



HONG KONG MONETARY AUTHORITY
香港金融管理局

*Assessment of US Dollar CHATS
against the
Principles for Financial Market Infrastructures*

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Assessment of US Dollar CHATS against the Principles for Financial Market Infrastructures

1 Executive summary

1.1 This report contains the assessment by the Hong Kong Monetary Authority (HKMA) (via the Payment Systems Oversight (PSO) team of the Payment Systems Oversight & Licensing Division (PSOLD)) of the US Dollar Clearing House Automated Transfer System (USD CHATS).¹ USD CHATS is the interbank payment system in Hong Kong for clearing and settling USD transactions. The objective of the assessment is to evaluate how well USD CHATS observes the Principles for Financial Market Infrastructures (PFMI). The PFMI are issued jointly by the Committee on Payment and Market Infrastructures (CPMI)² of the Bank for International Settlements and the Technical Committee of the International Organization of Securities Commissions (IOSCO) in April 2012.

1.2 The assessment was conducted in accordance with the approach and rating system set out in the “Principles for financial market infrastructures: Disclosure framework and Assessment methodology” issued by CPMI-IOSCO. The assessment was made based on the position of USD CHATS as of 31 December 2015.

1.3 The assessment finds that USD CHATS observed Principles 1, 3, 5, 7-9, 12-13, 15-17, 19 and 21-23, broadly observed Principles 2 and 18, and partly observed Principle 4 of the PFMI, based on the rating system of CPMI-IOSCO³. The remaining principles (Principles 6, 10-11, 14, 20 and 24) are not applicable to USD CHATS. The assessment includes recommended actions to be taken by the settlement institution (SI) and/or system operator (SO) of USD CHATS to further enhance the safety and efficiency of the system. The recommended actions⁴ are related to Principles 2-4, 15, and 17-18 and are summarised in Table 2 of Part 4 of this document.

1.4 The HKMA will renew the assessment regularly in accordance with the requirements of the PFMI.

¹ The PSOLD has been renamed as the Financial Market Infrastructure Oversight and Licensing Division (FMIOLD) and the PSO team has been renamed as the Financial Market Infrastructure Oversight (FMIO) team on 1 February 2016 with no changes to the oversight functions performed on the designated clearing and settlement systems, including USD CHATS, under the PSSVFO. Since the change took place at the end of the assessment period, references in the assessment are to the PSOLD and PSO team. However, unless otherwise stated, references to the PSOLD and PSO team may be read as references to the FMIOLD and FMIO team respectively.

² The CPMI was formerly known as the Committee on Payment and Settlement Systems (CPSS) before September 2014.

³ The assessment was made based on the position of USD CHATS as of 31 December 2015.

⁴ The recommended actions in relation to Principles 2, 3, 15 and 17 for the SO and Principle 18 for the SI are not issues of concern but are of a nature that the system could consider taking them up in the normal course of business. According to the assessment methodology, these will not affect the observed rating of these principles.

2 Introduction

2.1 USD CHATS is the interbank payment system in Hong Kong for clearing and settling USD transactions. Because of its importance to the monetary and financial stability in Hong Kong, USD CHATS meets the criteria for classification as a financial market infrastructure (FMI). The present document is the assessment of USD CHATS based on the CPMI-IOSCO PFMI.

2.2 The assessment was conducted by the PSO team of the HKMA, which is the payment system overseer of USD CHATS.

2.3 USD CHATS is a payment system. It is linked to other payment systems and securities settlement systems to provide payment-versus-payment (PvP) and delivery-versus-payment (DvP) services. The assessment covers all the PFMI principles which are applicable to a payment system. All the clearing and settlement services provided by USD CHATS and its links with the other payment and securities settlement systems are within the scope of the assessment.

2.4 The information used in the assessment includes all the relevant laws, clearing house rules and operating procedures governing USD CHATS as well as the oversight information available to the HKMA, as the payment system overseer of USD CHATS. The oversight information includes monthly returns on turnover and performance of the system, incident reports, information gathered during on-site reviews and regular meetings with the management of the system, and a self-assessment of USD CHATS against the PFMI conducted by the SI and the SO in April 2013. The assessment was made based on the position of USD CHATS as of 31 December 2015.

2.5 The HKMA did not encounter any particular difficulties in obtaining the information required to conduct the assessment of USD CHATS against the PFMI.

2.6 This is the first assessment report on USD CHATS against the PFMI. It will be updated every two years, or more frequently if required when there is material change to the system.

3 Overview of the payment, clearing and settlement landscape

Introduction

3.1 To support the objective of developing Hong Kong as an international financial centre and a regional settlement hub, the HKMA plays an important role in developing the financial infrastructure of Hong Kong. This is one of the policy objectives of the HKMA.

3.2 USD CHATS commenced operation on 21 August 2000. USD CHATS is the interbank payment system which can be used for clearing and settling USD transactions in Hong Kong. Interbank payment systems in Hong Kong support interbank transfers in the HK dollar, US dollar, Euro, and Renminbi. The SI for USD CHATS is The Hongkong and Shanghai Banking Corporation Limited (“HSBC”). The SI in turn appoints Hong Kong Interbank Clearing Limited (HKICL), which is jointly owned by the HKMA and Hong Kong

Association of Banks (HKAB), as the SO of USD CHATS. The HKAB is the association of the licensed banks in Hong Kong.

3.3 Currently, FMIs under the purview of the HKMA include multi-currency payment systems for the settlement of interbank payments; a debt securities settlement system; system links to facilitate PVP and DvP services, and external links to facilitate cross-border transactions. In addition, the HKMA operates a trade repository that maintains an electronic database of records of over-the-counter (OTC) derivatives transactions. FMIs which are not under the purview of the HKMA, include the central counterparties (CCPs) for securities, futures and options and OTC derivatives transactions and the securities settlement system for stocks and futures⁵.

Operations and services of USD CHATS

3.4 USD CHATS opens for settlement from 08:30 to 18:30 (Hong Kong Time) every working day, Monday to Friday, including Hong Kong's public holidays (except on 1 January). It is available around-the-clock during Monday to Sunday for transaction input (or cancellation), except for pre-scheduled times for system housekeeping tasks. All payments submitted to the system go through a validation process. Payment instructions with input errors are automatically rejected. All validated transactions are settled immediately on a gross deal-by-deal basis across the book of the SI provided there is sufficient balance in the settlement account of the paying participant. If sufficient funds are not available, payment instructions are queued in the system and will be settled on a first-in-first-out basis when there are sufficient funds in the paying participant's settlement account. If a payment valued on the same day is not settled by the cut-off time of the system, it will be automatically cancelled by the system. Participants are provided with real-time enquiry functions allowing them to monitor the account status and queue management to re-sequence outstanding payments in payment queues. To facilitate participants' liquidity management, the SI offers repo and overdraft facilities to participants of the system.⁶

3.5 In addition to settling large-value payments among banks, the system also handles bulk settlement of paper cheques, e-Cheques⁷, stock market-related payments, credit card payments and electronic bill payments. These bulk items are settled on a multilateral netting basis. Each type of bulk item has its own set of operating procedures, which describe comprehensively the clearing and settlement processing flow and requirements and contingency measures.

3.6 USD CHATS also settles transactions that involve the settlement of two linked obligations simultaneously, thus eliminating the principal risk arising from any time lag in settling the two obligations. The system supports PVP for HKD/USD, EUR/USD, and RMB/USD foreign exchange transactions via the links with the HKD, Euro and RMB CHATS, PVP for USD/MYR, USD/IDR and USD/THB via the links with Malaysia's Real Time Electronics Transfer of Funds and Securities (RENTAS), Bank Indonesia Real Time

⁵ These FMIs are under the purview of the Securities and Futures Commission in Hong Kong.

⁶ The SI has ceased to provide the interest-free, non-collateralised overdraft facilities from 29 February 2016 to meet the PFMI requirements.

⁷ e-Cheque is an electronic counterpart of traditional paper cheque. It adopts a fully digitalized processing model during the issuance, presentment, clearing and settlement processes. The service was launched on 7 December 2015.

Gross Settlement (BI-RTGS) and Bank of Thailand Automated High-value Transfer Network (BAHTNET), and DvP for debt and equities transactions via the links with the Central Moneymarkets Unit (CMU) and Central Clearing and Settlement System (CCASS) respectively.

3.7 Communications between USD CHATS and its participants are based on SWIFT messaging standards and services. Participants must connect to the SWIFT network in order to access the USD CHATS to initiate or receive payment instructions. Moreover, they can access the “eMBT” developed by HKICL to perform payment control, payment enquiry and other administrative functions. The eMBT is a browser-based system which can be accessed through SWIFT Browse and InterAct services.

3.8 Participation in USD CHATS is voluntary. The system adopts a two-tier membership structure whereby Licensed Banks (LBs) in Hong Kong can join the system as Direct Participants (DPs), Indirect Participants (IPs), or Indirect CHATS Users (ICUs) / Third-party Users (TPUs), unless otherwise provided by the HKMA or any applicable law. Participation of institutions other than LBs is subject to the approval of the SI and the HKMA on a case-by-case basis. Each DP is required to open a USD settlement account with the USD SI to clear and settle its USD RTGS and bulk item payments. An IP or ICU/TPU is not required to open a USD settlement account with the USD SI and all its USD payments (RTGS and bulk item payments for an IP, and bulk item payments only for ICU/TPU) are processed through a DP designated by it. USD CHATS participants are required to comply with the Clearing and Settlement Systems Ordinance (CSSO) (and Payment Systems and Stored Value Facilities Ordinance (PSSVFO) since 13 November 2015)⁸ and the Rules and Procedures of USD CHATS, which are well documented and communicated to the participants. At the end of December 2015, USD CHATS had 219 participants, comprising 100 DPs, 24 IPs, 87 ICUs and 8 TPUs.

3.9 USD CHATS is not a CCP and it does not guarantee settlement. There is no loss-sharing arrangement in case of default of participants. Each participant has a responsibility to ensure that it has sufficient liquidity to effect its payments in a timely and orderly manner. Default procedures are in place and regularly drilled to minimise the impact of a default on the system and participants.

System statistics

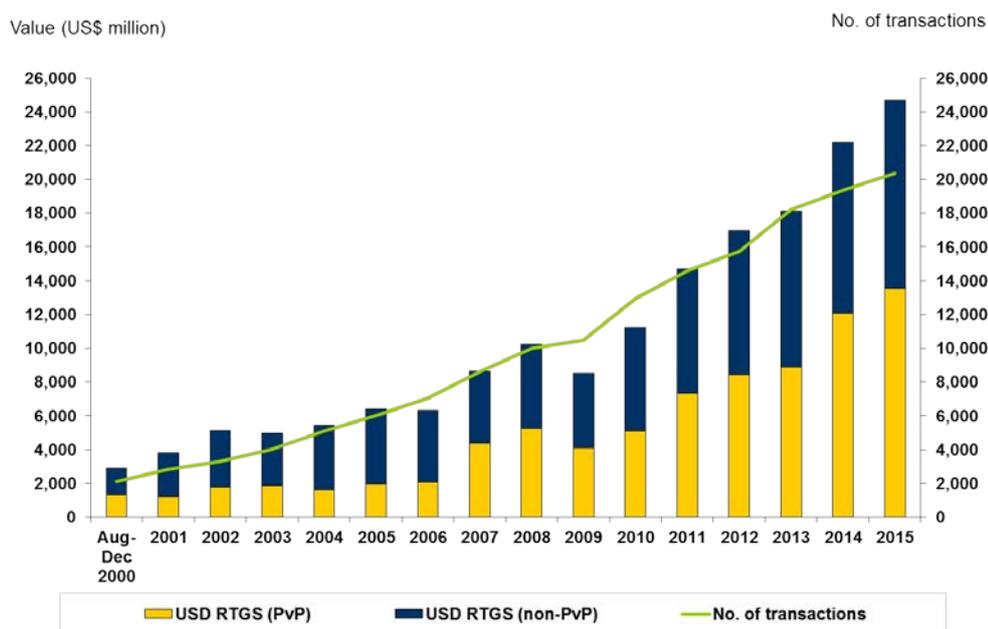
3.10 The system availability of USD CHATS was continuously above the target of 99.9% for prime time and 99.5% for non-prime time⁹ in 2015. Some minor system incidents occurred with minimal operational impact and proper remedial actions were taken to prevent recurrence.

⁸ The CSSO was amended and retitled as the PSSVFO on 13 November 2015. The key provisions applicable to designated clearing and settlement systems, including USD CHATS, remain substantially unchanged. Since the change took place at the end of the assessment period, references in the assessment are to the CSSO. However, unless otherwise stated, references to the CSSO may be read as references to the PSSVFO.

⁹ Prime time is defined as 08:30 hours – 18:45 hours (all days except Saturdays, Sundays and 1 January). Non-prime time covers time other than the prime time, but excluding the time required for scheduled housekeeping tasks and maintenance. The system availability target is defined according to the Service Agreement between the HKMA and HKICL.

3.11 In 2015, USD CHATS settled on average around 20,372 real time gross settlement (RTGS) transactions each operating day, with an average daily value of USD 25 billion (see Chart 1 below).

Chart 1: Average daily turnover of USD CHATS



Oversight arrangements for USD CHATS

3.12 The CSSO, which came into effect on 4 November 2004, establishes a statutory regime for the Monetary Authority (MA)¹⁰ to designate and oversee clearing and settlement systems which are material to the monetary and financial stability of Hong Kong or to Hong Kong as an international financial centre. The objective is to promote the general safety and efficiency of designated clearing and settlement systems. As the overseer, the HKMA monitors the compliance of designated systems with the safety and efficiency requirements stipulated in the CSSO and, where appropriate, instigates changes to designated systems to bring them into compliance with the requirements.

3.13 On 13 November 2015, the CSSO was amended and retitled as the PSSVFO to introduce a regulatory regime for stored value facilities and retail payment systems in addition to the existing oversight framework for clearing and settlement systems under the pre-amended CSSO. As far as the clearing and settlement systems designated under the CSSO are concerned, all designations, certificates of finality and exemptions granted under the pre-amended CSSO continue to have effect under the PSSVFO.

3.14 The HKMA is empowered to issue explanatory notes and guidelines to explain its role,

¹⁰ Hong Kong Monetary Authority (HKMA) is the institution of which the Monetary Authority (MA) is the chief executive and which is established with public officers appointed under the Exchange Fund Ordinance to assist the MA to perform his functions. In this document, we use the term “HKMA” instead of the legal name “MA” to describe its function as the overseer of the system.

policies and requirements in relation to the designation and oversight of clearing and settlement systems under the PSSVFO. For example, the HKMA has issued under section 54 of the CSSO a Guideline on the Oversight Framework for Designated Systems (“Guideline”) which explains the HKMA's interpretation of the oversight requirements, including the safety and efficiency requirements under sections 7 and 8 of the CSSO, and the process that the HKMA intends to follow in its oversight of the designated systems.

3.15 The HKMA adopts international regulatory standards on FMIs in its oversight framework for designated clearing and settlement systems. Specifically, the requirements under the PFMI issued jointly by the CPMI-IOSCO in April 2012 have been incorporated into the Guideline¹¹. The Guideline requires designated systems to observe the PFMI where applicable.

3.16 USD CHATS was designated under the CSSO on 26 November 2004 and was granted a certificate of finality under the CSSO to provide statutory backing to the finality of settlement for transactions made through a designated system. The designation and the certificate of finality remained effective after the CSSO was amended and retitled as the PSSVFO. This settlement finality is protected from insolvency and other laws. As a result, transactions settled through USD CHATS are final and irrevocable.

3.17 The payment system overseer function of the HKMA under the PSSVFO is performed by the PSO team within the PSOLD under the Banking Conduct Department of the HKMA. The focus of payment systems oversight is on the safety and efficiency of the system as a whole and the performance of SI and SO in managing and operating the designated clearing and settlement system.

3.18 Another role taken up by the HKMA is that of developer and facilitator of the financial infrastructures in Hong Kong, through the Financial Infrastructure Department (FID). The HKMA also sits on the Board of HKICL.

Process Review Committee (PRC)

3.19 The PRC was established in 2004 composing of independent members to review the processes and procedures adopted by the MA in making decisions relating to or affecting the designated clearing and settlement systems under the PSSVFO in which the MA has a legal or beneficial interest. This arrangement helps ensure that the same set of oversight standards is applied to all designated clearing and settlement systems, whether or not the MA has an interest in them. The PRC evaluates the designated clearing and settlement systems' compliance with the oversight standards and assesses whether the HKMA has applied the same procedures to all designated clearing and settlement systems.

¹¹The HKMA has amended the Guideline to reflect the changes made in the PSSVFO and a new Guideline on application of PFMI to designated clearing and settlement systems has been issued to fully incorporate the PFMI requirements.

4 Summary assessment

Recommendations for the FMI

4.1 The assessment finds that USD CHATS observed Principles 1, 3, 5, 7-9, 12-13, 15-17, 19 and 21-23, broadly observed Principles 2 and 18, and partly observed Principle 4 of the PFMI, based on the rating system of CPMI-IOSCO¹². The remaining principles (Principles 6, 10-11, 14, 20 and 24) are not applicable to USD CHATS. Table 1 summarises the ratings for each principle. The assessment also identified recommended actions to be taken by the SI and/or SO of USD CHATS. The recommended actions are related to Principles 2-4, 15, and 17-18 and are summarised in Table 2. A narrative summary of the key findings and recommendations are presented after Tables 1 and 2.

Table 1
Ratings summary

Assessment category	Principle
Observed	<i>Principles 1, 3, 5, 7-9, 12-13, 15-17, 19 and 21-23</i>
Broadly observed	<i>Principles 2 and 18</i>
Partly observed	<i>Principle 4</i>
Not observed	<i>Nil</i>
Not applicable	<i>Principles 6, 10-11, 14, 20 and 24</i>

Table 2
List of recommended actions

Principle	Issue of concern or other gap or shortcoming	Recommended actions	Expected timeline to address the issue
<i>To be addressed in a defined timeline</i>			
2	<i>Enhancing governance arrangements</i>	<i>While the SI function is covered by the bank's overall risk management framework, to better monitor and address the risks faced by the SI, HSBC has been developing a specific risk management framework for the SI function based on the PFMI requirements. HSBC should</i>	<i>Within 2016</i>

¹² The assessment was made based on the position of USD CHATS as at 31 December 2015.

		<i>finalise the specific risk management framework for its SI function in due course.¹³</i>	
4	<i>Enhancing credit risk management</i>	<i>The SI should stop providing the interest free, non-collateralised overdraft facility in early 2016.</i>	<i>Early 2016</i>
To be addressed under normal course of business			
2	<i>Refining governance arrangements</i>	<i>Given that some of the governance arrangements (e.g. a mechanism for regular reviews of the performance of the Board and individual Board members) were introduced towards the end of the assessment period (i.e. end-2015), HKICL should continue to review and fine-tune its approach after accumulating experience and to ensure governance arrangements remain appropriate.</i>	
3,15	<i>Refining the recovery plan</i>	<i>HKICL should continue to review and refine the recovery plan adopted at the end of 2015 to ensure it remains up-to-date and appropriate.</i>	
17	<i>Enhancing cyber resilience and business continuity arrangements</i>	<i>HKICL should continue to review its approach to cyber security on an ongoing basis, in particular its mechanisms for preventing, detecting, responding to and recovering from cyber attacks, and its plans to enhance its business continuity arrangements, taking into account developments both in Hong Kong and overseas, including the international guidance on cyber resilience for financial market infrastructures being developed by CPMI-IOSCO.</i>	
18	<i>Refining access criteria</i>	<i>The SI should consider elaborating its access criteria by</i>	

¹³ HSBC has finalised the specific risk management framework for its SI function in April 2016. The specific risk management framework has been noted by the Board of HSBC, and will be reviewed by HSBC's Risk Management Committee and noted by the Board annually.

		<i>providing more specific requirements for admitting tiered participants (IPs, ICUs and TPUs) of the system.</i>	
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Narrative summary key findings and recommendations

General organisation (Principles 1–3)

4.2 The relevant laws in Hong Kong provide a comprehensive and well-founded legal framework for the establishment and operation of USD CHATS in Hong Kong. The legal framework provides a sound legal basis for the enforcement of rules governing irrevocability and finality of settlement. The rules, procedures and contracts signed between participants and the system operator / the settlement institution are clear, understandable, comprehensive and legally binding. The USD CHATS rules, procedures and contracts have not been subject of any judicial controversy. Moreover, actions taken under such rules, procedures and contracts have not been voided or reversed by another administrative or judicial authority.

4.3 USD CHATS plays an important role in supporting Hong Kong as an international financial centre. It is an important FMI that supports the financial and monetary stability of Hong Kong. Governance arrangements of the settlement institution and system operator of USD CHATS are in place to ensure safety and efficiency of the system. USD CHATS is a designated clearing and settlement system and is required to operate safely and efficiently under the PSSVFO. In accordance with the PFMI requirements on governance, HKICL, as SO of USD CHATS, has strengthened its governance arrangements through, among other things, the appointment of two independent non-executive directors to its Board, establishment of a Risk Management Committee and an internal audit function and the implementation of a mechanism to review the performance of its Board and of individual Board members. HSBC has in place a risk management governance structure at the bank level to cover its whole range of banking business, including the SI function. While the SI function is covered by the bank’s overall risk management framework, HSBC has been developing a specific risk management framework for the SI function based on the PFMI requirements. The risk management framework of the SI will cover various types of risk areas including legal, credit, liquidity, operational and business risks and the appropriate mitigating measures. The risk management framework will be noted by the Board of HSBC, and it will be reviewed by HSBC’s Risk Management Committee and noted by the Board annually.¹⁴ HSBC has developed mechanism to review the performance and effectiveness of its Board and its individual Board members regularly.

4.4 USD CHATS has developed robust risk management policies and procedures that enable it to manage risks associated with the operation of the system. There are various risk management tools built into the system design of USD CHATS to enable participants to manage the risks they may face by participating in the system as well as the risks they may pose to the system. A BCP and drills are in place to ensure continuity or recovery of services during a crisis. HKICL has developed a recovery

¹⁴ See footnote 13.

plan based on the international standard on FMI recovery published in October 2014, which needs further review and refinement on a regular basis. HSBC has developed its own recovery plan according to the requirements of the HKMA. USD CHATS will be covered by the resolution regime in Hong Kong, which is being developed by the government authorities.

Credit and liquidity risk management (Principles 4–7)

4.5 USD CHATS is a payment system, with no minimum settlement balance requirement. Payment instructions are settled only when there are sufficient available funds in the settlement account of the paying bank. Credit risk faced by the system is limited to the lending to participants in the form of overdraft and repo facilities, which are within an overall overdraft and repo limit set by the SI. The risk from collateralised lending is largely mitigated through the use of high quality collateral with conservative haircuts. Any loss arising from the provision of overdraft or repo lending to participants are to be borne by HSBC as the SI. The SI has gradually cut its OD facilities during the past years and will no longer provide the interest free, non-collateralised overdraft facility in early 2016.

4.6 The SI accepts Exchange Fund Bills and Notes and selected U.S. Treasuries with low risk and high credit rating for repo with appropriate haircuts. As a standard practice, the collateral is under regular review by the SI. The repo facility is provided through USD CHATS's link with the CMU, both of which are designated systems under the oversight of the HKMA.

4.7 USD CHATS conducts its settlements on an RTGS basis and does not guarantee settlement. HSBC, as the SI of USD CHATS, therefore does not assume liquidity risk through these operations. USD CHATS has built in a number of tools to assist the participants to manage their liquidity risks, including its liquidity-efficient design, the provision of liquidity via overdraft and repo, and the provision of real-time information on transactions and settlement account balances. Participants are also required to manage their liquidity positions prudently and follow the throughput guideline. The SI monitors the payment flows within the system and the use of overdraft and repo and account balances of individual participants. These tools have proved effective so far in managing the liquidity risk of the system.

Settlement (Principles 8–10)

4.8 The Clearing House Rules of USD CHATS clearly define the point at which settlement is final, and the settlement finality has legal backing under the PSSVFO as USD CHATS is designated under the PSSVFO and is granted a certificate of finality under the PSSVFO.

4.9 USD CHATS conducts money settlements in commercial bank money. Money settlements are effected through accounts on the books of HSBC, which is appointed by the HKMA to perform the USD settlement institution function in Hong Kong. The choice was based on sound procedures and due processes, taking into account the financial strength and operational reliability of HSBC. HSBC is under the prudential supervision by the Banking Supervision Department of the HKMA, and has to meet the

same capital and liquidity requirements as other commercial banks operating in Hong Kong. HSBC is also one of the note-issuing banks in Hong Kong. Though USD CHATS does not settle in central bank money, it has adopted various measures to manage the credit and liquidity risks in the system.

Central securities depositories and exchange-of-value settlement systems (Principles 11–12)

4.10 USD CHATS is not a central securities depository, therefore Principle 11 concerning CSDs is not applicable to USD CHATS.

4.11 USD CHATS supports PvP and/or DvP transactions by linking with the other local CHATS systems, the CMU and overseas systems, all of which are under the oversight of their respective overseers/regulators. The DvP and PvP processes of USD CHATS are supported by appropriate system software and its interface with the other designated clearing and settlement systems. A PvP transaction will be settled only if the system confirms that a corresponding payment from the receiving participant of that transaction to the sending participant in another relevant currency will be settled at the same time. A DvP transaction will be settled only if the systems confirm that both the funds and securities are available. The payment and securities legs are settled at the same time. Once the PvP or DvP transactions are settled, they are considered final and irrevocable. The parts of the PvP or DvP transactions settled in the local designated clearing and settlement systems (including the HKD, USD, Euro and RMB CHATS and the CMU) have settlement finality protection under the PSSVFO.

Default management (Principles 13–14)

4.12 USD CHATS is a payment system, with no loss-sharing arrangement in case of default of participants. The Rules and Procedures of the system clearly describe how insolvency/default of a participant will be handled. Default procedures are regularly rehearsed by the SIs, SO, participants and other relevant parties as appropriate.

General business and operational risk management (Principles 15–17)

4.13 HSBC and HKICL identify, monitor and manage their respective general business risks. HKICL operates on a user-pay principle and has set aside an amount equivalent to at least six months' operating expenses in a deposit account, which is separated from their operational accounts to ensure continuity of operation. HSBC, as a bank, follows strictly the capital and liquidity requirements laid down by the HKMA.

4.14 HKICL is not exposed to specific custody risk and investment risks. HSBC is a commercial bank under the prudential supervision of the HKMA.

4.15 The SI and SO have established a robust risk-management framework covering operational risk with appropriate systems, policies, procedures and controls to identify, monitor, and manage operational risks. Plausible sources of operational risk have been identified. Both SI and SO have developed robust physical and information security

policies and control, and are required to make an annual declaration to the HKMA that these continue to be in place and kept under review. The business continuity plan for USD CHATS is comprehensive and well-tested. Various system and network BCP drills are conducted annually. A hot back-up site has been set up to ensure timely recovery of operation in case of serious disruption.

Access (Principles 18–20)

4.16 USD CHATS has objective, risk-based and publicly disclosed criteria for participants, which permit fair and open access. The Rules and Procedures stipulate the arrangements for handling accession of new participants, suspensions and exits of participants and communicating such changes. The SI should consider elaborating its access criteria by providing more specific requirements for admitting tiered participants (IPs, ICUs and TPUs) of the system.

4.17 USD CHATS adopts a two-tier membership structure in which eligible institutions can join as either DPs or IPs/ICUs/TPUs. DPs open settlement accounts with the SI directly while IPs/ICUs/TPUs open accounts with their selected DPs, who are responsible for managing any material dependencies arising from the relationships. Based on the information collected by the HKMA, the tiered participation of USD CHATS is considered to pose little risk to the system.

Efficiency (Principles 21–22)

4.18 Since its inception in 2000, USD CHATS has met the objectives of providing a reliable and efficient interbank payment system, and maintaining Hong Kong's status as an international financial centre. USD CHATS is operationally efficient and has been able to accommodate the growing needs of market participants. USD CHATS operates on an internationally accepted communication platform and it follows international standards to effect payments. The operation of USD CHATS using the SWIFTNet platform is generally smooth and satisfactory.

Transparency (Principles 23–24)

4.19 USD CHATS has clear and comprehensive rules and procedures to facilitate participants to understand the risks, fees and other material costs they incur by participating in the system. Training, briefings and enquiry support are provided to participants. USD CHATS operates in a transparent manner and discloses as much information as possible to the public. The basic features and essential information of the system are set out in the Disclosure Framework of USD CHATS, which is available on the website of both SI and SO. A redacted version of the USD Clearing House Rules, with certain sensitive information which might compromise the security of the system left out, is available on the HKICL's website for public information.

List of Abbreviations

BAHTNET	Bank of Thailand Automated High-value Transfer Network
BI-RTGS	Bank Indonesia Real Time Gross Settlement
BCP	Business Continuity Plan
CCASS	Central Clearing and Settlement System (for equities)
CCPMP	Cross Currency Payment Matching Processor
CCP	Central Counterparty
CHATS	Clearing House Automated Transfer System
CSD	Central Securities Depositories
CMU	Central Moneymarkets Unit
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems (name changed to CPMI from 1 September 2014)
CSSO	Clearing and Settlement Systems Ordinance (retitled as PSSVFO from 13 November 2015)
DP	Direct Participant
DvP	Delivery versus Payment
EFBNs	Exchange Fund Bills and Notes
EUR	Euro
FID	Financial Infrastructure Department
FMI	Financial Market Infrastructure
HKAB	Hong Kong Association of Banks
HKD	Hong Kong Dollar
HKICL	Hong Kong Interbank Clearing Limited
HKMA	Hong Kong Monetary Authority
HSBC	The Hongkong and Shanghai Banking Corporation Limited
ICU	Indirect CHATS User
INED	Independent non-executive director
IOSCO	International Organization of Securities Commissions
IP	Indirect Participant
MA	The Monetary Authority
LBs	Licensed Banks
MPF	Mandatory Provident Fund
OTC	Over-the-counter
Procedures	Operating Procedures
PFMI	Principles for Financial Market Infrastructures
PRC	Process Review Committee
PSO	Payment Systems Oversight
PSOD	Payment Systems Operation Division
PSOLD	Payment Systems Oversight and Licensing Division
PSSVFO	Payment Systems and Stored Value Facilities Ordinance
PvP	Payment versus Payment
RENTAS (Malaysia)	Real Time Electronics Transfer of Funds and Securities
RMB	Renminbi
RLB	Restricted Licence Bank
Rules	Clearing House Rules
RTGS	Real Time Gross Settlement
SI	Settlement institution

SO	System operator
SSS	Securities settlement system
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TPU	Third-party User
USD	US Dollar