

Assessment of RMB CHATS in Hong Kong against the Principles for Financial Market Infrastructures

I. Executive summary

This report contains the assessment of the Hong Kong Monetary Authority (HKMA) (via the Payment Systems Oversight (PSO) team of the Payment Systems Oversight & Licensing Division (PSOLD)) conducted in December 2014 on the Renminbi Clearing House Automated Transfer System (RMB CHATS). RMB CHATS is the interbank payment system in Hong Kong for clearing and settling RMB transactions. The objective of the assessment is to evaluate how well RMB CHATS complies with the *Principles for Financial Market Infrastructures* (PFMI). The PFMI are issued jointly by the Committee on Payment and Settlement Systems (CPSS)¹ of the Bank for International Settlements and the Technical Committee of the International Organization of Securities Commissions (IOSCO) in April 2012.

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 CPSS-IOSCO.

The assessment finds that RMB CHATS observes Principles 1, 4-5, 7-9, 12-13, 16-17 and 21-23 and broadly observes Principles 2, 3, 15 and 18 of the PFMI, based on the rating system of CPSS-IOSCO. The remaining principles (Principles 6, 10-11, 14, 19-20 and 24) are not applicable to RMB CHATS. The assessment included recommended actions to be taken by the settlement institution (SI) and system operator (SO) of RMB CHATS to improve the safety and efficiency of the system. The recommended actions are related to Principles 1², 2, 3, 15 and 18 and are summarised in Table 2 of Part IV of this document.

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

II. Introduction

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

¹ The Committee on Payment and Settlement Systems (CPSS) changed its name to Committee on Payments and Market Infrastructures (CPMI) in September 2014.

² The recommended actions in relation to Principle 1 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, this will not affect the observed rating of Principle 1.

The assessment was conducted in December 2014 by the PSO team of the HKMA, which is also the payment system overseer of RMB CHATS.

RMB 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 RMB CHATS and its links with the other payment and securities settlement systems are within the scope of the assessment.

The information used in the assessment includes all the relevant laws, clearing house rules and operating procedures governing RMB CHATS as well as the oversight information available to the HKMA as the payment systems overseer of RMB 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 RMB CHATS conducted by the SI and SO of the system. The assessment was made based on the position of RMB CHATS as at 31 December 2014.

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

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

III. Overview of the payment, clearing and settlement landscape

Introduction

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

FMI 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 for securities, futures and options and OTC derivatives transactions and the securities settlement system for stocks and futures³.

Interbank payment systems in Hong Kong support interbank transfers in the HK dollar, US dollar, Euro, and Renminbi. RMB CHATS is the interbank payment system

³ These FMIs are under the purview of the Securities and Futures Commission.

for clearing and settling Renminbi (RMB) transactions in Hong Kong.

RMB CHATS is a highly efficient and reliable payment system that enables banks from all over the world to make RMB payments. It is an indispensable part of Hong Kong's financial infrastructure supporting the development of offshore RMB business in Hong Kong, which now encompasses a full range of services including deposit-taking, currency exchange, remittance, trade finance and wealth management offered by banks and other financial institutions.

History and development of RMB CHATS

The RMB payment system has evolved over time to cater for the expansion of RMB banking business in Hong Kong. The Bank of China (Hong Kong) Limited (BOCHK), a commercial bank in Hong Kong, was appointed by the People's Bank of China (PBC) as the Clearing Bank (CB) for RMB business in Hong Kong in December 2003. BOCHK, as the CB, is also authorized by the PBC to conduct cross-border RMB clearing and settlement services, by BOCHK being a member of China National Advanced Payment System (CNAPS) and maintaining a settlement account with the PBC. Initially, the scope of RMB business was limited and clearing and settlement were done by BOCHK itself.

With the gradual expansion of RMB business, in December 2005 BOCHK engaged Hong Kong Interbank Clearing Limited (HKICL), the SO of HK dollar/US dollar/Euro CHATS, to develop and operate an RMB settlement system. HKICL began to operate the system in March 2006. HKICL is 50% owned by the HKMA and 50% by the Hong Kong Association of Banks (HKAB). HKICL started to operate the HKD CHATS in 1996 and became the SO of USD CHATS in 2000 and Euro CHATS in 2003.

With the further expansion of RMB business in 2007 to allow interbank fund transfer within the system, the RMB settlement system turned into a full-fledged real time gross settlement (RTGS) system and was renamed RMB CHATS. The system was designated under the Clearing and Settlement Systems Ordinance in 2008.

The RMB clearing and settlement services are provided by BOCHK, as the CB, through RMB CHATS. RMB transactions are settled across the book of BOCHK, as CB, which performs the same function as a SI of a payment system. In this report, the term "CB" is used to describe the role of BOCHK as the Clearing Bank as well as the settlement institution of RMB CHATS. The CB is a functional unit within BOCHK providing RMB clearing and settlement services through RMB CHATS. In this report, we will refer to "BOCHK" instead of "CB" when we discuss institutional or bank-level matters, such as governance issue and business risk.

The appointment of, and services provided by, the CB are bound by the Settlement Agreement ("Settlement Agreement") on the clearing of RMB business signed between PBC and BOCHK. BOCHK, as CB, appointed HKICL as the system operator.

Operations and services of RMB CHATS

RMB CHATS opens for settlement from 08:30 to 23:30 (Hong Kong Time) every day except Saturdays, Sundays and 1 January. From October 2014 onwards, the operating hours of the RMB clearing services of the CB were extended to 20.5 hours, from 08:30 to 05:00 the next day. The extension of the system closing time from 23:30 to 05:00 (next day) is being implemented in two phases.⁴

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 (except bulk items, see next paragraph) are settled immediately on a gross deal-by-deal basis across the book of the CB 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 CB offers intraday repo facilities to participants of the system.

In addition to settling large-value payments among banks, the system also handles bulk settlement of cheques, stock market-related payments, credit card payments and other small-value bulk electronic payments such as electronic point-of-sale payments, auto-credit and auto-debit transactions, 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.

Outline of key activities in a normal business day of RMB CHATS

Time (in HKT)	Key activities
08:30	RMB CHATS opens
	Mainland China's CNAPS system opens
09:30	Bulk settlement for stock market-related payments
14:15	Bulk settlement for paper cheques
17:00	Mainland China's CNAPS system closes
17:50	Bulk settlement for same-day stock market-related payments
23:30-05:00 (next day)	Extension of operating hours from October 2014 (see footnote 4)
05:00 (next day)	RMB CHATS closes (see footnote 4)
00:00-00:00 (operates 24 hours a day)	Mainland China's SZFSS system operates

⁴ The extension of operating hours of RMB CHATS is being implemented in two phases. In phase 1, before system change of RMB CHATS is implemented, clearing is performed using the CB's internal systems from 23:30 to 05:00 (next day). After being settled in the CB's internal account ledger between 23:30 and 05:00 (next day), the transactions will be input into RMB CHATS when the system opens at 08:30 (next day). In phase 2, after system change of RMB CHATS has been implemented, settlement of transactions will take place from 23:30 to 05:00 (next day) in RMB CHATS when there is sufficient balance in the settlement account of the paying bank. Phase 2 is scheduled to be launched in the second half of 2015.

RMB 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 RMB/HKD, RMB/USD, and RMB/Euro foreign exchange transactions via the links with the HKD, USD and Euro CHATS RTGS systems, and DvP for debt and equities transactions via the links with the Central Moneymarkets Unit (CMU) and Central Clearing and Settlement System (CCASS) respectively.

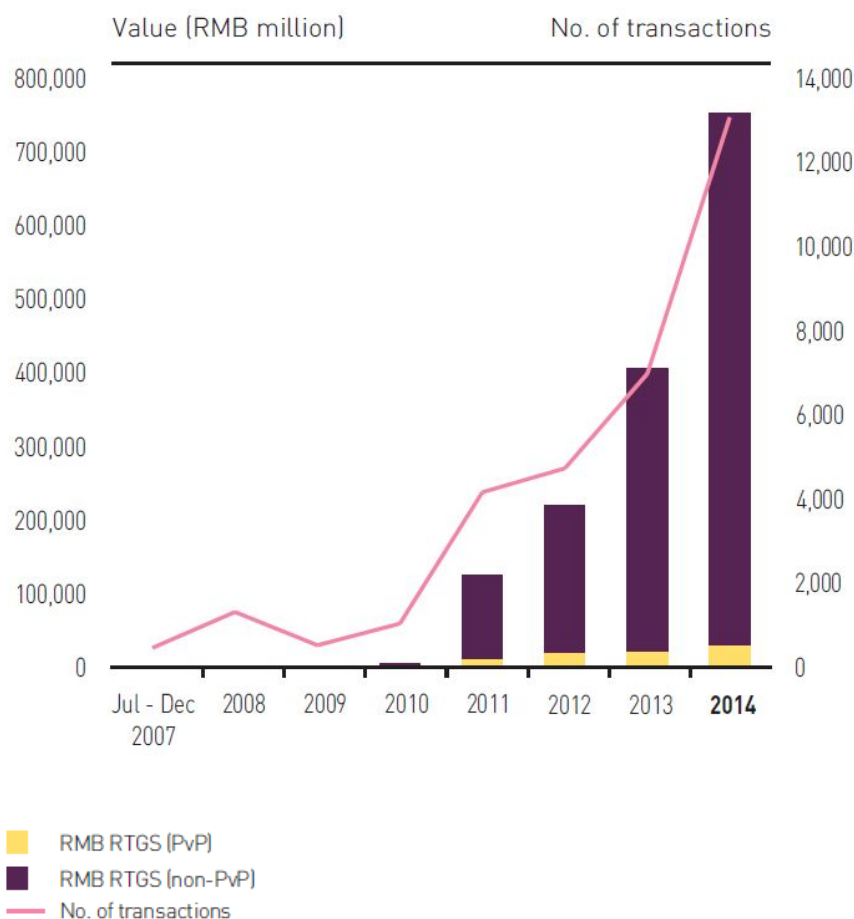
The CB of RMB CHATS has access to CNAPS and the Shenzhen Financial Settlement System (SZFSS) to facilitate RMB incoming and outgoing cross-border payments between Hong Kong and Mainland China. RMB cross-border payments between Hong Kong and Mainland China generally comprise personal remittances, remittances related to trade settlement, payments related to the issuance and redemption of RMB bonds issued in Hong Kong.

Communications between RMB CHATS and its participants are based on SWIFT messaging standards and services. Participants must connect to the SWIFT network in order to access the RMB 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.

Participation in RMB CHATS is voluntary, based on business needs. All Participating Banks are required to sign the Agreement for Clearing and Settlement of Renminbi Business (“Clearing and Settlement Agreement”) with the CB. RMB CHATS adopts a single-tier membership structure where all financial institutions join as Direct Participants (DPs). At the end of December 2014, RMB CHATS had 200 DPs, comprising 147 local participants and 53 overseas participants. RMB CHATS admits not only local Authorized Institutions (AI), i.e. licensed banks, restricted licence banks, deposit-taking companies authorized under the Banking Ordinance in Hong Kong, but also overseas banks. While banks in Hong Kong can apply to the CB for direct access to the system, participation of other financial institutions including overseas banks is subject to approval by both the HKMA and the CB on a case-by-case basis.

RMB CHATS is not a central counterparty 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.

RMB CHATS Average Daily Turnover



Oversight arrangements for RMB CHATS

The Clearing and Settlement Systems Ordinance (CSSO) establishes a statutory regime for the Monetary Authority⁵ 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.

The HKMA is empowered to issue explanatory notes and guidelines to explain its role, policies and requirements in relation to the designation and oversight of clearing and settlement systems under the CSSO. For example, the HKMA has issued under section 54 of the CSSO the Guideline on the Oversight Framework for

⁵ 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.

Designated Systems (“the 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.

The HKMA adopts international regulatory standards on FMIs in its oversight framework for designated systems. Specifically, the requirements from the PFMI issued jointly by the CPMI (formerly the CPSS) of the Bank for International Settlements and the IOSCO in April 2012 were incorporated into the Guideline. The Guideline requires designated systems to observe the PFMI where applicable.

RMB CHATS was designated by the HKMA under the CSSO in July 2008 and was granted a certificate of finality which provides statutory backing to the finality of settlement for transactions made through a designated system. This settlement finality is protected from insolvency laws and other laws. As a result, transactions settled through RMB CHATS are final and irrevocable.

The payment system overseer function of the HKMA under the CSSO is performed by the payment systems oversight team within the Payment Systems Oversight and Licensing Division 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 SO and CB in managing and operating the designated system.

The HKMA is also the banking supervisor in Hong Kong. BOCHK is a commercial bank in Hong Kong, under the prudential supervision of the Banking Supervision Department of the HKMA. The CB is a functional unit within BOCHK.

Another role taken up by the HKMA is the developer or facilitator of the financial infrastructures in Hong Kong, through the Financial Infrastructure Department (FID). Representatives from FID sit on the Board of HKICL, which is 50% owned by the HKMA.

IV. Summary assessment

Recommendations for the FMI

The assessment finds that RMB CHATS observes Principles 1, 4-5, 7-9, 12-13, 16-17 and 21-23 and broadly observes Principle 2, 3, 15 and 18 of the PFMI, based on the rating system of CPSS-IOSCO⁶. The remaining principles (Principles 6, 10-11, 14, 19-20 and 24) are not applicable to RMB CHATS. Table 1 summarises the ratings for each principle. The assessment also identified recommended actions to be taken by the CB and SO of RMB CHATS. The recommended actions are related to Principles 1, 2, 3, 15 and 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, 4-5, 7-9, 12-13, 16-17 and 21-23</i>
Broadly observed	<i>Principle 2,3,15 and 18</i>
Partly observed	<i>Nil</i>
Not observed	<i>Nil</i>
Not applicable	<i>Principles 6, 10-11, 14, 19-20 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>	<p><i>Both HKICL and BOCHK made improvements to their governance arrangements in 2014.</i></p> <p><i>BOCHK should refine its risk-management framework for the Clearing Bank for RMB CHATS.</i></p> <p><i>HKICL should establish procedures to review the performance of its Board and of individual Board members.</i></p>	<i>Within 2015</i>

⁶ The assessment was made based on the position of RMB CHATS as at 31 December 2014.

3,15	Recovery plan in development phase	HKICL should develop its recovery plan based on the CPMI report on recovery of FMI published in October 2014. The recovery plan should be reviewed and approved by the HKICL Board.	Within 2015
18	Access criteria lack sufficient elaboration	CB should further elaborate the access criteria while allowing for a degree of discretion by the HKMA and the CB.	Within 2015
For consideration in the normal course of business			
1	Potential conflict of law issues regarding overseas participants	CB should remind overseas participants that they are bound by the clearing house rules of RMB CHATS under the laws of Hong Kong and they should seek legal advice regarding any potential conflict of law issues if deemed necessary. The status of clearing house rules and Hong Kong law can be further clarified in the account opening form to be signed by new overseas participants.	
3	Recovery plan in development phase	BOCHK has formulated its recovery plan based on HKMA's requirements and has submitted it to the HKMA at the end of 2014. The recovery plan is being reviewed by the HKMA and will be updated at least annually to reflect any improvements identified by the bank, any relevant developments and comments, if any, of the HKMA.	

Narrative summary key findings and recommendations

General organisation (Principles 1–3)

The relevant laws in Hong Kong provide a comprehensive and well-founded legal framework for the establishment and operation of RMB 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 SO / the CB are clear and understandable and are comprehensively articulated. The RMB 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. As overseas participants of RMB CHATS are subject to the laws in their places of incorporation while participation in the system is governed by Hong Kong law, issues of conflict of laws may arise. It is recommended that overseas participants should regularly be reminded that they are required to comply with the laws of Hong Kong with respect to the clearing and settlement services of RMB CHATS and that they should seek legal advice if in doubt as to any potential conflict of laws.

RMB CHATS plays an important role in supporting Hong Kong as an RMB settlement hub. It is an important FMI conducive to supporting the financial and monetary stability of Hong Kong. Governance arrangements of the system operator and settlement institution of RMB CHATS are in place to ensure safety and efficiency of the system. RMB CHATS is a designated system and is required to operate safely and efficiently under the CSSO. In accordance with the PFMI requirements on governance, HKICL, as SO of RMB CHATS, has strengthened its governance arrangements by, among other things, adding an independent non-executive director to its Board and establishing a Risk Management Committee and an internal audit function. HKICL will continue to implement the remaining enhancements to its governance arrangements in 2015, including developing a mechanism to review the performance of its Board and of individual Board members. BOCHK is a commercial bank and its existing risk management framework covers its whole range of banking business, including its CB function. BOCHK is refining its risk management framework for the CB function of RMB CHATS to enhance its monitoring and mitigating of various types of risk faced by the CB. The risk management framework for the CB function will be updated and reviewed by the Risk Committee of BOCHK annually.

RMB CHATS has developed robust risk management policies and procedures that enable it to manage risks associated with the operation of the system. Participation in RMB CHATS is voluntary. There are various risk management tools built into the system design of RMB 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. Business continuity plan and drills are in place to ensure continuity or recovery of services during a crisis. The recovery and resolution plans of the SO and CB are in development. HKICL is developing a recovery plan based on the international standard on FMI recovery published in October 2014. Separately, BOCHK, as a commercial bank, submitted its recovery plan to the HKMA for review at the end of 2014. The plan is being reviewed by the HKMA and will be updated at least annually to reflect any improvements identified by the bank, any relevant developments and comments, if any, of the HKMA. RMB 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)

RMB 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. The credit risk faced by the system is limited to collateral lending in the form of a repo facility, which is subject to an overall repo limit set by the CB. RMB CHATS may face residual risk in times of extreme volatility. This risk is largely mitigated through the use of high-quality collateral with conservative haircuts. Any losses arising from the repo will be borne by the CB.

RMB CB accepts Exchange Fund Bills and Notes, Hong Kong Government Bonds and certain types of RMB securities with low risk and high credit rating for repo with appropriate haircuts. The types of acceptable collateral are under annual review by BOCHK. The repo facility is provided through a link between RMB CHATS and the CMU, which are both designated systems under the oversight of the HKMA.

The RMB liquidity position of the CB is closely monitored by the HKMA. The RMB liquidity pool in Hong Kong, though not unlimited, should be large enough to support the financial activities of RMB business in Hong Kong, including RMB CHATS. The HKMA and the PBC are supportive of the development of RMB business in Hong Kong. The two authorities have entered into a currency swap agreement of RMB 400 billion which could be utilised to support the RMB business in Hong Kong if needed. RMB CHATS has a number of built-in tools to assist the RMB CB and the participants to manage their liquidity risks, including a repo facility using high-quality collateral securities. These tools have proved effective in managing the liquidity risk of the system to date. The RMB CB should stay vigilant to the liquidity position of the system, which could change rapidly. BOCHK should strictly adhere to the minimum liquidity requirement as set out by the HKMA. Participants of the system should be regularly reminded by the CB to manage their liquidity positions prudently and follow the throughput guideline.

Settlement (Principles 8–10)

The Clearing House Rules of RMB CHATS clearly define the point at which settlement is final, and the settlement finality has legal backing under the CSSO as RMB CHATS is a designated system and a certificate of finality has been issued to the system under the CSSO since July 2008.

RMB CHATS conducts money settlements in commercial bank money. Money settlements are effected through accounts on the books of BOCHK, which is appointed by the PBC as the RMB settlement institution or clearing bank in Hong Kong. The choice was made via an open application process, taking into account the financial strength and operational reliability of BOCHK. BOCHK is under the prudential supervision of the HKMA, and required to fulfil all the necessary capital and liquidity requirements as other commercial banks operating in Hong Kong. BOCHK is also one of the note-issuing banks in Hong Kong and has consistently obtained high credit ratings. Though RMB CHATS does not settle in central bank money, it has adopted various measures to manage the credit and liquidity risks (see Principles 4 and 7) in the system.

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

RMB CHATS is not a central securities depository (CSD), therefore Principle 11 concerning CSDs is not applicable to RMB CHATS.

RMB CHATS supports PvP and DvP transactions by linking with other local CHATS systems and the CMU, all of which are designated systems under the CSSO. The DvP and PvP processes of RMB CHATS are supported by appropriate system software and its interface with the other designated 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 and DvP transactions are settled, they are final and irrevocable under statutory settlement finality protection of the CSSO.

Default management (Principles 13–14)

RMB 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 HKICL, CB and SIs of other designated systems involving participants as appropriate.

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

HKICL and BOCHK identify, monitor and manage their respective general business risk. HKICL operates on a user-pay principle and has set aside an amount equivalent to six months' operating expenses to ensure continuity of operation. BOCHK, as a bank, follows strictly the capital and liquidity requirements laid down by the HKMA.

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

The SO and CB of RMB CHATS have their own operational risk-management framework. The framework is reviewed and endorsed by the respective Board or Board-level Risk Management Committee of the SO and CB. Both SO and CB have developed robust physical and information security policies and controls, and make an annual declaration that adequate controls are in place to the SO's Risk Management Committee and the HKMA. The business continuity plan for RMB CHATS is comprehensive and well-tested. Various system and network business continuity plan 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)

Access policies and requirements are set out in the Clearing House Rules. The rules provides for the suspension or exit of participant. The access is fair and open. Based on the RMB Clearing House Rules, foreign institutions may join RMB CHATS subject to the discretion of the HKMA and the CB. The access criteria should be elaborated further in general terms while allowing for a degree of discretion by the CB and the HKMA. Overseas participants are bound by the RMB Clearing House Rules.

Efficiency (Principles 21–22)

RMB banking business in Hong Kong is growing in size and complexity. RMB CHATS plays an important role in the development of offshore RMB business in Hong Kong, providing safe and efficient settlement of RMB transactions among local and overseas participants of the system. RMB CHATS is operationally efficient and has been able to accommodate the growing needs of market participants. RMB CHATS has been operating on an internationally accepted communication platform and it follows international standards to effect payments. The operation of RMB CHATS using the SWIFTNet platform is generally smooth and satisfactory.

Transparency (Principles 23–24)

RMB 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. Trainings, briefings and enquiry support are provided to participants. RMB 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 RMB CHATS, which is available on the website of both SO and CB. A redacted version of the RMB CHATS 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

AI	Authorized Institutions
BOCHK	Bank of China (Hong Kong) Limited
CB	Clearing Bank
CCASS	Central Clearing and Settlement System
CHATS	Clearing House Automated Transfer System
CMU	Central Moneymarkets Unit
CNAPS	China National Advanced Payment System
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems (changed its name to Committee on Payments and Market Infrastructures (CPMI) in September 2014)
CSD	Central Securities Depository
CSSO	Clearing and Settlement Systems Ordinance
DP	Direct Participant
DvP	Delivery-versus-payment
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
IOSCO	International Organization of Securities Commissions
MA	Monetary Authority
OTC	Over-the-counter
PBC	People's Bank of China
PFMI	Principles for Financial Market Infrastructures
PSO	Payment Systems Oversight
PSOLD	Payment Systems Oversight and Licensing Division
PvP	Payment-versus-payment
RMB	Renminbi
RTGS	Real Time Gross Settlement
SI	Settlement Institution
SO	System Operator
SZFSS	Shenzhen Financial Settlement System
USD	US Dollar