*An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO* Disclosure framework for financial market infrastructures*. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.*								
PS	X	CSD	X	SSS	X	CCP	X	TR	X

KE 1. Completion and public disclosure of the CPSS-IOSCO Disclosure framework for financial market infrastructures*.*	Q.23.5.1: When did the FMI last complete the disclosure framework? How frequently is it updated?

KE 2. Public disclosure of other information.	Q.23.5.2: What information in addition to that mentioned in the previous key element does the FMI disclose to the public? How does the FMI disclose any data and information in addition to the disclosure framework? Q.23.5.3: Which media does the FMI use to publicly disclose information? In which language(s)?

Principle 24: Disclosure of market data by trade repositories									
A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.									
PS		**CSD**		**SSS**		**CCP**		**TR**	**X**

KC 24.1	*A TR should provide data in line with regulatory and industry expectations to relevant authorities and the public, respectively, that is comprehensive and at a level of detail sufficient to enhance market transparency and support other public policy objectives.*

PS		CSD		SSS		CCP		TR	X

KE 1. Provision of data to relevant authorities and the public.	Q.24.1.1: What data are made available by the TR to the public and the relevant authorities? Q.24.1.2: How does the TR ensure that its disclosures of data effectively meet the needs of the public and the relevant authorities?

KC 24.2	*A TR should have effective processes and procedures to provide data to relevant authorities in a timely and appropriate manner to enable them to meet their respective regulatory mandates and legal responsibilities*

PS		CSD		SSS		CCP		TR	X

KE 1. Processes and procedures to provide data to relevant authorities.	Q.24.2.1: What processes and procedures does the TR follow to ensure the timely delivery of data to authorities and the public, including ad hoc data requests by authorities? Q.24.2.2: What processes and procedures does the TR follow to ensure that the provision of data to meet legal and regulatory responsibilities is supported both operationally and technically?

KC 24.3	*A TR should have robust information systems that provide accurate current and historical data. Data should be provided in a timely manner and in a format that permits it to be easily analysed.*

PS		CSD		SSS		CCP		TR	X

KE 1. Information systems for the provision of current and historical data.	Q.24.3.1: How does the TR ensure that data remain accurate?
KE 2. Availability and format of data.	Q.24.3.2: How does the TR ensure that data and other relevant information are provided in a format that is generally accessible, comparable, and easily analysed?

Appendix 4:
Questions by key considerations for the responsibilities of central banks, market regulators, and other relevant authorities for FMIs

Responsibility A: Regulation, supervision, and oversight of FMIs
FMIs should be subject to appropriate and effective regulation, supervision, and oversight by a central bank, market regulator, or other relevant authority.

KC A.1	*Authorities should clearly define and publicly disclose the criteria used to identify FMIs that should be subject to regulation, supervision, and oversight.*
KE 1. Definition of the criteria used to identify FMIs that should be subject to regulation, supervision, and oversight.	Q.A.1.1: What criteria do authorities use to identify FMIs that should be regulated, supervised, and overseen?
KE 2. Public disclosure of the criteria.	Q.A.1.2: How are the criteria defined and publicly disclosed?

KC A.2	*FMIs that have been identified using these criteria should be regulated, supervised, and overseen by a central bank, market regulator, or other relevant authority.*
KE 1. Identification of FMIs according to the criteria.	Q.A.2.1: Which FMIs have been identified according to the criteria set forth in KC A.1?
KE 2. Regulation, supervision, and oversight of identified FMIs.	Q.A.2.2: Which authority or authorities regulate, supervise, or oversee the identified FMIs? What is the scope of the responsibilities for each authority?
KE 3. Potential gaps.	Q.A.2.3: How have relevant authorities avoided (or, if not, addressed) any gaps in regulation, supervision or oversight of FMIs?

Responsibility B: Regulatory, supervisory, and oversight powers and resources
Central banks, market regulators, and other relevant authorities should have the powers and resources to carry out effectively their responsibilities in regulating, supervising, and overseeing FMIs.

KC B.1	*Authorities should have powers or other authority consistent with their relevant responsibilities, including the ability to obtain timely information and to induce change or enforce corrective action.*
KE 1. Powers to obtain timely information.	Q.B.1.1: What are the authorities' powers or other authority to obtain timely information from the FMIs in order to carry out their responsibilities? What are the relevant constraints, if any? Q.B.1.2: What information are FMIs required to provide? How frequently is this information provided? Q.B.1.3: What is the evidence that the information available to the authorities allows them to understand and assess: (a) an FMI's various functions, activities, and overall financial condition; (b) the risks borne or created by an FMI and, where appropriate, the participants; (c) an FMI's impact on its participants and the broader economy; and (d) an FMI's adherence to relevant regulations and policies? Q.B.1.4: To what extent are the relevant authorities empowered or constrained to receive and to share relevant confidential or non-public information with other authorities, as appropriate; to carry out their responsibilities; and to minimise gaps and reduce duplication in regulation, supervision, and oversight?
KE 2. Powers to induce change or enforce corrective action.	Q.B.1.5: What are the authorities' powers or other authority to induce change or enforce corrective action in an FMI that is not observing relevant principles or that is not complying with relevant regulations or policies? What are the relevant constraints, if any?

KC B.2	*Authorities should have sufficient resources to fulfil their regulatory, supervisory, and oversight responsibilities.*
KE 1. Resources to carry out the responsibilities.	Q.B.2.1: What is each authority's process for assessing the resources it needs to fulfil its regulatory, supervisory, or oversight responsibilities? Q.B.2.2: How does each authority demonstrate that it has sufficient resources, including financial and human resources, to carry out its functions? Q.B.2.3: What legal protections apply to the staff that carry out responsibilities for regulation, supervision, and oversight?

Responsibility C: Disclosure of policies with respect to FMIs
Central banks, market regulators, and other relevant authorities should clearly define and disclose their regulatory, supervisory, and oversight policies with respect to FMIs.

KC C.1	*Authorities should clearly define their policies with respect to FMIs, which include the authorities' objectives, roles, and regulations.*
KE 1. Content of the authorities' policies.	Q.C.1.1: What is each authority's policies with respect to FMIs, including its objectives, roles, and regulations?

KC C.2	*Authorities should publicly disclose their relevant policies with respect to the regulation, supervision, and oversight of FMIs.*
KE 1. Public disclosure of policies.	Q.C.2.1: How are the relevant policies disclosed?

Responsibility D: Application of the principles for FMIs
Central banks, market regulators, and other relevant authorities should adopt the CPSS-IOSCO **Principles for financial market infrastructures** ***and apply them consistently.***

KC D.1	*Authorities should adopt the CPSS-IOSCO* Principles for financial market infrastructures*.*
KE 1. Adoption of the CPSS-IOSCO Principles for financial market infrastructures*.*	Q.D.1.1: How, and to what extent, have the authorities adopted the principles?

KC D.2	*Authorities should ensure that these principles are, at a minimum, applied to all systemically important payment systems, CSDs, SSSs, CCPs, and TRs.*
KE 1. Application of CPSS-IOSCO principles to systemically important payment systems, CSDs, SSSs, CCPs, and TRs.	Q.D.2.1: How does the authority disclose to which FMIs it does or does not intend to apply the principles? How does the authority justify its decision to apply or not to apply the principles to certain FMIs?

KC D.3	*Authorities should apply these principles consistently within and across jurisdictions, including across borders, and to each type of FMI covered by the principles.*
KE 1 .Consistency of the application of the principles.	Q.D.3.1: How do authorities promote the consistent application of the principles within and across jurisdictions? Q.D.3.2: If an FMI does not observe all applicable principles, how does the authority ensure that the FMI takes appropriate and timely action to remedy its deficiencies?

Responsibility E: Cooperation with other authorities
Central banks, market regulators, and other relevant authorities should cooperate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs.

KC E.1	*Relevant authorities should cooperate with each other, both domestically and internationally, to foster efficient and effective communication and consultation in order to support each other in fulfilling their respective mandates with respect to FMIs. Such cooperation needs to be effective in normal circumstances and should be adequately flexible to facilitate effective communication, consultation, or coordination, as appropriate, during periods of market stress, crisis situations, and the potential recovery, wind-down, or resolution of an FMI.*
KE 1. Identification of FMIs subject to cooperation, both domestically and internationally.	Q.E.1.1: For which FMIs is there cooperation among authorities?
KE 2. Identification of cooperating authorities, both domestically and internationally.	Q.E.1.2: Which authorities cooperate with respect to each FMI identified above?
KE 3. Efficiency and effectiveness of cooperation, both domestically and internationally.	Q.E.1.3: What evidence suggests the cooperation is effective in normal circumstances? Q.E.1.4: How does the cooperation foster efficient and effective communication and consultation in order to support each other in fulfilling their respective mandates with respect to FMIs in normal circumstances? Q.E.1.5: How does the cooperation facilitate the effective communication, consultation, or coordination, as appropriate, during periods of market stress, crisis situations, and the potential recovery, wind-down or resolution of an FMI?

KC E.2	*If an authority has identified an actual or proposed operation of a cross-border or multicurrency FMI in its jurisdiction, the authority should, as soon as it is practicable, inform other relevant authorities that may have an interest in the FMI's observance of the CPSS-IOSCO* Principles for financial market infrastructures*.*
KE 1. Identification of an actual or proposed operation of a cross-border or multicurrency FMI.	Q.E.2.1: How does the authority identify an actual or proposed operation of a cross-border or multicurrency FMI in its jurisdiction?
KE 2. Notification of relevant authorities of identified FMI, both domestically and internationally.	Q.E.2.2: What criteria are used to determine whether other authorities should be notified? Q.E.2.3: When are relevant notifications provided to other authorities?

KC E.3	*Cooperation may take a variety of forms. The form, degree of formalization and intensity of cooperation should promote the efficiency and effectiveness of the cooperation, and should be appropriate to the nature and scope of each authority's responsibility for the supervision or oversight of the FMI and commensurate with the FMI's systemic importance in the cooperating authorities' various jurisdictions. Cooperative arrangements should be managed to ensure the efficiency and effectiveness of the cooperation with respect to the number of authorities participating in such arrangements.*
KE 1. Form, formalization, and intensity of cooperation for each identified FMI, both domestically and internationally.	Q.E.3.1: What are the forms of cooperation for each FMI identified under KC E.1?
KE 2. Efficiency and appropriateness of cooperation, both domestically and internationally.	Q.E.3.2: How do cooperative arrangements promote the efficiency and effectiveness of the cooperation? Q.E.3.3: How are the forms of cooperation appropriate to the nature and scope of each authority's responsibility for the supervision or oversight of the FMI?
KE 3. Management of cooperative arrangements, both domestically and internationally.	Q.E.3.4: How does the management of cooperative arrangements promote the efficiency and effectiveness of the cooperation, including with respect to the number of authorities participating in such arrangements?

KC E.4	*For an FMI where cooperative arrangements are appropriate, at least one authority should accept responsibility for establishing efficient and effective cooperation among all relevant authorities. In international cooperative arrangements where no other authority accepts this responsibility, the presumption is the authority or authorities with primary responsibility in the FMI's home jurisdiction should accept this responsibility.*
KE 1. Identification of responsible authority for each cooperative arrangement, both domestically and internationally.	Q.E.4.1: For each FMI identified under KC E.1, which authority or authorities have accepted responsibility for establishing efficient and effective cooperation among all relevant authorities?

KC E.5	*At least one authority should ensure that the FMI is periodically assessed against the principles and should, in developing these assessments, consult with other authorities that conduct the supervision or oversight of the FMI and for which the FMI is systemically important.*
KE 1. Assessment of relevant FMIs against the CPSS-IOSCO principles, both domestically and internationally.	Q.E.5.1: Which relevant authority ensures that the FMI is periodically assessed against the principles?
KE 2. Consultation and sharing of assessments among authorities, both domestically and internationally.	Q.E.5.2: How does this authority consult on and share assessments with other authorities that conduct the supervision or oversight of the FMI and for which the FMI is systemically important?

KC E.6	*When assessing an FMI's payment and settlement arrangements and its related liquidity risk-management procedures in any currency for which the FMI's settlements are systemically important against the principles, the authority or authorities with primary responsibility with respect to the FMI should consider the views of the central banks of issue. If a central bank of issue is required under its responsibilities to conduct its own assessment of these arrangements and procedures, the central bank should consider the views of the authority or authorities with primary responsibility with respect to the FMI.*

KE 1. Assessment of an FMI's payment arrangements, both domestically and internationally.	Q.E.6.1: For which currencies, does the authority or authorities with primary regulation, supervision or oversight responsibility assess the FMI's payment and settlement arrangements and its related liquidity risk-management procedures?
KE 2. Consideration of views of the central bank(s) of issue.	Q.E.6.2: When assessing an FMI's payment and settlement systems and its related liquidity risk-management procedures in any currency for which the FMI's settlements are systemically important, how does the authority or authorities with primary regulation, supervision, or oversight responsibility with respect to the FMI consider the views of the central bank(s) of issue?
KE 3. Consideration of views of the authorities with primary responsibility, both domestically and internationally.	Q.E.6.3: When conducting its own assessment of the payment and settlement arrangements and liquidity risk-management procedures of an FMI, how does the central bank of issue consider the views of the authority or authorities with primary responsibility with respect to the FMI?

KC E.7	*Relevant authorities should provide advance notification, where practicable and otherwise as soon as possible thereafter, regarding pending material regulatory changes and adverse events with respect to the FMI that may significantly affect another authority's regulatory, supervisory, or oversight interests.*

KE 1. Notification of material, regulatory changes and adverse events, both domestically and internationally.	Q.E.7.1: How do relevant authorities provide advance notification, where practicable and otherwise as soon as possible thereafter, regarding pending material regulatory changes and adverse events with respect to the FMI that may significantly affect the respective regulatory, supervisory or oversight interests of another domestic or foreign authority? Q.E.7.2: How does the authority consider the views of other authorities in connection with such regulatory actions taken with respect to the FMI?

KC E.8	*Relevant authorities should coordinate to ensure timely access to trade data recorded in a TR.*

KE 1. Identification of authorities of TRs with data pertaining to other jurisdictions, both domestically and internationally.	Q.E.8.1: If the authority regulates, supervises, or oversees a TR, how does the authority determine whether the TR holds data for which other authorities have a material regulatory interest?

KE 2. Coordination to ensure timely access to TR trade data, both domestically and internationally.	Q.E.8.2: If the authority regulates, supervises, or oversees a TR that maintains data pertaining to other jurisdictions, how does such an authority coordinate with other authorities who have a material interest in the trade data consistent with their responsibilities, to ensure that they have timely and appropriate access to trade data in the TR? Q.E.8.3: How does the relevant authority coordinate an appropriate access process that is consistent with the responsibilities of the requesting authority?

KC E.9	*Each authority maintains its discretion to discourage the use of an FMI or the provision of services to such an FMI if, in the authority's judgment, the FMI is not prudently designed or managed or the principles are not adequately observed. An authority exercising such discretion should provide a clear rationale for the action taken both to the FMI and to the authority or authorities with primary responsibility for the supervision or oversight of the FMI.*
KE 1. Use of individual discretion.	Q.E.9.1: Has the authority exercised discretion to discourage the use of an FMI, or the provision of services to an FMI, on the grounds that it is not prudently designed or managed, or the principles are not adequately observed? Q.E.9.2: If so, did the authority provide a clear rationale to the FMI and to the authority or authorities with primary responsibility for the supervision or oversight of the FMI?

KC E.10	*Cooperative arrangements between authorities in no way prejudice the statutory or legal or other powers of each participating authority, nor do these arrangements constrain in any way an authority's powers to fulfil its statutory or legislative mandate or its discretion to act in accordance with those powers.*
Not applicable	