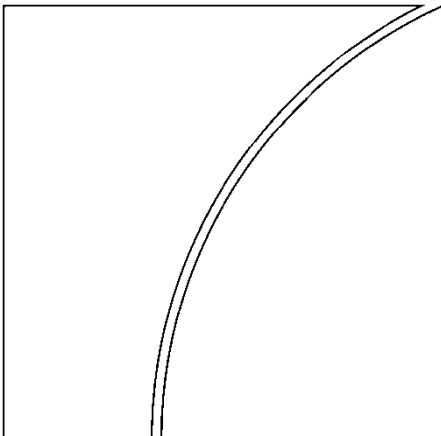


Committee on Payment and  
Settlement Systems

Board of the International  
Organization of Securities  
Commissions



Principles for financial market infrastructures:

**Disclosure framework**  
and  
**Assessment methodology**

December 2012



BANK FOR INTERNATIONAL SETTLEMENTS



**OICU-IOSCO**

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## Preface

In April 2012, the CPSS and IOSCO published the report *Principles for financial market infrastructures* (PFMI), which establishes new international standards for payment systems that are systemically important, central securities depositories, securities settlement systems, central counterparties and trade repositories.

The present report contains the CPSS-IOSCO *Disclosure framework for financial market infrastructures* (“disclosure framework”) and the CPSS-IOSCO *Assessment methodology for the principles for FMIs and the responsibilities of authorities* (“assessment methodology”) referenced in the PFMI.

The disclosure framework prescribes the form and content of the disclosures expected of FMIs. The assessment methodology provides guidance to assessors for evaluating observance of the 24 principles and five responsibilities set forth in the PFMI.



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## Abbreviations

CCP	central counterparty
CPSS	Committee on Payment and Settlement Systems
CSD	central securities depository
DNS	deferred net settlement
DvD	delivery versus delivery
DvP	delivery versus payment
FMI	financial market infrastructure
FSAP	Financial Sector Assessment Program
IFI	international financial institution
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IT	information technology
LVPS	large-value payment system
PFMI	<i>Principles for financial market infrastructures</i>
PS	payment system
PvP	payment versus payment
repo	repurchase agreement
RTGS	real-time gross settlement
SSS	securities settlement system
TR	trade repository
WB	World Bank





## 1.0. Introduction

1.1. The Committee on Payment and Settlement Systems (CPSS) and the International Organization of Securities Commissions (IOSCO) have developed this supplemental report on the *Principles for financial market infrastructures*. The present report contains the *Disclosure framework for financial market infrastructures* (“disclosure framework”) and the *Assessment methodology for the principles for FMIs and the responsibilities of authorities* (“assessment methodology”), which aim to promote the observance of the principles and responsibilities set forth in the CPSS-IOSCO report *Principles for financial market infrastructures* (PFMI), published in April 2012. The PFMI provided new international standards for financial market infrastructures (FMIs), including payment systems (PSs) that are systemically important, central securities depositories (CSDs), securities settlement systems (SSSs), central counterparties (CCPs) and trade repositories (TRs). The PFMI also set forth five responsibilities of central banks, market regulators and other relevant authorities for FMIs as they relate to the regulation, supervision and oversight of FMIs.

1.2. The disclosure framework and assessment methodology in the present report were developed in parallel with and as adjuncts to the PFMI.<sup>1</sup> The two reports were published for comment in April 2012. In response to comments, the two documents have been consolidated into a single, final report. Accordingly, the disclosure framework and assessment methodology in this report and the PFMI report should be taken together as closely related and supporting documents. Together, they serve to support consistent implementation and application of the PFMI. The disclosure framework is an important component of the set of disclosures which, together with key quantitative information, is expected of FMIs. The disclosure framework also serves as a key input to the assessment methodology. The assessment methodology provides guidance to assessors for evaluating observance of the 24 principles and five responsibilities set forth in the PFMI. The disclosure framework and assessment methodology are designed to promote greater transparency, objectivity and comparability of assessments of observance of the PFMI.

### **Purpose of the disclosure framework and assessment methodology**

1.3. The PFMI requires that an FMI provide relevant information to participants, relevant authorities and the broader public. In particular, Principle 23 on the disclosure of rules, key procedures and market data states that an FMI should provide sufficient information to enable participants to have an accurate understanding of the risks and costs they incur by participating in the FMI. The disclosure framework prescribes the form and content of the public disclosures expected of FMIs under key consideration 5 of Principle 23. Standardised FMI disclosure practices will allow for more-robust comparisons of FMIs by participants, authorities and the broader public. In addition, the CPSS and IOSCO are developing a separate set of key quantitative information disclosures that particular types of FMIs would be expected to update more frequently than the disclosure framework.

1.4. Also, the PFMI states that all FMIs should observe the principles and that all relevant authorities should observe the responsibilities to the fullest extent allowed by the legal framework in their jurisdiction. In order to promote and monitor observance of the principles and responsibilities, the assessment methodology provides guidance to assessors on how to conduct assessments of observance against the PFMI. For the principles, the goal of the

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<sup>1</sup> The World Bank and International Monetary Fund co-chaired the working group that developed the assessment methodology. Working group members were experienced experts who collectively have performed numerous assessments through the Financial Sector Assessment Program and other diagnostics of payment systems, CSDs, SSSs and CCPs as external assessors and as overseers of national and international systems.

assessment methodology is to determine whether and how well an FMI observes the principles and to help identify potential opportunities for improvement. For the responsibilities, the goal of the assessment methodology is to determine whether and how well authorities fulfil their regulatory, supervisory and oversight responsibilities for FMIs and to help identify potential opportunities for improvement.

1.5. The disclosure framework and the assessment methodology are distinct sections in the report serving two different purposes and audiences. The sections, however, are closely interrelated. The disclosure framework uses the questions that have been developed for the assessment methodology to provide guidance for a comprehensive disclosure of the FMI's risks and risk management and other practices. In addition, the assessment methodology uses the disclosure framework as one of the sources of information for assessments of FMIs.

### **Use of the disclosure framework**

1.6. Through the publication of the disclosure framework, the CPSS and IOSCO intend to promote the disclosure of information by all FMIs to facilitate implementation and ongoing observance of the PFMI. Further, the disclosure framework is intended to promote a base level of transparency for information about FMIs. This transparency is intended to assist participants, authorities and the broader public in better understanding the activities of an FMI, its risk profile and its risk management practices and will thus support sound decision-making by FMIs and their stakeholders. In this way, the disclosure framework will achieve the greater public policy goal of strengthening financial stability.

### **Use of the assessment methodology**

1.7. Through the publication of the assessment methodology, the CPSS and IOSCO intend to promote consistent implementation and ongoing observance of the principles for FMIs and responsibilities of authorities. Although specific objectives may differ by assessment, a common goal among all assessors is to determine whether and how well an FMI observes the principles or an authority fulfils the responsibilities. In addition, the assessment methodology serves to promote full observance of the principles and fulfilment of the responsibilities by allowing assessors to identify issues of concern that should be addressed.

### ***Use by FMIs***

1.8. The assessment methodology may serve as a useful tool for an FMI in its decision-making process. For example, when considering the introduction of new products or services or major changes to its policies, rules or procedures, an FMI may refer to the assessment methodology to ensure that the proposed changes will not hamper its effectiveness in observing the PFMI. Additionally, where consistent with national practice, an FMI may use the assessment methodology to conduct formal periodic full or partial self-assessments of observance of the principles. Such assessments may serve to identify matters that require structural improvement and to prioritise resources to address identified areas of improvement. Where consistent with national practice, an FMI conducting a self-assessment should use the assessment methodology rating framework.

### ***Use by authorities***

1.9. Authorities are expected to regularly assess observance of the principles by FMIs in their respective jurisdictions in connection with their regulatory, supervisory and oversight responsibilities to ensure consistent implementation and application of the PFMI. Assessments of an FMI's observance of the principles may be particularly important for authorities involved in cooperative arrangements with authorities in other jurisdictions

regarding multicurrency or cross-border FMIs. In any FMI assessment, an objective for authorities should be to identify possible risks and recommend actions to mitigate such risks.

1.10. To record the results of assessments of FMIs, an authority may use the assessment methodology rating framework or another rating framework, in particular when it is legally bound to use a different assessment methodology. If an authority uses a different rating framework, that framework should be as effective as the assessment methodology rating framework for assessing FMIs and must enable the authority to form a judgment regarding the level of observance of the principles. The assessment methodology rating framework is expected to be used in the context of cross-border cooperative oversight arrangements unless agreed otherwise by the authorities that participate in such arrangements.

1.11. In addition, authorities may choose to self-assess how effectively they fulfil their responsibilities as regulators, supervisors and overseers. Authorities are encouraged to conduct periodic self-assessments of their observance of the responsibilities.

### ***Use by external assessors***

1.12. External assessors, including the international financial institutions (IFIs), will use the assessment methodology to determine observance of the principles and responsibilities by FMIs and authorities. The International Monetary Fund (IMF) and the World Bank, in particular, will use the assessment methodology as part of their Financial Sector Assessment Program (FSAP) and their technical assistance programmes. In conducting their assessments, external assessors may have as an objective the identification of risks to global financial stability and potential areas for improvement. They may also draw comparisons at the international level to identify best practices. In addition, they may use the assessment methodology as a tool in the context of technical assistance to identify development needs and build assessment capacity.

1.13. For FSAPs, the IMF and the World Bank are expected to use the rating framework presented in the assessment methodology. Technical assistance assessors are not necessarily expected to use a rating framework. They are likely to achieve their goals best by communicating outcomes through dialogue with local FMI management and authorities rather than through formal ratings.

### **General considerations for conducting assessments**

1.14. In assessing observance of the principles and responsibilities, assessors should take into account a number of general considerations that are critical to an effective and efficient assessment.

#### ***Access to information***

1.15. Assessors should have access to relevant information and stakeholders when conducting an assessment. Relevant information may include public information (such as relevant laws, regulations and policies) and non-public information (such as internal self-assessments, policies, procedures, data, metrics and supervisory reports). Relevant stakeholders may include individuals (such as management and auditors), organisations (such as market participants and industry associations) and authorities.

#### ***Assessment of the FMI's actual practices***

1.16. Assessors should place a strong emphasis on the FMI's actual practices to ensure its safety and soundness. Assessors should evaluate not only the legal and regulatory framework and the rules of the FMI, but also the ways such legislation and rules are applied and achieved in practice within the jurisdiction.

### ***Assessment of market-wide recommendations***

1.17. As indicated in Annex C of the PFMI, market-wide recommendations on trade confirmation, settlement cycles, CCPs and securities lending from the CPSS-IOSCO *Recommendations for securities settlement systems* were not included in the review of standards for FMIs. These recommendations and the related assessment methodology remain in effect.

### ***Assessors' background, experience and training***

1.18. Assessors should have sufficient background, experience and training to carry out an assessment. Qualified individuals should possess practical market and technical experience and have sufficient knowledge of the FMI or authority being assessed.

### **Organisation of the report**

1.19. This report has six sections. Following this introduction (Section 1) is the disclosure framework for FMIs (Section 2). Sections 3 and 4 contain the assessment methodology framework: Section 3 outlines the assessment methodology for assessing an FMI against the principles, and Section 4 outlines the assessment methodology for assessing authorities against the responsibilities. Section 5 contains questions organised by key consideration for each of the principles. These questions serve both as guiding questions for the disclosure framework and as key inputs for the assessment methodology. Section 6 contains questions organised by key consideration for each of the responsibilities of authorities. Annex A contains a template for an FMI's disclosure. Annex B contains a template for an assessment report on the observance of the principles by an FMI. Annex C contains a template for an assessment report on the observance of the responsibilities by authorities. Finally, Annex D contains a template for a country assessment report on the observance of the principles by FMIs and on the observance of the responsibilities by authorities for a particular jurisdiction.

## **2.0. Disclosure framework for FMIs**

2.1. This section describes the disclosure framework that FMIs should complete in order to observe key consideration 5 of Principle 23 on the disclosure of rules, key procedures and market data. The disclosure framework also supports the assessment methodology by providing assessors with a basic set of facts from which to begin their assessments of FMIs.

### **Objective of the disclosure framework**

2.2. The objective of the disclosure framework is to improve the overall transparency of the FMI and its governance, operations and risk management framework for a broad audience that includes current and prospective participants in the FMI, other market participants, authorities and the general public. Greater market transparency supports the main public policy objectives of the CPSS and IOSCO to enhance the safety and efficiency in payment, clearing, settlement and recording arrangements, and, more broadly, to foster financial stability.

### **General instructions for completing the disclosure template**

2.3. An FMI should complete the disclosure template outlined in Annex A of this report. The template requires an FMI to provide:

- an executive summary of the key points from the disclosure;
- a summary of the major changes since the last update of the disclosure;
- a description of the FMI's function and the markets it serves; basic data and performance statistics on its services and operations; and a description of the FMI's general organisation, legal and regulatory framework, and system design and operations;
- a comprehensive narrative disclosure for each applicable principle with sufficient detail and context to enable a reader to understand the FMI's approach to observing the principle; and
- a list of publicly available resources, including those referenced in the disclosure, that may help a reader understand the FMI and its approach to observing each applicable principle.

Charts and diagrams should be included wherever they would be helpful and should be accompanied by a description that enables them to be easily understood. Whenever the disclosure references or quotes rules or regulations, it should indicate where the primary sources of those rules or regulations can be found. To determine which principles are applicable to an FMI for the purposes of the disclosure framework, an FMI should refer to Annex E of the PFMI. Section 5 of the present report repeats the relevant information for each principle and, where relevant, each key consideration.

2.4. The summary narrative disclosure for each principle should provide sufficient detail and context to enable a variety of readers with different backgrounds to understand the FMI's approach to observing that principle. The questions in Section 5 are guiding questions for the key issues that an FMI is expected to address in its summary narrative responses. Although the questions should guide the summary narrative, an FMI is not necessarily expected to address each question individually or to structure its disclosure in a question-and-answer format. An FMI may also choose to supplement the summary narrative with answers to individual questions.

2.5. In addition to this disclosure framework, an FMI should publish a separate set of key quantitative information to enable stakeholders, including the general public, to evaluate FMIs and to make cross-comparisons. The CPSS and IOSCO are in the process of developing the criteria for this disclosure. An FMI is expected to update its quantitative disclosure more frequently than the summary narrative disclosure component of the disclosure framework.

2.6. In order for the disclosures to correctly reflect the FMI's current rules, procedures and operations, the FMI should update its responses following material changes to the system or its environment. At a minimum, an FMI should review its responses every two years to ensure continued accuracy and usefulness. An FMI should make its responses to the disclosure framework readily available through generally accessible media, such as the internet.

### **3.0. Assessment methodology for the principles for FMIs**

3.1. This section describes the assessment methodology for the principles for FMIs, which was prepared to assist FMIs, authorities and IFIs in assessing an FMI's observance of the PFMI. This assessment methodology is designed to cover all the types of FMIs to which the principles apply – that is, systemically important payment systems, CSDs, SSSs, CCPs and TRs.

#### **General considerations**

3.2. In conducting an assessment of an FMI's observance of the principles, assessors should take into account a number of considerations, including but not limited to:

#### ***Customisation of the assessment for each FMI***

3.3. Assessments will differ by FMI. Assessors may have to exercise some judgment in determining which activities or functions of an FMI are to be assessed, especially where multiple FMIs belong to the same legal entity, where individual FMIs perform multiple functions, or where the clearing and settlement processes are independent of one another. Further, as specified in Table 1 and Annex E of the PFMI, certain principles and key considerations are applicable only to specific types of FMIs. For example, the PFMI 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 to TRs. Likewise, the assessment methodology specifies, in a manner consistent with the PFMI, the types of FMIs to which the assessment questions apply.

#### ***Applicability of the assessment methodology to public sector-owned FMIs***

3.4. The assessment methodology is intended to assist assessors in correctly applying the principles to both private and public sector FMIs, taking into account differences in ownership structures and organisational forms. The principles are applicable to FMIs owned or operated by the public sector, in particular central banks. In general, 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, because of the circumstances of their ownership, public sector FMIs are outside the scope of some assessment questions and require specific guidance under a few principles. Appropriate questions have been formulated to help assess observance by public sector-owned FMIs.

#### **General instructions for completing an assessment of the principles**

3.5. There are the six steps involved in an assessment of the principles: (1) determine the appropriate scope of an assessment; (2) gather facts on each applicable key consideration; (3) develop key conclusions for each principle; (4) assign a rating for each principle; (5) indicate an appropriate time frame for addressing each identified issue of concern, if any, including a discussion of priorities; and (6) prepare an assessment report.

#### ***Step 1: Determine the appropriate scope of the assessment***

3.6. Assessors should give careful consideration to the scope of the assessment. The scope of the assessment should include determining which FMIs to assess, which FMI operations and services to assess, and which principles to assess. This scope should be clearly communicated to the assessed FMIs in advance of the assessment being undertaken.

### *Determining which FMIs to assess*

3.7. According to the PFMI, authorities for FMIs are expected to regularly assess FMIs that are deemed systemically important. As noted in the PFMI, statutory definitions of systemic importance may vary somewhat across jurisdictions, but in general a payment system is systemically important if it has the potential to trigger or transmit systemic disruptions. The presumption is that all CSDs, SSSs, CCPs and TRs are systemically important, at least in the jurisdiction where they are located.

3.8. External assessors will typically rely on the domestic authorities' designation of FMIs as systemically important but may define certain FMIs as being outside the scope of the assessment (for example, national FMIs processing small-value transactions that pose little contagion risk outside the domestic jurisdiction). Further, external assessors may choose to focus on the FMIs that are the most relevant to global financial stability.

### *Determining which FMI operations and services to assess*

3.9. Each FMI should be assessed separately. According to the PFMI, 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.<sup>2</sup> FMIs can differ significantly in organisation, function and design. FMIs can be legally organised in a variety of forms, including associations of financial institutions, non-bank clearing corporations and specialised banking organisations. They can be defined as separate legal entities or parts of another legal entity.

3.10. Assessors must determine which of the FMI's operations and services are within scope and identify the entity to be assessed for each assessment (such as a legal entity, part of a legal entity or several legal entities). If the FMI subject to the assessment has established links to settle cross-border trades, assessors may need to consider how best to coordinate with the authorities in those relevant jurisdictions if such coordination is essential for completing the assessment.

3.11. The following examples illustrate how the complexity of FMIs' arrangements could be addressed to clearly define an assessment scope that is consistent with the application of the functional definition of an FMI.

- *Two or more FMIs operate under one entity.* A single operator might operate two FMIs that fulfil clearly distinct roles and only share some arrangements, such as a single operator that operates both a CSD and an RTGS system. If the CSD and RTGS system share the same legal and governance arrangements but use different operational and risk management arrangements, the two key functions could be assessed separately.
- *Two or more FMIs are integrated into one entity.* A single operator might operate two FMIs whose key functions are highly interrelated and complementary, such as a CSD that operates an SSS. If the CSD and SSS share the same legal and governance arrangements and use highly integrated operational and risk management arrangements, then the two key functions could be assessed as if they were one FMI.

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<sup>2</sup> The general analytical approach of the PFMI and the assessment methodology 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. To address this issue, the PFMI and this assessment methodology may refer to an FMI and its participants, or to an FMI including its participants, to emphasise 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.



- *One FMI serves different markets with different arrangements.* The assessment of the FMI can be split into separate assessments if the FMI has developed clearly distinct arrangements for the different markets it serves.

In each of these cases, assessors should identify and address, as appropriate, any interdependencies.

#### *Determining which principles to assess*

3.12. An assessment might be conducted (a) against all relevant principles as part of a periodic comprehensive review of an FMI's safety and efficiency, (b) against one or more individual principles that relate to 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 before the assessment and may be targeted at one or more FMIs.

#### **Step 2: Gather facts on each applicable key consideration**

3.13. Assessors should gather sufficient facts to be able to develop key conclusions for each principle. Section 5 of this report contains questions organised by key consideration for each of the 24 principles. These questions are tools to help assessors gather facts to determine whether an FMI is observing the principles. Additionally, the information collection process may serve as an early indicator of the extent to which the FMI being assessed is meeting expectations for providing access to information.

3.14. The questions outlined in Section 5 are intended to inform and guide the judgment of assessors, not to replace it.<sup>3</sup> Assessors' questions and efforts should focus on the issues where risk is greatest, and risk assessment is most valuable when it is forward-looking and based on sound judgment. The questions are not intended to serve purely as a checklist. Moreover, the questions are not intended to be exhaustive, and assessors could, at their discretion, pose additional or different questions as needed, in particular to address the different levels of complexity of the FMI. In some instances, assessors may want to modify specific questions to reflect particular risk factors or circumstances specific to the assessment. The list of questions used by assessors should provide at least a level of information equivalent to that included in the assessment methodology.

3.15. In order to build a contextual base for developing key conclusions and assigning ratings, assessors should develop a general understanding of an FMI's basic business activities, operations and services, processes, rules and procedures. Therefore, assessors should keep in mind the following overarching questions for each principle during the assessment:

1. What is the FMI's approach or method for observing the principle?
2. What analyses, processes and rationale does the FMI use to ensure the effectiveness of its approach or 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 to help monitor the FMI's ongoing performance in observing the principle?

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<sup>3</sup> The questions included in the assessment methodology may be revised in the future to ensure that they stay up to date.

### **Step 3: Develop key conclusions for each principle**

3.16. Key conclusions are an assessor's overall determination of the extent to which a principle is observed by the FMI being assessed. Key conclusions should be drawn for each applicable principle and should be provided in the form of a narrative summary based on the facts gathered by assessors. When drawing a key conclusion, assessors should:

1. Summarise the FMI's practices and achievements, as warranted.
2. Identify any gaps or shortcomings as they emerge from the facts gathered by assessors.
3. For each gap or shortcoming, describe any associated risks or other issues and the implications for observing the principle.
4. For each gap or shortcoming, determine if it is an issue of concern based on the associated risks and issues. An *issue of concern* is a risk management flaw, a deficiency, or a lack of transparency or effectiveness that needs to be addressed. Assessors should distinguish between the three categories of issues of concern: (a) issues of concern that are serious and warrant immediate attention; (b) issues of concern that could become serious if not addressed promptly; and (c) issues of concern that should be addressed in a defined timeline.

Key conclusions will serve as building blocks for assigning a rating as described in step 4.

### **Step 4: Assign a rating for each principle**

3.17. This assessment methodology rating framework provides guidance for assigning a rating to each principle. The IFIs will use this rating framework, particularly in the FSAP context. National authorities may also use this rating framework for their own assessments, as appropriate (see paragraph 1.10). Ratings are assigned at the level of each principle.

#### *Rating framework for assessments of principles*

3.18. The rating framework is built on the gravity and urgency of the need to remedy identified issues of concern.

<b>Observed</b>	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 them up in the normal course of its business.
<b>Broadly observed</b>	The FMI broadly observes the principle. The assessment has identified one or more issues of concern that the FMI should address and follow up on in a defined timeline.
<b>Partly observed</b>	The FMI partly observes the principle. The assessment has identified one or more issues of concern that could become serious if not addressed promptly. The FMI should accord a high priority to addressing these issues.
<b>Not observed</b>	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 should accord the highest priority to addressing these issues.

**Not applicable**      The principle does not apply to the type of FMI being assessed because of the particular legal, institutional, structural or other characteristics of the FMI.<sup>4</sup>

#### *Guidance on the assignment of ratings*

3.19. Assessors should assign ratings to reflect conditions at the time of the assessment. The rating is built on the key conclusions and reflects the assessors' judgment regarding the type or impact of the risks and other issues associated with each identified gap or shortcoming. Plans for improvements should be noted in the assessment report, where appropriate, but should not influence judgments about observance of the principles.

3.20. The assessment should note instances where observance of a particular principle could not be adequately assessed and explain why. 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.

3.21. In determining a rating for a principle, assessors should first identify whether the principle is not applicable. This is the case when a principle does not apply to the type of FMI being assessed (for example, Principle 4 on credit risk for a TR and Principle 6 on margin for a payment system). 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 (for example, Principle 4 on credit risk for an RTGS system with no (intraday) credit provided to participants).

3.22. When rating observance of an applicable principle, assessors should determine whether it is observed. For a principle to be observed, any identified gaps or shortcomings should not be issues of concern and should be minor, manageable and of a nature that the FMI could consider taking them up in the normal course of business. When a principle is not fully observed, assessors must decide on the degree of observance. Ratings should take into account not only the number of issues identified but also the level of concern they present. It is important to note that there may be multiple issues with differing degrees of concern. In such cases, the assessor typically should assign the principle a rating that reflects the assessor's judgment of the severity of the most serious concerns identified:

- If the assessment has identified one or more serious issues of concern that warrant immediate action and therefore should be addressed with the highest priority, the principle should be rated as "not observed".
- If the above condition does not apply and the assessment has identified one or more issues of concern that could become serious if not addressed promptly and that should be addressed with a high priority, the principle should be rated as "partly observed".
- If the above conditions do not apply and the assessment has identified one or more issues of concern that the FMI should address and follow up on in a defined timeline, the principle should be rated as "broadly observed".

Assessors, however, should ensure that the rating appropriately reflects the circumstances. For example, in some cases, the combination of a number of smaller gaps or shortcomings may form an issue of concern.

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<sup>4</sup> 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 introduction to the assessment (see, for example, the introduction to Annex B).

### ***Step 5: Indicate the appropriate time frame for addressing each issue of concern***

3.23. An assessment report should conclude with (a) a clear identification of the issues of concern that need to be addressed, if any, and (b) an indication of an appropriate time frame for addressing each identified issue of concern. In preparing recommendations for a principle that is not rated as “observed”, assessors should provide recommendations that address any identified issues of concern and serve to improve the FMI’s level of observance of the principle.

3.24. There is no simple process for defining an appropriate time frame, 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 concerns. The CPSS and IOSCO have not assigned degrees of importance to the individual principles because the principles as a group contribute to the safety and efficiency of the FMI. Assessors will have to come to an understanding of priorities based upon their judgment as to the deficiencies that pose the greatest risks or greatest lack of transparency or effectiveness to the FMI.

3.25. Having identified priority areas, assessors should then determine the 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 relevant authorities. A reasonable time frame in which an issue of concern should be addressed should also be specified.

3.26. Where appropriate, assessors should also provide recommendations that serve to rectify any gaps or shortcomings that are not issues of concern. There is no requirement or specified timeline for implementing these recommendations, and the FMI could consider taking them up in the normal course of its business.

### ***Step 6: Prepare an assessment report***

3.27. An assessment report template for assessing an FMI against the principles is provided in Annex B. An assessment report template for assessing a country’s FMIs and authorities against the principles and responsibilities is provided in Annex D.

## **4.0. Assessment methodology for the responsibilities of authorities**

4.1. This section describes the assessment methodology for the responsibilities of authorities for FMIs and for assisting authorities and IFIs in assessing a jurisdiction's observance of the PFMI. This assessment methodology may be used to assess authorities individually and collectively. The IFIs, in the context of an FSAP, will assess authorities at the jurisdictional level.

### **General instructions for completing an assessment of the responsibilities**

4.2. There are six steps involved in an assessment of the responsibilities: (1) determine the appropriate scope of an assessment; (2) gather facts on each key consideration; (3) develop key conclusions for each responsibility; (4) assign a rating for each responsibility; (5) indicate an appropriate time frame for addressing each issue of concern, if any, including a discussion of priorities; and (6) prepare an assessment report.

#### ***Step 1: Determine the appropriate scope of the assessment***

4.3. Assessors should give careful consideration to the scope of the assessment. The scope should be clearly communicated to the assessed authorities in advance of the assessment being undertaken.

##### *Determining which authorities to assess*

4.4. In general, authorities should be assessed at a jurisdictional level and not at the level of the individual regulatory, supervisory or oversight authority. This allows assessors to perform a comprehensive assessment of the authorities' observance of the responsibilities and to identify potential regulatory gaps or overlaps in the jurisdiction. This approach is consistent with Responsibility E, which deals with, among other things, cooperation between domestic authorities. Also, this approach does not preclude that some actions be addressed to a specific authority within the country's oversight framework or to a particular type of FMI. In addition, authorities may wish to assess, jointly or individually, the jurisdiction's own observance of the responsibilities.

4.5. There may, however, be situations where assessing the regulatory, supervisory and oversight framework that applies to a specific FMI is appropriate, such as in cases of FMIs with cross-border activity. Foreign authorities, for example, may be interested not only in 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. It may also be appropriate to assess the responsibilities in conjunction with a category of FMIs (for example, to understand how national authorities fulfil their responsibilities towards CCPs).

#### ***Step 2: Gather facts on each key consideration***

4.6. Assessors should gather sufficient facts in order to develop key conclusions for each responsibility. Section 6 of this report contains questions organised by the key consideration for each of the five responsibilities. These questions are tools to help assessors gather facts to determine whether authorities are fulfilling the responsibilities. Additionally, the information collection process may serve as an early indicator of the extent to which the authorities being assessed are meeting expectations for providing access to information.

4.7. The questions outlined in Section 6 are intended to inform and guide the judgment of assessors, not to replace it.<sup>5</sup> The questions are not intended to serve purely as a checklist. Moreover, the questions are not intended to be exhaustive, and assessors could, at their discretion, pose additional or different questions as needed. In some instances, assessors may want to modify specific questions to reflect circumstances specific to the assessment. The list of questions used by assessors should provide at least a level of information equivalent to that included in the assessment methodology.

4.8. In order to build a contextual base for developing key conclusions and assigning ratings, assessors should develop a general understanding of the authorities' jurisdiction, rules and processes. Therefore, assessors should keep in mind the following overarching questions for each responsibility during the assessment:

1. What is the authorities' approach or method for observing the responsibility?
2. What analyses, processes and rationale do the authorities use to ensure the effectiveness of their approach or method for observing the responsibility?
3. How do the authorities measure and monitor their ongoing performance in observing the responsibility?
4. What other evidence is available to help monitor the authorities' ongoing performance in observing the responsibility?

### ***Step 3: Develop key conclusions for each responsibility***

4.9. Key conclusions are an assessor's overall determination of the extent to which the intent of a responsibility is observed by the authorities being assessed. Key conclusions should be drawn for each responsibility and should be provided in the form of a narrative summary based on the facts gathered by assessors. When drawing a key conclusion, assessors should:

1. Summarise the authorities' practices and achievements, as warranted.
2. Identify any gaps or shortcomings as they emerge from the facts gathered by assessors.
3. For each gap or shortcoming, describe any associated risks or other issues and the implications for observing the responsibility.
4. For each gap or shortcoming, determine if it is an issue of concern based on the associated risks and issues. An issue of concern is an oversight or supervisory flaw, a deficiency, or a lack of transparency or effectiveness that needs to be addressed. Assessors should distinguish between the three categories of issues of concern: (a) issues of concern that are serious and warrant immediate attention; (b) issues of concern that could become serious if not addressed promptly; and (c) issues of concern that should be addressed in a defined timeline.

Key conclusions will serve as building blocks for assigning a rating as described in step 4.

### ***Step 4: Assign a rating for each responsibility***

4.10. This assessment methodology rating framework provides guidance for assigning a rating to each responsibility. The IFIs will use this rating framework, particularly in the FSAP context. National authorities may also use this rating framework for their own self-assessments. Ratings are assigned at the level of each responsibility.

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<sup>5</sup> The questions included in the assessment methodology may be revised in the future to ensure that they stay up to date.

### *Rating framework for assessments of responsibilities*

4.11. The rating framework is built on the gravity and urgency of the need to remedy identified issues of concern.

<b>Observed</b>	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 could consider taking them up in the normal conduct of their activities.
<b>Broadly observed</b>	The authorities broadly fulfil the responsibility. The assessment has identified one or more issues of concern that the authorities should address and follow up on in a defined timeline.
<b>Partly observed</b>	The authorities partly fulfil the responsibility. The assessment has identified one or more issues of concern that could become serious if not addressed promptly. The authorities to which these concerns apply should accord a high priority to addressing these issues.
<b>Not observed</b>	The authorities do not fulfil the responsibility. The assessment has identified one or more serious issues of concern that warrant immediate action. Therefore, the authorities to which these concerns apply should accord the highest priority to addressing these issues.
<b>Not applicable</b>	The responsibility does not apply to the authorities because of the particular institutional framework or other conditions faced by the authorities with respect to this responsibility. <sup>6</sup>

### *Guidance on the assignment of ratings*

4.12. Assessors should assign ratings to reflect conditions at the time of the assessment. The rating is built on the key conclusions and reflects assessors' judgment regarding the type or impact of the risks and other issues associated with each identified gap or shortcoming. Plans for improvements should be noted in the assessment report, where appropriate, but should not influence judgments about observance of the responsibilities.

4.13. The assessment should note instances where observance of a particular responsibility could not be adequately assessed and explain why. 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.

4.14. When rating observance of a responsibility, assessors should first determine whether it is observed. For a responsibility to be observed, any identified gaps or shortcomings should not be issues of concern and should be minor, manageable and of a nature that the authorities can consider taking them up in the normal conduct of their activities. When the responsibility is not fully observed, assessors must decide on the degree of observance. Ratings should take into account not only the number of issues identified but also the level of concern they present. It is important to note that there may be multiple issues with differing degrees of concern. In such cases, the assessor typically should assign the responsibility a rating that reflects the assessor's judgment of the severity of the most serious concerns identified:

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<sup>6</sup> 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, for example, the introduction to Annex C).

- If the assessment has identified one or more serious issues of concern that warrant immediate action and therefore should be addressed with the highest priority, the responsibility should be rated as “not observed”.
- If the above condition does not apply and the assessment has identified one or more issues of concern that could become serious if not addressed promptly and that should be addressed with a high priority, the responsibility should be rated as “partly observed”.
- If the above conditions do not apply and the assessment has identified one or more issues of concern that authorities should address and follow up on in a defined timeline, the responsibility should be rated as “broadly observed”.

Assessors, however, should ensure that the rating appropriately reflects the circumstances. For example, in some cases, the combination of a number of smaller gaps or shortcomings may form an issue of concern.

#### ***Step 5: Indicate the appropriate time frame for addressing each issue of concern***

4.15. An assessment report should conclude with (a) a clear identification of the issues of concern that need to be addressed, if any, (b) an indication of an appropriate time frame 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. In preparing recommendations for a responsibility that is not rated as “observed”, assessors should provide recommendations that address any identified issues of concern and serve to improve the authorities’ level of observance of the responsibility. Assessors should also indicate to whom these recommendations are addressed.

4.16. There is no simple process for defining an appropriate time frame, but some basic steps may be useful to consider. Assessors should identify the areas in which less than full observance of the responsibilities leads to serious concerns. The CPSS and IOSCO have not assigned degrees of importance to the individual responsibilities because the responsibilities as a group contribute to the safety and efficiency of FMIs. Assessors will have to come to an understanding of priorities based upon their judgment as to the deficiencies that pose the greatest risks or greatest lack of transparency or effectiveness of the authorities.

4.17. Having identified priority areas, assessors should then determine the actions needed in each area. Where domestic authorities conduct self-assessments, they should 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 time frame in which an issue of concern should be addressed should also be specified.

4.18. Where appropriate, assessors should also provide recommendations that serve to rectify any gaps or shortcomings that are not issues of concern. There is no requirement or specified timeline for implementing these recommendations, and the authorities could consider taking them up in the normal course of their activities.

#### ***Step 6: Prepare an assessment report***

4.19. An assessment report template for assessing authorities against the responsibilities is provided in Annex C. An assessment report template for assessing a country’s FMIs and authorities against the principles and responsibilities is provided in Annex D.



## 5.0. Questions by key consideration for the principles for FMIs

PS	CSD	SSS	CCP	TR
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### 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.

As a robust legal basis for an FMI's activities in all relevant jurisdictions is critical to an FMI's overall soundness, this principle should be reviewed holistically with the other principles.

**Key consideration 1: The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions.**

#### *Material aspects and relevant jurisdictions*

Q.1.1.1: What are the material aspects of the FMI's activities that require a high degree of legal certainty (for example, rights and interests in financial instruments; settlement finality; netting; interoperability; immobilisation and dematerialisation of securities; arrangements for DvP, PVP or DvD; collateral arrangements (including margin arrangements); and default procedures)?

Q.1.1.2: What are the relevant jurisdictions for each material aspect of the FMI's activities?

#### *Legal basis for each material aspect*

Q.1.1.3: How does the FMI ensure that its legal basis (that is, the legal framework and the FMI's rules, procedures and contracts) provides a high degree of legal certainty for each material aspect of the FMI's activities in all relevant jurisdictions?

- a) For an FMI that is a CSD, how does the CSD ensure that its legal basis supports the immobilisation or dematerialisation of securities and the transfer of securities by book entry?
- b) For an FMI that is a CCP, how does the CCP ensure that its legal basis enables it to act as a CCP, including the legal basis for novation, open offer or other similar legal device? Does the CCP state whether novation, open offer or other similar legal device can be revoked or modified? If yes, in which circumstances?
- c) For an FMI that is a TR, how does the TR ensure that its legal basis protects the records it maintains? How does the legal basis define the rights of relevant stakeholders with respect to access, confidentiality and disclosure of data?
- d) For an FMI that has a netting arrangement, how does the FMI ensure that its legal basis supports the enforceability of that arrangement?
- e) Where settlement finality occurs in an FMI, how does the FMI ensure that its legal basis supports the finality of transactions, including those of an insolvent participant? Does the legal basis for the external settlement mechanisms the FMI uses, such as funds transfer or securities transfer systems, also support this finality?

**Key consideration 2: An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.**

- Q.1.2.1: How has the FMI demonstrated that its rules, procedures and contracts are clear and understandable?
- Q.1.2.2: How does the FMI ensure that its rules, procedures and contracts are consistent with relevant laws and regulations (for example, through legal opinions or analyses)? Have any inconsistencies been identified and remedied? Are the FMI's rules, procedures and contracts reviewed or assessed by external authorities or entities?
- Q.1.2.3: Do the FMI's rules, procedures and contracts have to be approved before coming into effect? If so, by whom and how?

**Key consideration 3: 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.**

- Q.1.3.1: How does the FMI articulate the legal basis for its activities to relevant authorities, participants and, where relevant, participants' customers?

**Key consideration 4: 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.**

*Enforceability of rules, procedures and contracts*

- Q.1.4.1: How does the FMI achieve a high level of confidence that the rules, procedures and contracts related to its operations are enforceable in all relevant jurisdictions identified in key consideration 1 (for example, through legal opinions and analyses)?

*Degree of certainty for rules and procedures*

- Q.1.4.2: 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? Are there any circumstances in which an FMI's actions under its rules, procedures or contracts could be voided, reversed or subject to stays? If so, what are those circumstances?
- Q.1.4.3: Has a court in any relevant jurisdiction ever held any of the FMI's relevant activities or arrangements under its rules and procedures to be unenforceable?

**Key consideration 5: An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.**

- Q.1.5.1: If the FMI is conducting business in multiple jurisdictions, how does the FMI identify and analyse any potential conflict-of-laws issues? When uncertainty exists regarding the enforceability of an FMI's choice of law in relevant jurisdictions, has the FMI obtained an independent legal analysis of potential conflict-of-laws issues? What potential conflict-of-laws issues has the FMI identified and analysed? How has the FMI addressed any potential conflict-of-laws issues?

PS	CSD	SSS	CCP	TR
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## Principle 2: Governance

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.

In reviewing this principle, it should be noted that if an FMI is wholly owned or controlled by another entity, the governance arrangements of that entity should also be reviewed to ensure that they do not have adverse effects on the FMI's observance of this principle. As governance provides the processes through which an organisation sets its objectives, determines the means for achieving those objectives and monitors performance against those objectives, this principle should be reviewed holistically with the other principles.

**Key consideration 1: 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.**

Q.2.1.1: What are the FMI's objectives, and are they clearly identified? How does the FMI assess its performance in meeting its objectives?

Q.2.1.2: How do the FMI's objectives place a high priority on safety and efficiency? How do the FMI's objectives explicitly support financial stability and other relevant public interest considerations?

**Key consideration 2: 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.**

### *Governance arrangements*

Q.2.2.1: What are the governance arrangements under which the FMI's board of directors (or equivalent) and management operate? What are the lines of responsibility and accountability within the FMI? How and where are these arrangements documented?

Q.2.2.2: For central bank-operated systems, how do governance arrangements address any possible or perceived conflicts of interest? To what extent do governance arrangements allow for a separation of the operator and oversight functions?

Q.2.2.3: How does the FMI provide accountability to owners, participants and other relevant stakeholders?

### *Disclosure of governance arrangements*

Q.2.2.4: How are the governance arrangements disclosed to owners, relevant authorities, participants and, at a more general level, the public?

**Key consideration 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.**

*Roles and responsibilities of the board*

- Q.2.3.1: What are the roles and responsibilities of the FMI's board of directors (or equivalent), and are they clearly specified?
- Q.2.3.2: What are the board's procedures for its functioning, including procedures to identify, address and manage member conflicts of interest? How are these procedures documented, and to whom are they disclosed? How frequently are they reviewed?
- Q.2.3.3: Describe the board committees that have been established to facilitate the functioning of the board. What are the roles, responsibilities and composition of such committees?

*Review of performance*

- Q.2.3.4: What are the procedures established to review the performance of the board as a whole and the performance of the individual board members?

**Key consideration 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).**

- Q.2.4.1: To what extent does the FMI's board have the appropriate skills and incentives to fulfil its multiple roles? How does the FMI ensure that this is the case?
- Q.2.4.2: What incentives does the FMI provide to board members so that it can attract and retain members of the board with appropriate skills? How do these incentives reflect the long-term achievement of the FMI's objectives?
- Q.2.4.3: Does the board include non-executive or independent board members? If so, how many?
- Q.2.4.4: If the board includes independent board members, how does the FMI define an independent board member? Does the FMI disclose which board member(s) it regards as independent?

**Key consideration 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.**

*Roles and responsibilities of management*

- Q.2.5.1: What are the roles and responsibilities of management, and are they clearly specified?
- Q.2.5.2: How are the roles and objectives of management set and evaluated?

*Experience, skills and integrity*

- Q.2.5.3: To what extent does the FMI's management have the appropriate experience, mix of skills and the integrity necessary for the operation and risk management of the FMI? How does the FMI ensure that this is the case?
- Q.2.5.4: What is the process to remove management if necessary?

**Key consideration 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.**

*Risk management framework*

- Q.2.6.1: What is the risk management framework that has been established by the board? How is it documented?
- 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?
- Q.2.6.3: What is the process for determining, endorsing and reviewing the risk management framework?

*Authority and independence of risk management and audit functions*

- 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: How does the board ensure that there is adequate governance surrounding the adoption and use of risk management models? How are these models and the related methodologies validated?

**Key consideration 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.**

*Identification and consideration of stakeholder interests*

- 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 consider the views of direct and indirect participants and other relevant stakeholders on these decisions; for example, are participants included on the risk management committee, on user committees such as a default management group or through a public consultation? How are conflicts of interest between stakeholders and the FMI identified, and how are they addressed?

*Disclosure*

- Q.2.7.3: To what extent does the FMI disclose major decisions made by the board to relevant stakeholders and, where appropriate, the public?

PS	CSD	SSS	CCP	TR
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**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.

In reviewing this principle, an assessor should consider how the various risks, both borne by and posed by the FMI, relate to and interact with each other. As such, this principle should be reviewed holistically with the other principles.

**Key consideration 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.**

*Risks that arise in or are borne by the FMI*

Q.3.1.1: What types of risk arise in or are borne by the FMI?

*Risk management policies, procedures and systems*

Q.3.1.2: What are the FMI's policies, procedures and controls to help identify, measure, monitor and manage the risks that arise in or are borne by the FMI?

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 and, where appropriate, other relevant parties, such as the FMI's participants and their customers?

*Review of risk management policies, procedures and systems*

Q.3.1.5: What is the process for developing, approving and maintaining risk management policies, procedures and systems?

Q.3.1.6: How does the FMI assess the effectiveness of risk management policies, procedures and systems?

Q.3.1.7: How frequently are the risk management policies, procedures and systems reviewed and updated by the FMI? How do these reviews take into account fluctuation in risk intensity, changing environments and market practices?

**Key consideration 2: An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.**

Q.3.2.1: What information does the FMI provide to its participants and, where relevant, their customers to enable them to manage and contain the risks they pose to the FMI?

Q.3.2.2: What incentives does the FMI provide for participants and, where relevant, their customers to monitor and manage the risks they pose to the FMI?

Q.3.2.3: How does the FMI design its policies and systems so that they are effective in allowing their participants and, where relevant, their customers to manage and contain their risks?

**Key consideration 3: 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.**

*Material risks*

Q.3.3.1: How does the FMI identify the material risks that it bears from and poses to other entities as a result of interdependencies? What material risks has the FMI identified?

Q.3.3.2: How are these risks measured and monitored? How frequently does the FMI review these risks?

*Risk management tools*

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 these risk management tools? How does the FMI review the risk management tools it uses to address these risks? How frequently is this review conducted?

**Key consideration 4: 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.**

*Scenarios that may prevent an FMI from providing critical operations and services*

Q.3.4.1: How does the FMI identify scenarios that may potentially prevent the FMI from providing 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 to which the FMI is exposed?

*Recovery or orderly wind-down plans*

Q.3.4.3: What plans does the FMI have for its recovery or orderly wind-down?

Q.3.4.4: How do the FMI's key recovery or orderly wind-down strategies enable the FMI to continue to provide critical operations and services?

Q.3.4.5: How are the plans for the FMI's recovery and orderly wind-down reviewed and updated? How frequently are the plans reviewed and updated?

PS	CSD	SSS	CCP	TR
•		•	•	

**Principle 4: Credit risk**

An FMI should effectively measure, monitor, and manage its credit exposure 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 largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.

Because of the extensive interactions between the financial risk management and financial resources principles, this principle should be reviewed in the context of Principle 5 on collateral, Principle 6 on margin and Principle 7 on liquidity risk, as appropriate. This principle should also be reviewed in the context of Principle 13 on participant default rules and procedures, Principle 23 on disclosure of rules, key procedures and market data, and other principles, as appropriate.

The following key consideration applies to	PS	CSD	SSS	CCP	TR
	•		•	•	

**Key consideration 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.**

- Q.4.1.1: What is the FMI’s framework for managing credit exposures, including current and potential future exposures, to its participants and arising from its payment, clearing and settlement processes?
- Q.4.1.2: How frequently is the framework reviewed to reflect the changing environment, market practices and new products?

The following key consideration applies to	PS	CSD	SSS	CCP	TR
	•		•	•	

**Key consideration 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.**

- Q.4.2.1: How does the FMI identify sources of credit risk? What are the sources of credit risk that the FMI has identified?
- Q.4.2.2: How does the FMI measure and monitor credit exposures? How frequently does and how frequently can the FMI recalculate these exposures? How timely is the information?



Q.4.2.3: What tools does the FMI use to control identified sources of 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 or intraday basis)? How does the FMI measure the effectiveness of these tools?

The following key consideration applies to	PS •	CSD	SSS •	CCP	TR
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**Key consideration 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.**

*Coverage of exposures to each participant*

Q.4.3.1: How does the payment system or SSS cover its current and, where they exist, potential future exposures to each participant? What is the composition of the FMI's financial resources used to cover these exposures? How accessible are these financial resources?

Q.4.3.2: To what extent do these financial resources cover the payment system's or SSS's current and potential future exposures fully with a high degree of confidence? How frequently does the payment system or SSS evaluate the sufficiency of these financial resources?

*For DNS payment systems and DNS SSSs in which there is no settlement guarantee*

Q.4.3.3: If the payment system or SSS is a DNS system in which there is no 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 monitor and measure these exposures?

Q.4.3.4: If the payment system or SSS is a DNS system in which there is no settlement guarantee and has credit exposures among its participants, to what extent does the payment system's or SSS's financial resources cover, at a minimum, the default of the two participants and their affiliates that would create the largest aggregate credit exposure in the system?

The following key consideration applies to	PS	CSD	SSS	CCP •	TR
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**Key consideration 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.**

*Coverage of current and potential future exposures to each participant*

- Q.4.4.1: How does the CCP cover its current and potential future exposures to each participant fully with a high degree of confidence? What is the composition of the CCP's financial resources used to cover its current and potential future exposures? How accessible are these financial resources?
- 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? How frequently does the CCP evaluate the sufficiency of these financial resources?

*Risk profile and systemic importance in multiple jurisdictions*

- Q.4.4.3: Do any of the CCP's activities have a more-complex risk profile (such as clearing financial instruments that are characterised by discrete jump-to-default price changes or that are highly correlated with potential participant defaults)? Is the CCP systemically important in multiple jurisdictions?

*Additional financial resources*

- Q.4.4.4: 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.4.4.5: If the CCP is involved in activities with a more-complex risk profile or is systemically important in multiple jurisdictions, to what extent 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.4.4.6: How frequently does the CCP evaluate the sufficiency of its additional resources?

*Supporting rationale and governance arrangements*

- Q.4.4.7: How does the CCP document the supporting rationale regarding its holdings of total financial resources?
- Q.4.4.8: What governance arrangements are in place relating to the amount of total financial resources at the CCP?

The following key consideration applies to	PS	CSD	SSS	CCP •	TR
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**Key consideration 5: 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.**

*Stress testing*

Q.4.5.1: How does the CCP determine and stress-test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions? How frequently does the CCP stress-test its financial resources?

Q.4.5.2: How are stress test results communicated to appropriate decision-makers at the CCP? How are these results used to evaluate the adequacy of and adjust the CCP's total financial resources?

*Review and validation*

Q.4.5.3: How frequently does the CCP assess the effectiveness and appropriateness of stress test assumptions and parameters? How does the CCP's stress test programme take into account various conditions, such as a sudden and significant increase in position and price volatility, position concentration, change in market liquidity, and model risk including shift of parameters?

Q.4.5.4: How does the CCP validate its risk management model? How frequently does it perform this validation? Who carries this out?

The following key consideration applies to	PS	CSD	SSS	CCP •	TR
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**Key consideration 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.**

Q.4.6.1: In conducting stress testing, what scenarios does the CCP consider? What analysis supports the use of these particular scenarios? Do the scenarios 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?

The following key consideration applies to	PS •	CSD	SSS •	CCP •	TR
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**Key consideration 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.**

*Allocation of credit losses*

Q.4.7.1: How do the FMI's rules and procedures explicitly address 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? How do the FMI's rules and procedures address the allocation of uncovered credit losses and in what order, including the repayment of any funds an FMI may borrow from liquidity providers?

*Replenishment of financial resources*

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?

PS •	CSD	SSS •	CCP •	TR
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### **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.

Because of the extensive interactions between the financial risk management and financial resources principles, this principle should be reviewed in the context of Principle 4 on credit risk, Principle 6 on margin and Principle 7 on liquidity risk, as appropriate. This principle should also be reviewed in the context of Principle 14 on segregation and portability, Principle 16 on custody and investment risk, and other principles, as appropriate.

#### **Key consideration 1: An FMI should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks.**

- Q.5.1.1: How does the FMI determine whether a specific asset can be accepted as collateral, including collateral that will be accepted on an exceptional basis? How does the FMI determine what qualifies as an exceptional basis? How frequently does the FMI adjust these determinations? How frequently does the FMI accept collateral on an exceptional basis, and does it place limits on its acceptance of such collateral?
- Q.5.1.2: How does the FMI monitor the collateral that is posted so that the collateral meets the applicable acceptance criteria?
- Q.5.1.3: How does the FMI identify and mitigate possible specific wrong-way risk – for example, by limiting the collateral it accepts (including collateral concentration limits)?

#### **Key consideration 2: An FMI should establish prudent valuation practices and develop haircuts that are regularly tested and take into account stressed market conditions.**

##### *Valuation practices*

- 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?

##### *Haircutting practices*

- Q.5.2.3: How does the FMI determine haircuts?
- Q.5.2.4: How 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? How frequently does the FMI complete this test?

#### **Key consideration 3: 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.**

Q.5.3.1: How does the FMI identify and evaluate the potential procyclicality of its haircut calibrations? How does the FMI consider reducing the need for procyclical adjustments – for example, by incorporating periods of stressed market conditions during the calibration of haircuts?

**Key consideration 4: 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.**

Q.5.4.1: What are the FMI's policies for identifying and avoiding concentrated holdings of certain assets in order to limit potential adverse price effects at liquidation? What factors (for example, adverse price effects or market conditions) are considered when determining these policies?

Q.5.4.2: How does the FMI review and evaluate concentration policies and practices to determine their adequacy? How frequently does the FMI review and evaluate these policies and practices?

**Key consideration 5: 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.**

Q.5.5.1: What are the legal, operational, market and other risks that the FMI faces by accepting cross-border collateral? How does the FMI mitigate these risks?

Q.5.5.2: How does the FMI ensure that cross-border collateral can be used in a timely manner?

**Key consideration 6: An FMI should use a collateral management system that is well-designed and operationally flexible.**

*Collateral management system design*

Q.5.6.1: What are the primary features of the FMI's collateral management system?

Q.5.6.2: How and to what extent does the FMI track the reuse of collateral and its rights to the collateral provided?

*Operational flexibility*

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?

Q.5.6.4: To what extent is the collateral management system staffed to ensure smooth operations even during times of market stress?

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### **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.

Because of the extensive interactions between the financial risk management and financial resources principles, this principle should be reviewed in the context of Principle 4 on credit risk, Principle 5 on collateral and Principle 7 on liquidity risk, as appropriate. This principle should also be reviewed in the context of Principle 8 on settlement finality, Principle 17 on operational risk, and other principles, as appropriate.

**Key consideration 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.**

#### *Description of margin methodology*

- Q.6.1.1: What is the general framework of the CCP's 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? To what extent do these measures deliver equivalent outcomes?
- Q.6.1.2: Is the margin methodology documented?
- Q.6.1.3: To what extent is the detail of the CCP's margin methodology made available to participants for use in their individual risk management efforts?

#### *Credit exposures*

- Q.6.1.4: 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.6.1.5: To what extent are the CCP's margin requirements commensurate with the risks and particular attributes of each product, portfolio and market it serves?

#### *Operational components*

- Q.6.1.6: 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.6.1.7: How does the CCP enforce timelines for margin collections and 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?

**Key consideration 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.**

#### *Sources of price data*

- Q.6.2.1: What are the sources of price data for the CCP's margin model? What data does the CCP use to determine initial margin?
- Q.6.2.2: How does the CCP determine that the price data it uses for its margin system is timely and reliable, including prices provided by a third party where relevant?

### *Estimation of prices*

- 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? How does the FMI ensure the independence of the validation process?

**Key consideration 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.**

### *Initial margin model*

- Q.6.3.1: What is the design of the CCP's initial margin model? Describe the model in detail, including the method used to determine potential future exposure. What is the level of coverage of the initial margin model?
- Q.6.3.2: What are the assumptions of the margin model?
- Q.6.3.3: How does the CCP estimate the key parameters and inputs of the margin model (such as the liquidation horizon and confidence interval)?

### *Closeout and sample periods*

- Q.6.3.4: How does the CCP determine an appropriate closeout 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?

### *Procyclicality and specific wrong-way risk*

- Q.6.3.7: How does the CCP address procyclicality in the margin methodology? In particular, does the CCP adopt margin requirements that, to the extent practical and prudent, limit the need for destabilising procyclical changes?
- Q.6.3.8: How does the CCP identify and mitigate specific wrong-way risk?



**Key consideration 4: 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.**

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.

Q.6.4.2: Does the CCP have the authority and operational capacity to make and complete intraday margin calls for initial and variation margin?

**Key consideration 5: 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.**

#### *Portfolio margining*

Q.6.5.1: Does the CCP allow offsets or reductions in required margin across products that it clears or between products that it or another CCP clear? If so, is the risk of one product significantly and reliably correlated with the risk of the other product? How does the CCP offset or reduce required margin?

Q.6.5.2: How does the CCP identify and 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?

#### *Cross-margining*

Q.6.5.3: In the case of cross-margining between two or more CCPs, how have the CCPs harmonised their approaches to risk management? What legal and operational arrangements govern the cross-margining arrangements?

#### *Robustness of methodologies*

Q.6.5.4: 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, and its stability in stressed market conditions?

**Key consideration 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.**

### *Backtesting and sensitivity analysis*

- 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. How does such testing address portfolio effects within and across asset classes within the CCP and cross-margining programmes with other CCPs? How frequently is the backtesting conducted?
- Q.6.6.2: Describe in detail the sensitivity analysis of model performance and overall coverage of the CCP's initial margin methodology. Does the analysis cover a wide range of parameters, assumptions, historical and hypothetical market conditions, and participant positions, including stressed conditions? How frequently is the analysis conducted?

### *Margin model performance*

- Q.6.6.3: What are the identified potential shortcomings of the margin model based on backtesting and sensitivity analysis?
- Q.6.6.4: What actions would the CCP take if the model did not perform as expected?
- Q.6.6.5: How does the CCP disclose the results of its backtesting and sensitivity analysis?

### **Key consideration 7: A CCP should regularly review and validate its 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 arrangements?
- Q.6.7.3: How and to whom does the CCP disclose both the method and the results of this review and validation?

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**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.

Because of the extensive interactions between the financial risk management and financial resources principles, this principle should be reviewed in the context of Principle 4 on credit risk, Principle 5 on collateral and Principle 6 on margin, as appropriate. This principle should also be reviewed in the context of Principle 8 on settlement finality, Principle 13 on participant default rules and procedures, Principle 23 on disclosure of rules, key procedures and market data, and other principles, as appropriate.

The following key consideration applies to	PS	CSD	SSS	CCP	TR
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**Key consideration 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.**

- Q.7.1.1: What is the FMI’s framework for managing its liquidity risks, in all relevant currencies, from its participants, settlement banks, nostro agents, custodian banks, liquidity providers and other entities?
- Q.7.1.2: What are the nature and size of the FMI’s liquidity needs, and the associated sources of liquidity risks, that arise in the FMI in all relevant currencies?
- Q.7.1.3: 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?

The following key consideration applies to	PS	CSD	SSS	CCP	TR
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**Key consideration 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.**

- 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 does the FMI use those tools to identify, measure and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity?

The following key consideration applies to	PS •	CSD	SSS •	CCP	TR
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**Key consideration 3: 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.**

Q.7.3.1: How does the payment system or SSS determine the amount of liquid resources in all relevant currencies to effect same day settlement and, where appropriate, intraday or multiday settlement of payment obligations? What potential stress scenarios (including, but not limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions) does the payment system or SSS use to make this determination?

Q.7.3.2: What is the estimated size of the liquidity shortfall in each currency that the payment system or SSS would need to cover?

The following key consideration applies to	PS	CSD	SSS	CCP •	TR
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**Key consideration 4: 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.**

*Sufficient liquid resources*

Q.7.4.1: How does the CCP determine the amount of liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments and meet other payment obligations on time? What potential stress scenarios (including, but not limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions) does the CCP use to make this determination?

Q.7.4.2: 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? How frequently does the CCP estimate this?

*Risk profile and systemic importance in multiple jurisdictions*

Q.7.4.3: Do any of the CCP's activities have a more complex risk profile (such as clearing financial instruments that are characterised by discrete jump-to-default price changes or that are highly correlated with potential participant defaults)? Is the CCP systemically important in multiple jurisdictions?

Q.7.4.4: If the CCP is involved in activities with a more complex risk profile or is systemically important in multiple jurisdictions, has the CCP considered maintaining additional resources sufficient to cover a wider range of stress scenarios that would include 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?

The following key consideration applies to	PS •	CSD	SSS •	CCP •	TR
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**Key consideration 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.**

*Size and composition of qualifying liquid resources*

Q.7.5.1: What is the size and composition of the FMI's qualifying liquid resources in each currency that is held by the FMI? In what manner and within what time frame can these liquid resources be made available to the FMI?

*Availability and coverage of qualifying liquid resources*

Q.7.5.2: What prearranged funding arrangements has the FMI established to convert its readily available collateral and investments into cash? How has the FMI established that these arrangements would be highly reliable in extreme but plausible market conditions? Has the FMI identified any potential barriers to accessing its liquid resources?

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 liquid resource requirement in that currency?

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?

The following key consideration applies to	PS •	CSD	SSS •	CCP •	TR
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**Key consideration 6: 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.

*Size and composition of supplemental liquid resources*

Q.7.6.1: What is the size and composition of any supplemental liquid resources available to the FMI?

*Availability of supplemental liquid resources*

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 potential collateral at the relevant central bank?

Q.7.6.4: In what circumstances 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 test programme for determining the adequacy of its liquidity resources (see key consideration 9)?

The following key consideration applies to	PS •	CSD	SSS •	CCP •	TR
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**Key consideration 7: 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.**

*Use of liquidity providers*

Q.7.7.1: Does the FMI use a liquidity provider to meet its minimum required qualifying liquidity resources? Who are the FMI's liquidity providers? How and on what basis has the FMI determined that each of these liquidity providers has sufficient information to understand and to manage their associated liquidity risk in each relevant currency on an ongoing basis, including in stressed conditions?

*Reliability of liquidity providers*

Q.7.7.2: How 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.7.7.3: How does the FMI take into account a liquidity provider's potential access to credit at the central bank of issue?

Q.7.7.4: How does the FMI regularly test the timeliness and reliability of its procedures for accessing its liquid resources at a liquidity provider?

The following key consideration applies to	PS •	CSD	SSS •	CCP •	TR
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**Key consideration 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.**

- 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?
- 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?

The following key consideration applies to	PS •	CSD	SSS •	CCP •	TR
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**Key consideration 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.**

*Stress test programme*

- Q.7.9.1: How does the FMI use stress testing to determine the amount and test the sufficiency of its liquid resources in each currency? How frequently does the FMI stress-test its liquid resources?
- Q.7.9.2: What is the process for reporting on an ongoing basis the results of the FMI's 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 the FMI's liquidity resources and liquidity risk management framework?

*Stress test scenarios*

- Q.7.9.3: 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.7.9.4: To what extent 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 liquidity risk that is borne directly by the FMI, by its participants, or both?
- Q.7.9.5: To what extent 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?

*Review and validation*

- Q.7.9.6: How frequently does the FMI assess the effectiveness and appropriateness of stress test assumptions and parameters? How does the FMI's stress test programme take into account various conditions, such as a sudden and significant increase in position and price volatility, position concentration, change in market liquidity, and model risk including shift of parameters?
- Q.7.9.7: How does the FMI validate its risk management model? How frequently does it perform this validation?
- 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 its total liquid resources?

The following key consideration applies to	PS •	CSD	SSS •	CCP •	TR
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**Key consideration 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.**

*Same day settlement*

- Q.7.10.1: How do the FMI's rules and procedures enable it to settle payment obligations on time following any individual or combined default among its participants?
- Q.7.10.2: How do the FMI's rules and procedures address unforeseen and potentially uncovered liquidity shortfalls and avoid unwinding, revoking or delaying the same day settlement of payment obligations?

*Replenishment of liquidity resources*

- Q.7.10.3: How do the FMI's rules and procedures allow for the replenishment of any liquidity resources employed during a stress event?



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### **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.

In reviewing this principle, it should be noted that this principle is not intended to eliminate failures to deliver in securities trades. The occurrence of non-systemic amounts of such failures, although potentially undesirable, should not by itself be interpreted as a failure to satisfy this principle. This principle should be reviewed in the context of Principle 9 on money settlements, Principle 20 on FMI links, and other principles, as appropriate.

### **Key consideration 1: An FMI's rules and procedures should clearly define the point at which settlement is final.**

#### *Point of settlement finality*

- Q.8.1.1: At what point is the settlement of a payment, transfer instruction or other obligation final, meaning irrevocable and unconditional? Is the point of settlement finality defined and documented? How and to whom is this information disclosed?
- Q.8.1.2: How does the FMI's legal framework and rules, including the applicable insolvency law(s), 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 demonstrate that there is a high degree of legal certainty that finality will be achieved in all relevant jurisdictions (for example, by obtaining a well reasoned legal opinion)?

#### *Finality in the case of links*

- Q.8.1.4: How does the FMI ensure settlement finality in the case of linkages with other FMIs?
- For an SSS, how is consistency of finality achieved between the SSS and, if relevant, the LVPS where the cash leg is settled?
  - For 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 in other systems, depending on the rules of the relevant CSD/SSS and payment system?

### **Key consideration 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.**

#### *Final settlement on the value date*

- Q.8.2.1: Is the FMI designed to complete 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 ever experienced deferral of final settlement to the next business day that was not contemplated by its rules, procedures or contracts? If so, under what circumstances? If deferral was a result of the FMI's actions, what steps have been taken to prevent a similar situation in the future?

*Intraday or real-time final settlement*

Q.8.2.3: Does the FMI provide intraday or real-time final settlement? If so, how? How are participants informed of the final settlement?

Q.8.2.4: If settlement occurs through multiple-batch processing, what is the frequency of the batches and within what time frame 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: If settlement does not occur intraday or in real time, how has the LVPS or SSS considered the introduction of either of these modalities?

**Key consideration 3: An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant.**

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 circumstances can an instruction or obligation accepted by the system for settlement still be revoked (for example, queued obligations)? How can an unsettled payment or transfer instruction be revoked? 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?

Q.8.3.4: Where does the FMI define this information? How and to whom is this information disclosed?

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### **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 risk arising from the use of commercial bank money.

This principle should be reviewed in the context of Principle 8 on settlement finality, Principle 16 on custody and investment risks, and other principles, as appropriate.

#### **Key consideration 1: An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.**

Q.9.1.1: How does the FMI conduct money settlements? If the FMI conducts settlement in multiple currencies, how does the FMI conduct money settlement in each currency?

Q.9.1.2: If the FMI does not settle in central bank money, why is it not used?

#### **Key consideration 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.**

Q.9.2.1: If central bank money is not used, how does the FMI assess the credit and liquidity risks of the settlement asset used for money settlement?

Q.9.2.2: If the FMI settles in commercial bank money, how does the FMI select its settlement banks? What are the specific selection criteria the FMI uses?

#### **Key consideration 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.**

Q.9.3.1: How does the FMI monitor the settlement banks' adherence to criteria it uses for selection? For example, how does the FMI evaluate the banks' regulation, supervision, creditworthiness, capitalisation, access to liquidity and operational reliability?

Q.9.3.2: How does the FMI monitor, manage and limit its credit and liquidity risks arising from the commercial settlement banks? How does the FMI monitor and manage the concentration of credit and liquidity exposures to these banks?

Q.9.3.3: 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?

**Key consideration 4: If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.**

Q.9.4.1: If an FMI conducts money settlements on its own books, how does it minimise and strictly control its credit and liquidity risks?

**Key consideration 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.**

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?

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**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.

This principle should be reviewed in the context of Principle 15 on general business risk, Principle 23 on disclosure of rules, key procedures and market data, and other principles, as appropriate.

**Key consideration 1: An FMI’s rules should clearly state its 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? How are these responsibilities defined and documented? To whom are these documents disclosed?
- Q.10.1.3: How does the FMI engage with its participants to ensure they have an understanding of their obligations and the procedures for effecting physical delivery?

**Key consideration 2: An FMI should identify, monitor, and manage the risks and costs associated with the storage and delivery of physical instruments or commodities.**

- Q.10.2.1: How does the FMI identify the risks and costs associated with storage and delivery of physical instruments or commodities? What risks and costs has the FMI identified?
- Q.10.2.2: What processes, procedures and controls does the FMI have to monitor and manage any identified risks and costs associated with storage and delivery of physical instruments or commodities?
- Q.10.2.3: If an FMI can match participants for delivery and receipt, under what circumstances can it do so, and what are the associated rules and procedures? Are the legal obligations for delivery clearly expressed in the rules and associated agreements?
- Q.10.2.4: How does the FMI monitor its participants’ delivery preferences and, to the extent practicable, ensure that its participants have the necessary systems and resources to be able to fulfil their physical delivery obligations?

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### **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.

In reviewing this principle, where an entity legally defined as a CSD or an SSS does not hold or facilitate the holding of assets or collateral owned by its participants, the CSD or SSS in general would not be required to have arrangements to manage the safekeeping of such assets or collateral. This principle should be reviewed in the context of Principle 17 on operational risk, Principle 20 on FMI links, and other principles, as appropriate.

**Key consideration 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.**

#### *Safeguarding the rights of securities issuers and holders*

- Q.11.1.1: How are the rights of securities issuers and holders safeguarded by the rules, procedures and controls of the CSD?
- Q.11.1.2: How do the CSD's rules, procedures and controls ensure that the securities it holds on behalf of participants are appropriately accounted for on its books and protected from risks associated with the other services the CSD may provide?
- Q.11.1.3: How does the CSD ensure that it has robust accounting practices? Do audits review whether there are sufficient securities to satisfy customer rights? How frequently are end-to-end audits conducted to examine the procedures and internal controls used in the safekeeping of securities?

#### *Prevention of the unauthorised creation or deletion of securities*

- Q.11.1.4: What are the CSD's internal procedures to authorise the creation and deletion of securities? What are the CSD's internal controls to prevent the unauthorised creation and deletion of securities?

#### *Periodic reconciliation of securities issues*

- Q.11.1.5: 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)? How 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.11.1.6: If the CSD is not the official registrar of the issues held on its books, how does the CSD reconcile its records with official registrar?

**Key consideration 2: A CSD should prohibit overdrafts and debit balances in securities accounts.**

- Q.11.2.1: How does the CSD prevent overdrafts and debit balances in securities accounts?

**Key consideration 3: 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.**

- 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 their holding and transfer in a book-entry system? What percentage of securities is immobilised, and what percentage of the total volume of transactions applies to immobilised securities?
- Q.11.3.3: What incentives, if any, does the CSD provide to immobilise or dematerialise securities?

**Key consideration 4: A CSD should protect assets against custody risk through appropriate rules and procedures consistent with its legal framework.**

- Q.11.4.1: How do the CSD's rules and procedures protect 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: How has the CSD determined that those rules and procedures are consistent with the legal framework?
- Q.11.4.3: What other methods, if any, does the CSD employ to protect its participants against misappropriation, destruction and theft of securities (for example, insurance or other compensation schemes)?

**Key consideration 5: 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.**

- Q.11.5.1: What segregation arrangements are in place at the CSD? How does the CSD ensure segregation between its own assets and the securities of its participants? How does the CSD ensure segregation among the securities of participants?
- Q.11.5.2: Where supported by the legal framework, how does the CSD support the operational segregation of securities belonging to participants' customers from the participants' book? How does the CSD facilitate the transfer from these customers' accounts to another participant?

**Key consideration 6: 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.**

- 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: If the CSD provides services other than central safekeeping and administration of securities and settlement, how does it identify the risks associated with those activities, including potential credit and liquidity risks? How does it measure, monitor and manage these risks, including legally separating services other than safekeeping and administration of securities where necessary?



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### **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.

This principle should be reviewed in the context of Principle 4 on credit risk, Principle 7 on liquidity risk, Principle 8 on settlement finality, and other principles, as appropriate.

**Key consideration 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.**

- Q.12.1.1: How do the FMI's legal, contractual, technical and risk management frameworks 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: How are the linked obligations settled – on a gross basis (trade by trade) or on a net basis?
- 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?
- Q.12.1.4: In the case of a CCP, does the CCP rely on the DvP or PvP services provided by another FMI, such as an SSS or payment system? If so, how would the CCP characterise the level of its reliance on such services? What contractual relationship does the CCP have with the SSS or payment system to ensure that final settlement of one obligation occurs only when the final settlement of any linked obligations occurs?

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### **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.

Because of the extensive interactions between the default management principles as they apply to CCPs, this principle needs to be reviewed in the context of Principle 14 on segregation and portability. This principle should also be reviewed in the context of Principle 4 on credit risk, Principle 7 on liquidity risk, Principle 23 on disclosure of rules, key procedures and market data, and other principles, as appropriate.

**Key consideration 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.**

#### *Participant 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? How are these events defined?
- Q.13.1.2: How do the FMI's rules and procedures address the following key aspects of a participant default:
- 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?

#### *Use of financial resources*

- Q.13.1.3: How do the FMI's rules and procedures allow the FMI to promptly use 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?
- Q.13.1.5: How do the FMI's rules and procedures address the replenishment of resources following a default?

**Key consideration 2: An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.**

- Q.13.2.1: Does the FMI's management have internal plans that clearly delineate the roles and responsibilities for addressing a default? What are these plans?
- Q.13.2.2: What type of communication procedures does the FMI have in order to reach in a timely manner all relevant stakeholders, including regulators, supervisors and overseers?
- Q.13.2.3: How frequently are the internal plans to address a default reviewed? What is the governance arrangement around these plans?

**Key consideration 3: An FMI should publicly disclose key aspects of its default rules and procedures.**

- Q.13.3.1: How are the key aspects of the FMI's participant default rules and procedures made publicly available? How do they address:
- 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) where direct relationships exist with participants' customers, the mechanisms to help address the defaulting participant's obligations to its customers?

**Key consideration 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.**

- 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? How frequently does it conduct such tests and reviews? How are these tests results used? To what extent are the results shared with the board, risk committee and relevant authorities?
- Q.13.4.2: What range of potential participant default scenarios and procedures do these tests cover? To what extent does the FMI test the implementation of the resolution regime for its participants?

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#### **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.

Because of the extensive interactions between the default management principles as they apply to CCPs, this principle should be reviewed in the context of Principle 13 on participant default rules. This principle should also be reviewed in the context of Principle 19 on tiered participation arrangements, Principle 23 on disclosure of rules, key procedures and market data, and other principles, as appropriate.

**Key consideration 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.**

##### *Customer protection from participant default*

- Q.14.1.1: What segregation arrangements does the CCP have in place to effectively protect a participant's customers' positions and related collateral from the default or insolvency of that participant?
- 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 does the CCP achieve protection of customers' assets? Has the CCP evaluated whether the applicable legal or regulatory framework achieves the same degree of protection and efficiency for customers that would otherwise be achieved by segregation and portability arrangements?

##### *Customer protection from participant and fellow customer default*

- Q.14.1.4: If the CCP offers additional protection to customers to protect their positions and collateral against the concurrent default of the participant and a fellow customer, how does the CCP ensure that such protection is effective?

##### *Legal basis*

- Q.14.1.5: What evidence is there that the legal basis 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.14.1.6: What analysis has the CCP conducted regarding the enforceability of its customer segregation and portability arrangements, including with respect to any foreign or 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?

**Key consideration 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.**

- Q.14.2.1: How does the CCP segregate a participant's customers' positions and related collateral from the participant's positions and collateral? What type of account structure (individual or omnibus) does the CCP use for the positions and related collateral of participants' customers? What is the rationale for this choice?
- Q.14.2.2: If the CCP (or its custodians) holds collateral supporting customers' positions, what does this collateral cover (for example, 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, how does the CCP ensure that it has access to this information? Is customer margin obtained by the CCP from its participants collected on a gross or net basis? To what extent is a customer's collateral exposed to "fellow customer risk"?

**Key consideration 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.**

- Q.14.3.1: How 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?
- 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?

**Key consideration 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.**

- Q.14.4.1: How does the CCP disclose its segregation and portability arrangements? Does the disclosure include whether a participant's customers' collateral is protected on an individual or omnibus basis?
- Q.14.4.2: 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 to fully segregate or port a participant's customers' positions and collateral?

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### **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.

This principle should be reviewed in the context of Principle 3 on the framework for the comprehensive management of risks, Principle 21 on efficiency and effectiveness, and other principles, as appropriate.

**Key consideration 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.**

Q.15.1.1: How does the FMI identify its general business risks? What general business risks has the FMI identified?

Q.15.1.2: How does the FMI monitor and manage its general business risks on an ongoing basis? Does the FMI's business risk assessment consider the potential effects on its cash flow and (in the case of a privately operated FMI) capital?

**Key consideration 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.**

Q.15.2.1: Does the FMI hold liquid net assets funded by equity so that it can continue operations and services as a going concern if it incurs general business losses?

Q.15.2.2: How does the FMI calculate the amount of liquid net assets funded by equity to cover its general business risks? How does the FMI determine the length of time and associated operating costs of achieving a recovery or orderly wind-down of critical operations and services?

**Key consideration 3: 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.**

*Recovery or orderly wind-down plan*

Q.15.3.1: Has the FMI developed a plan to achieve a recovery or orderly wind-down, as appropriate? 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)?

*Resources*

Q.15.3.2: What amount of liquid net assets funded by equity is the FMI holding for purposes of implementing this plan? How does the FMI determine whether this amount is sufficient for such implementation? Is this amount at a minimum equal to six months of the FMI's current operating expenses?

Q.15.3.3: How are the resources designated to cover business risks and losses separated from resources designated to cover participant defaults or other risks covered under the financial resources principles?

Q.15.3.4: Does the FMI include equity held under international risk-based capital standards to cover general business risks?

**Key consideration 4: 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.**

Q.15.4.1: What is the composition of the FMI's liquid net assets funded by equity? How will the FMI convert these assets as needed 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, including in adverse market conditions?

**Key consideration 5: 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.**

Q.15.5.1: Has the FMI developed a plan to raise additional equity? What are the main features of the FMI's plan to raise additional equity should its equity fall close to or fall below the amount needed?

Q.15.5.2: How frequently is the plan to raise additional equity reviewed and updated?

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 if needed?

PS	CSD	SSS	CCP	TR
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### **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.

This principle should be reviewed in the context of Principle 4 on credit risk, Principle 5 on collateral, Principle 7 on liquidity risk, and other principles, as appropriate.

**Key consideration 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.**

- Q.16.1.1: If the FMI uses custodians, how does the FMI select its custodians? What are the specific selection criteria the FMI uses, including supervision and regulation of these entities? How does the FMI monitor the custodians' adherence to these criteria?
- 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?

**Key consideration 2: An FMI should have prompt access to its assets and the assets provided by participants, when required.**

- 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 has 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?

**Key consideration 3: An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.**

- 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?

**Key consideration 4: 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.**



*Investment strategy*

- Q.16.4.1: How does the FMI ensure that its investment strategy is consistent with its overall risk management strategy? How and to whom does the FMI disclose its investment strategy?
- Q.16.4.2: How does the FMI ensure on an ongoing basis that its investments are secured by, or are claims on, high-quality obligors?

*Risk characteristics of investments*

- 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?
- Q.16.4.4: Does the FMI invest participant assets in the participants' own securities or those of its affiliates?
- Q.16.4.5: How does the FMI ensure that its investments allow for quick liquidation with little, if any, adverse price effect?

PS	CSD	SSS	CCP	TR
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### 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.

This principle should be reviewed in the context of Principle 20 on FMI links, Principle 21 on efficiency and effectiveness, Principle 22 on communication standards and procedures, and other principles, as appropriate.

**Key consideration 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.**

#### *Identification of operational risk*

- Q.17.1.1: What are the FMI's policies and processes for identifying the plausible sources of operational risks? How do the FMI's processes identify plausible sources of operational risks, 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?
- Q.17.1.2: What sources of operational risks has the FMI identified? What single points of failure in its operations has the FMI identified?

#### *Management of operational risk*

- Q.17.1.3: How does the FMI monitor and manage the identified operational risks? Where are these systems, policies, procedures and controls documented?

#### *Policies, processes and controls*

- Q.17.1.4: What policies, processes and controls does the FMI employ that are designed 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 how do such policies mitigate the effects of high rates of personnel turnover or key-person risk? How do the FMI's human resources and risk management policies address fraud prevention?
- Q.17.1.6: How do the FMI's change management and project management policies and processes mitigate the risks that changes and major projects inadvertently affect the smooth functioning of the system?

**Key consideration 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.**

*Roles, responsibilities and framework*

- Q.17.2.1: How has the board of directors defined the key roles and responsibilities for operational risk management?
- Q.17.2.2: Does the FMI's board explicitly review and endorse the FMI's operational risk management framework? How frequently does the board review and endorse the FMI's operational risk management framework?

*Review, audit and testing*

- Q.17.2.3: How does the FMI review, audit and test its systems, policies, procedures and controls, including its operational risk management arrangements with participants? How frequently does the FMI conduct these reviews, audits and tests with participants?
- Q.17.2.4: To what extent, where relevant, is the FMI's operational risk management framework subject to external audit?

**Key consideration 3: An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those 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 operational reliability?
- Q.17.3.3: What are the policies in place that are designed to achieve the FMI's operational reliability objectives to ensure that the FMI takes appropriate action as needed?

**Key consideration 4: An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.**

- Q.17.4.1: How does the FMI review, audit and test the scalability and adequacy of its capacity to handle, at a minimum, projected stress volumes? How frequently does the FMI conduct these reviews, audits and tests?
- Q.17.4.2: How are situations where operational capacity is neared or exceeded addressed?

**Key consideration 5: An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.**

*Physical security*

- Q.17.5.1: What are the FMI's policies and processes, including change management and project management policies and processes, for addressing the plausible sources of physical vulnerabilities and threats on an ongoing basis?
- Q.17.5.2: Do the FMI's policies, processes, controls and testing appropriately take into consideration relevant international, national and industry-level standards for physical security?

### *Information security*

- Q.17.5.3: What are the FMI's policies and processes, including change management and project management policies and processes, for addressing the plausible sources of information security vulnerabilities and threats on an ongoing basis?
- Q.17.5.4: Do the FMI's policies, processes, controls and testing appropriately take into consideration relevant international, national and industry-level standards for information security?

**Key consideration 6: 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.**

### *Objectives of business continuity plan*

- 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?

### *Design of business continuity plan*

- Q.17.6.2: How and to what extent is the FMI's business continuity plan designed to enable critical IT systems to resume operations within two hours following disruptive events, and to enable the FMI to facilitate or complete settlement by the end of the day even in extreme circumstances?
- Q.17.6.3: How is the contingency plan designed to 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)?
- Q.17.6.4: How do the FMI's crisis management procedures address the need for effective communications internally and with key external stakeholders and authorities?

### *Secondary site*

- Q.17.6.5: How does the FMI's business continuity plan incorporate the use of a secondary site (including ensuring that the secondary site has sufficient resources, capabilities, functionalities and appropriate staffing arrangements)? To what extent is the secondary site located a sufficient geographic distance from the primary site such that it has a distinct risk profile?
- Q.17.6.6: Has the FMI considered alternative arrangements (such as manual, paper-based procedures or other alternatives) to allow the processing of time-critical transactions in extreme circumstances?

### *Review and testing*

- Q.17.6.7: How are the FMI's business continuity and contingency arrangements reviewed and tested, including with respect to scenarios related to wide-scale and major disruptions? How frequently are these arrangements reviewed and tested?

Q.17.6.8: How does the review and testing of the FMI's business continuity and contingency arrangements involve the FMI's participants, critical service providers and linked FMIs as relevant? How frequently are the FMI's participants, critical service providers and linked FMIs involved in the review and testing?

**Key consideration 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.**

*Risks to the FMI's own operations*

Q.17.7.1: What risks has the FMI identified to its operations arising from its key participants, other FMIs, and service and utility providers? How and to what extent does the FMI monitor and manage these risks?

Q.17.7.2: If the FMI has outsourced services critical to its operations, how and to what extent does the FMI ensure that the operations of a critical service provider meet the same reliability and contingency requirements they would need to meet if they were provided internally?

*Risks posed 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: To what extent does the FMI coordinate its business continuity arrangements with those of other interdependent FMIs?

PS	CSD	SSS	CCP	TR
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**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.

In reviewing this principle, it should be noted that FMIs are subject to the constraints of local laws and policies of the jurisdiction in which the FMI operates, and those laws may prohibit or require the inclusion of certain categories of financial institutions. This principle should be reviewed in the context of Principle 19 on tiered participation arrangements, Principle 21 on efficiency and effectiveness, and other principles, as appropriate.

**Key consideration 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.**

*Participation criteria and requirements*

Q.18.1.1: What are the FMI's criteria and requirements for participation (such as operational, financial and legal requirements)?

Q.18.1.2: How do these criteria and requirements allow for fair and open access to the FMI's services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements?

*Access to trade repositories*

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? How are these terms designed to support interconnectivity with other FMIs and service providers, where requested?

**Key consideration 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.**

*Justification and rationale of participation criteria*

Q.18.2.1: How are the participation requirements for the FMI justified in terms of the safety and efficiency of the FMI and its role in 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, and additional requirements for participants that are non-regulated entities)?

*Least restrictive access*

Q.18.2.4: How 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? How frequently is this review conducted?

*Disclosure of criteria*

Q.18.2.5: How are participation criteria, including restrictions in participation, publicly disclosed?

**Key consideration 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.**

*Monitoring compliance*

Q.18.3.1: How does the FMI monitor its participants' ongoing compliance with the access criteria? How are the FMI's policies designed to ensure that the information it uses to monitor compliance with participation criteria is timely and accurate?

Q.18.3.2: What are the FMI's policies for conducting enhanced surveillance of, or imposing additional controls on, a participant whose risk profile deteriorates?

*Suspension and orderly exit*

Q.18.3.3: What are the FMI's procedures for managing the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements?

Q.18.3.4: How are the FMI's procedures for managing the suspension and orderly exit of a participant disclosed to the public?

PS	CSD	SSS	CCP	TR
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### **Principle 19: Tiered participation arrangements**

An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

This principle should be reviewed in the context of Principle 14 on segregation and portability, Principle 18 on access and participation requirements, and other principles, as appropriate.

**Key consideration 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.**

#### *Tiered participation arrangements*

Q.19.1.1: Does the FMI have any tiered participation arrangements? If so, describe these arrangements.

Q.19.1.2: How does the FMI gather basic information about indirect participation? Which information is collected and how frequently is it updated?

#### *Risks to the FMI*

Q.19.1.3: How does the FMI evaluate its risks arising from these arrangements?

Q.19.1.4: What material risks to the FMI arising from tiered participation arrangements has the FMI identified? How has it mitigated these risks?

**Key consideration 2: An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.**

Q.19.2.1: How does the FMI identify material dependencies between direct and indirect participants that might affect the FMI?

**Key consideration 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.**

Q.19.3.1: Has the FMI identified (a) the proportion of activity that each direct participant conducts 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?

Q.19.3.2: What risks to the FMI arise, and how does the FMI manage these risks arising from key indirect participants?



**Key consideration 4: An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.**

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? How frequently is this review conducted?

Q.19.4.2: What criteria does the FMI use to determine when mitigating actions are required? How does the FMI monitor and mitigate its risks?

PS	CSD ●	SSS ●	CCP ●	TR ●
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### Principle 20: FMI links

An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.

In reviewing this principle, it should be noted that the questions apply only to FMIs that have established links with one or more other FMIs. Additionally, the term CSD generally refers to a CSD that also operates an SSS. The use of this broader definition for CSD in this principle mirrors market convention in the discussion of FMI links. This principle should be reviewed in the context of Principle 8 on settlement finality, Principle 11 on CSDs, Principle 17 on operational risk, and other principles, as appropriate.

The following key consideration applies to	PS	CSD ●	SSS ●	CCP ●	TR ●
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**Key consideration 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.**

- 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?
- Q.20.1.2: What links have been established with other FMIs? How does the FMI identify, monitor and manage the risks arising from an established link on an ongoing basis?
- Q.20.1.3: How does the FMI ensure that link arrangements are designed so that it is able to remain observant of the other principles? How frequently is this analysis conducted?

The following key consideration applies to	PS	CSD ●	SSS ●	CCP ●	TR ●
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**Key consideration 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.**

- Q.20.2.1: In which jurisdictions has the FMI established links? What are the relevant legal frameworks supporting the established links?
- Q.20.2.2: How does the FMI ensure that its links have a well founded legal basis that support its design and provide it with adequate protection in all relevant jurisdictions? How does the FMI ensure that such protections are maintained over time?

The following key consideration applies to	PS	CSD ●	SSS ●	CCP	TR
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**Key consideration 3: 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.**

- 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?

The following key consideration applies to	PS	CSD •	SSS •	CCP	TR
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**Key consideration 4: 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.**

- Q.20.4.1: Are provisional transfers of securities allowed across the link? If so, what arrangements make provisional transfers necessary, and is the retransfer of these securities prohibited until the first transfer is final?

The following key consideration applies to	PS	CSD •	SSS •	CCP	TR
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**Key consideration 5: 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.**

- 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 frequently is reconciliation of holdings conducted by the entities holding the securities in custody?
- Q.20.5.3: How does the investor CSD provide a high-level of protection for the rights of its participants (including segregation and portability arrangements and asset protection provisions for omnibus accounts)?

The following key consideration applies to	PS	CSD •	SSS •	CCP	TR
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**Key consideration 6: 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.**

- Q.20.6.1: If the CSD uses an intermediary to operate a link, what are the criteria used by the CSD to select the intermediary or intermediaries? Are these criteria risk-based?
- Q.20.6.2: 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?

The following key consideration applies to	PS	CSD	SSS	CCP •	TR
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**Key consideration 7: 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.**

*Linked CCP default*

- Q.20.7.1: Prior to establishing any links, what analysis was undertaken by the CCP to identify and assess the spillover effects of a linked CCP's default?
- Q.20.7.2: How does the CCP manage any identified spillover effects of a linked CCP's default?

*Collective link arrangements (three or more CCPs)*

- Q.20.7.3: Prior to establishing any links, what analysis was conducted by the CCP to identify and assess the potential spillover effects of a link arrangement involving three or more CCPs?
- Q.20.7.4: In the case of collective link arrangements, what processes are in place for the CCP to identify, assess and manage risks arising from the collective link arrangement? In the case of links between CCPs, is there a clear definition of the respective rights and obligations of the different CCPs?

The following key consideration applies to	PS	CSD	SSS	CCP •	TR
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**Key consideration 8: 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.**

*Exposures and coverage of exposures*

- 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?

*Management of risks*

- 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?

*Information provided to participants*

- Q.20.8.6: How do the linked CCPs ensure that participants are informed about their exposures to the potential sharing of uncovered losses and uncovered liquidity shortfalls from the link arrangement?

The following key consideration applies to	PS	CSD	SSS	CCP	TR •
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**Key consideration 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.**

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? How frequently does the TR validate the adequacy of its scalability and reliability?

PS	CSD	SSS	CCP	TR
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### **Principle 21: Efficiency and effectiveness**

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

This principle should be reviewed in the context of Principle 17 on operational risk, Principle 18 on access and participation requirements, Principle 22 on communication procedures and standards, and other principles, as appropriate.

**Key consideration 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.**

Q.21.1.1: How does the FMI determine whether its design (including its clearing and settlement arrangement, its operating structure, its delivery systems and technologies, and its individual services and products) is taking into account the needs of its participants and the markets it serves?

Q.21.1.2: How does the FMI determine whether it is meeting the requirements and needs of its participants and other users and continues to meet those requirements as they change (for example, through the use of feedback mechanisms)?

**Key consideration 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.**

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: How does the FMI ensure that it has clearly defined goals and objectives that are measurable and achievable?

Q.21.2.3: To what extent have the goals and objectives been achieved? What mechanisms does the FMI have to measure and assess this?

**Key consideration 3: An FMI should have established mechanisms for the regular 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 frequently does the FMI evaluate its efficiency and effectiveness?

PS	CSD	SSS	CCP	TR
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**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.

This principle should be reviewed in the context of Principle 17 on operational risk, Principle 21 on efficiency and effectiveness, and other principles, as appropriate.

**Key consideration 1: An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.**

*Communication procedures*

- Q.22.1.1: Does the FMI use an internationally accepted communications procedure and, if so, which one(s)? If not, how does the FMI accommodate internationally accepted communication procedures?
- 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?

*Communication standards*

- Q.22.1.3: Does the FMI use an internationally accepted communications standard and, if so, which one(s)? If not, how does the FMI accommodate internationally accepted communication standards?
- 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?

PS	CSD	SSS	CCP	TR
•	•	•	•	•

**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.

In reviewing this principle, information should be disclosed to the extent that it would not risk prejudicing the security and integrity of the FMI or divulging commercially sensitive information. This principle should be reviewed in the context of Principle 8 on settlement finality, Principle 13 on participant default rules and procedures, Principle 24 on the disclosure of market data by trade repositories, and other principles, as appropriate.

**Key consideration 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.**

*Rules and procedures*

- Q.23.1.1: What documents comprise the FMI's rules and procedures? How are these documents disclosed to participants?
- Q.23.1.2: How does the FMI determine that its rules and procedures are clear and comprehensive?

*Disclosure*

- Q.23.1.3: What information do the FMI's rules and procedures contain on the procedures it will follow in non-routine, though foreseeable, events?
- Q.23.1.4: How and to whom does the FMI disclose the processes it follows for changing its rules and procedures?
- Q.23.1.5: How does the FMI disclose relevant rules and key procedures to the public?

**Key consideration 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.**

- Q.23.2.1: What documents comprise information about the system's design and operations? How and to whom does the FMI disclose the system's design and operations?
- Q.23.2.2: How and to whom does the FMI disclose the degree of discretion it can exercise over key decisions that directly affect the operation of the system?
- Q.23.2.3: What information does the FMI provide to its participants about their rights, obligations and risks incurred through participation in the FMI?

**Key consideration 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.**



- 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 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 whose behaviour demonstrates a lack of understanding of the FMI's rules, procedures and the risks of participation, what remedial actions are taken by the FMI?

**Key consideration 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.**

- Q.23.4.1: Does the FMI publicly disclose its fees at the level of its individual services and policies on any available discounts? How is this information disclosed?
- Q.23.4.2: How does the FMI notify participants and the public, on a timely basis, of changes to services and fees?
- Q.23.4.3: Does the FMI provide a description of its priced services? Do these descriptions allow for comparison across similar FMIs?
- Q.23.4.4: Does the FMI disclose information on its technology and communication procedures, or any other factors that affect the costs of operating the FMI?

**Key consideration 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.**

- Q.23.5.1: When did the FMI last complete the CPSS-IOSCO *Disclosure framework for financial market infrastructures*? How frequently is it updated? Is it updated following material changes to the FMI and its environment and, at a minimum, every two years?
- Q.23.5.2: What quantitative information does the FMI disclose to the public? How often is this information updated?
- Q.23.5.3: What other information does the FMI disclose to the public?
- Q.23.5.4: How does the FMI disclose this information to the public? In which language(s) are the disclosures provided?

PS	CSD	SSS	CCP	TR •
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**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.

This principle should be reviewed in the context of Principle 17 on operational risk and other principles, as appropriate.

**Key consideration 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.**

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

**Key consideration 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.**

- Q.24.2.1: What processes and procedures does the TR use to provide data to relevant authorities in a timely and appropriate manner to enable them to meet their respective regulatory mandates and legal responsibilities?
- Q.24.2.2: How does the TR ensure that this provision of data to relevant authorities is supported from a legal, procedural, operational and technological perspective?

**Key consideration 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.**

- Q.24.3.1: How does the TR ensure that data remain accurate?
- 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?

## **6.0. Questions by key consideration for the responsibilities of 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.

**Key consideration 1: Authorities should clearly define and publicly disclose 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?

Q.A.1.2: How are the criteria publicly disclosed?

**Key consideration 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.**

Q.A.2.1: Which FMIs have been identified for regulation, supervision and oversight? Did the authorities use the criteria set forth in key consideration 1?

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?

Q.A.2.3: How have relevant authorities avoided (or 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.

### **Key consideration 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.**

#### *Powers or other authority consistent with relevant responsibilities*

Q.B.1.1: What are the authorities' powers or other authority and how are these consistent with the relevant responsibilities (as identified in Q.A.2.2)?

#### *Powers to obtain timely information*

Q.B.1.2: How do the authorities' powers or other authority enable them to obtain timely information from the FMIs, including confidential and non-public information, in order to carry out their responsibilities? What are the relevant constraints, if any?

Q.B.1.3: What information are FMIs required to provide? How frequently does the FMI provide this information?

Q.B.1.4: To what extent do authorities have the ability to obtain information 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?

#### *Powers to induce change or enforce corrective action*

Q.B.1.5: What powers, authority or other mechanisms enable authorities 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?

### **Key consideration 2: Authorities should have sufficient resources to fulfil their regulatory, supervisory, and oversight responsibilities.**

#### *Resources*

Q.B.2.1: What resources (including adequate funding, qualified and experienced personnel, and appropriate ongoing training) are available to authorities to enable them to fulfil their responsibilities?

Q.B.2.2: To what extent does the level of available resources constrain the ability of the authorities to carry out their responsibilities?

Q.B.2.3: What is each authority's process for assessing the resources it needs to fulfil its regulatory, supervisory or oversight responsibilities?

#### *Legal protections*

Q.B.2.4: Where relevant, what legal protections apply to the staff that carries 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.

**Key consideration 1: Authorities should clearly define their policies with respect to FMIs, which include the authorities' objectives, roles, and regulations.**

Q.C.1.1: What are each authority's policies with respect to FMIs, including its objectives, roles and regulations? Are they clearly defined?

**Key consideration 2: Authorities should publicly disclose their relevant policies with respect to the regulation, supervision, and oversight of FMIs.**

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.

#### **Key consideration 1: Authorities should adopt the CPSS-IOSCO *Principles for financial market infrastructures*.**

Q.D.1.1: How and to what extent have the relevant authorities adopted the principles?

#### **Key consideration 2: Authorities should ensure that these principles are, at a minimum, applied to all systemically important payment systems, CSDs, SSSs, CCPs, and TRs.**

Q.D.2.1: To which systemically important payment systems, CSDs, SSSs, CCPs and TRs do authorities apply the principles? Are there systemically important FMIs to which the relevant authorities do not apply the principles?

Q.D.2.2: How do the authorities disclose to which FMIs they apply or do not apply the principles? How does each relevant authority justify its decision to apply or not to apply the principles to specific FMIs?

#### **Key consideration 3: Authorities should apply these principles consistently within and across jurisdictions, including across borders, and to each type of FMI covered by the principles.**

Q.D.3.1: How do authorities apply these principles consistently within the relevant jurisdictions, including to public sector-owned or -operated FMIs, and across jurisdictions, including across borders?

Q.D.3.2: If an authority is an owner and operator of FMIs as well as the overseer of private sector FMIs, how does it consider and address possible conflicts of interest?

Q.D.3.3: If an FMI does not observe all applicable principles, how do authorities 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.

**Key consideration 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.**

- Q.E.1.1: For which FMIs is there cooperation among authorities and what authorities are involved?
- Q.E.1.2: How does the cooperation among authorities, both domestically and internationally, 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.1.3: How does the cooperation among authorities 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?

**Key consideration 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*.**

- Q.E.2.1: Which FMIs in the authorities' jurisdiction provide cross-border or multicurrency services? How do authorities identify an actual or proposed operation of a cross-border or multicurrency FMI in their jurisdiction?
- Q.E.2.2: What criteria do authorities use to determine whether other relevant authorities should be notified?
- Q.E.2.3: How and when are notifications provided to other relevant authorities?

**Key consideration 3: Cooperation may take a variety of forms. The form, degree of formalisation 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.**

### *Forms of cooperation*

- Q.E.3.1: What are the forms of cooperation for each FMI identified under key consideration 1?

Q.E.3.2: 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?

*Efficiency and effectiveness of cooperation*

Q.E.3.3: 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?

**Key consideration 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.**

Q.E.4.1: For each FMI identified under key consideration 1 where cooperative arrangements are appropriate, which authority or authorities have accepted responsibility for establishing efficient and effective cooperation among all relevant authorities?

Q.E.4.2: What are the duties of this authority or these authorities with respect to the cooperation?

**Key consideration 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.**

Q.E.5.1: Which relevant authority ensures that the FMI is periodically assessed against the principles?

Q.E.5.2: How does this authority consult on and share assessments with other relevant authorities that conduct the supervision or oversight of the FMI and for which the FMI is systemically important?

**Key consideration 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.**

Q.E.6.1: For which currency (or currencies) do 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?

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 do 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?



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?

**Key consideration 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.**

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 an FMI that may significantly affect the respective regulatory, supervisory or oversight interests of another domestic or foreign authority?

Q.E.7.2: Where appropriate, how does the authority consider the views of such authorities in connection with such regulatory actions taken with respect to the FMI?

**Key consideration 8: Relevant authorities should coordinate to ensure timely access to trade data recorded in a TR.**

Q.E.8.1: 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?

**Key consideration 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.**

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?

**Key consideration 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.**

There are no questions with respect to this key consideration.

## **Annex A: FMI disclosure template**

Responding institution: [FMI name]

Jurisdiction(s) in which the FMI operates: [list jurisdictions]

Authority(ies) regulating, supervising or overseeing the FMI: [list authorities]

The date of this disclosure is [date].

This disclosure can also be found at [website address].

For further information, please contact [contact details].

### **I. Executive summary**

This section should summarise the key points from the disclosure framework, including a brief overview of the FMI, its participants, its legal and regulatory framework, its primary risks, and its key risk management and other relevant practices.

### **II. Summary of major changes since the last update of the disclosure**

This section should summarise the major changes to the FMI's organisation, services, design, rules, markets served and regulatory environment since its last disclosure. The FMI should note the sections in its disclosure where such changes are reflected.

### **III. General background on the FMI**

#### **General description of the FMI and the markets it serves**

This section should provide basic, concise descriptions of the services offered and functions performed by the FMI. It should also provide an overview of the markets the FMI serves and the role it fulfils within those markets. Further, the section should include basic data and performance statistics on its services and operations. An FMI should provide, for example, basic volume and value statistics by product type, average aggregate intraday exposures of the FMI to its participants, and statistics on the FMI's operational reliability.

#### **General organisation of the FMI**

This section should provide an overview of the organisational and governance structure of the FMI, including a description of the FMI's governance policies, governance structure and management structure.

#### **Legal and regulatory framework**

This section should provide an overview of the FMI's legal and regulatory framework, including the legal and ownership structure of the FMI, the legal basis for each material aspect of the FMI's activities, and the regulatory, supervisory and oversight framework for the FMI.

## System design and operations

This section should explain the FMI's design and operations. It should include a clear description of the typical lifecycle of the transaction process. The information should highlight how the FMI processes a transaction, including the timeline of events, the validation and checks to which a transaction is subjected, and the responsibilities of the parties involved.

## IV. Principle-by-principle summary narrative disclosure

This section should provide a summary narrative disclosure for each applicable principle with sufficient detail and context to enable a reader to understand the FMI's approach to observing the principle.

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<b>Principle-by-principle summary narrative disclosure</b>	
<i>Principle X</i> <i>Text of the principle</i>	
Summary narrative	<p><i>This section should provide a summary narrative disclosure with sufficient detail and context, as well as any other appropriate supplementary information, to enable readers to understand the FMI's approach to or method for observing the principle.</i></p> <p><i>In preparing its summary narrative disclosure for the principle, an FMI should refer to Section 5 of this report as guidance for the points of focus and level of detail it is expected to convey in its disclosure.</i></p> <p><i>Cross references to publicly available documents should be included, where relevant, to supplement the discussion.</i></p>
Answers to individual questions (optional)	<p><i>This section, which is optional, should provide answers to the individual questions outlined in Section 5 of this report. Answers to the questions should be organised by key considerations.</i></p>

## V. List of publicly available resources

This section should list publicly available resources, including those referenced in the disclosure, that may help a reader understand the FMI and its approach to observing each applicable principle.

## **Annex B: Assessment report template on the observance of the principles for FMIs**

### **I. Executive summary**

This section should highlight the key findings of the assessment.

### **II. Introduction**

This section should introduce the report and include the following key information regarding the assessment:

- Assessor: Identify the entity and assessors conducting the assessment.
- Objective of the assessment: Identify the objective and context of the assessment.
- Scope of the assessment: Identify the FMI, the set of the FMI's operations and services, and the set of principles assessed.
- Methodology of the assessment: Identify the process followed in conducting the assessment. If not all principles were assessed, an explanation should be provided of why certain principles were not assessed.
- Sources of information in the assessment: Identify the main sources of information, including public and non-public sources, used in conducting the assessment. These sources may include written documentation (such as other assessments, surveys, questionnaires, reports, studies, relevant laws and regulations, and regulatory and industry guidance) and conversations with the FMI itself, authorities and relevant industry stakeholders (such as participants, other FMIs, stock exchanges, custodians, securities brokers and end user associations).

In addition, this section should mention any difficulties in conducting the assessment, such as lack of information or cooperation and any factors limiting the assessment process or its scope. Further, an account of any information requested but not obtained should be given.

### **III. Overview of the payment, clearing and settlement landscape**

This section should provide a general description of the role of the FMI in the overall payment, clearing and settlement landscape; a general description of the FMI's operations and services; and summary statistics to help understand the scope of the FMI's activities. The general description and summary statistics should help to facilitate comparisons with other FMIs, as appropriate.

This section should also provide a general description of the regulatory, supervisory or oversight framework relating to the FMI; a brief description of the relevant authorities; and a summary of the major changes and reforms implemented in the recent past or scheduled for the near future.

## IV. Summary assessment

### Summary assessment of observance of the principles

This section should summarise the key findings of the detailed assessment of the principles. For each principle, the assessment should:

- highlight the FMI's key practices and achievements;
- list identified issues of concern; and
- comment on each principle that is not fully observed and provide the main reasons for assigning a rating of "broadly observed", "partly observed" or "not observed"; indicate the risk factors that might influence 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.

This section should conclude with a summary of the results of the principle-by-principle assessment of observance (see Table 1).

Table 1

#### Ratings summary

Assessment category	Principle
Observed	<i>eg Principles 1, 3, 6 and 8</i>
Broadly observed	
Partly observed	
Not observed	
Not applicable	

### Recommendations for the FMI

This section should list the suggested steps to improve the FMI's observance of the principles. In Table 2, assessors should list issues of concern and other gaps or shortcomings in the FMI's observance of the principles along with any recommendations to address them and the time frame within which the FMI should take action.

Assessors should list recommendations in order of priority, from the most urgent to be implemented or addressed to the least urgent. Assessors also should explain the manner in which the recommended action would lead to an improvement in the level of observance of the principle. If an FMI has plans for improvements under way, this should be noted in the comments section. Any specific obstacles to observance should also be noted.

Some principles may be listed multiple times in Table 2 when multiple issues of concern or other gaps or shortcomings have been identified.

Table 2

**Prioritised list of recommendations**

<b>Principle</b>	<b>Issue of concern or other gap or shortcoming</b>	<b>Recommended action and comments</b>	<b>Time frame for addressing recommended action</b>

**V. Detailed assessment report**

The detailed assessment table should provide a description of the FMI with regard to applicable key considerations, key conclusions and the assessment rating for each applicable principle (see Table 3).

Table 3

**Detailed assessment of observance of the principles**

*For each applicable principle*

<b>Principle X</b>	
<i>Text of the principle</i>	
Key consideration 1 <i>Text of key consideration</i>	<i>This section should provide information on the practices of the FMI as they relate to the key consideration. Assessors should be guided by the questions for each applicable key consideration and, where applicable, should organise information according to the subject headers provided in the question set in Section 5. Only the key considerations applying to the category of FMI being assessed should be selected.</i>  <i>Responses should reflect the actual practices followed by FMI operators and participants. The list of questions in Section 5 is a tool to help assessors gather facts and is not intended to be a checklist. The specific answers to each of these questions should not necessarily be part of the assessment report.</i>
⋮	⋮
Key consideration N <i>Text of key consideration</i>	<i>Supporting facts...</i>

Table 3 (cont)

**Detailed assessment of observance of the principles**

Key conclusions for principle	<i>This section should provide a narrative summary of key information collected by the assessors for each principle based on the supporting facts collected for each applicable key consideration. The narrative summary should summarise the FMI's practices and achievements, describe the seriousness of any issues of concern, and identify any other gaps or shortcomings.</i>
Assessment of principle	<i>This section should state whether the principle is "observed", "broadly observed", "partly observed", "not observed" or "not applicable". This section should also give the rationale for the assigned rating.</i>
Recommendations and comments	<i>This section should provide recommended actions and other comments for each identified issue of concern and any other gaps or shortcomings.</i>

## **Annex C: Assessment report template on the observance of the responsibilities of authorities for FMIs**

### **I. Executive summary**

This section should highlight the key findings of the assessment.

### **II. Introduction**

This section should introduce the report and include the following key information regarding the assessment:

- Assessor: Identify the entity and assessors conducting the assessment.
- Objective of the assessment: Identify the objective and context of the assessment.
- Scope of the assessment: Identify the set of authorities; authorities' responsibilities over regulation, supervision and oversight of FMIs; and responsibilities assessed.
- Methodology of the assessment: Identify the process followed in conducting the assessment. If not all responsibilities were assessed, an explanation should be provided of why certain responsibilities were not assessed.
- Sources of information in the assessment: Identify the main sources of information, including public and non-public sources, used in conducting the assessment. These sources may include written documentation (such as other assessments, surveys, questionnaires, reports, studies, relevant laws and regulations, and regulatory and industry guidance) and conversations with authorities and relevant industry stakeholders.

In addition, this section should mention any difficulties in conducting the assessment, such as lack of information or cooperation and any factors limiting the assessment process or its scope. Further, an account of any information requested but not obtained should be given.

### **III. Overview of the payment, clearing and settlement landscape**

This section should provide a general description of the overall payment, clearing and settlement landscape; a general description of the regulatory, supervisory and oversight framework relating to the FMIs in the jurisdiction; a brief description of the relevant authorities; and a summary of the major changes and reforms implemented in the recent past or scheduled for the near future.

### **IV. Summary assessment**

#### **Summary assessment of observance of the responsibilities**

This section should summarise the key findings of the detailed assessment of the responsibilities. For each responsibility, the assessment should:

- highlight the authorities' key practices and achievements;
- list identified issues of concern; and



- comment on each responsibility that is not fully observed and provide the main reasons for assigning a rating of “broadly observed”, “partly observed” or “not observed”; indicate the risk factors that might influence 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.

This section should conclude with a summary of the responsibility-by-responsibility assessment of observance (see Table 1).

Table 1

**Ratings summary**

Assessment category	Responsibility
Observed	<i>eg Responsibilities A and C</i>
Broadly observed	<i>eg Responsibilities B, D and E</i>
Partly observed	
Not observed	
Not applicable	

**Recommendations for authorities**

This section should list the suggested steps to improve authorities’ observance of the responsibilities. In Table 2, assessors should list issues of concern and other gaps or shortcomings in the authorities’ observance of the responsibilities, along with any recommendations to address them, the relevant authority to address the recommendation, and the time frame within which the relevant authority should take action.

Assessors should list recommendations in order of priority, from the most urgent to be implemented or addressed to the least urgent. Assessors should also explain the manner in which the recommended action would lead to an improvement in the level of observance of the responsibilities. Any specific obstacles to observance should also be noted. If authorities have plans for improvements under way, this should be noted in the comments section.

Some responsibilities may be listed multiple times in Table 2 when multiple issues of concern or other gaps or shortcomings have been identified.

Table 2

**Prioritised list of recommendations**

Responsibility	Issue of concern or other gap or shortcoming	Recommended action and comments	Relevant parties	Time frame for addressing recommended action

## V. Detailed assessment report

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

Table 3

### Detailed assessment of observance of the responsibilities

<i>For each responsibility</i>	
<b>Responsibility X</b>	
<i>Text of the responsibility</i>	
Key consideration 1 <i>Text of key consideration</i>	<i>This section should provide information on the practices of the authorities as they relate to the key consideration. Assessors should be guided by the questions for each key consideration and, where applicable, should organise information according to the subject headers provided in the question set in Section 6.</i>  <i>Responses should reflect the actual practices followed by authorities. The list of questions in Section 6 is a tool to help assessors gather facts and is not intended to be a checklist. The specific answers to each of these questions should not necessarily be part of the assessment report.</i>
⋮	⋮
Key consideration N <i>Text of key consideration</i>	<i>Supporting facts...</i>
Key conclusions for responsibility	<i>This section should provide a narrative summary of key information collected by the assessors for each responsibility based on the supporting facts collected for each key consideration. The narrative summary should summarise the authorities' practices and achievements, describe the seriousness of any issues of concern, and identify any other gaps or shortcomings.</i>
Assessment of responsibility	<i>This section should state whether the responsibility is "observed", "broadly observed", "partly observed", "not observed" or "not applicable". This section should also give the rationale for the assigned rating.</i>
Recommendations and comments	<i>This section should provide recommended actions and other comments for each identified issue of concern and any other gaps or shortcomings.</i>

## **Annex D: Country assessment report template on observance of the principles for FMIs and responsibilities of authorities**

### **I. Executive summary**

This section should highlight the key relevant findings of the assessment.

### **II. Introduction**

This section should introduce the report and include the following key information regarding the assessment.

- Assessor: Identify the entity and assessors conducting the assessment.
- Objective of the assessment: Identify the objective and context of the assessment.
- Scope of the assessment: Identify the FMIs, the set of FMIs' operations and services (including instruments and markets served) and the set of principles assessed. Identify the set of authorities; authorities' responsibilities over regulation, supervision and oversight of FMIs; and responsibilities assessed.
- Methodology of the assessment: Identify the process followed in conducting the assessment. If not all principles or responsibilities were assessed, an explanation should be provided on why certain principles or responsibilities were not assessed.
- Sources of information in the assessment: Identify the main sources of information, including public and non-public sources, used in conducting the assessment. These sources may include written documentation (such as other assessments, surveys, questionnaires, reports, studies, relevant laws and regulations, and regulatory and industry guidance) and conversations with the FMIs themselves, authorities and relevant industry stakeholders (such as participants, stock exchanges, custodians, securities brokers or end user associations).

In addition, this section should mention any difficulties in conducting the assessment, such as lack of information or cooperation and any factors limiting the assessment process or its scope. Further, an account of any information requested but not obtained should be given.

### **III. Overview of the payment, clearing and settlement landscape**

This section should provide a general description of the overall payment, securities or derivatives clearing and settlement architecture.

The section should also provide a general description of the FMIs' operations and services; and summary statistics to help understand the scope of the FMIs' 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, supervisory or oversight framework relating to the FMIs; a brief description of the relevant authorities; and a summary of the major changes and reforms implemented in the recent past or scheduled for the near future.

## IV. Summary assessment

### IV.1 Summary assessment of observance of the principles

This section should summarise the key findings of the detailed assessment of principles. Assessors should state the main findings of the detailed assessment of observance of the principles under the following main categories: (a) general organisation (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 and 12); (e) default management (Principles 13 and 14); (f) general business and operational risk management (Principles 15 to 17); (g) access (Principles 18 to 20); (h) efficiency (Principles 21 and 22); and (i) transparency (Principles 23 and 24).

Under each category, assessors should, for each FMI:

- highlight the FMI's key practices and achievements;
- list identified issues of concern; and
- comment on each principle that is not fully observed and provide the main reasons for assigning a rating of "broadly observed", "partly observed" or "not observed"; indicate the risk factors that might influence 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.

This section should conclude with a summary of the results of the principle-by-principle assessment of observance (see Table 1).

Table 1

#### Ratings summary for principles: [name of FMI]

Assessment category	Principle
Observed	<i>eg Principles 1, 3, 6 and 8</i>
Broadly observed	
Partly observed	
Not observed	
Not applicable	

### IV.2 Summary assessment of observance of the responsibilities

This section should summarise the key findings of the detailed assessment of responsibilities. For each responsibility, the assessment should:

- highlight the authorities' key practices and achievements;
- list identified issues of concern; and
- comment on each responsibility that is not observed and provide the main reasons for assigning a rating of "broadly observed", "partly observed" or "not observed"; indicate the risk factors that might influence 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.

This section should conclude with a summary of the results of the responsibility-by-responsibility assessment of observance (see Table 2).

Table 2

**Ratings summary for responsibilities**

Assessment category	Responsibility
Observed	<i>eg Responsibilities A and C</i>
Broadly observed	<i>eg Responsibilities B, D and E</i>
Partly observed	
Not observed	
Not applicable	

**IV.3 Summary assessment of market-wide recommendations**

This section should present any findings with regard to the assessment of market-wide recommendations, where applicable (such as FSAPs and technical assistance).<sup>7</sup>

**IV.4 Recommendations for FMIs**

This section should list the suggested steps to improve the FMIs’ observance of the principles. In Table 3, assessors should list their recommendations to address each identified issue of concern and other gaps or shortcomings in the FMIs’ observance of the principles and the time frame within which the FMIs should take action.

Assessors should list recommendations by FMI and in order of priority, from the most urgent to be implemented or addressed to the least urgent. Assessors should explain the manner in which the recommended action would lead to an improvement in the level of observance of the principle. If FMIs have plans for improvements under way, this should be noted in the comments section (although the future impact of those plans will not be reflected in the current assignment of an assessment category). Any specific obstacles to observance should be noted.

Some principles may be listed multiple times in the table when multiple issues of concern or other gaps or shortcomings have been identified.

Table 3

**Prioritised list of recommendations for [name of FMI]**

<b>Principle</b>	<b>Issue of concern or other gap or shortcoming</b>	<b>Recommended action and comments</b>	<b>Time frame for addressing recommended action</b>

<sup>7</sup> For external assessments which cover the overall national payment system in the country, this section could be used to include comments on any relevant matter identified as an improvement opportunity for the broad payment, clearing and settlement environment.

#### IV.5 Recommendations for authorities

This section should list the suggested steps to improve authorities' observance of the responsibilities. In Table 4, assessors should list their recommendations to address each identified issue of concern and other gaps or shortcomings in the authorities' observance of the responsibilities and the time frame within which the relevant authority should take action.

Assessors should list recommendations in order of priority, from the most urgent to be implemented or addressed to the least urgent. Assessors should explain the manner in which the recommended action would lead to an improvement in the level of observance of the responsibilities. 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 an assessment category). Any specific obstacles to observance should be noted. The parties that are best positioned to address each identified issue of concern should be indicated.

Some responsibilities may be listed multiple times in the table when multiple issues of concern or other gaps or shortcomings have been identified.

Table 4

##### Prioritised list of recommendations for authorities

Responsibility	Issue of concern or other gap or shortcoming	Recommended action and comments	Relevant parties	Time frame for addressing recommended action

#### IV.6 Other recommendations on market-wide issues

This section should present any recommendations stemming from the assessment of market-wide recommendations, where applicable (such as FSAPs and technical assistance).<sup>8</sup>

### V. Detailed assessment reports

#### Detailed assessment table of observance of the principles

The detailed assessment table should provide a description of the FMI(s) with regard to applicable key considerations, key conclusions and an assessment rating for each by principle (see Table 5). An example of this template as applied to Principle 1 on legal basis is also provided (see Table 5 – example).

<sup>8</sup> For external assessments which cover the overall national payment system in the country, this section could be used to include comments on any relevant matter identified as an improvement opportunity for the broad payment, clearing and settlement environment.

Table 5

### Detailed assessment of observance of the principles

*For each applicable principle*

<b>Principle X</b>	
<i>Text of the principle</i>	
Key consideration 1 <i>Text of key consideration</i>	<p><i>This section should provide information on the practices of the FMI as they relate to the key consideration. Assessors should be guided by the questions for each applicable key consideration and, where applicable, should organise information according to the subject headers provided in the question set in Section 5. Only the key considerations applying to the category of FMI being assessed should be selected.</i></p> <p><i>Responses should reflect the actual practices followed by FMI operators and participants. The list of questions in Section 5 is a tool to help assessors gather facts and is not intended to be a checklist. The specific answers to each of these questions should not necessarily be part of the assessment report.</i></p>
⋮	⋮
Key consideration 1 <i>Text of key consideration</i>	<i>Supporting facts...</i>
Key conclusions for principle	<p><i>This section should provide a narrative summary of key information collected by the assessors for each principle based on the supporting facts collected for each applicable key consideration. The narrative summary should summarise the FMI's practices and achievements, describe the seriousness of any issues of concern, and identify any other gaps or shortcomings.</i></p>
Assessment of principle	<p><i>This section should state whether the principle is "observed", "broadly observed", "partly observed", "not observed" or "not applicable". This section should also give the rationale for the assigned rating.</i></p>
Recommendations and comments	<p><i>This section should provide recommended actions and other comments for each identified issue of concern and any other gaps or shortcomings.</i></p>

Table 5 – example

**Example table for detailed assessment of observance of principles**

<b>Principle 1: Legal basis</b>	
An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.	
<p>Key consideration 1</p> <p>The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions.</p>	<p>Material aspects and relevant jurisdictions</p> <p><i>Insert supporting facts</i></p>
	<p>Legal basis for each material aspect</p> <p><i>Insert supporting facts</i></p>
<p>Key consideration 2</p> <p>An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.</p>	<p><i>Insert supporting facts</i></p>
<p>Key consideration 3</p> <p>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.</p>	<p><i>Insert supporting facts</i></p>
<p>Key consideration 4</p> <p>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.</p>	<p>Enforceability of the rules, procedures and contracts</p> <p><i>Insert supporting facts</i></p>
	<p>Degree of certainty for rules and procedures</p> <p><i>Insert supporting facts</i></p>
<p>Key consideration 5</p> <p>An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.</p>	<p><i>Insert supporting facts</i></p>
<p>Key conclusions for Principle 1</p>	<p><i>Insert narrative</i></p>
<p>Assessment of Principle 1</p>	<p><i>Insert assessment</i></p>
<p>Recommendations and comments</p>	<p><i>Insert recommendations and comments</i></p>



## Detailed assessment of observance of the responsibilities

The detailed assessment table should provide a description with regard to the key considerations, key conclusions and the assessment rating for each responsibility (see Table 6). An example of this template as applied to Responsibility B is also provided (see Table 6 – example).

Table 6

### Detailed assessment of observance of the responsibilities

<i>For each responsibility</i>	
<b>Responsibility X</b>	
<i>Text of the responsibility</i>	
Key consideration 1 <i>Text of key consideration</i>	<i>This section should provide information on the practices of the authorities as they relate to the key consideration. Assessors should be guided by the questions for each key consideration and, where applicable, should organise information according to the subject headers provided in the question set in Section 6.</i>  <i>Responses should reflect the actual practices followed by authorities. The list of questions in Section 6 is a tool to help assessors gather facts and is not intended to be a checklist. The specific answers to each of these questions should not necessarily be part of the assessment report.</i>
⋮	⋮
Key consideration N <i>Text of key consideration</i>	<i>Supporting facts...</i>
Key conclusions for responsibility	<i>This section should provide a narrative summary of key information collected by the assessors for each responsibility based on the supporting facts collected for each key consideration. The narrative summary should summarise the authorities' practices and achievements, describe the seriousness of any issues of concern, and identify any other gaps or shortcomings.</i>
Assessment of responsibility	<i>This section should state whether the responsibility is "observed", "broadly observed", "partly observed", "not observed" or "not applicable". This section should also give the rationale for the assigned rating.</i>
Recommendations and comments	<i>This section should provide recommended actions and other comments for each identified issue of concern and any other gaps or shortcomings.</i>

Table 6 – example

**Example table for detailed assessment of observance of responsibilities**

<b>Responsibility B: Regulatory, supervisory, and oversight powers and resources</b>	
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 FMs.	
Key consideration 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.	Powers or other authority consistent with relevant responsibilities <i>Insert supporting facts</i>
	Power to obtain timely information <i>Insert supporting facts</i>
	Powers to induce change or enforce corrective action <i>Insert supporting facts</i>
Key consideration 2 Authorities should have sufficient resources to fulfil their regulatory, supervisory, and oversight responsibilities.	Resources <i>Insert supporting facts</i>
	Legal protections <i>Insert supporting facts</i>
Key conclusions for Responsibility B	<i>Insert narrative</i>
Assessment of Responsibility B	<i>Insert assessment</i>
Recommendations and comments	<i>Insert recommendations and comments</i>

## **Annex E: Members of the CPSS-IOSCO review of standards**

This list shows the members of the Steering Group and Editorial Team that coordinated and implemented the review of standards, including the production of the disclosure framework and assessment methodology.

### *Steering Group co-chairs*

Bank of England	Paul Tucker (since April 2012)
Federal Reserve Bank of New York	William C Dudley (until April 2012)
Financial Services Agency, Japan	Masamichi Kono (since August 2011)
Securities and Exchange Commission, US	Kathleen Casey (until July 2011)

### *Editorial Team co-chairs*

European Central Bank	Daniela Russo
Securities and Exchange Commission, US	Jeffrey Mooney

### *Members*

Reserve Bank of Australia	Tony Richards (since March 2012) Christopher Kent (from September 2010 until March 2012) Michele Bullock (until August 2010)
National Bank of Belgium	Johan Pissens
Central Bank of Brazil	Daso Maranhão Coimbra (since October 2010) Radjalma Costa (until October 2010)
Securities and Exchange Commission of Brazil	Marcelo Queiroga Reis
Bank of Canada	Paul Chilcott (since November 2010) Carol Ann Northcott (until November 2010)
Autorité des marchés financiers, Québec	Claude Gatien
Ontario Securities Commission	Maxime Paré
Superintendencia de Valores y Seguros, Chile	Vicente Lazen
People's Bank of China	Pan Song
China Securities Regulatory Commission	Fan Yu Shen Bing
European Central Bank	Andreas Schönenberger Karine Themejian
Bank of France	Frédéric Hervo
Autorité des marchés financiers, France	Sonia Cattarinussi (since November 2011) Bénédicte Doumayrou (until October 2011)

Deutsche Bundesbank	Jochen Metzger Roland Neuschwander
Bafin (German Financial Supervisory Authority)	Thomas Eufinger Jan Budaeus
Hong Kong Monetary Authority	Esmond K Y Lee
Securities and Futures Commission, Hong Kong	Rico Leung
Reserve Bank of India	G Padmanabhan
Bank of Italy	Paolo Marullo Reedtz
Bank of Japan	Takeshi Shirakami (since July 2012) Yutaka Soejima (from June 2011 until July 2012) Masayuki Mizuno (until June 2011)
Financial Services Agency, Japan	Jun Mizuguchi Jutaro Kaneko Kazunari Mochizuki (until July 2012)
Bank of Korea	Jeon Beopyong
Bank of Mexico	Ricardo Medina Alvarez David Margolín Schabes (until October 2012)
Netherlands Bank	Ron Berndsen
Central Bank of the Russian Federation	Nikolay Geronin
Saudi Arabian Monetary Agency	Ali Al Homidan
Monetary Authority of Singapore	Terry Goh (since March 2012) Andrew Khoo (until March 2012)
Comisión Nacional del Mercado de Valores, Spain	Iñigo de la Lastra
Sveriges Riksbank	Malin Alpen
Swiss National Bank	Philipp Haene
Swiss Financial Market Supervisory Authority	Andreas Bail (since January 2012) Michael Zumbach (from July to December 2011) Tina Müller (until June 2011)
Bank of England	Edwin Schooling Latter (since March 2011) Julian Oliver (from November 2010 until February 2011) Paul Chilcott (until October 2010)
Financial Services Authority, UK	Barry King
Board of Governors of the Federal Reserve System	Jeffrey Marquardt Jennifer Lucier Paul Wong
Federal Reserve Bank of New York	Lawrence Sweet

Commodity Futures Trading Commission, US	Ananda Radhakrishnan Robert Wasserman (since March 2011) Sarah Josephson (until March 2011)
Securities and Exchange Commission, US	Katherine Martin (since August 2012) Alison Duncan (since October 2010) David Michehl (until August 2010)
International Monetary Fund	Froukelien Wendt (since March 2012) Christine Sampic (until March 2012)
World Bank	Massimo Cirasino
<i>Observers</i>	
European Commission	Patrick Pearson
European Securities and Markets Authority	Fabrizio Planta
<i>Secretariat</i>	
Bank for International Settlements	Klaus Löber (since September 2012) Daniel Heller (until February 2012) Robert Lindley
International Organization of Securities Commissions	Yukako Fujioka

The review of standards also benefited from contributions by Greg Chugg, Louise Carter, Darren Massey (Reserve Bank of Australia), Rogerio Antonio Lucca (Central Bank of Brazil), Suzanne Mercure, Éline Lanouette (Autorité des marchés financiers, Québec), Joaquín Bernal (Bank of the Republic, Colombia), Sylvia Tyroler (Deutsche Bundesbank), Ryan Ko (Securities and Futures Commission, Hong Kong), Takeshi Mori (Bank of Japan), Lau Tze Hon, Loh Pui Hoon, Ken Nagatsuka, Janice Chua (Monetary Authority of Singapore), Mike Stocks (South African Reserve Bank), Sergio Gorjon (Bank of Spain), Miguel Ángel Herrero Alvite (Comisión Nacional del Mercado de Valores, Spain), Simon Turek, Ben Mitchell, Richard Spooner, Benjamin Cohn-Urbach (Financial Services Authority, UK), Travis Nesmith, Mark Magro, Emily Caron, Namirembe Mukasa, Michael Koslow, Jeremy Ward, Kristopher Natoli, Sarah Wright, Scott Abrahams, Dibora Amanuel (Board of Governors of the Federal Reserve System), Marsha Takagi, Brian Begalle, Shari Bower, Kirsten Harlow (Federal Reserve Bank of New York), Marta Chaffee, Joseph Kamnik, Matthew Landon, Catherine Moore, Stephanie Park, Ester Saverson (US Securities and Exchange Commission), Maria Teresa Chimienti, Mario Guadamillas and Bruce Summers (World Bank).