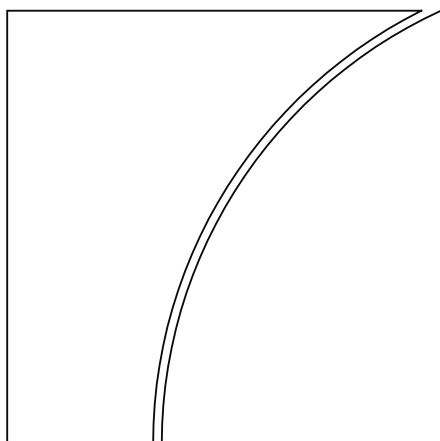


Committee on Payments and Market Infrastructures

Board of the International Organization of Securities Commissions



Implementation monitoring of
PFMI: Assessment report for
the United States – Payment
systems, central securities
depositories and securities
settlement systems

May 2019



BANK FOR INTERNATIONAL SETTLEMENTS



IOICU-IOSCO

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1. Executive summary

In April 2012, the Committee on Payments and Market Infrastructures (CPMI)¹ and the International Organization of Securities Commissions (IOSCO) issued the *Principles for financial market infrastructures* (PFMI).² The principles within the PFMI (the Principles) set expectations for the design and operation of key financial market infrastructures to enhance their safety and efficiency and, more broadly, to limit systemic risk and foster transparency and financial stability. The Principles apply to all systemically important payment systems (PSs), central securities depositories (CSDs), securities settlement systems (SSSs), central counterparties (CCPs) and trade repositories (TRs), collectively referred to as financial market infrastructures (FMIs). These FMIs collectively clear, settle and record transactions in financial markets. In line with the G20's expectations, CPMI and IOSCO members have committed to implementing and applying the PFMI in their jurisdictions.

Following the publication of the PFMI, the CPMI and IOSCO agreed to monitor the implementation of the PFMI in 28 jurisdictions that are members of the Financial Stability Board (FSB), the CPMI or IOSCO.³ To this end, the CPMI-IOSCO Steering Group⁴ established the Implementation Monitoring Standing Group (IMSG)⁵ to design, organise and conduct the implementation monitoring assessments. The implementation monitoring programme has proceeded at three levels: a Level 1 self-assessment by jurisdictions on their progress in completing the process of adopting the legislation, regulations and other policies that will enable them to implement the PFMI; a Level 2 peer assessment of the completeness of the implemented framework and its consistency with the PFMI; and a Level 3 peer assessment of the consistency in outcomes of such frameworks.⁶

This report presents the CPMI and IOSCO conclusions of a Level 2 assessment of whether, and to what degree, the content of the legal, regulatory and oversight frameworks, including rules and regulations, any relevant policy statements or other forms of implementation applied to systemically important PSs and CSDs/SSSs, in the United States, are complete and consistent with the Principles. The assessment reflects the status of the US legal, regulatory and oversight framework as of March 2018. Accordingly, assessment ratings, recommendations and key conclusions reflect the implementation measures in place as of 30 March 2018. Measures implemented after this date were not considered for the purposes of the rating.

1.1 Legal and regulatory framework

Oversight and supervision for certain PSs are the responsibilities of the Board of Governors of the Federal Reserve System (Board). Oversight and supervision of CSDs and SSSs are the responsibilities of the US Securities and Exchange Commission (SEC) and the Board. The primary authority for privately owned CSDs

¹ The Committee on Payment and Settlement Systems (CPSS) changed its name to the Committee on Payments and Market Infrastructures (CPMI) on 1 September 2014. References to reports published before that date use the Committee's old name.

² The CPSS-IOSCO *Principles for financial market infrastructures* (April 2012) can be found on the websites of the BIS at www.bis.org/cpmi/publ/d101.htm and IOSCO at www.iosco.org/library/pubdocs/pdf/IOSCOPD377-PFMI.pdf.

³ The 28 jurisdictions participating in the PFMI implementation monitoring exercise are Argentina, Australia, Belgium, Brazil, Canada, Chile, China, the European Union, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

⁴ The Steering Group comprises a subset of the members of the CPMI and the IOSCO Board, and is responsible for providing operational guidance on behalf of the parent committees on joint CPMI-IOSCO work.

⁵ The IMSG comprises representatives from CPMI and IOSCO members that reflect a balance between the two standard setting bodies and geographical dispersion.

⁶ See the BIS and IOSCO websites for a list of completed Level 1, Level 2 and Level 3 assessments.

and SSSs that are registered as clearing agencies under the Securities and Exchange Act (Exchange Act) is the SEC, while the Board is the primary authority for Federal Reserve Bank (Reserve Bank)-operated systems. The Board also has certain authorities under the Federal Reserve Act and under the Exchange Act for a clearing agency that is also organised as a state-chartered bank that is a member of the Federal Reserve System (state member bank). Both the Board and the SEC use a mixture of rules and principle-based approaches to implementing the Principles for PSs and CSDs/SSSs.

Payment systems

The Board is the primary authority for (i) private sector payment systems that have been designated as systemically important under the Dodd-Frank Wall Street Transparency and Accountability Act of 2010 (Dodd-Frank Act); and (ii) payment systems operated by the Reserve Banks under the Federal Reserve Act, including the Fedwire Funds Service. The Board has implemented Regulation HH for PSs that have been designated as systemically important under the Dodd-Frank Act, and Part I of the *Federal Reserve Policy on Payment System Risk* (PSR policy) for certain other PSs, including those operated by the Reserve Banks.

Central securities depositories / securities settlement systems

Two parallel regulatory regimes may apply to a particular CSD/SSS. The SEC is the primary authority for private sector CSDs/SSSs that are registered as clearing agencies under the Exchange Act. The SEC has adopted its Standards for Covered Clearing Agencies for systems that it oversees.⁷ In addition, the Board holds certain authorities, under the Federal Reserve Act and under the Exchange Act, with respect to a clearing agency that is also a state member bank. The Board is also the primary authority for CSDs/SSSs that are operated by the Reserve Banks. The Board holds covered CSDs/SSSs to the standards in Part I of the PSR policy.⁸

1.2 Key findings of the assessment

The Assessment Team (AT) concluded that the United States has adopted measures applicable to systemically important PSs and CSDs/SSSs that are complete and consistent with the Principles.

1.3 Summary response from the assessed jurisdiction's authorities

The staffs of the Board and the SEC (US authorities) appreciate the opportunity to respond to the assessment of the CPMI-IOSCO Implementation Monitoring Standing Group (IMSG) and thank the AT for its hard work. The response set forth in this section reflects the views of the staffs of the US authorities.⁹

As noted in this report, the AT concluded that the legal, regulatory and oversight frameworks for payment systems and CSDs/SSSs in the United States are complete and consistent with all of the relevant Principles. The AT also identified a handful of instances where the relevant frameworks could reflect the PFMI language with more granularity with regard to certain key considerations (KCs). With respect to the AT's recommendation to consider providing clarity to FMIs on the implementation of Principle 4 KC 3, the

⁷ A covered clearing agency includes a registered clearing agency that (i) has been designated as systemically important by the Financial Stability Oversight Council and for which the SEC is the supervisory agency under Title VIII of the Dodd-Frank Act; or (ii) provides CCP services for security-based swaps or is involved in activities the SEC determines to have a more complex risk profile, unless the Commodity Futures Trading Commission is the supervisory agency under Title VIII of the Dodd-Frank Act. See 17 C.F.R. § 240.17Ad-22(a)5; Standards for Covered Clearing Agencies; Final Rule; Exchange Act Release No 34-7896 (28 September 2016), 81 Fed Reg 70786 (13 October 2016).

⁸ The risk management standards that the Board adopted in Regulation HH could apply to a designated financial market utility (FMU) that operates as a CSD/SSS in the event that such an FMU were to be designated in the future and is not required to register with the SEC.

⁹ The staff views noted in this response do not necessarily reflect the views of the Board of Governors, individual Board members, the Commission or individual Commissioners.

staffs of the Board and SEC believe that the minimum “cover 2” standard for DNS systems in which there is no settlement guarantee is lower than the standard set in the headline to “cover fully with a high degree of confidence”, and that therefore it is unnecessary to include the relevant language from Principle 4 KC 3 in the US authorities’ respective rules.

Board and SEC staff will be informed by the observations and recommendations presented in this report, among other things.

2. Introduction

This report presents the CPMI and IOSCO’s conclusions on the Level 2 assessment of the Principles for the United States with regard to PSs and CSDs/SSSs. The assessment reflects the status of the US legal, regulatory and oversight framework as of 30 March 2018. Accordingly, the assessment ratings, recommendations and key conclusions reflect the implementation measures in place as of that date. The assessment was conducted as a peer review from June 2018 to January 2019.

The US authorities for the assessment were the Board and the SEC because of their role in the regulation, supervision and oversight of PSs and CSDs/SSSs.

2.1 Broader context of the Level 2 assessment

In line with the G20’s expectations, CPMI and IOSCO members have undertaken to incorporate the Principles and the Responsibilities included in the PFMI in their legal and regulatory frameworks. The CPMI and IOSCO regard full, timely and consistent implementation of the PFMI as fundamental to ensuring the safety and soundness of FMIs, avoiding regulatory arbitrage and supporting the resilience of the global financial system.

To that end, the CPMI and IOSCO have been actively monitoring the implementation of the PFMI based on a monitoring framework at three levels:

- (i) Level 1 assesses whether jurisdictions have completed the process of adopting the legislation, regulations and other policies that will enable them to implement the Principles and Responsibilities;
- (ii) Level 2 assesses completeness and consistency of the content of legislation, regulations and policies (the regulatory framework) with the Principles and the Responsibilities; and
- (iii) Level 3 assesses consistency in the outcomes of implementation of the Principles and Responsibilities.

The Level 1 assessments reflect each jurisdiction’s self-assessment on its progress in completing the process of adopting the legislation, regulations and other policies that will enable it to implement the PFMI.¹⁰ The Level 2 and Level 3 assessments, in contrast, are designed to reflect the assessment by CPMI and IOSCO, via peer reviews.

¹⁰ The CPMI and IOSCO have published six Level 1 assessments since the publication of the PFMI. These reports are available at www.bis.org/cpmi/info_mios.htm and www.iosco.org. In 2017, the CPMI and IOSCO transitioned to an online reporting system. This reporting system is available at www.bis.org/cpmi/level1_status_report.htm and www.iosco.org/about/?subsection=cpmi_iosco.

The Principles assessments are ongoing, and are being considered separately at Level 2 and Level 3.¹¹ Overall, the updates show that the 28 participating jurisdictions have made further progress in completing the adoption of legislation, regulations and/or policies to support implementation of the PFMI. The Level 1 assessments also showed that jurisdictions have implemented, or are in the process of implementing, the PFMI in different ways. Depending on the national legal and regulatory or oversight framework, some jurisdictions use a policy-based approach (ie rely on a policy statement as the primary tool for adopting the PFMI), some use a rules-based approach (ie rely on rules and/or regulations corresponding to the PFMI) and others combine these two approaches.

In this respect, US authorities can be described as having adopted a mixture of policy-based and rules-based approaches in establishing risk management standards for FMIs. In the July 2018 Level 1 assessment report, US authorities reported that the final measures for the Principles are in force for PS, CCP and CSD/SSS, and the Responsibilities are in force for all FMI types. In the November 2015 combined Level 2 and Level 3 assessment of the Responsibilities, US authorities were assessed to observe all the Responsibilities for all assessed FMI types.

The CPMI and IOSCO will continue to monitor jurisdictions' progress in implementing the Principles and Responsibilities in future assessments.

2.2 Objective and rating

The Level 2 assessment aims to determine whether, and to what degree, the content of the legal and regulatory or oversight framework, including any relevant policy statements or other forms of implementation measures, is complete and consistent with the Principles. The focus of the Level 2 assessment is on the relevant framework itself, not on the application of this framework by authorities, nor on the FMIs' observance.

The rating framework used in Level 2 assessments (Table 1) is an adaptation of the approach described in the PFMI Assessment Methodology (AM).¹² The rating levels are: "Consistent", "Broadly consistent", "Partly consistent", "Not consistent" and "Not applicable". The ratings reflect conditions at the time of the assessment, and are built on key conclusions that reflect the CPMI and IOSCO's collective expert judgment regarding the impact of identified gaps and/or shortcomings. Ratings are determined for each Principle after the jurisdiction's legislative and regulatory framework, including policy statements, as relevant, is compared against the corresponding content of the PFMI.

¹¹ For the Responsibilities, the IMSG combined the Level 2 and Level 3 assessments into a single exercise, in which it focused on both the measures taken by the relevant authority to fulfil the Responsibilities, including its powers and the framework and processes in place to meet the requirements under the Responsibilities (Level 2), and how these measures translated into observed outcomes (Level 3). This report is available at www.bis.org/cpmi/publ/d139.htm and www.iosco.org/library/pubdocs/pdf/IOSCOPD514.pdf.

¹² CPSS-IOSCO, *Principles for financial market infrastructures: Disclosure framework and assessment methodology*, December 2012, www.bis.org/cpmi/publ/d106.htm and www.iosco.org/library/pubdocs/pdf/IOSCOPD396.pdf.

Status rating of the Level 2 assessment

Table 1

Consistent	The jurisdiction's regulatory framework is consistent with the Principle. The assessment has identified no gaps or shortcomings, or only a few gaps and/or shortcomings that have no material impact on completeness and/or consistency.
Broadly consistent	The jurisdiction's regulatory framework is broadly consistent with the Principle. The assessment has identified gaps and/or shortcomings that have a minor impact on completeness and/or consistency.
Partly consistent	The jurisdiction's regulatory framework is partly consistent with the Principle. The assessment has identified gaps and/or shortcomings that have a significant impact on completeness and/or consistency.
Not consistent	The jurisdiction's regulatory framework is not consistent with the Principle. The assessment has identified gaps and/or shortcomings that have a major impact on completeness and/or consistency.
na – no implementation measures needed (ie not applicable)	This status corresponds to the case where no relevant FMI exists that is within the scope of the Principle. A rating of "na" will be indicated only if no relevant regulatory measures are being taken and no such FMI is expected to develop within the jurisdiction.

2.3 Scope

This report covers the implementation measures in the United States for systemically important PSs, including the Reserve Banks' Fedwire Funds Service, and all CSDs and SSSs, including the Reserve Banks' Fedwire Securities Service. The US measures assessed are:

- Regulation HH 12 CFR § 234.3
- Part 1 of the Federal Reserve Policy on Payment System Risk (PSR policy)
- the Exchange Act, Sections 17A and 19
- 17 CFR § 240.17Ad-22(a)-(f)
- Regulation Systems Compliance and Integrity 17 CFR § 242.1001, 1004 (Regulation SCI)

The assessed legal, regulatory and oversight frameworks are described further in Section 3.

2.4 Process

The Level 2 assessment follows an established methodology to ensure consistency across jurisdictions and time. The methodology draws heavily on the AM that was published in December 2012. This Level 2 assessment was conducted as a peer review by an assessment team (AT) composed of technical experts (see Annex E). The assessment was performed in several stages and included:

- (i) gathering and reviewing responses by relevant authorities to Level 2 survey questionnaires;
- (ii) developing an understanding of the jurisdiction's legal, regulatory and oversight framework for FMIs;
- (iii) analysing the level of completeness and consistency of implementation measures against the Principles and identifying issues that warrant further exploration to follow up with the jurisdiction;
- (iv) assessing materiality of identified gaps and shortcomings, determining ratings and developing key conclusions and recommendations as appropriate; and
- (v) providing the assessed jurisdictions with an opportunity to review the findings.

The AT was in regular and frequent contact with the relevant authorities to ensure that the team had a full and clear understanding of the intent and content of the local regulatory, supervisory and

oversight framework. Exchanges between the AT and relevant authorities also provided relevant authorities an opportunity to provide ongoing feedback on the AT's analysis. In addition, discussions with other IMSG members helped to ensure that a consistent approach was applied across all assessed FMI types and consistent with previous Level 2 assessments.

3. Overview of the regulatory, supervisory and oversight framework

In the United States, the primary supervisor of an FMI is generally determined by the FMI's activities and the governmental authority that registered the FMI or granted it permission to commence business. The authorities and responsibilities granted to the relevant supervisor to regulate, supervise or oversee PSs and CSDs/SSSs are delineated in various US statutes including the Federal Reserve Act, the Securities Exchange Act, and the Dodd-Frank Act. Title VIII of the Dodd-Frank Act¹³ was enacted to mitigate systemic risk in the financial system and to promote financial stability, in part through an enhanced supervisory framework for FMIs (which in the US, in this case, are referred to as financial market utilities (FMUs)) that have been designated as systemically important by the Financial Stability Oversight Council (FSOC).¹⁴ Under Title VIII, the relevant authorities are required to establish risk management standards that take into consideration relevant international standards for FMUs in their jurisdiction.¹⁵

3.1 Payment systems

Under the Dodd-Frank Act, the Board is the primary authority for PSs that have been designated as systemically important, which currently are The Clearing House Interbank Payments System (CHIPS) and CLS Bank International (CLS).¹⁶ Further, under the Federal Reserve Act, the Board is also the primary authority for payment systems that are operated by the Reserve Banks, which includes the Fedwire Funds Service,¹⁷ and for Edge Act Corporations (eg CLS). In addition, for payment systems that are service providers under the Bank Service Company Act,¹⁸ the federal banking agencies (including the Board) examine these systems through a joint programme conducted under the Federal Financial Institutions Examination Council. CHIPS is examined under this programme, and the Board is the lead agency on CHIPS examinations.

¹³ Title VIII of the Dodd-Frank Act is also called the Payment, Clearing, and Settlement Supervision Act of 2010.

¹⁴ US laws use the term financial market utilities (FMUs) instead of financial market infrastructures. The Dodd-Frank Act defines an FMU as any person that manages or operates a multilateral system for the purpose of transferring, clearing or settling payments, securities or other financial transactions among financial institutions or between financial institutions and the person. PSs, SSSs, CSDs and CCPs are encompassed within the definition of FMU, but TRs are excluded. In order to facilitate the presentation of the implementation measures that are assessed in this report, reference is made to "designated FMU" instead of "designated FMI".

¹⁵ See Dodd-Frank § 805(a)(2)(A), 12 U.S.C. § 5464(a)(2)(A).

¹⁶ CHIPS, operated by The Clearing House Payments Company, LLC (PayCo), is a real-time, multilateral payment system typically used for large dollar payments. CLS is an Edge corporation, chartered by the Board under section 25A of the Federal Reserve Act that settles simultaneously both payment obligations that arise from a single foreign exchange (FX) transaction.

¹⁷ The Fedwire Funds Service is a real-time gross settlement system for US dollar payments. See eg 12 U.S.C. § 248 (J) for the Board's authority over the Federal Reserve Banks (www.gpo.gov/fdsys/pkg/USCODE-2013-title12/pdf/USCODE-2013-title12-chap3-subchap11-sec248.pdf).

¹⁸ 12 U.S.C. §§ 1867(c). (www.gpo.gov/fdsys/pkg/USCODE-2013-title12/pdf/USCODE-2013-title12-chap18-sec1867.pdf).

Measures that implement the PFMI

The Board's risk management standards are outlined in two key documents: Regulation HH and Part 1 of the PSR policy.

Regulation HH

Section 805(a)(1)(A) of the Dodd-Frank Act requires the Board to prescribe risk management standards governing the operations of designated FMUs for which it or another federal banking agency is the Supervisory Agency.¹⁹ Pursuant to Title VIII of the Dodd-Frank Act, in July 2012 the Board adopted Regulation HH, which established risk management standards for certain FMUs that are designated as systemically important by the FSOC (designated FMUs). In October 2014, the Board adopted revisions to Regulation HH incorporating the PFMI.

It should be noted that the risk management standards in Regulation HH do not apply to designated FMUs for which the US Commodity Futures Trading Commission (CFTC) or the SEC is the Supervisory Agency under Title VIII of the Dodd-Frank Act.²⁰

PSR Policy

Part I of the PSR policy sets forth the Board's views, and related principles and minimum standards, regarding the management of risks in and transparency of payment, clearing, and settlement systems, including those operated by the Reserve Banks but excluding systems subject to the Board's Regulation HH. The PSR policy states that in applying Part I of the PSR policy, the Board is guided by the KCs and explanatory notes from the PFMI as well as its interpretation of the corresponding provisions of Regulation HH.

Part I of the PSR policy was revised in October 2014 to incorporate the PFMI and the enhanced supervisory framework for designated FMUs established in Title VIII of the Dodd-Frank Act. The policy incorporated the headline standards from the Principles with no modification as the relevant risk management standards for CSDs, SSSs, and certain payment systems.²¹ In particular Part I of the PSR policy defines minimum standards for the relevant entities: currently these are the Reserve Banks' Fedwire Funds Services, Fedwire Securities Services, and The Depository Trust Company (DTC).

Difference between Regulation HH and the PSR policy

Regulation HH is an enforceable rule applicable to designated FMUs other than those supervised by the CFTC or SEC. The PSR policy describes the Board's policy expectations for certain other FMIs, including FMIs operated by the Federal Reserve Banks and FMIs that are subject to the Board's supervisory authority under the Federal Reserve Act.

Board staff noted that Regulation HH is an enforceable instrument and that it contains additional details from the KCs and explanatory notes of the PFMI in the rule text, as well as the supplementary information that explains the rule text in the Adopting Release ("preamble"), to provide greater clarity on the Board's expectations. Board staff noted that they use the PFMI as a reference when establishing supervisory planning and analysis tools for each designated FMU for which the Board is the Supervisory Agency. In practice, this means that when examining a designated FMU against the standards in Regulation HH, Federal Reserve supervision staff considers the relevant KCs and explanatory notes in the PFMI in evaluating how the designated FMU meets a particular standard in Regulation HH.

¹⁹ Currently, there are no designated FMUs for which another federal banking agency is the Supervisory Agency.

²⁰ 12 CFR 234.1.

²¹ PSR Part I applies to public and private sector payment systems that expect to settle a daily aggregate gross value of U.S. dollar-denominated transactions exceeding \$5 billion on any day during the next 12 months.

Whereas the PSR policy is a policy statement, it incorporates only the headline standard without explicitly repeating the KCs or explanatory notes of the PFMI. The Board, however, has stated in the policy that it is guided by the KCs and the explanatory text of the PFMI as well as its interpretation of the corresponding provisions of Regulation HH in its application of the PSR policy. The Board has stated in the adopting releases for Regulation HH and the PSR policy that any difference in language in the two documents is not intended to lead to inconsistent policy results.

3.2 Central securities depositories/securities settlement systems

The SEC is the primary authority for private-sector CSDs/SSSs that are registered as clearing agencies under the Exchange Act.²² DTC is the sole private-sector CSD/SSS that is registered with the SEC as a clearing agency, and is held to the standards²³ the SEC has adopted for covered clearing agencies. DTC is also a designated FMU for which the SEC is the Supervisory Agency with primary jurisdiction over the entity under the Dodd-Frank Act.

Under the Federal Reserve Act, the Board has authority to examine CSDs/SSSs that are state member banks and (in some circumstances) affiliates of a state member bank.²⁴ The Board also holds enforcement authority over such state member banks under Section 8 of the Federal Deposit Insurance Act.²⁵ Finally, the Board holds certain authorities under the Exchange Act over state member banks that are registered clearing agencies, including authority to revoke an entity's registration as a clearing agency under certain circumstances.²⁶ DTC is a state member bank and CSD/SSS for which the Board holds these certain authorities.²⁷ In addition, under the Federal Reserve Act, the Board is also the primary authority for the CSD/SSS that is operated by the Reserve Banks (the Fedwire Securities Service).²⁸ The Board holds DTC and the Fedwire Securities Service to the standards in Part I of the PSR policy.

Further, the Dodd-Frank Act provides the Board with additional authorities for CSDs/SSSs that are designated as systemically important. The scope of the Board's authority depends on whether the Board is the Supervisory Agency for that designated FMU under Title VIII. Where the Board is the Supervisory Agency, Regulation HH would apply. Where the Board is not the Supervisory Agency (for example, DTC), the risk management standards in Regulation HH would not apply, but the Board would have other responsibilities under Title VIII. For example, Section 807 of the Dodd-Frank Act requires other Supervisory Agencies (including the SEC) to consult annually with the Board regarding the scope and methodology of their Title VIII examination of a designated FMU for which the Board is not the Supervisory Agency. In addition, other Supervisory Agencies must consult with the Board before taking action or

²² The Exchange Act definition of a clearing agency covers any persons who perform a wide range of clearance and settlement functions, including, but not limited to, providing CCP, CSD and SSS services. See 15 U.S.C. §78c(a)(23)(A).

²³ See 17 C.F.R. § 240.17Ad-22(e); Standards for Covered Clearing Agencies; Final Rule; Exchange Act Release No. 34-78961 (Sept. 28, 2016), 81 Fed. Reg. 70786 (Oct. 13, 2016).

²⁴ Federal Reserve Act § 9(7) and (22), 12 U.S.C. §§ 325 and 338 (authorising the Board to examine (i) state member banks; and (ii) affiliates of state member banks to "disclose fully the relations between such banks and their affiliates and the effect of such relations upon the affairs of such banks").

²⁵ See 12 U.S.C. § 1818(b)(3), which extends the Board's enforcement authority to state member banks that do not have deposits insured by the Federal Deposit Insurance Corporation.

²⁶ See Exchange Act § 19(h), 15 U.S.C. § 78s(h).

²⁷ 12 U.S.C. § 325 and 1818(b) for authority over state member banks (www.gpo.gov/fdsys/pkg/USCODE-2013-title12/pdf/USCODE-2013-title12-chap3-subchapVIII-sec325.pdf) and www.gpo.gov/fdsys/pkg/USCODE-2013-title12/pdf/USCODE-2013-title12-chap16-sec1818.pdf).

²⁸ The Fedwire Securities Service is a CSD/SSS for eligible securities including marketable US Treasury securities and securities issued by federal government agencies, government-sponsored enterprises and certain international organisations.

completing their review of any notice of material change to the rules, policies, or procedures of designated FMUs.

Measures that implement the PFMI by the SEC

The legal framework for CSD/SSS supervision, regulation and oversight in the United States encompasses both the SEC's own supervisory authority and the responsibilities of clearing agencies as Self-Regulatory Organizations (SRO) under Section 19(b) of the Exchange Act.²⁹

Section 17A of the Exchange Act gives the SEC authority to provide appropriate standards regarding clearing agency activities. In 2012, the SEC adopted Rule 17Ad-22(a)-(d) to strengthen the regulation, promote the safe and reliable operation of registered clearing agencies, and improve efficiency, transparency and access to registered clearing agencies.

In 2016, the SEC adopted Rule 17Ad-22(e) for "covered clearing agencies".³⁰ In all, Rule 17Ad-22(e) establishes requirements for covered clearing agencies in areas including general organisation, financial risk management, settlement, CSDs and exchange-of-value settlement systems, default management, business and operational risk management, access, efficiency and transparency. In adopting Rule 17Ad-22(e), the SEC considered each headline Principle and associated KCs in developing the requirements of Rule 17Ad-22(e), in some cases as part of the rule text itself and in most remaining cases as guidance.³¹ It is SEC staff practice to use Rule 17Ad-22(e) and corresponding guidance during the supervisory and examination processes.

Additionally, the SEC adopted in 2014 Regulation SCI to strengthen the technology infrastructure of the US securities markets.

Measures that implement the PFMI by the Board

As previously indicated, the Board's risk management standards are outlined in two key documents: Regulation HH and Part 1 of the PSR policy.

Regulation HH

Section 805(a)(1)(A) of the Dodd-Frank Act requires the Board to prescribe risk management standards governing the operations of designated FMUs for which it or another federal banking agency is the Supervisory Agency. The current risk management standards in the Board's Regulation HH were adopted by the Board on 28 October 2014. The Board has noted that these standards are based on the Principles in the PFMI.

It should be noted that the risk management standards in Regulation HH do not apply to designated FMUs for which the CFTC or the SEC is the Supervisory Agency under Title VIII of the Dodd-Frank Act. As such, Regulation HH does not apply to DTC, which must instead comply with risk management standards promulgated by the SEC, DTC's Supervisory Agency under Title VIII of the Dodd-Frank Act.³²

²⁹ Thus, the legal framework for supervision, regulation and oversight of covered clearing agencies in the United States effectively encompasses the rules, guidance to the rules, the preamble in the Adopting Release, the SEC's supervisory process (including the consideration of SRO proposed rule changes, ongoing monitoring and regular examinations) and the responsibilities of clearing agencies as SROs under Section 19(b) of the Exchange Act.

³⁰ See 17 C.F.R. § 240.17Ad-22(e).

³¹ See Standards for Covered Clearing Agencies; Final Rule; Exchange Act Release No. 34-78961 (28 September 2016), 81 Fed. Reg. 70786, 70789 (13 October 2016).

³² The risk management standards that the Board adopted in Regulation HH could apply to a designated FMU that operates as a CSD/SSS in the event that such an FMU were to be designated in the future and is not required to register with the SEC.

PSR Policy

Part I of PSR policy sets forth the Board's views, and related principles and minimum standards, regarding the management of risks in and transparency of payment, clearing and settlement systems, including those operated by the Reserve Banks but excluding systems subject to the Board's Regulation HH. It incorporates the headline standards from the Principles with no modification as the relevant risk management standards for CSDs and SSSs. DTC and the Fedwire Securities Services are subject to the standards in Part I of the PSR policy.

4. Assessment and recommendations

4.1 Summary assessment of completeness and consistency with the Principles

The section provides a high-level summary of the consistency and completeness of the regimes for PSs and CSDs/SSSs with respect to the Principles. A more detailed assessment, including citations of the relevant legislation, regulation, policy and guidance, and notes explaining the assigned ratings, is provided in the online CPMI-IOSCO PFMI implementation database.³³ Identified gaps and recommendations are tabulated in Section 4.2.

4.1.1 Overview

The AT has found that the legal, regulatory and oversight frameworks in the US are complete and consistent with all of the Principles that are applicable to PSs, CSDs and SSSs.³⁴

4.1.2 Payment systems

The AT found that Regulation HH consistently and completely implements all of the 18 Principles applicable to systemically important private sector PSs, with minor gaps, and that the PSR policy completely and consistently implements all 18 Principles applicable to central bank-operated PSs with no gaps identified between the PSR policy and the Principles.

Ratings summary³⁵ for systemically important private sector PS and a central bank operated PS Table 2

Assessment category	Principle
Consistent	1, 2, 3, 4, 5, 7, 8, 9, 12, 13, 15, 16, 17, 18, 19, 21, 22 and 23
Broadly consistent	None
Partly consistent	None
Not consistent	None
Not applicable	None

The AT identified the following gaps in Regulation HH as the implementation measure of Principles 4 and 7. Although inconsistencies were assessed to be immaterial and thus did not impact the

³³ Available at www.bis.org/pfmi/index.htm and www.iosco.org/about/?subsection=cpmi_iosco.

³⁴ In February 2015, the CPMI and IOSCO published the *Implementation monitoring of PFMI: Level 2 assessment report for central counterparties and trade repositories – United States*, which also refers to some of the implementation measures mentioned in the present report. The report is available at www.bis.org/cpmi/publ/d126.htm and www.iosco.org/library/pubdocs/pdf/IOSCOPD477.pdf.

³⁵ The summary only lists those Principles that are applicable to the given type of FMI as defined in paragraphs 1.10–1.14 and shown in Table 1 of the PFMI.

rating of consistent at the Principle level, the Board is still recommended to consider providing clarity to FMIs with respect to the implementation of the KCs identified below.

- *Credit risk (KC 4.3)* – Regulation HH does not explicitly address the credit risk requirement for a deferred net settlement (DNS) system in which there is no settlement guarantee but where its participants face credit exposures arising from the payment, clearing and settlement processes.
- *Liquidity risk (KC 7.9)* – The regime lacks minor details around the types of scenarios an FMI should consider in its stress tests.

The AT also observed other minor gaps or shortcomings with no material impact on completeness or consistency and which thus did not impact the rating of consistent at the Principle level (Legal basis, KC 1.5; Governance, KC 2.4; Framework for the comprehensive management of risks, KC 3.2; Liquidity risk, KC 7.1; General business risk, KC 15.1; Operational risk, KC 17.7; Disclosure of rules, key procedures, and market data, KC 23.3, KC 23.4, KC 23.5). A more detailed assessment is provided in a tabular form in Section 4.2.

4.1.3 CSDs/SSSs under the Federal Reserve Board’s authority

The AT found that Regulation HH and the PSR policy completely and consistently implement all of the 21 Principles applicable to CSDs/SSSs. Table 3 summarises the consistency of the Board’s regulatory regime.

Ratings summary³⁶ for the implementing measures applicable to CSDs/SSSs under the Board’s authority

Table 3

Assessment category	Principle
Consistent	Principles 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22 and 23
Broadly consistent	None
Partly consistent	None
Not consistent	None
Not applicable	None

The AT identified the following gaps in relation to the implementation of Principles 4 and 7. Although such gaps were assessed to be immaterial and thus did not impact the rating of consistent at the Principle level, the Board is still recommended to consider providing clarity to FMIs with respect to the following KCs:

- *Credit risk (KC 4.3)* – Regulation HH does not explicitly address the credit risk requirement for a DNS system in which there is no settlement guarantee but where its participants face credit exposures arising from the payment, clearing and settlement processes.
- *Liquidity risk (KC 7.9)* – Regulation HH lacks minor details around the types of scenarios an FMI should consider in its stress tests.

The AT also observed other minor gaps or shortcomings with no material impact on completeness or consistency and which thus did not impact the rating of consistent at the Principle level (Legal basis, KC 1.5; Governance, KC 2.4; Framework for the comprehensive management of risks, KC 3.2; Liquidity risk, KC 7.1; General business risk, KC 15.1; Operational risk, KC 17.7; Disclosure of rules, key procedures, and market data, KC23.3, KC23.4, KC23.5). A more detailed assessment is provided in a tabular form in Section 4.2.

³⁶ The rating summary only lists those Principles that are applicable to the given type of FMI as defined in paragraphs 1.10–1.14 and shown in Table 1 of the PFMI.

4.1.4 CSDs/SSSs under the SEC's authority

The AT found that the Standards for Covered Clearing Agencies and the accompanying CCA Guidance are consistent and complete when measured against the 21 Principles applicable to CSDs/SSSs.

Ratings summary³⁷ for the implementing measures applicable to CSDs/SSSs under the SEC's authority

Table 4

Assessment category	Principle
Consistent	1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22 and 23
Broadly consistent	None
Partly consistent	None
Not consistent	None
Not applicable	None

The AT identified the following gap in relation to the implementation of Principle 4. Although the gap was assessed to be immaterial and thus did not impact the rating of consistent at the Principle level, the SEC is still recommended to consider providing clarity to FMIs with respect to the following KC:

- *Credit risk (KC 4.3)* – The CCA Standards and the accompanying Guidance do not explicitly address the credit risk requirement for a DNS system in which there is no settlement guarantee but where its participants face credit exposure arising from the payment, clearing and settlement processes.

4.2 Assessment of completeness and consistency with the Principles – identified gaps and recommendations

As noted in Section 4.1, the AT has found that the legal, regulatory and oversight frameworks in the US are complete and consistent with all of the Principles that are applicable to PSs, CSDs and SSSs, with a few minor gaps.

This section provides more details regarding these minor gaps and, where applicable, recommendations. For any Principles or KCs that are not listed below, no gaps were identified. The online CPMI-IOSCO PFMI implementation database provides more detailed information, including citations of the relevant legislation, regulation, policy and guidance, and notes explaining the assigned ratings for all relevant Principles.³⁸

4.2.1 Payment systems

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.

<i>Principle rating</i>	Consistent
<i>Implementation measure</i>	Regulation HH (12 CFR § 234.3(a)(1)) PSR policy Principle 1: Legal basis

³⁷ The rating summary only lists those Principles that are applicable to the given type of FMI as defined in paragraphs 1.10–1.14 and shown in Table 1 of the PFMI.

³⁸ The implementation database is available at www.bis.org/pfmi/index.htm and www.iosco.org/about/?subsection=cpmi_iosco.

Key conclusions / recommendations **Key conclusions**
 Regulation HH is consistent with the headline standard in Principle 1; the details of KC 5, however, are not implemented separately.
 These gaps or shortcomings identified have no material impact on completeness or consistency.

KC 5 **Key consideration text**
 An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.
Implementation measure
 Regulation HH (12 CFR § 234.3(a)(1))
 PSR policy Principle 1: Legal basis
Key conclusion
 The preamble of Regulation HH mentions that if a designated FMU operates across multiple jurisdictions, it must confirm the legal basis for all material aspects of its activities in all relevant jurisdictions. This introduces a materiality threshold not present in the KC. However, this shortcoming is considered non-material.

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.

Principle rating Consistent
Implementation measure Regulation HH (12 CFR § 234.3(a)(2))
 PSR policy Principle 2: Governance
Key conclusions / recommendations **Key conclusions**
 Regulation HH is consistent with the headline standard in Principle 2; some elements of KC 4, however, are not included explicitly.
 These gaps or shortcomings identified have no material impact on completeness or consistency.
Recommendations
 The Board is recommended to implement measures which address the gaps or inconsistencies identified, specifically those related to KC 4.

KC 4 **Key consideration text**
 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).
Implementation measure
 Regulation HH (12 CFR § 234.3(a)(2)(iv)(C) and (D))
 PSR policy Principle 2: Governance
Key conclusion
 Regulation HH does not require that the board of a payment system have suitable members with appropriate incentives to fulfil its multiple roles.

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.

Principle rating Consistent
Implementation measure Regulation HH (12 CFR § 234.3(a)(3))
 PSR policy Principle 3: Framework for the comprehensive management of risks
Key conclusions / recommendations **Key conclusions**
 Regulation HH is consistent with the headline standard in Principle 3; the details of KC 2, however, are not implemented separately.

These gaps or shortcomings identified have no material impact on completeness or consistency.

KC 2

Key consideration text

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

Implementation measure

Regulation HH (12 CFR § 234.3(a)(3))

PSR policy Principle 3: Framework for the comprehensive management of risks

Key conclusion

In Regulation HH, the details of KC 2 are not implemented separately and the headline does not provide sufficient details to be able to consider the substance of the KC to have been implemented. However, in practice the required implementing measures might be covered by other Principles (eg Principle 4 on default fund contributions and loss allocation act (among other things) as incentives for participants to manage their risks towards the designated FMU). Taking all this together, the shortcoming in details of the implementation measure regarding KC 2 is assessed to have no material impact on consistency.

Principle 4: Credit risk

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

Principle rating

Consistent

Implementation measure

Regulation HH (12 CFR § 234.3(a)(4)(i)-(ii))

PSR policy Principle 4: Credit risk

Key conclusions / recommendations

Key conclusions

Regulation HH is consistent with the headline standard in Principle 4; some details of KC 3, however, are not included explicitly.

Recommendations

The Board is recommended to implement measures which address the gaps or inconsistencies identified, specifically those related to KC 3.

KC 3

Key consideration text

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.

Implementation measure

Regulation HH (12 CFR § 234.3(a)(4) and (4)(v))

PSR policy Principle 4: Credit risk

Key conclusion

Regulation HH does not explicitly address the credit risk requirement for a DNS system in which there is no settlement guarantee but where its participants face credit exposures arising from the payment, clearing and settlement processes.

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.

Principle rating Consistent

Implementation measure Regulation HH (12 CFR § 234.3(a)(7)(ii))
PSR policy Principle 7: Liquidity risk

Key conclusions / recommendations **Key conclusions**
Regulation HH is consistent with the headline standard in Principle 7; the details of KC 9, however, are not included explicitly.
Gaps or shortcomings identified with other KCs have no material impact on completeness or consistency.

Recommendations

The Board is recommended to implement measures which address the gaps or inconsistencies identified, specifically those related to KC 9.

KC 1 **Key consideration text**

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.

Implementation measure

Regulation HH (12 CFR § 234.3(a)(7))
PSR policy Principle 7: Liquidity risk

Key conclusion

Regulation HH lists the entities which a designated FMU should consider in managing its liquidity risks, other than a custodian bank. The rule nevertheless requires a designated FMU to measure, monitor and manage the liquidity risks it faces; the intention of the rule is clearly to include all entities listed in KC 1.

KC 9 **Key consideration text**

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.

Implementation measure

Regulation HH (12 CFR § 234.3(a)(7)(vi)-(vii))
PSR policy Principle 7: Liquidity risk

Key conclusion

While Regulation HH requires covered entities to stress test their liquid resources on a daily basis, it does not list the relevant types of scenarios to be covered.

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.

Principle rating Consistent

<i>Implementation measure</i>	Regulation HH (12 CFR § 234.3(a)(15) and (15)(i)) PSR policy Principle 15: General business risk
<i>Key conclusions / recommendations</i>	Key conclusions Regulation HH is consistent with Principle 15, although there are some gaps or shortcomings with KC 1 that have no material impact on completeness or consistency.

KC 1	Key consideration text 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. Implementation measure Regulation HH (12 CFR § 234.3(a)(3) and (a)(15)) PSR policy Principle 15: General business risk Key conclusion Regulation HH does not explicitly require covered entities to have robust management and control systems which would support the FMI in identifying, monitoring and managing their general business risk.
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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.

<i>Principle rating</i>	Consistent
<i>Implementation measure</i>	Regulation HH (12 CFR § 234.3(a)(17)(i), (iii), and (vi)) PSR policy Principle 17: Operational risk
<i>Key conclusions / recommendations</i>	Key conclusions Regulation HH is consistent with Principle 17, although there are some gaps or shortcomings with KC 7 that have no material impact on completeness or consistency.

KC 7	Key consideration text 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. Implementation measure Regulation HH (12 CFR § 234.3(a)(17)(ii)) PSR policy Principle 17: Operational risk Key conclusion Regulation HH does not explicitly require "an FMI to identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations". However, it is assessed that this is included through implementation of KC 1 and the headline.
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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.

<i>Principle rating</i>	Consistent
<i>Implementation measure</i>	Regulation HH (12 CFR § 234.3(a)(23)(i)-(iii)) PSR policy Principle 23: Disclosure of rules, key procedures, and market data
<i>Key conclusions / recommendations</i>	Key conclusions Regulation HH is consistent with Principle 23, although there are some gaps or shortcomings with KCs 3, 4 and 5 that have no material impact on completeness or consistency.

<i>KC 3</i>	<p>Key consideration text</p> <p>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.</p> <p>Implementation measure</p> <p>Regulation HH (12 CFR § 234.3(a)(23)(iii))</p> <p>PSR policy Principle 23: Disclosure of rules, key procedures, and market data</p> <p>Key conclusion</p> <p>Regulation HH does not explicitly require any training to be provided to facilitate participants' understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.</p>
<i>KC 4</i>	<p>Key consideration text</p> <p>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.</p> <p>Implementation measure</p> <p>Regulation HH (12 CFR § 234.3(a)(23))</p> <p>PSR policy Principle 23: Disclosure of rules, key procedures, and market data</p> <p>Key conclusion</p> <p>The substance of the KC is mostly included in the headline, but overall Regulation HH does not require a detailed disclosure of fees.</p>
<i>KC 5</i>	<p>Key consideration text</p> <p>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.</p> <p>Implementation measure</p> <p>Regulation HH (12 CFR § 234.3(a)(23)(iv)-(v))</p> <p>PSR policy Principle 23: Disclosure of rules, key procedures, and market data; Part 1.B.2. on Transparency</p> <p>Key conclusion</p> <p>Regulation HH does not explicitly mention "CPSS-IOSCO Disclosure...", but the rule requires the same outline.</p>

4.2.2 Central securities depositories and securities settlement systems under the Board’s authority

<p>Principle 1: Legal basis</p> <p>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>	
<i>Principle rating</i>	Consistent
<i>Implementation measure</i>	Regulation HH (12 CFR § 234.3(a)(1)) PSR policy Principle 1: Legal basis
<i>Key conclusions / recommendations</i>	<p>Key conclusions</p> <p>Regulation HH is consistent with the headline standard in Principle 1; the details of KC 5, however, are not implemented separately.</p> <p>These gaps or shortcomings identified have no material impact on completeness or consistency.</p>
KC 5	<p>Key consideration text</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>Implementation measure</p> <p>Regulation HH (12 CFR § 234.3(a)(1)) PSR policy Principle 1: Legal basis</p> <p>Key conclusion</p> <p>The preamble of Regulation HH mentions that if a designated FMU operates across multiple jurisdictions, it must confirm the legal basis for all material aspects of its activities in all relevant jurisdictions. This introduces a materiality threshold not present in the KC. However, this shortcoming is considered non-material.</p>
<p>Principle 2: Governance</p> <p>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.</p>	
<i>Principle rating</i>	Consistent
<i>Implementation measure</i>	Regulation HH (12 CFR § 234.3(a)(2)) PSR policy Principle 2: Governance
<i>Key conclusions / recommendations</i>	<p>Key conclusions</p> <p>Regulation HH is consistent with the headline standard in Principle 2; some elements of KC 4, however, are not included explicitly.</p> <p>These gaps or shortcomings identified have no material impact on completeness or consistency.</p> <p>Recommendations</p> <p>The Board is recommended to implement measures which address the gaps or inconsistencies identified, specifically those related to KC 4.</p>
KC 4	<p>Key consideration text</p> <p>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).</p> <p>Implementation measure</p> <p>Regulation HH (12 CFR § 234.3(a)(2)(iv)(C) and (D)) PSR policy Principle 2: Governance</p> <p>Key conclusion</p> <p>Regulation HH does not require that the board of a CSD/SSS have suitable members with appropriate incentives to fulfil its multiple roles.</p>

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.**

<i>Principle rating</i>	Consistent
<i>Implementation measure</i>	Regulation HH (12 CFR § 234.3(a)(3)) PSR policy Principle 3: Framework for the comprehensive management of risks
<i>Key conclusions / recommendations</i>	Key conclusions Regulation HH is consistent with the headline standard in Principle 3; the details of KC 2, however, are not implemented separately. These gaps or shortcomings identified have no material impact on completeness or consistency.

KC 2	Key consideration text An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI. Implementation measure Regulation HH (12 CFR § 234.3(a)(3)) PSR policy Principle 3: Framework for the comprehensive management of risks Key conclusion In Regulation HH, the details of KC 2 are not implemented separately and the headline does not provide sufficient details to be able to consider the substance of the KC to have been implemented. However, in practice the required implementing measures might be covered by other Principles (eg Principle 4 on default fund contributions and loss allocation act (among other things) as incentives for participants to manage their risks towards the designated FMU). Taking all this together, the shortcoming in details of the implementation measure regarding KC 2 is assessed to have no material impact on consistency.
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Principle 4: Credit risk**An FMI should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions.**

<i>Principle rating</i>	Consistent
<i>Implementation measure</i>	Regulation HH (12 CFR § 234.3(a)(4)(i)-(ii)) PSR policy Principle 4: Credit risk
<i>Key conclusions / recommendations</i>	Key conclusions Regulation HH is consistent with the headline standard in Principle 4; some details of KC 3, however, are not included explicitly. Recommendations The Board is recommended to implement measures which address the gaps or inconsistencies identified, specifically those related to KC 3.

KC 3

Key consideration text

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.

Implementation measure

Regulation HH (12 CFR § 234.3(a)(4) and (4)(v))

PSR policy Principle 4: Credit risk

Key conclusion

Regulation HH does not explicitly address the credit risk requirement for a DNS system in which there is no settlement guarantee but where its participants face credit exposures arising from the payment, clearing and settlement processes.

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.

Principle rating

Consistent

Implementation measure

Regulation HH (12 CFR § 234.3(a)(7)(ii))

PSR policy Principle 7: Liquidity risk

Key conclusions / recommendations

Key conclusions

Regulation HH is consistent with the headline standard in Principle 7; the details of KC 9, however, are not included explicitly.

Gaps or shortcomings identified with other KCs have no material impact on completeness or consistency.

Recommendations

The Board is recommended to implement measures which address the gaps or inconsistencies identified, specifically those related to KC 9.

KC 1

Key consideration text

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.

Implementation measure

Regulation HH (12 CFR § 234.3(a)(7))

PSR policy Principle 7: Liquidity risk

Key conclusion

Regulation HH lists the entities which a designated FMU should consider in managing its liquidity risks, other than a custodian bank. The rule nevertheless requires a designated FMU to measure, monitor and manage the liquidity risks it faces; the intention of the rule is clearly to include all entities listed in KC 1.

KC 9

Key consideration text

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.

Implementation measure

Regulation HH (12 CFR § 234.3(a)(7)(vi)-(vii))

PSR policy Principle 7: Liquidity risk

Key conclusion

While Regulation HH requires covered entities to stress test their liquid resources on a daily basis, it does not list the relevant types of scenarios to be covered.

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.

Principle rating

Consistent

Implementation measure

Regulation HH (12 CFR § 234.3(a)(15) and (15)(i))

PSR policy Principle 15: General business risk

Key conclusions / recommendations

Key conclusions

Regulation HH is consistent with Principle 15, although there are some gaps or shortcomings with KC 1 that have no material impact on completeness or consistency.

KC 1

Key consideration text

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.

Implementation measure

Regulation HH (12 CFR § 234.3(a)(3) and (a)(15))

PSR policy Principle 15: General business risk

Key conclusion

Regulation HH does not explicitly require covered entities to have robust management and control systems which would support the FMI in identifying, monitoring and managing their general business risk.

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.

<i>Principle rating</i>	Consistent
<i>Implementation measure</i>	Regulation HH (12 CFR § 234.3(a)(17)(i), (iii), and (vi)) PSR policy Principle 17: Operational risk
<i>Key conclusions / recommendations</i>	Key conclusions Regulation HH is consistent with Principle 17, although there are some gaps or shortcomings with KC 7 that have no material impact on completeness or consistency.

<i>KC 7</i>	<p>Key consideration text</p> <p>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.</p> <p>Implementation measure</p> <p>Regulation HH (12 CFR § 234.3(a)(17)(ii)) PSR policy Principle 17: Operational risk</p> <p>Key conclusion</p> <p>Regulation HH does not explicitly require “an FMI to identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations”. However, it is assessed that this is included through implementation of KC 1 and the headline.</p>
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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.

<i>Principle rating</i>	Consistent
<i>Implementation measure</i>	Regulation HH (12 CFR § 234.3(a)(23)(i)-(iii)) PSR policy Principle 23: Disclosure of rules, key procedures, and market data
<i>Key conclusions / recommendations</i>	Key conclusions Regulation HH is consistent with Principle 23, although there are some gaps or shortcomings with KCs 3, 4 and 5 that have no material impact on completeness or consistency.

<i>KC 3</i>	<p>Key consideration text</p> <p>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.</p> <p>Implementation measure</p> <p>Regulation HH (12 CFR § 234.3(a)(23)(iii)) PSR policy Principle 23: Disclosure of rules, key procedures, and market data</p> <p>Key conclusion</p> <p>Regulation HH does not explicitly require any training to be provided to facilitate participants' understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.</p>
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KC 4	<p>Key consideration text</p> <p>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.</p> <p>Implementation measure</p> <p>Regulation HH (12 CFR § 234.3(a)(23))</p> <p>PSR policy Principle 23: Disclosure of rules, key procedures, and market data</p> <p>Key conclusion</p> <p>The substance of the KC is mostly included in the headline, but overall Regulation HH does not require a detailed disclosure of fees.</p>
KC 5	<p>Key consideration text</p> <p>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.</p> <p>Implementation measure</p> <p>Regulation HH (12 CFR § 234.3(a)(23)(iv)-(v))</p> <p>PSR policy Principle 23: Disclosure of rules, key procedures, and market data; Part 1.B.2. on Transparency</p> <p>Key conclusion</p> <p>Regulation HH does not explicitly mention “CPSS-IOSCO Disclosure...”, but the rule requires the same outline.</p>

4.2.3 Central securities depositories and securities settlement systems under the SEC’s authority

Principle 4: Credit risk

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

<i>Principle rating</i>	Consistent
<i>Implementation measure</i>	<p>Section 17A of the Exchange Act, 15 U.S.C. § 78q-1</p> <p>Section 19 of the Exchange Act, 15 U.S.C. § 78s</p> <p>17 C.F.R. §§ 240.17Ad-22(d)(14)</p> <p>17 C.F.R. § 240.17Ad-22(e)(4) (and accompanying guidance), (a)(9), and (a)(17)</p> <p>Relevant policy or regulatory text</p> <p>Section 17A(a)(2)(A) of the Exchange Act, 15 U.S.C. § 78q-1(a)(2)(A)</p> <p>Section 17A(b)(3)(A) and (F) of the Exchange Act, 15 U.S.C. § 78q-1(b)(3)(A), (F)</p> <p>17 C.F.R. § 240.17Ad-22(e)(4)</p> <p>Accompanying Guidance</p> <p>17 C.F.R. § 240.17Ad-22(a)(9)</p> <p>17 C.F.R. § 240.17Ad-22(a)(17)</p>

*Key conclusions /
recommendations*

Key conclusions

The implementing rules are consistent with the headline standard in Principle 4; some details of KC 3, however, are not included explicitly.

Recommendations

The SEC is recommended to implement measures which address the gaps or inconsistencies identified, specifically those related to KC 3.

KC 3

Key consideration text

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.

Implementation measure

See above response to Principle 4 in full.

See above citations to the Exchange Act and Rule 17Ad-22(e)(4) and accompanying guidance thereunder in response to Principle 4, and the following rule under the Exchange Act:

17 C.F.R. § 240.17Ad-22(d)(14)

Key conclusion

The implementing rules do not explicitly address the credit risk requirement for a DNS system in which there is no settlement guarantee but where its participants face credit exposures arising from the payment, clearing and settlement processes.

Annex A: List of abbreviations

AM	Assessment methodology
AT	Assessment team
Board	Board of Governors of the Federal Reserve System
CCP	Central counterparty
CFTC	Commodity Futures Trading Commission
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems
CSD	Central securities depository
FMI	Financial market infrastructure
FMU	Financial market utility
FSB	Financial Stability Board
FSOC	Financial Stability Oversight Council
IMSG	Implementation Monitoring Standing Group
IOSCO	International Organization of Securities Commissions
PFMI	Principles for financial market infrastructures
PS	Payment system
PSR Policy	Part I of the Federal Reserve Policy on Payment System Risk
Regulation SCI	Regulation Systems Compliance and Integrity 17 C.F.R. § 242.1001, 1004
SEC	Securities and Exchange Commission
SSS	Securities settlement system
TR	Trade repository

Annex B: Reference documents

CPSS-IOSCO, *Principles for financial market infrastructures*, April 2012, www.bis.org/cpmi/publ/d101a.pdf and www.iosco.org/library/pubdocs/pdf/IOSCOPD377-PFMI.pdf

CPSS-IOSCO, *Principles for financial market infrastructures: disclosure framework and assessment methodology*, December 2012, www.bis.org/publ/cpmi106.pdf and www.iosco.org/library/pubdocs/pdf/IOSCOPD396.pdf

CPMI-IOSCO, *Application of the Principles for financial market infrastructures to central bank FMIs*, August 2015, www.bis.org/cpmi/publ/d130.htm and www.iosco.org/library/pubdocs/pdf/IOSCOPD501.pdf

CPMI-IOSCO, *Assessment and review of application of Responsibilities for authorities*, November 2015, www.bis.org/cpmi/publ/d139.htm and www.iosco.org/library/pubdocs/pdf/IOSCOPD514.pdf

17 C.F.R. § 240.17Ad-22(d)(1), 17Ad-22(a)-(f)

Part 1 of the Federal Reserve Policy on Payment System Risk (PSR policy)

Regulation HH 12 CFR § 234.3

Regulation Systems Compliance and Integrity 17 C.F.R. § 242.1001, 1004 (Regulation SCI)

The Exchange Act, Sections 17A and 19

Annex C: FMIs subject to the Principles in the US

Systemically important private sector PS and a central bank-operated PS

- The Clearing House Interbank Payments System (CHIPS)
- CLS Bank International (CLS)
- Fedwire Funds Service

CSD/SSS

- The Depository Trust Company (DTC)
- Fedwire Securities Service

Annex D: Members of the IMSG and Assessment Team

IMSG co-chairs

Bank of France	Valérie Fasquelle (from January 2019)
	Emmanuelle Assouan (until January 2019)
Securities and Exchange Commission, US	Christian Sabella

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Hong Kong Monetary Authority	Stephen Pang
Securities and Exchange Board of India	Sanjay Purao
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	Fumikazu Nishio*
Bank of Korea	Hyung Koo Lee
Monetary Authority of Singapore	Tze Hon Lau
	Ken Nagatsuka
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	Emanuel Alfranseder* (participating until 21 December 2018 from the Sveriges Riksbank, and from 16 January from ECB)
Capital Markets Board of Turkey	Nalan Sahin Urkan
Bank of England	Hardeep Rai
Board of Governors of the Federal Reserve System	Kathy Wang
Federal Reserve Bank of New York	John Rutigliano

Commodity Futures Trading Commission, US
Securities and Exchange Commission, US
World Bank
IOSCO Assessment Committee
IOSCO Secretariat

CPMI Secretariat

Andrée Goldsmith
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