

OTC Clearing Hong Kong Limited

Principles for Financial Market Infrastructures Disclosure



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Infrastructures Disclosure**

February 2024

Responding Institution:

OTC Clearing Hong Kong Limited

Jurisdiction(s) in which the FMI Operates:

Hong Kong Special Administrative Region

Authority Regulating, Supervising or Overseeing the FMI:

Securities and Futures Commission of Hong Kong

The date of this disclosure is February 2024. This disclosure can be found at http://www.hkex.com.hk/Services/Clearing/OTC-Clear/PFMI?sc_lang=en. For further information, please email OTC_Clear@hkex.com.hk.

GLOSSARY

Capitalised terms defined in the OTC Clear Rates and FX Derivatives Clearing Rules (**Clearing Rules**) of OTC Clearing Hong Kong Limited shall have the same meaning when used in this disclosure document. Terms defined in the Principles for financial market infrastructures issued by Committee on Payments and Market Infrastructure (**CPMI**) and International Organization of Securities Commissions (**IOSCO**) in April 2012 have the same meaning when used in this disclosure document.

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CHAPTER 1: Executive Summary

- 1 OTC Clearing Hong Kong Limited (**OTC Clear**) is a Hong Kong-incorporated subsidiary of Hong Kong Exchanges and Clearing Limited (**HKEX**) and commenced operations in November 2013. OTC Clear serves the purpose of providing clearing services for over-the-counter (**OTC**) derivatives as a Central Counterparty (**CCP**).
- 2 OTC Clear's approaches to observing each applicable principle in the Principles for Financial Market Infrastructures (the **PFMIs**) are summarised in this disclosure document. This document is written pursuant to and in accordance with the guidelines set forth in the disclosure framework and assessment methodology issued by CPMI and the IOSCO in December 2012 and July 2017. OTC Clear has identified that three of the 24 PFMI principles are not applicable to OTC Clear as a CCP. They are Principle 10 – Physical Deliveries, Principle 11 – Central Securities Depositories and Principle 24 – Disclosure of Market Data by Trade Repositories.
- 3 In August 2013, the Securities and Futures Commission (the **SFC**) published guidelines requiring Recognised Clearing Houses (**RCHs**) to observe on an ongoing basis the PFMIs published by the CPMI and IOSCO in April 2012, to the extent that these apply to CCPs. The SFC's recognition of OTC Clear as an RCH was on the basis of its assessment of OTC Clear's compliance with the PFMIs.

CHAPTER 2: Summary of Major Changes since the Last Update of the Disclosure¹

- 1 15 May 2023 – OTC Clear introduced a new mutual market access programme enabling offshore investors who have entered into certain CNY interest rate swaps with dealers in Mainland China to clear such over-the-counter derivative transactions through a clearing link between OTC Clear and Interbank Market Clearing House Co., Ltd.
- 2 19 May 2023 – OTC Clear converted the outstanding cleared USD London Interbank Offered Rate (**USD-LIBOR**) legacy contracts into contracts referencing the Secured Overnight Financing Rate (**SOFR**) prior to the Index Cessation Effective Date (**ICED**), as set out in the [Floating Rate Conversion Notice](#); discontinued the clearing services of single currency interest rate swaps and basis swaps (**IRS**) and cross-currency swaps (**CCS**) referencing USD-LIBOR and launched the clearing services of IRS and CCS referencing USD-SOFR.
- 3 24 July 2023 – OTC Clear may admit a Remotely Regulated Entity incorporated in England and Wales as a Clearing Member, if such Entity is regulated by the Bank of England and the Financial Conduct Authority, and has an Affiliate which carries on a business in Hong Kong that is regulated by the SFC.

¹ The last update was in February 2023.

CHAPTER 3: General Background on OTC Clear

- 1 OTC Clear is a CCP established by HKEX for the purpose of providing clearing and settlement services for OTC derivative transactions in Hong Kong. OTC Clear was established in response to the G20 leaders' commitments of September 2009, to address structural deficiencies in the OTC derivatives markets and the systemic risks posed to the wider economy.
- 2 Currently, OTC Clear is offering inter-dealer clearing services and Client Clearing Services for IRS, Northbound interest rate swaps (**NB IRS**), CCS, non-deliverable currency forwards (**NDF**) and deliverable FX (**DFX**). OTC Clear accepts Clearing Members who are either Authorised Institutions licensed by the Hong Kong Monetary Authority (**HKMA**), Licensed Corporations approved by the SFC, and financial institutions incorporated in England who are regulated by the Bank of England and the Financial Conduct Authority and who maintain an affiliate in Hong Kong which is regulated by the SFC². As of 31 December 2023, there were 26 OTC Clear Clearing Members. OTC Clear's clearing services complement the trade repository of the HKMA, which was established to enable the reporting of OTC derivatives in Hong Kong and to provide greater transparency to the market.
- 3 OTC Clear is recognised by the SFC, Hong Kong's statutory regulator for the securities and futures markets, under Section 37(1) of the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) (**SFO**) as an RCH. In addition, OTC Clear is a designated CCP for the purposes of mandatory clearing of certain classes of OTC derivative products under Part IIIA of the SFO.
- 4 As an RCH operating within the statutory framework under Division 3 of Part III of the SFO, OTC Clear acts in the interest of the public in discharging its statutory duties. It aims to maintain financial stability and promote transparency of the OTC derivatives market in Hong Kong by offering expeditious clearing and robust risk management services to market participants.

² A Licensed Corporation or an Authorized Institution which is not incorporated in Hong Kong may become a Clearing Member. In addition, OTC Clear may also admit any person that is neither a Licensed Corporation nor an Authorized Institution (**Remotely Regulated Entity**) as a Clearing Member if such Person is incorporated in England and Wales, is regulated by the Bank of England and the Financial Conduct Authority and has an affiliate which carries on a business in Hong Kong which is regulated by the SFC, and subject to such Person having in place, in its country of incorporation and any other jurisdiction in which it conducts business, all regulatory authorizations, licenses, permissions and approvals which OTC Clear reasonably determines to be necessary for the Clearing Member to carry out its business as a Clearing Member in the relevant jurisdictions and having provided to OTC Clear such opinions or other information as OTC Clear may require from time to time

- 5 OTC also holds regulatory status in the below jurisdictions:
- a) OTC Clear is recognised as a Tier 1 third-country central counterparty (**TC-CCP**), by the European Securities and Markets Authority (**ESMA**).
 - b) OTC Clear obtained an order of exemption from registration as a Derivatives Clearing Organization from the US Commodity Futures Trading Commission (**CFTC**).
 - c) OTC Clear is recognised as a prescribed facility under the regime for mandatory central clearing of OTC derivatives in Australia from Australian Securities and Investment Commission (**ASIC**).
 - d) OTC Clear has been granted a Foreign Financial Instruments Clearing Organization License from the Financial Services Agency of Japan (**JFSA**).
 - e) OTC Clear is recognised as a Recognised Clearing House under section 51(2) of the Securities and Futures Act of Singapore by the Monetary Authority of Singapore (**MAS**).
 - f) OTC Clear entered the interim list of third-country CCPs under the Temporary Recognition Regime of the United Kingdom (**UK**) maintained by the Bank of England.

CLEARING AND SETTLEMENT INFRASTRUCTURE

- 6 OTC Clear's primary operational objectives are to ensure that the Rates and FX Clearing System is available for the provision of clearing services of OTC Clear products. In the case of a system failure event, system recovery can be achieved within two hours following a disruption to OTC Clear's critical functions, in each case under specific contingency scenarios.

CHAPTER 4: Principle-By-Principle Summary Disclosure

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.

MATERIAL ASPECTS OF ACTIVITIES

1.1. The material aspects of OTC Clear's activities that require legal certainty are:

- a) Clearing Membership in OTC Clear;
- b) the rights and obligations of OTC Clear and its Clearing Members in respect of clearing services and cleared Contracts;
- c) the provisions of the Clearing Link with Special Clearing House Participant (**SCHP**) and the rights, obligations and liabilities thereunder;
- d) the formation by novation, enforceability of netting arrangements and settlement finality of Contracts;
- e) terms of Client Clearing Services;
- f) the segregation of positions and Collateral between Clearing Members and their Clients;
- g) the rights and interests of OTC Clear and its Clearing Members to financial provisions constituting Margin and the Rates and FX Guarantee Fund; and the right and interests of OTC Clear and the SCHP to the Inter-CCP Margin Amount;
- h) the finality of funds transfers for payments under cleared Contracts;
- i) default procedures;
- j) procedures for the recovery and wind-down of OTC Clear; and
- k) provisions for the insolvency of Clearing Members, SCHP and OTC Clear.

LEGAL SOUNDNESS

- 1.2. OTC Clear is an RCH and a designated CCP regulated by the SFC, Hong Kong's statutory regulator for the securities and futures markets, under Section 37(1) and Section 101J of the SFO respectively. OTC Clear is governed by Division 3 of Part III of the SFO, by its Clearing Rules, the Membership Agreement and other notices and procedures (collectively the "**Clearing Documentation**") issued from time to time by OTC Clear.
- 1.3. All Clearing Documentation, risk management and business policies of OTC Clear have been reviewed and approved by the SFC. In addition, when drafting its Clearing Documentation, OTC Clear consulted with and incorporated comments on the Clearing Documentation from existing and potential Clearing Members representing a cross section of international, Hong Kong and Mainland-based banks and dealers.
- 1.4. Hong Kong is the relevant jurisdiction of OTC Clear's activities and OTC Clear has obtained a legal opinion in respect of Hong Kong law from an independent law firm which covers the material aspects of OTC Clear's activities. The Hong Kong law opinion provides a high degree of certainty that the Clearing Documentation of OTC Clear is enforceable against OTC Clear and the Clearing Members under Hong Kong law and that there is a sound legal basis upon which OTC Clear operates as a CCP. OTC Clear will review the Hong Kong law opinion from time-to-time to ensure it remains current and relevant.³
- 1.5. The Hong Kong legal framework supports and allows OTC Clear to conduct material aspects of its activities as a CCP. The legal basis/framework supporting the material aspects of OTC Clear's activities consists of the Bankruptcy Ordinance, the Companies Ordinance, the SFO, the Payment Systems and Stored Value Facilities Ordinance (**PSSVFO**) in respect of payment settlement finality and general Hong Kong common law in relation to contracts, tort and property.
- 1.6. As of the date of this disclosure, OTC Clear has admitted Clearing Members incorporated not only in Hong Kong but also the UK, the United States, Germany, the PRC, Australia, France, Singapore. OTC Clear has also established a clearing link with Interbank Market Clearing House Co., Limited who has been admitted as an SCHP. Accordingly, OTC Clear has obtained legal opinions from counsel in each of such jurisdictions which provide a high degree of certainty that the Clearing Documentation of OTC Clear is enforceable

³ In respect of the Clearing Link, OTC Clear has obtained a legal opinion in respect of PRC law from an independent law firm which covers the material aspects of the Clearing Link Agreement and the provisions of Part VA of the Clearing Rules. The PRC law opinion provides a high degree of certainty that the Clearing Link Agreement and Part VA of the Clearing Rules is enforceable against SCHP under PRC law and that there is a sound legal basis for OTC Clear's interoperability with SCHP.

against those Clearing Members in the jurisdictions in which they are incorporated and SCHP, and that OTC Clear's actions under the Clearing Rules and Contracts could not be voided, reversed or subject to stays, including where one or more of its Clearing Members defaults or where OTC Clear enters into insolvency administration. Further, OTC Clear's arrangements or activities pursuant to the Clearing Rules have never been held unenforceable by any judicial authority in any jurisdiction.

- 1.7. In addition to the below overseas recognition that has been obtained, OTC Clear will obtain legal opinions from independent law firms in respect of any other relevant foreign jurisdictions as well as conflict of laws issues arising from the laws of such jurisdictions, if in future, OTC Clear:
- a) decides to admit a Clearing Member that is not incorporated in Hong Kong, the UK, the United States, Germany, the PRC, Australia, France, or Singapore;
 - b) conducts a material aspect of its activities as a CCP outside Hong Kong;
 - c) holds Collateral in another jurisdiction; or
 - d) enters into any agreement relevant to the material aspects of OTC Clear's activities with a governing law other than Hong Kong. The Hong Kong law opinion will be reviewed and, if applicable, updated to cover any additional conflict of laws issues relating to the identified jurisdictions.

OVERSEAS RECOGNITION

- 1.8. On 21 December 2015, OTC Clear obtained exemption from registration as a DCO from the US CFTC, which allows OTC Clear to provide clearing services to Clearing Members that are branches or affiliates of US banks in Hong Kong without being registered as a Derivatives Clearing Organisation.
- 1.9. On 3 September 2015, OTC Clear was recognised by ASIC as a prescribed facility in Australia under Regulation 7.5A.63 of the Corporations Amendment (Central Clearing and Single-Sided Reporting) Regulation 2015, which allows Clearing Members of OTC Clear to fulfil their Australian mandated clearing obligations through its service.
- 1.10. On 16 December 2019, OTC Clear obtained a Foreign Financial Instruments Clearing Organisation Licence from the JFSA, which allows Japanese banks to clear cross currency swaps using OTC Clear's services through a Clearing Member of OTC Clear.
- 1.11. On 31 January 2020, OTC Clear entered the UK's interim list of TC-CCP under the Temporary Recognition Regime of the Central Counterparties (Amendments, etc., and

Transitional Provision) (EU Exit) Regulations 2018 of the UK, which enables OTC Clear to continue to provide clearing services and activities in the UK.

- 1.12. On 19 November 2020, OTC Clear was recognised by the Monetary Authority of Singapore as a Recognised Clearing House pursuant to section 51(2) of the Securities and Futures Act.
- 1.13. On 22 March 2022, ESMA completed the tiering and review of OTC Clear's existing TC-CCP recognition originally granted on 27 April 2015. OTC Clear is recognised by ESMA as a Tier 1 TC-CCP under Article 89(3a) of European Market Infrastructure Regulations (**EMIR**) and in accordance with Article 25 of EMIR.

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.

REGULATORY REQUIREMENTS

- 2.1. OTC Clear is regulated by the SFC under Division 3 of Part III of the SFO as an RCH. It has a statutory duty to ensure, so far as reasonably practicable, that there are orderly, fair and expeditious clearing and settlement arrangements for transactions cleared or settled through its facilities and that risks associated with its business and operations are managed prudently. It must, at all times, provide and maintain adequate and properly equipped premises, competent personnel, and automated systems with adequate capacity to meet contingencies or emergencies, security arrangements and technical support, for the conduct of its business. In discharging its statutory duties, OTC Clear is under an obligation to act in the interests of the public, having particular regard to the interests of the investing public. Where there is a conflict between the public interest and OTC Clear's own interest, OTC Clear is required to ensure that the interests of the public prevail.
- 2.2. As an RCH, OTC Clear's Articles of Association and Clearing Rules, fees and fee structure as well as any amendments to them are required to be approved by the SFC before they become effective. In addition, under Section 61 of the SFO, no person may become a minority controller (i.e. holding 5% or more voting rights) of an RCH without the approval of the SFC. Furthermore, no person may hold more than 35% voting rights in OTC Clear unless that person is a recognised exchange controller under Section 59 of the SFO.

GOVERNANCE OF OTC CLEAR

- 2.3. HKEX, a publicly listed company in Hong Kong, holds 100% voting rights in OTC Clear. HKEX is also the Majority Ordinary Shareholder (means any person that (either individually or together with its Associated Companies) holds directly or indirectly more than 50 per cent of the Ordinary Shares in issue from time to time) and the remaining shares are held by the 12 financial institutions as Founding Shareholders. HKEX is an exchange controller recognised by the SFC under Section 59 the SFO. As a recognised exchange controller, HKEX has a statutory duty to ensure, among other things, that any RCH controlled by it (including OTC Clear) complies with any lawful requirement placed on the RCH and that risks associated with the business and operations of the RCH are managed prudently. Accordingly, HKEX actively oversees and ensures the proper functioning of OTC Clear. HKEX exercises appropriate control and oversight over the performance of

OTC Clear's functions and overall operations, financial arrangements, risk management, business and strategic direction.

OTC CLEAR BOARD AND COMMITTEES

- 2.4. The OTC Clear Board consists of at least seven individuals to be appointed by HKEX and up to three individuals to be appointed by Non-voting Ordinary Shareholders. It has multiple roles and responsibilities as set out in its terms of reference which is published on the HKEX Group website for access by the public.
- 2.5. The OTC Clear Board members are selected based on their skills, experience and knowledge of OTC products, risk management, or an understanding of exchange and/or clearing house business and processes. In defining the independence criteria for the Independent Non-executive Directors (**INED**) of OTC Clear, OTC Clear has been guided by the requirements of the Hong Kong Listing Rules and the PFMI. When considering new appointments to the Disciplinary Committee, Disciplinary Appeals Committee, Risk Management Committee, User Committee and Default Management Group, OTC Clear ensures that they possess the appropriate knowledge and experience in the risk management areas or operations and business development of the OTC derivatives industry.
- 2.6. OTC Clear's governance structure comprises the OTC Clear Board and five committees and groups which have been established to assist the OTC Clear Board in managing and operating OTC Clear, including:
- a) Risk Management Committee;
 - b) User Committee;
 - c) Default Management Group;
 - d) Disciplinary Committee; and
 - e) Disciplinary Appeals Committee.
- 2.7. OTC Clear is subject to the oversight and scrutiny of the board of directors of HKEX (**HKEX Board**) committees, including:
- a) Audit Committee;
 - b) Board Executive Committee;
 - c) Corporate Social Responsibility Committee;

- d) Investment Committee;
- e) Nomination and Governance Committee;
- f) Remuneration Committee;
- g) Risk Committee; and
- h) Risk Management Committee (statutory),

and such committees may be consulted and used to carry out the important functions of independent financial and operational audit, oversight in risk management framework, policies and systems, nomination of directors, oversight in the determination of directors and staff remuneration, and advising on investment policies. Unless there is a sound reason for them to diverge, OTC Clear's policies in these areas are intentionally consistent with the policies of HKEX and its subsidiaries' (**HKEX Group**).

- 2.8. The organisational structure of the HKEX Group, the terms of reference and composition of the OTC Clear Board and its committees/group, and HKEX Board and its respective committees are published on the HKEX Group website for access by the public. Please refer to CHAPTER 5: List of Publicity Available Resources on the HKEX MARKET/HKEX Group Websites, for a list of publicly available resources about OTC Clear.

OTC CLEAR MANAGEMENT

- 2.9. OTC Clear's day-to-day operations, planning, development and supporting of governance bodies of OTC Clear are managed across various departments. The OTC Clear senior management team is responsible, among others, for making recommendations to, and implementing decisions of the OTC Clear Board, managing the operation of the company's business, ensuring OTC Clear's activities are consistent with its objectives and risk tolerance, and that internal control and risk management procedures are properly designed and executed.
- 2.10. The OTC Clear senior management is responsible for the effectiveness and efficiency of OTC Clear's internal control, risk management (including first line of defence made up of business functions such as the Operations division and second line of defence made up of risk and compliance functions such as the Group Risk Management division) and corporate governance processes, its operations and organisational structures. Internal audit department, as the third line of defence and independent assurance function, performs periodic reviews of the effectiveness and efficiency of the abovementioned areas. It reports audit findings to the OTC Clear Board, OTC Clear senior management and to the HKEX Audit Committee and the Chief Executive Officer of HKEX.

RISK MANAGEMENT AND INTERNAL CONTROL FUNCTIONS

2.11. The Group Risk Management division is responsible for the development, implementation and maintenance of the HKEX Group risk management framework, policy and standards and also ensures the alignment, integration and consistency of risk management across HKEX Group companies.

2.12. The Operations division includes OTC Clear operations and risk operations. They are responsible for maintaining the orderly, fair and expeditious clearing and settlement arrangements for the OTC derivatives markets and monitoring risk-taking within OTC Clear; ensuring that as central counterparties, activities are in line with HKEX's risk appetite and international standards.

CONFLICTS OF INTEREST POLICY

2.13. OTC Clear has established its own conflicts of interest policy to deal with potential conflicts of interest issues between OTC Clear and its stakeholders including Clearing Members and Clients. Directors' conflicts of interest issues are addressed in OTC Clear's Articles of Association. To avoid conflicts in relation to committee members, OTC Clear includes in the terms of reference for all its committees, a provision requiring its members to declare any actual or potential conflicts of interest in relation to any matter under consideration at the earliest possible opportunity and in any case before they participate in discussion of that issue.

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.

RISK MANAGEMENT POLICIES, PROCEDURES AND SYSTEMS

3.1. OTC Clear has identified the following risk types and has established appropriate risk management policies, procedures and controls to identify, measure, monitor and manage these risks:

- a) **Legal and regulatory risk** – as mentioned, OTC Clear has obtained a Hong Kong law opinion from an independent law firm to confirm that each of the material aspects of its activities and its Clearing Documentation are enforceable under the Hong Kong law. OTC Clear will obtain legal opinions from an independent law firm in respect of any relevant foreign jurisdictions as well as conflict of laws issues arising from the laws of such jurisdictions where necessary. Such legal opinions will be updated as necessary from time to time. For legal risk, the details are described under Principle 1 – Legal Basis;
- b) **Liquidity risk** – OTC Clear assesses its liquidity needs daily, including stress testing and application of notional exchange risk limits, and maintains sufficient liquid resources to ensure that it is able to meet its payment and delivery obligations in a timely manner including in extreme but plausible market conditions. The details are described under Principle 7 – Liquidity Risk;
- c) **Credit risk** – to minimise the risk that its Clearing Members would be unable to meet, in a timely manner, their payment and delivery obligations under their Contracts in accordance with Margin and the Rates and FX Guarantee Fund contribution requirements, OTC Clear adopts risk-related Membership requirements such as the imposition of Minimum Capital Requirements on an ongoing basis. In addition, OTC Clear would perform daily credit risk monitoring of its Clearing Members through a set of risk metrics to determine the risk limits, including but not limited to, the intra-day Variation Margin limits (i.e. the level of intra-day “credit risk tolerance” with respect to each Clearing Member). OTC Clear also conducts stress testing regularly to ensure the sufficiency of its financial resources. New scenarios will be added for stress testing when necessary to identify risks arising and ensure their proper mitigation. OTC Clear also applies risk multipliers in the margin calculation to address relevant risks. Details are described under Principle 4 – Credit Risk, and further elaborated under Principle 6 – Margin and Principle 7 – Liquidity Risk;

Principle 3: Framework for the Comprehensive Management of Risks

- d) **Market risk** – OTC Clear requires each of its Clearing Members to post Initial Margin, prior to the acceptance of Contracts for clearing. Initial Margin is intended to cover potential future exposures and mitigate the risk of losses in Contract value, arising from market movements during the close-out period of the Contracts in the event of a Clearing Member default. Variation Margin is imposed daily to cover current exposure. Each Clearing Member is required to make contributions to the Rates and FX Guarantee Fund to cover the Expected Uncollateralized Loss in the event of a default of the Clearing Member or SCHP to whom OTC Clear has the largest exposure. The details are described under Principle 4 – Credit Risk and Principle 6 – Margin;
- e) **Settlement risk** – payments between OTC Clear and its Clearing Members / Sponsored Settlement Member are made via the Real Time Gross Settlement (RTGS) systems in Hong Kong through settlement banks appointed by OTC Clear, while payments between OTC Clear and the SCHP are made via the Cross-Border Inter-Bank Payments border Interbank Payment System (CIPS) system through settlement banks appointed by OTC Clear. OTC Clear minimises settlement risk by imposing stringent appointment criteria and concentration limits for its settlement banks and conducting on-going monitoring of their performance. The details are described under Principle 9 – Money Settlements;
- f) **General business risk** – OTC Clear adopts HKEX Group’s risk management frameworks and policies which are designed to identify, monitor and manage all risks including general business risk. OTC Clear monitors potential scenarios that may affect its financial position. External and internal factors including but not limited to regulatory developments, market conditions, business strategy and control procedures on spending are evaluated and reviewed regularly. The details are described under Principle 15 – General Business Risk;
- g) **Custody and investment risk** – OTC Clear adopts stringent selection criteria when appointing settlement and custodian banks to safe-keep Clearing Member, and, where relevant, Client Collateral as well as its own investment assets. The primary principles of OTC Clear’s investment policy are to preserve capital, to remain sufficiently liquid and to minimize risk while optimizing return on investments. The details are described under Principle 16 – Custody and Investment Risk;
- h) **Operational risk** – OTC Clear adopts HKEX Group’s risk management frameworks and policies which are designed to identify, monitor and manage all risks including operational risks. OTC Clear conducts a regular exercise to assess the impact of each risk to its business (including new products, new services, and system upgrades), the likelihood of occurrence of each risk and the effectiveness of its existing controls. It also performs ad hoc risk assessments following the introduction of new products, new services and system upgrades. To address

Principle 3: Framework for the Comprehensive Management of Risks

operational risks that may affect its critical operations and services, OTC Clear has established a Market Contingency Plan (**MCP**) setting out the contingency and recovery procedures under specific scenarios. In addition, OTC Clear follows HKEX Group's physical security as well as cyber and technology risk management policies to manage potential physical threats and system vulnerabilities. The details are described under Principle 17 – Operational Risk; and

- i) **Concentration risk** – OTC Clear monitors and manages money settlement concentration among its settlement banks using the Herfindahl-Hirschman Index (as described under Principle 9 – Money Settlements). Concentration limits are imposed on eligible Non-cash Collateral. Investment concentration is managed by imposing counterparty concentration limits (as described under Principle 16 – Custody and Investment Risk) and position concentration by imposing liquidity risk multipliers to, where necessary, increase Initial Margin requirements for concentrated portfolios (as described under Principle 6 – Margin). OTC Clear's risk management framework comprises policies and procedures pertaining to specific risk types. The risk monitoring and reviews are conducted holistically and include the identification and management of the interdependencies of counterparties.
- 3.2. OTC Clear employs a robust information and risk-control system to provide it with timely information to manage its risks. The Rates and FX Clearing System allows for the accurate and timely measurement and aggregation of risk exposure in real-time based on the most up-to-date market data from approved providers. The Rates and FX Clearing System enables OTC Clear to monitor its current exposure and potential future exposure to each Clearing Member's Portfolio and where relevant, Client's Portfolio on a near real-time basis, by marking-to-market positions every 30 minutes during each clearing day (or every 15 minutes during volatile market conditions). OTC Clear uses The Rates and FX Clearing System to aggregate risk exposures across portfolios.
 - 3.3. The Rates and FX Clearing System calculates the amount of Initial Margin, Participating Margin, Variation Margin and Additional Margin (by marking-to-market all positions) for each Clearing Member, and notifies Clearing Members of Margin shortfalls in a timely manner. In addition, The Rates and FX Clearing System allows OTC Clear to apply credit limits (i.e. intra-day Variation Margin limits) and liquidity risk multipliers to increase Initial Margin requirements if required. The details are described under Principle 6 – Margin.
 - 3.4. Clearing Members are incentivized to manage their risks through the collection of Margin and Rates and FX Guarantee Fund which are proportional to the risks of Clearing Member's Portfolio and where relevant, Client's Portfolio. The default waterfall is designed with loss allocation to defaulting Clearing Members first and ranking the CM Funded Contribution Amount of non-defaulting Clearing Members with respect to the quality of bids and participation in auctions in order to incentivize Clearing Members to manage their risks and

actively participate in the default management process to close out the defaulting Clearing Member's portfolio efficiently.

RECOVERY AND WIND DOWN PLAN

- 3.5. OTC Clear has identified scenarios that may prevent it from being able to provide its critical operations, clearing link services, and services as a CCP. The MCP is in place to provide for default management handling of SHCP in default, a recovery and orderly wind down of its business, if required. A wind down of its clearing services (including clearing link services) would be a decision of the last resort for the senior management of OTC Clear, and prior to making the decision to trigger the clearing link services termination process or the wind down process, the OTC Clear Board will duly and seriously consider its public and legal duties as an RCH under the SFO and may raise additional capital from its shareholders or third parties, and revise its business strategies and services and cost structure.
- 3.6. If OTC Clear decides to trigger the wind down process⁴, a Rates and FX Clearing Termination Event will occur. All obligations of OTC Clear and its Clearing Members in respect of any Contracts between them shall cease and be replaced with the obligations to pay or receive the termination amounts. The time required to implement an orderly wind down of its business is expected to be around six months although OTC Clear maintains sufficient financial resources at all times to cover at least 12-months' operating expenses, as described under Principle 15 – General Business Risk. For clearing link services termination process⁵, OTC Clear and its Clearing Members in respect of any clearing link Contracts between them and the SCHK shall cease and be replaced with the obligations to pay or receive the termination amount as described under the provision of Clearing Link and Part VA of the Clearing Rules.

REVIEW OF THE EFFECTIVENESS OF RISK MANAGEMENT POLICIES, PROCEDURES AND SYSTEMS

- 3.7. The Chief Risk Officer of OTC Clear and/or his/her nominee meets with the Risk Management Committee and the OTC Clear Board on a quarterly basis to provide an update on OTC Clear's risk exposures and on the effectiveness of its risk management framework. The Risk Management Committee is responsible for reviewing the

⁴ If the wind down is due to a SHCP Event of Default, it is subject to consultation with the SFC by OTC Clear; if the wind down is due to an OTC Clear Failure to Pay SHCH Event, it is subject to consultation with the PBOC by the SCHK; if the wind down is due to a OTC Clear Insolvency Event OTC Clear will, as soon as reasonably practicable, inform the SFC; if the wind down is due to a Force Majeure Event or Illegality, OTC Clear and the SCHK shall notify each other, SFC and PBOC as soon as possible upon being aware of the occurrence

⁵ If the clearing link service termination process is due to a SHCP Event of Default, it is subject to consultation with SFC by OTC Clear; if the clearing link service termination process is due to Force Majeure Event or Illegality, OTC Clear and the SCHK shall notify each other, SFC and PBOC as soon as possible upon notification of the occurrence.

Principle 3: Framework for the Comprehensive Management of Risks

effectiveness of risk management frameworks, policies, procedures, and systems, and such review includes but is not limited to the monitoring of the risk intensity fluctuation including:

- a) the Margin requirements of a Clearing Member relative to the Capital of the Clearing Member;
- b) the projected stress-test losses of a Clearing Member relative to the Capital of the Clearing Member;
- c) the size of a Clearing Member's exposures relative to the various risk limits on the related House Position Account and where relevant, Client Position Accounts;
- d) the size of the SCHP's exposures relative to the pre-agreed clearing quota for Northbound interest rate swaps; and
- e) the back-testing results for the Initial Margin model (including IM Component of the Inter-CCP SHCH Margin Amount).

3.8. A comprehensive review of OTC Clear's risk models is conducted by Group Risk Management on an annual basis and will raise issues and/or recommendations based on validation results. Operations and other relevant teams (if any) will implement the corresponding resolutions to address these issues. Validation results as well as issues and/or recommendations raised will be shared with the Risk Management Committee, Executive Risk Committee (**ERiC**), Risk Committee (**RC**), and Clearing Risk Committee (**CRC**).

3.9. RC meets at least four times a year. Its main function is to oversee the overall risk management framework and advise the HKEX Board on HKEX Group's risk-related matters. Reporting to the RC, the ERiC is responsible for reviewing and endorsing risk management policy and frameworks and identifying and reviewing risks from all risk themes.

Principle 4: Credit Risk

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

MANAGEMENT OF CREDIT EXPOSURE TO CLEARING MEMBERS

- 4.1. OTC Clear has implemented a comprehensive risk management framework to monitor and manage its credit exposures to the potential default of a Clearing Member. Review and validation of OTC Clear's risk models are conducted by Group Risk Management on an annual basis. It adopts the following controls to measure, monitor and manage its current and potential future exposures to Clearing Members:
- a) **Position Account monitoring** – Both Operations and Group Risk Management conduct routine reviews on each Clearing Member's House Position Accounts and where relevant, Clearing Member's Client Position Accounts;
 - b) **Capital strength** – Group Risk Management ensures that each Clearing Member has sufficient Capital to meet its Minimum Capital Requirement. If a Clearing Member fails to meet its Minimum Capital Requirement (taking into account the risk profile of a given Clearing Member) and remedy it within a specific timeframe, Group Risk Management may suspend or terminate its Membership or declare the Clearing Member in default whilst Operations will terminate any access and system mappings; and
 - c) **Credit risk monitoring** – each Clearing Member's creditworthiness is evaluated daily by OTC Clear taking into account a set of risk metrics including respected and publicly available credit ratings, credit default swap (**CDS**) spread, the relevant Sovereign CDS spread, financial leverage, Capital ratios and operational weaknesses such as settlement delays.

OTC Clear assigns each Clearing Member a risk score based on the risk metrics and may take risk mitigating actions such as:

- i. adjusting the level of the intra-day Variation Margin limit (i.e. the amount of “credit tolerance” provided to the Clearing Member);
- ii. disallowing the Clearing Member to withdraw excess Collateral; and
- iii. requiring the Clearing Member to post only cash to meet its Margin and Rates and FX Guarantee Fund contribution requirements.

4.2. OTC Clear maintains policies covering each of the risk types and detailing how each risk is managed according to the Risk Committee’s expectations. These policies are subject to a thorough review at least annually by internal risk governance and the Risk Committee. Financial resource holdings are covered by the OTC Clear Investment Policy.

4.3. **Resources for Managing Credit Exposures** – the sources of funds available to OTC Clear to cover losses arising from the default(s) of Clearing Member(s) include Initial Margin, Variation Margin, Additional Margin, and Participating Margin as well as the Rates and FX Guarantee Resources which include Rates and FX Guarantee Fund, OTC Clear Contribution, and CM Unfunded Contribution Amount. The application sequence of these resources (i.e. the default waterfall) in the event of Clearing Member(s) default is described in greater detail under Principle 13 – Participant-default Rules and Procedures.

4.4. The Rates and FX Guarantee Fund is sized to cover the default of the Clearing Member and its affiliates including SCHP, taking into account the risk exposures of its Client positions if any, that would potentially cause the largest aggregate credit exposure(s) to OTC Clear in extreme but plausible market conditions. The adequacy of the Rates and FX Guarantee Fund is stress-tested daily and re-sized periodically, using a combination of historical scenarios and theoretical scenarios (as described under paragraphs 4.5 to 4.6 below). This level of coverage is adequate under the PFMI as OTC Clear does not have a complex risk profile and is not currently systemically important in multiple jurisdictions for the following reasons:

- a) it currently clears only Rates Derivatives Contract and FX Derivatives Contract that are standardized and for which a deep and liquid market exists; and
- b) the OTC derivatives volume cleared by OTC Clear only represents a small portion of the entire market.

MANAGEMENT OF CREDIT EXPOSURE FROM THE PAYMENT, CLEARING AND SETTLEMENT PROCESSES

4.5. OTC Clear adopts the following measures to manage the credit exposure arising from its payment, clearing and settlement processes:

- a) all payments/settlements are made through OTC Clear's settlement banks via the RTGS systems operated by Hong Kong Interbank Clearing Limited (**HKICL**);
- b) all cross-border payments / settlements are made through OTC Clear's settlement banks / custodian banks via interbank transfer (within the same banking group) or CIPS operated by CIPS Co., Ltd.;
- c) strict financial, operational and business eligibility criteria are adopted for the appointment of OTC Clear's settlement and custodian banks and regular reviews are conducted by OTC Clear in respect of their regulatory compliance, creditworthiness and capitalization, access to liquidity and operational reliability (as described under Principle 9 – Money Settlements); and
- d) monitoring of the CDS Spreads, respected and publicly available credit ratings and Capital ratios of OTC Clear's settlement banks and the use of the Herfindahl-Hirschman Index to assess the concentration risk of money flows among them (as described under Principle 9 – Money Settlements). The concentration limits take into account the overall credit risk exposures of OTC Clear to individual obligors (as described under paragraph 1.16.5(a) of Principle 16 – Custody and Investment Risk).

STRESS TESTING – SUFFICIENCY OF FINANCIAL RESOURCES

4.6. OTC Clear ensures the sufficiency of its financial resources as set out in Chapter 6.3 of the Clearing Procedures by:

- a) stress-testing and back-testing the Margin models daily;
- b) stress-testing the adequacy of the Rates and FX Guarantee Fund daily (as described under paragraph 4.6 below) and re-sizing it monthly; and
- c) conducting reverse stress-testing monthly on the Margin and Rates and FX Guarantee Fund models to ensure that all extreme but plausible scenarios have been included in the set of stress-test scenarios, and to add new scenarios if necessary.

- 4.7. The stress-testing described above is conducted using data from a wide range of historical and theoretical scenarios that take into account relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons and simultaneous pressures in funding and asset markets in a variety of extreme but plausible market conditions, including October 1987 Black Monday, the 1998 Asian Financial Crisis, the 2003 SARS epidemic, the 2008 Global Financial Crisis (including the Lehman Brothers default), hypothetical extreme but plausible scenarios simulated by Operations and Group Risk Management to encompass correlation breakdown among different asset classes and across various tenors, and hypothetical currency devaluations. Under the stress testing model, hypothetical scenarios include but are not limited to idiosyncratic stress scenarios per currency or reference rate, providing a spectrum of forward-looking scenarios. In addition, through reverse stress testing, OTC Clear can identify potential stress scenarios to adjust, alter or add scenarios to current daily routine stress testing.
- 4.8. The effectiveness and appropriateness of stress-testing assumptions and parameters are assessed at least monthly, or more frequently if necessary. The Chief Risk Officer of OTC Clear meets at least quarterly with the Risk Management Committee and the OTC Clear Board to review the stress test results and to assess the adequacy of coverage of the Initial Margin and, the Rates and FX Guarantee Resources and Inter-CCP Margin Amount.

ALLOCATION OF CREDIT LOSSES AND REPLENISHMENT OF FINANCIAL RESOURCES

- 4.9. OTC Clear's allocation of credit losses arising from Clearing Member default and replenishment of its financial resources are described in greater detail under Principle 13 – Participant-default Rules and Procedures.

Principle 5: Collateral

An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

ELIGIBLE COLLATERAL AND VALUATION

- 5.1. Policies and principles are in place for assessing the liquidity of the current eligible Collateral types. Such policies and principles will be maintained and extended when new types of eligible Collateral are introduced in the future.
- 5.2. Eligible Collateral must fulfil the following criteria:
- a) **Low credit risk** – with a high credit quality against an appropriate benchmark rate;
 - b) **Low liquidity risk** – the ability to be liquidated in an active secondary market in a reasonable time frame;
 - c) **Low market risk** – with low price volatility; and
 - d) **No specific wrong way risk** – not likely to lose value in the event that the Clearing Member defaults.
- 5.3. Eligible Collateral is marked-to-market every 15 to 30 minutes during each clearing day. Group Risk Management monitors applicable liquidity metrics such as trading volumes and/or bid-ask spreads of each Collateral type on a monthly basis. The list of eligible Collateral will be reviewed quarterly with the Risk Management Committee.
- 5.4. Collateral posted will only be accepted if OTC Clear has considered the Collateral and provided a matching instruction to receive such Collateral.

HAIRCUT METHODOLOGY

- 5.5. All types of Collateral are subject to haircuts which take into account the liquidity, price volatility, potential future exposures, and market conditions that may affect the perceived risk attributes of the Collateral.
- 5.6. The haircut for cash Collateral in HKD is determined based on the bid/ask spread level (which reflects the market liquidity) of HKD. For cash Collateral in other Eligible Currencies, Eligible Inter-CCP Currencies and eligible Non-cash Collateral, haircuts are

determined by referencing the highest 99.7% value-at-risk over a range of look back periods to ensure that at least 99% of all observations have been taken into account.

- 5.7. The sufficiency of haircuts is also validated by comparing: (i) the bid/ask spread of the Collateral; and (ii) the value-at-risk calculation of OTC Clear's Collateral portfolio with five-year historical data on a rolling basis in addition to historical and hypothetical extreme but plausible stress scenarios. The validation is performed monthly and on an ad hoc basis under volatile market conditions.
- 5.8. A buffer will be applied to the haircut calculation result considering the haircut ratio used by Hong Kong Securities Clearing Company (HKSCC), HKFE Clearing Corporation (HKCC), and/or The SEHK Options Clearing House (SEOCH) under the HKEX Group and internationally reputable clearing houses.
- 5.9. The inclusion of historical and hypothetical stress scenarios from extreme but plausible market conditions for haircut validation enables OTC Clear to mitigate pro-cyclicality by setting a larger haircut in times of low market volatility. This buffer can reduce the need for continuous haircut adjustments or triggering Additional Margin calls which may exacerbate an already stressed market condition.

CONCENTRATION LIMITS

- 5.10. Collateral eligibility, haircuts and concentration limit policies are reviewed annually by the Risk Management Committee and any amendments are subject to the OTC Clear's Board approval. As mentioned in paragraph , Group Risk Management conducts an annual review of OTC Clear's PFMI related models, which includes the review of OTC Clear's Collateral model and Collateral policies against PFMI requirements.

COLLATERAL MANAGEMENT

- 5.11. OTC Clear's collateral management system keeps a detailed record of the amount and type of Collateral posted in each Clearing Member's House Collateral Account and Client Clearing Category 1 Collateral Accounts. Cash Collateral is transferred on an outright basis from Clearing Members to OTC Clear, settled via the RTGS systems and placed by OTC Clear on deposit with commercial banks in Hong Kong. Cash Collateral, whether in satisfaction of the Margin, Participating Margin or the Rates and FX Guarantee Fund requirements, is transferred to OTC Clear on an outright basis and therefore forms part of OTC Clear's assets. OTC Clear has the power to invest any cash transferred to it as Collateral. Non-cash Collateral provided by Clearing Members in satisfaction of their Margin requirements will be by way of security interest. Non-cash Collateral cannot be reused. OTC Clear's Collateral management system has the capability to support the deposit, withdrawal, substitution, and liquidation of Collateral. OTC Clear on a monthly basis, pays a return to or receives a reimbursement from Clearing Members at a prevailing

rate specified by OTC Clear in respect of the cash Collateral provided to meet the Margin requirements (except for Participating Margin where the return is paid on a quarterly basis). For eligible Non-cash Collateral provided by a Clearing Member, OTC Clear will distribute an amount representing any income it has received in respect of any Non-cash Collateral, taking into account the deduction required to reflect any accommodation charges, administration costs or commitment fees for credit lines incurred by OTC Clear in respect of such Non-cash Collateral.

- 5.12. OTC Clear's collateral management system has the capability to accommodate changes in the on-going monitoring and management of Collateral, including but not limited to the timely calculation and execution of Margin calls, accurate daily reporting of levels of Initial Margin and Variation Margin, tracking of cash and non-cash assets posted as Collateral, changes in haircuts and concentration limits, change in Collateral valuation methodology and changes of valuation frequency. The system has the flexibility to accommodate changes to assist the on-going monitoring and management of Collateral. Group Risk Management have access rights to the system and can perform adjustments in the system on individual Clearing Member's Collateral Concentration Limit and Collateral Haircut to monitor and manage Collateral.
- 5.13. OTC Clear's collateral management system is staffed by at least 2 full time employees. In times of extreme market volatility, OTC Clear will have access to the entire operations and settlement team of its affiliated clearing houses, as needed to ensure that any Clearing Member queries or Margin call disputes will be handled in a timely manner. Under extreme market volatility where staff from the other central counterparties within HKEX Group may be called upon to help and such human resource allocation will be determined by the senior management of HKEX.

Principle 6: Margin

A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

- 6.1. To cover its current and potential future exposures, Margin levels established by OTC Clear are commensurate with the risks and attributes of each product, portfolio, and market that OTC Clear serves. The types of Margin collected by OTC Clear from its Clearing Members include Initial Margin, Variation Margin, Additional Margin, and Participating Margin.
- 6.2. Total Margin requirements take into account the value of any Collateral previously posted and are calculated and collateralised separately in respect of each House Position Account. Save for the end-of-day Variation Margin call for Clearing Members which must be satisfied by 11:00 a.m. (Hong Kong time) on the next clearing day, all other Margin calls must be satisfied within one hour of demand.
- 6.3. Clearing Member payment failure is deemed to be an event of default. It may trigger OTC Clear's default management process which equips a wide range of measures to minimise and mitigate the potential shortfall. The default management process is regularly rehearsed through default fire drills. For detailed procedures, please refer to Principle 13 Participant-default Rules and Procedures.
- 6.4. OTC Clear discloses key information of related to margin on the HKEX Market website. Moreover, further information is made available to Clearing Members upon request and is routinely discussed at the OTC Clear Risk Committee and/or in Risk Working Groups, which have Clearing Member participation.

INITIAL MARGIN

- 6.5. Initial Margin is used to mitigate OTC Clear's potential future exposure (i.e. the inherent market risk) to a Contract or portfolio of Contracts and needs to be satisfied before a Contract is accepted for clearing by OTC Clear. It covers possible losses in the event of a Clearing Member default under normal market conditions, between the time of the last Variation Margin payment on that Contract and the time it takes to hedge, close out or transfer the Contract upon that Clearing Member's default and, where relevant, the time it takes to port Client positions and related Collateral upon that Clearing Member's default.
- 6.6. It is calculated based on a value-at-risk model with at least a 99% single-tailed confidence level over a five-day holding period for Contracts recorded in a House Position Account and a seven-day holding period for Contracts recorded in a Client Position Account. The model uses a range of historical and hypothetical, extreme but plausible scenarios to

simulate the performance of each Contract and fluctuations in the market value of each Clearing Member's cleared portfolio. Returns generated by the Initial Margin model are scaled by placing exponentially more weight on recent market data to allow for a better representation of current market volatility.

- 6.7. The Initial Margin model takes into the account the following key parameters and inputs:
- a) **Close-out period** – Initial Margin is designed to cover five-day's profit and loss of a Clearing Member's portfolio under normal market conditions and seven-day's profit and loss for a Client portfolio. It is assumed that when a Clearing Member defaults, the defaulting Clearing Member's Initial Margin can cover two days of missed Margin payments, two days for Hedging, one day for the Auction of its portfolio and, where relevant, two days for porting Client positions and related Collateral. In addition, OTC Clear may impose a liquidity risk multiplier to increase the Initial Margin requirement to reflect an increased liquidation horizon for portfolios that are larger, less liquid and/or more concentrated;
 - b) **Confidence level** – OTC Clear has validated through back-testing, that Initial Margin achieves a single-tailed confidence interval in excess of 99% for Contracts recorded in a House Position Account and, where relevant, Client Position Account with respect to the estimated distribution of potential future exposure; and
 - c) **Sample period** – a combination of the following components reflecting both current and longer term market volatilities:
 - i. five-year historical data which provides a profit and loss distribution and a wide correlation matrix amongst Contracts and underlyings;
 - ii. some older historical data (beyond five years) to reflect extreme past volatility e.g. 2003 SARS epidemic and 2008 global financial crisis; and
 - iii. some hypothetical scenarios generated by OTC Clear to capture extreme but plausible events.
- 6.8. The Notional Exchange Risk Multiplier will be applied in margin calculation for Clearing Members with sizable directional risk in their cleared cross currency swap and deliverable FX swap and forward portfolios. This aims to address the additional foreign exchange conversion risk and costs arising from potential default of such Clearing Members. OTC Clear conducts regular poll of bid/ask spread data or requests other information from Clearing Members to determine the level of the multiplier and the appropriate threshold for sizable exposures.

- 6.9. OTC Clear checks the robustness of the Initial Margin model through daily back-testing and regular reverse stress testing with hypothetical portfolios, covering extreme but plausible market conditions.

VARIATION MARGIN

- 6.10. Variation Margin mitigates OTC Clear's current exposure to the Contracts due to daily market fluctuations as measured by marking-to-market of Contracts every 30 minutes during each clearing day (or every 15 minutes during volatile market conditions). It is collected through a Routine Intra-day Variation Margin Call if the current exposure to a Clearing Member's Contracts recorded in its House Position Account exceeds the Intra-day Variation Margin limit set by OTC Clear.

- 6.11. Variation Margin calls are made at least twice a day:

- a) one Routine Intra-day Variation Margin Call is made at 2:15 p.m. (Hong Kong time) on each business day and must be settled within one hour; and
- b) one end-of-day Variation Margin is made available by publication in the OTC Clear Settlement Report on each clearing day and must be settled by 11:00 a.m. (Hong Kong time) on the following clearing day.

- 6.12. These Variation Margins are made automatically by The Rates and FX Clearing System and issued to Clearing Members via the Web Portal. In addition, OTC Clear may demand Ad Hoc Intra-day Variation Margin under volatile market conditions if necessary.

ADDITIONAL MARGIN

- 6.13. Additional Margin is imposed on Clearing Members at OTC Clear's discretion if, for instance, a Clearing Member fails to comply with the Minimum Capital Requirement or OTC Clear determines that there are wrong way risk concerns arising from the Clearing Member's Contracts. It covers the potential market volatility arising from significant foreign market movements during Hong Kong holidays which are not Northbound Clearing Days and China holidays which are not OTC Clear Clearing Days or Northbound Clearing Days. OTC Clear will also impose Notional Exchange Failure Margin on Non-delivering Clearing Members upon the occurrence of Notional Exchange Failure. The Notional Exchange Failure Margin aims to collateralise the indemnification liability that the Non-delivering Clearing Member owes to OTC Clear as a result of it effecting any Mitigating Measures in respect of that Notional Exchange Failure.

- 6.14. Specific wrong way risk arises where an exposure to counterparty is highly likely to increase when the creditworthiness of that counterparty is deteriorating. Therefore, any assets with specific wrong way risk will not be accepted. Pursuant to section 7.5.2.2 of Clearing

Procedures, specific wrong-way risk is the risk that Collateral would likely lose value in the event that a Clearing Member providing such Collateral defaults, OTC Clear will mitigate such risk through the imposition of, and/or adjustment to, Collateral Concentration Limit(s) and Collateral Haircut(s).

PARTICIPATING MARGIN

6.15. Each OTC Clear Clearing Member clearing Standard Northbound Rates Derivatives Contracts shall provide Participating Margin. The Participating Margin may be rehypothecated by OTC Clear to fund part of the Inter-CCP OTCC Margin Amount. With respect to a Clearing Member, Participating Margin is calculated in respect of the Inter-CCP Rates Derivatives Contracts with equal but opposite terms to (and which have been created to correspond to) the Standard Northbound Rates Derivatives Contracts recorded in all Position Accounts of that Clearing Member, as reduced by a multiplier which reflects the Inter-CCP SHCH Margin Amount contributed by the SCHP and the reduction in the amount of Inter-CCP OTCC Margin from netting benefits.

PRICE DATA

6.16. The price data used by OTC Clear's Margin system is supplied by reputable market data providers and updated every 15 minutes. It aggregates dealer/broker quotes and data on trades from market participants that represent a wide swathe of the market, in products which are the same or similar to the instruments cleared by OTC Clear. To ensure that the price data it obtains from a market data provider is reliable, Operations are responsible for comparing the data with that obtained from another market data provider and bid-ask spreads on trades submitted for clearing to check if there is any distorted or missing data. If any data is distorted, missing or otherwise unreliable, OTC Clear estimates prices by reference to data obtained for the immediately preceding OTC Clear Clearing Day and interpolation of quotes for proxy data points on the relevant swap curve applicable to each Contract.

6.17. OTC Clear utilises market data for liquid tenor points on the relevant swap curve applicable to each Contract to model the performance of each Contract and calculate Margin requirements. If market data in respect of a particular tenor point is not available or is unreliable, OTC Clear estimates the value of that tenor point by interpolating from neighbouring tenor points on the relevant swap curve.

PORTFOLIO MARGINING

6.18. OTC Clear allows offsets in Margin requirements across Contracts recorded in a House Position Account and, where relevant, Client Position Account. In applying Margin offsets across Contracts, OTC Clear identifies correlations amongst underlyings and amongst Contracts, during periods of actual and simulated market stress by modelling the future

performance of each Contract using a range of historical data and hypothetical stress scenarios.

BACK-TESTING, SENSITIVITY ANALYSIS AND REVIEW

6.19. OTC Clear conducts daily back-testing of the Initial Margin model by calculating and comparing a hypothetical Initial Margin amount to the hypothetical profit and loss for each House Position Account and, where relevant, each Client Position Account using the past five years' market data, with the assumption that all Contracts were held for a continuous period of five clearing days. If the hypothetical Initial Margin is insufficient to cover the hypothetical loss on a House Position Account, one exceedance will be recorded. If the number of exceedances exceeds the Initial Margin risk tolerance level over a specific period of time, OTC Clear will take the following actions:

- a) evaluate the source of back-testing exceedances and recalibrate the Initial Margin model parameters (e.g. confidence level, number of scenarios etc.) when necessary; and
- b) run another back-test to check Initial Margin coverage.

6.20. If the recalibration of the model and subsequent back-testing do not result in a reduction of the number of exceedances within the risk tolerance level, OTC Clear will revise the Margin model appropriately.

6.21. OTC Clear conducts sensitivity analysis of the Initial Margin model on a monthly basis, taking into account a wide range of parameters, including but not limited to, return basis, volatility smoothing and time decay factor, confidence interval, etc.

6.22. The robustness of OTC Clear's portfolio and cross-margining methodologies are assessed daily through margin erosion and back-testing analysis. The hypothetical portfolios check margin performance for covering extreme but plausible market conditions and positions that contain a high degree of price dependency. At the same time, the methodologies coincided the situation OTC Clear faces in a default scenario. Regular sensitivity testing evaluates changes in recent correlations.

6.23. As mentioned in paragraph 5.10, Group Risk Management conducts an annual review of OTC Clear's PFMI related models, which will include the validation of the Margin model and Margin policies against PFMI requirements. Any material changes to the Margin methodology will be reviewed in consultation with the Risk Management Committee before obtaining the OTC Clear Board's final approval.

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.

LIQUIDITY RISK MANAGEMENT FRAMEWORK

7.1. The major sources of OTC Clear's liquidity risks and the corresponding mitigating measures are as follows:

- a) **Default of Clearing Members** – OTC Clear manages the liquidity and credit risks of its Clearing Members by imposing Membership requirements as described under Principle 18 – Access and Participation Requirements and conducting daily risk monitoring of Clearing Members as described under Principle 4 – Credit Risk;
- b) **Operational or financial failure of settlement banks or custodians** – OTC Clear has stringent selection criteria for its settlement banks and custodians, monitors the concentration of money flows amongst them and conducts a regular review of their financial standing and operational performance as described under Principle 9 – Money Settlements;
- c) **Operational failure of the payment system (RTGS systems)** – as described under Principle 8 – Settlement Finality, OTC Clear conducts its money settlements through the RTGS systems. The RTGS operator (HKICL) maintains backup facilities to deal with the failure of the primary system;
- d) **Entities that take on multiple roles** – where a Clearing Member or its Affiliate is a settlement bank, custodian, obligor or liquidity provider of OTC Clear, OTC Clear imposes stricter counterparty concentration limits in relation to their settlement or custody services as described under Principle 16 – Custody and Investment Risk. OTC Clear reduces the settlement bank or custodian's intra-day Variation Margin limit (in its capacity as a Clearing Member) if its credit risk is material;
- e) **Illiquidity of investments or Collateral** – OTC Clear's investment strategies aim to ensure that investment portfolios are sufficiently liquid at all times. This is described in greater detail under Principle 16 – Custody and Investment Risk; and

- f) **Failure of Notional exchanges** – to mitigate the liquidity risk arising from failure of notional exchanges in the cross currency swaps and Deliverable FX swaps and forwards clearing, OTC Clear applies the Notional Exchange Risk Limits to Clearing Members and Sponsored Settlement Members. When a Notional Exchange Risk Limit is fully utilised, new trades of cross currency swaps and Deliverable FX swaps and forwards will not be accepted unless the Clearing Member or the Sponsored Settlement Member posts additional cash Collateral of the excess amount in the same currency as the Notional Exchange Risk Limit. OTC Clear also monitors its notional exchange liquidity requirements and conducts liquidity stress testing on a daily basis.

LIQUID RESOURCES

7.2. OTC Clear's liquid resources currently include:

- a) the Margin Balance provided by Clearing Members for the purpose of satisfying their Margin and Rates and FX Guarantee Resources requirements;
- b) committed intraday liquidity facilities available to OTC Clear to meet its liquid resource requirements arising from the settlement of notional exchanges of cross currency swap, Deliverable FX forward and Deliverable FX swap trades;
- c) committed liquidity facilities available to OTC Clear to cover liquidity requirement arising from the settlement of Standard Northbound Rates Derivatives Contracts;
- d) OTC Clear's contribution to the Rates and FX Guarantee Resources; and
- e) retained earnings arising from its clearing business.

7.3. OTC Clear manages its liquidity needs by monitoring both its settlement and funding flows, and by conducting stress testing on Clearing Members' payment obligations based on the observed cash flow patterns and stress test results as described under paragraph 7.8 below. OTC Clear determines its minimum liquid resource requirements, forecasts future cash flow requirements, ensures that there are sufficient liquid bank balances, and minimises currency and maturity mismatch between cash receipts and payments.

7.4. In general, committed lines of credit are maintained only with commercial banks whose core competencies is to provide such facilities. In addition, such commercial banks have investment or business relationships with HKEX which will be subjected to internal credit rating and regular assessment of such commercial banks' reliability and credit worthiness. OTC Clear conducts drills regularly on the withdrawal of committed lines with those commercial banks. During initial on-boarding of any provider, OTC Clear assesses the provider by considering different factors which may include but is not limited to various

sanctions screening, due diligence, and financial checks. OTC Clear also has in place business continuity plans and procedures for liquidity shortage scenarios.

7.5. The Notional Exchange Risk Limits are supported by committed intraday liquidity facilities available to OTC Clear covering the potential Notional Exchange Failures of two Clearing Members or Sponsored Settlement Members concurrently. OTC Clear also manages its liquidity needs arising from Standard Northbound Rates Derivatives Contracts' exposure through available committed liquidity facilities. OTC Clear stresses failure(s) of the liquidity provider(s) as described under paragraph 7.1d) above and in Principle 16 – Custody and Investment Risk.

7.6. The minimum liquid resource requirements of OTC Clear are maintained in same-day funds (overnight cash deposits). The size of OTC Clear's minimum liquid resource requirement is recalculated daily and is in an amount equal to the aggregate of:

- a) the greater of:
 - i. the largest stress test value calculated in HKD; and
 - ii. the HKD equivalent of the largest stress test value within the relevant Contract Currencies (i.e. HKD, USD, EUR and CNY (offshore));

amongst the SCHP, Clearing Members and its affiliates, taking into account the risk exposures of its Clients positions if relevant (calculated using the stress testing methodology as described below), that would generate the largest multi-day payment obligation(s) to OTC Clear, plus a buffer of 10% for exigencies; and

- b) the amount of excess Collateral available for Clearing Members' withdrawal; and
- c) the settlement obligations including the unpaid SSM Payment Amount in respect of the default of Sponsored Settlement Member during the grace period granted to its Clearing Member.

7.7. OTC Clear is not involved in activities with a more-complex risk profile and is not currently systemically important in any other jurisdictions.

STRESS TESTING – LIQUID RESOURCES REQUIREMENT

7.8. OTC Clear determines the amount and tests the sufficiency of its liquid resources through stress testing on a daily basis. Liquidity stress tests are conducted across each Contract in each Clearing Member's House Position Accounts, and where relevant, Client Position Accounts, and SCHP's House Position Account, to simulate their performance under a wide range of historical and theoretical scenarios that include, but are not limited to, the

default of the Clearing Member and its affiliates or the SCHP that would generate the largest aggregate liquidity obligation for OTC Clear in extreme but plausible market conditions. The scenarios take into account a combination of peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions, e.g. October 1987 Black Monday, the 1998 Asian Financial Crisis, the 2003 SARS epidemic, the 2008 Global Financial Crisis (including Lehman Brothers default) and hypothetical extreme but plausible scenarios. OTC Clear conducts reverse stress testing regularly to ensure that extreme scenarios that are plausible have been included in the set of liquidity stress test scenarios. In addition, ad hoc testing is conducted when products cleared or markets served display high volatility, become less liquid, or the size or concentration of positions held by Clearing Members increases significantly.

- 7.9. In addition, OTC Clear accounts for funding pressures from asset valuation losses of any Collateral type, placed by a Clearing Member, by incorporating stress scenarios when setting haircuts. Furthermore, on a daily basis, OTC Clear accounts for stress scenarios for simultaneous funding pressures arising from a Clearing Member incurring stress losses on Collateral as well as losses on its cleared derivatives exposures as described under Principle 5 – Collateral.
- 7.10. The effectiveness and appropriateness of liquidity stress-testing assumptions and parameters are assessed at least monthly. The CRO of OTC Clear, Risk Management Committee, and the OTC Clear Board meet quarterly to review the stress test results and to assess the adequacy of liquid resources. Any amendments to OTC Clear's liquidity risk policy or investment policy must be submitted to the OTC Clear Board for approval. Stress testing results are reported to the HKEX Risk Management Committee (statutory) on a quarterly basis. Annual review of OTC Clear's PFMI related models is reviewed annually, which will include the validation of the stress testing model.

REPLENISHMENT OF LIQUID RESOURCES

- 7.11. In the event that the Rates and FX Guarantee Fund is utilised to set-off losses caused by a Clearing Member, each Non-Defaulting Clearing Member may be required to replenish its Rates and FX Guarantee Fund contributions. Non-Defaulting Clearing Members are obligated to make further contributions, in Eligible Currencies, capped at two times of their funded contribution amounts. OTC Clear will replenish each of the OTC Clear First Contribution and OTC Clear Second Contribution to its original value using its retained earnings to the extent that the OTC Clear First Contribution and/or OTC Clear Second Contribution have been utilized as a result of the operation of the Default Management Process. The replenishment of liquid resources employed during a stress event is described under Principle 13 – Participant-default Rules and Procedures.

7.12. OTC Clear currently does not have access to credit at the HKMA.

Principle 8: Settlement Finality

An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.

- 8.1. The Contracts cleared by OTC Clear are currently all settled in cash and OTC Clear conducts its money settlements (including coupon, notional exchange, Margin, Rates and FX Guarantee Fund and clearing fee payments etc., as applicable) with its Clearing Members relating to such Clearing Members' house business and/or client business through the RTGS systems operated by HKICL. The RTGS systems provide prompt final settlement on the day of value, intra-day and in real-time. OTC Clear is not a member of the RTGS systems and has appointed six Hong Kong licensed banks which are RTGS members to act as its settlement banks. A Clearing Member either must be a member of the RTGS systems or otherwise appoint a member of the RTGS systems to carry out its money settlements. A Sponsored Settlement Member must be a member of the RTGS systems to carry out its money settlements.
- 8.2. The RTGS systems, supporting four currencies: HKD, USD, EUR and CNY (offshore), are systems designated under the PSSVFO, which provides statutory backing to the finality of settlement for transactions made through systems designated under the ordinance by protecting the settlement finality from insolvency law or any other laws. All interbank payments are settled through the RTGS systems continuously on a deal-by-deal basis. With the statutory backing of the PSSVFO and in accordance with the RTGS rules, payment transactions settled through the RTGS systems are regarded as final and irrevocable once the settlement accounts concerned have been so debited and credited, and a payment cannot be revoked from this point of time.

Principle 9: Money Settlements

An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risks arising from the use of commercial bank money.

- 9.1. As described under Principle 8 – Settlement Finality, OTC Clear conducts its money settlements with its Clearing Members and its Sponsored Settlement Members through the RTGS systems operated by HKICL. The RTGS systems support four currencies: HKD, USD, EUR and CNY (offshore) and the settlement finality and irrevocability of the payments settled through the RTGS systems are guaranteed by the PSSVFO. Among the four currencies, only HKD is settled in central bank money across the book of the HKMA. The other three currencies are settled through the books of three commercial banks appointed by the HKMA as the Settlement Institution for each of the three other currencies. The banks are The Hong Kong and Shanghai Banking Corporation Limited for USD, Standard Chartered Bank (Hong Kong) Limited for EUR and Bank of China (Hong Kong) Limited for CNY (offshore). As described under Principle 8, OTC Clear is not a member of the RTGS systems and has appointed six Hong Kong licensed banks as its settlement banks to handle payments of the Contract currencies with its Clearing Members and its Sponsored Settlement Members through the RTGS systems.
- 9.2. In the settlement bank agreement with the six settlement banks appointed by OTC Clear, there is explicit deadline in the processing of inward and outward fund movement instructions. Outward fund movement instructions are expected to occur as soon as technically possible but no later than one hour in all cases; while inward fund instruction, i.e. funds received, should be made available immediately and no later than 30 minutes upon receipt. As all fund movements between Clearing Members and OTC Clear are via RTGS, they are final when effected.
- 9.3. To manage the credit and liquidity risk exposure to the funds held or processed by its custodians and settlement banks, OTC Clear has stringent criteria in selecting its custodians and settlement banks. A custodian or settlement bank of OTC Clear must be a HKMA-licensed bank with at least HK\$10 billion capital, has a minimum credit rating of A3 or equivalent, and proven operational capability and reliability, such as its performance record in acting as a custodian or settlement bank for other clearing houses.
- 9.4. OTC Clear conducts a due diligence review of its custodians and settlement banks on an on-going basis, at least annually. The review includes an assessment of the bank's regulatory compliance, a review of its creditworthiness and capitalization levels, its access to liquidity and its operational reliability. OTC Clear uses the Herfindahl-Hirschman Index to measure and assess the concentration level of the settlement amounts to each custodian and settlement bank relative to OTC Clear's overall settlement exposure. If the

assessment results are unfavourable, OTC Clear may take appropriate remedial actions, e.g. appointing additional banks or replacing a settlement bank.

Principle 10: Physical Deliveries

An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.

As Contracts cleared by OTC Clear are not physically settled, Principle 10 – Physical Deliveries is not applicable.

Principle 11: Central Securities Depositories

A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.

As OTC Clear is not a Central Securities Depository, Principle 11 – Central Securities Depositories is not applicable.

Principle 12: Exchange-of-value Settlement Systems

If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

OTC Clear eliminates settlement risk arising from the cash payments relevant to the notional exchange settlements, including both the initial and final notional exchanges of a cross currency swap, Deliverable FX forward and Deliverable FX swap transaction by adopting the payment-versus-payment mechanism (**PVP**). PVP is a mechanism in a foreign exchange settlement system linked with RTGS systems to ensure both legs of a foreign exchange transaction are settled simultaneously to eliminate Herstatt risk.

Principle 13: Participant-default Rules and Procedures

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

CLEARING MEMBER DEFAULT RULES AND PROCEDURES

13.1. The Clearing Rules of OTC Clear define the actions that OTC Clear can take following the default of one or more Clearing Members. An Event of Default is defined as any event or circumstance which leads OTC Clear to determine that a Clearing Member is or appears to be unable or likely to become unable, to meet its obligations in respect of the Clearing Documentation and/or one or more Contracts to which it is a party. The events that constitute sufficient grounds for OTC Clear to determine that an Event of Default has occurred are set out in the Clearing Rules. These events include, but are not limited to:

- a) failure by a Clearing Member to pay or deliver any amounts when due under the Clearing Documentation;
- b) failure by a Clearing Member to comply with Regulatory Capital Requirements;
- c) failure by a Clearing Member to take action required by OTC Clear to ensure compliance with the Clearing Documentation; and
- d) occurrence of Insolvency Proceedings with respect to a Clearing Member.

13.2. The OTC Clear Board or its delegate may determine whether an Event of Default of a Clearing Member has occurred relating to failure to pay, breach of rules of the relevant regulatory authority or revocation or suspension of the relevant regulatory authorization and insolvency of a Clearing Member. In all other types of default related to Clearing Member, OTC Clear will endeavour to consult the Risk Management Committee or the Chief Executive of OTC Clear prior to making a determination.

13.3. If OTC Clear determines that an Event of Default of Clearing Member has occurred, it will send the Defaulting Clearing Member a Notice of Default and inform other Non-Defaulting Clearing Members and the SFC. Following the delivery of the Notice of Default, OTC Clear may take the following steps in respect of the Defaulting Clearing Member:

- a) to discharge the Defaulting Clearing Member's rights, obligations, and liabilities under its Contracts;

- b) to minimise losses or potential losses to OTC Clear as a result of its default;
- c) to terminate any Contract of the Defaulting Clearing Member by designating an Early Termination Date in respect of such Contract;
- d) to apply any collateral in the form of cash and liquidating any non-cash collateral and applying the proceeds of the realization of the non-cash collateral posted by the Clearing Member for the absorption off losses incurred by OTC Clear;
- e) to obtain any advice or assistance from the Defaulting Clearing Member and/or any third party as OTC Clear may deem necessary for any matter arising out of or in connection with an Event of Default and at the expense of the Defaulting Clearing Member; and/or
- f) to complete the process set out in Clearing Rules 1306, 1306A, 1306B, 1306C and 1307 in relation to such Defaulting Clearing Member.

DEFAULT MANAGEMENT PROCESS

13.4. The Default Management Process is set out in detail in Part V and Part VA of the Clearing Rules and Chapter 8 of the Clearing Procedures. The Default Management Process is designed for OTC Clear to take steps to discharge the Defaulting Clearing Member's rights, obligations and liabilities under or in respect of one or more Contracts, to minimise losses or potential losses to OTC Clear and to complete the Default Management Process in calculating the net sum payable by or to each Defaulting Clearing Member. OTC Clear enjoys various statutory protections from insolvency laws in Hong Kong, including Section 45 of the SFO, which provides that the proceedings of OTC Clear as a RCH take precedence over insolvency laws in Hong Kong.

13.5. The Default Management Process includes:

- a) mobilisation of the Default Management Group to advise OTC Clear on matters relating to termination or liquidation of Contracts, e.g. Hedging and conducting an Auction of the Defaulting Clearing Member's Contracts. The Default Management Group consists of representatives of Clearing Members and the Group Head of Financial Risk Management of HKEX, the Chief Executive or the Deputy Chief Executive of OTC Clear, and the Chief Risk Officer of OTC Clear, as described under Principle 2 – Governance;
- b) hedging of the Defaulting Clearing Member's Contracts to reduce OTC Clear's exposure to these Contracts until the completion of the Auction process (OTC Clear may execute hedging instruments with entities that are not Clearing Members for a defaulting Clearing Member's cross currency swap trades, provided that those

Hedging instruments would not form part of the Auction Portfolio (i.e. the relevant transaction will expire before or shortly after the Auction process));

- c) porting Client positions and related collateral of the Defaulting Clearing Member to a Replacement Clearing Member;
- d) Auction of the Defaulting Clearing Member's Contracts to Non-Defaulting Clearing Members; and
- e) allocation of any losses following Auctions by utilising the Total Available Resources detailed in paragraph 13.6 below.

TOTAL AVAILABLE RESOURCES AND THE DEFAULT WATERFALL

13.6. OTC Clear is entitled to apply its Total Available Resources to meet its payment obligations in a timely manner as they fall due and to cover losses following the Auction(s) of a Defaulting Clearing Member's portfolio. The components of, and the application sequence, of the Total Available Resources (i.e. the default waterfall) over the loss allocation process for Clearing Member's default event is described below:

- a) the Defaulting Clearing Member's Margin Balance including Initial Margin, Variation Margin and Additional Margin;
- b) the Defaulting Clearing Member's Participating Margin Balance;
- c) the Defaulting Clearing Member's Rates and FX Contribution Balance;
- d) OTC Clear First Contribution – HK\$150 million;
- e) the aggregate value of the Rates and FX Contribution Balance in respect of the CM Funded Contribution Amount of each Non-Defaulting Clearing Member;
- f) OTC Clear Second Contribution – a tranche with an initial value of HK\$6 million, to be built up to a maximum value of HK\$650 million (from accrued investment income generated from the Rates and FX Guarantee Resources); and
- g) the aggregate value of contributions in respect of CM Unfunded Contribution Amount of each Non-Defaulting Clearing Member.

13.7. If some or all of the Rates and FX Guarantee Fund is utilised within 20 business days following a Clearing Member default (and extended by another 20 business days for each subsequent default), OTC Clear has the right to request additional contributions to the Rates and FX Guarantee Fund from each Non-Defaulting Clearing Member on a non-

voluntary basis. Provided that the non-voluntary contributions are capped at two times each Non-Defaulting Clearing Member's last calculated Rates and FX Guarantee Fund contribution requirement immediately prior to the default.

- 13.8. To the extent that the OTC Clear First Contribution and/or the OTC Clear Second Contribution have been utilised during the Default Management Process, OTC Clear will replenish the OTC Clear First Contribution and the OTC Clear Second Contribution to their original value prior to the default event(s) using its retained earnings whilst ensuring its compliance with the regulatory capital requirements. For the avoidance of doubt, OTC Clear will only replenish the OTC Clear Second Contribution if the OTC Clear First Contribution has been replenished in full.
- 13.9. If losses arising from a default exceed the Total Available Resources, where necessary, OTC Clear may invoke the following processes (in order) beyond the Default Management Process:
- a) **Voluntary recapitalisation** – request Non-Defaulting Clearing Members to make voluntary contributions to the Rates and FX Guarantee Fund. If a Voluntary Recap Request Notice has been issued and the amount received or expected to be received is insufficient to meet any outstanding obligations and liabilities in relation to the Default Management Process Event (**DMP Event**), then any amounts received will be refunded to relevant Clearing Members on the next OTC Clear Business Day and OTC Clear will proceed to the Loss Distribution Process. Whilst a Non-Defaulting Clearing Member has no obligation to provide such contribution, the voluntary recapitalization process aims to keep OTC Clear solvent and avoids triggering the limited recourse wind down of the clearing services; or
 - b) **Loss Distribution Process** – on each OTC Clear Clearing Day during the Loss Distribution Period, OTC Clear may in consultation with the SFC apply a haircut on Variation Margin payable to Clearing Members to enable OTC Clear to fulfil its payment obligations, therefore affording the best chance for OTC Clear's orderly recovery; or
 - c) **Contract Termination** – Where OTC Clear is unable to re-establish a matched book after an event of Clearing Member default, OTC Clear may in consultation with the SFC invoke the Contract termination process and terminate specific Contracts, a subset of Contracts or all Contracts in a particular product or market. It may be utilized when OTC Clear is unable to re-establish a matched book after a Clearing Member default where the auction process is not successful; or
 - d) **Limited recourse wind down** – wind down OTC Clear's clearing services and close-out all Contracts. All obligations of OTC Clear and the remaining Clearing Members in respect of any contract between them shall cease to exist and be

replaced with the obligation to pay a termination amount(s). The close-out value for each Contract shall be determined in accordance with Section 10.1 of the Clearing Procedures. Clearing Members have no recourse to the capital or any other assets of OTC Clear and have no right to institute steps to wind down OTC Clear.

13.10. OTC Clear consulted prospective Clearing Members on the Clearing Rules with a particular focus on the default procedures. OTC Clear has prepared the Default Management Manual, which provides further details on the roles and responsibilities of various stakeholders and how decisions and communication should be made in different scenarios. OTC Clear will conduct a default management drill with all of its Clearing Members at least once annually and following material changes to the default procedures. The results of the drill will be reported to the Risk Management Committee and the OTC Clear Board and will be published on the HKEX Market website.

13.11. The Risk Management Committee following any significant changes to the arrangements will review the Default Management Process. The OTC Clear Board must approve any changes recommended by either of them and any changes to the Clearing Documentation require approval by the SFC.

DEFAULT RELATING TO A SPONSORED SETTLEMENT MEMBER

13.12. If a potential Event of Default of a Clearing Member occurs as a result of a Sponsored Settlement Member failing to pay any Sponsored Settlement Member Payment Amount on behalf of the relevant Clearing Member:

- a) OTC Clear may decide at its discretion not to deliver a Notice of Default to the Clearing Member for a grace period of up to 5 business days, provided that default interest may be charged on the due but unpaid amount and any costs, fees and expenses incurred by OTC Clear during the grace period;
- b) in the event of early termination, OTC Clear may decide at its discretion not to deliver a Notice of Default to the Clearing Member for a grace period of up to 5 business days, provided that the aggregate of such grace period and the grace period described in paragraph 13.12(a) does not exceed 5 business days if:
 - i. early termination occurs between a Clearing Member and a Sponsored Settlement Member;
 - ii. at the time of the early termination date, such Clearing Member is not a Defaulting Clearing Member; and
 - iii. the transfer of Contracts is in effect.

- c) if OTC Clear determines that the grace period described in paragraph 13.12(a) has expired and the Sponsored Settlement Member has failed to pay, then such failure shall constitute an Event of Default in respect of the Clearing Member, and trigger the Default Management Process as described in paragraphs 13.4 to 13.5.

Principle 14: Segregation and Portability

A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.

- 14.1. OTC Clear currently offers inter-dealer clearing services and Client Clearing Services for OTC derivatives transactions. OTC Clear Client Clearing Services are established under Client Account segregation and porting rules which protect a Clearing Member's Client positions and related Collateral from the default of that Clearing Member. OTC Clear employs an account structure that enables it readily to identify positions of a Clearing Member's Clients. OTC Clear maintains Client positions in individual segregated client accounts (Client Clearing Category 1 Account Basis and Client Clearing Category 1 Collateral Account respectively) or in net omnibus client accounts (Client Clearing Category 2 Account Basis and Client Clearing Category 2 Collateral Account respectively).
- 14.2. A Client's Contracts and Collaterals in an individual segregated client account (Client Clearing Category 1 Account) are segregated from other Clients and from the relevant Clearing Member's House Account. In the event of the Clearing Member default, porting of the Contracts and Collaterals in such individual segregated client account is subject to Porting Instructions being in place before the occurrence of the default event and subsequent consent of the relevant Replacement Clearing Member.
- 14.3. A Client's Contracts and Collaterals in a net omnibus client account (Client Clearing Category 2 Account) are co-mingled with that of other Clients sharing the same net omnibus client accounts but segregated from other Clients and from the relevant Clearing Member's House Account. In the event of default of the relevant Clearing Member, Contracts and Collateral will only be ported if all Clients in the same net omnibus client accounts have valid Porting Instructions in place before the occurrence of the default event, appointing the same Replacement Clearing Member and subsequently, that Replacement Clearing Member consents to the porting of all Contracts and Collaterals in that net omnibus client account.
- 14.4. In respect of such net omnibus client account, payment obligations due in respect of all Contracts registered in such net omnibus client account will be netted together before porting. Any net sums owed to OTC Clear will be discharged by applying cash Collateral or the sale proceeds of Non-cash Collateral of the relevant net omnibus client account. Any net sums owed by OTC Clear will be apportioned in the manner set out in the Clearing Rules and paid directly to the Clients as Client Entitlement. Clients sharing a net omnibus client account should be aware that their gains, if any, and their Collateral will be utilised to offset any losses of other Clients sharing the same net omnibus client account. The Client could pursue recovery of any shortfall through its claim against the

Defaulting Clearing Member upon termination of the ISDA Master Agreement with the Defaulting Clearing Member on the porting date.

- 14.5. OTC Clear has obtained a legal opinion in respect of Hong Kong law from an independent law firm that covers the material aspects of OTC Clear's activities, including the enforceability of OTC Clear's porting and segregation arrangements as set out in the Clearing Rules.

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.

IDENTIFICATION OF BUSINESS RISKS

- 15.1. The OTC Clear Board, with the support of the OTC Clear management, uses the HKEX Group Risk Management Framework to conduct business risk assessments on an on-going basis. The assessment includes the identification of internal and external factors that could impair OTC Clear's financial position, an evaluation of their impacts and the likelihood of occurrence. OTC Clear establishes and implements key financial and internal controls and plans to mitigate, eliminate, monitor, and manage the risks.
- 15.2. OTC Clear has identified external and internal factors that pose business risks to OTC Clear including:
- a) the pace and direction of legislative reform in Hong Kong and in overseas jurisdictions and the impact this may have on user-participation in the OTC Clear clearing services;
 - b) the pace of CNY (offshore) internationalisation and the market conditions of offshore investors' appetite to invest in CNY (offshore) assets and their preferences to hedge by using offshore or onshore CNY derivative instruments that may impact the clearing activities of offshore and onshore CNY products;
 - c) the effectiveness of OTC Clear's business strategy;
 - d) operational issues that may impact OTC Clear's expenditure and investments;
 - e) the intra-day funding liquidity provided by commercial banks required for supporting the day-to-day settlement of the notional exchanges of cross currency swaps, Deliverable FX forward and Deliverable FX swap;
 - f) the market liquidity required for supporting the risk exposure arising from the Standard Northbound Rates Derivatives Contract clearing; and

- g) the investment risk in corporate funds, Margin, Participating Margin and Rates and FX Guarantee Resources. Guidelines to monitor this risk are described under Principle 16 – Custody and Investment Risks.

FINANCIAL RESOURCES FOR BUSINESS OPERATIONS

- 15.3. As part of its on-going compliance requirements as an RCH, including compliance with the PFMIs, and to ensure it can continue operations and services as a going concern, OTC Clear maintains at all times liquid net assets funded by equity in an amount sufficient to cover its projected total operating expenditure for at least the following six months, and net current assets funded by equity or loans from HKEX (not being short-term loans or loans that are repayable on demand) sufficient to cover its projected total operating expenditure for at least the following 12 months. To facilitate the SFC's effective supervision of OTC Clear's compliance with these financial requirements, OTC Clear provides the SFC on a monthly basis with its capital and operating expenditures and cash flow forecasts for the following 12 months.
- 15.4. OTC Clear has determined that these financial resources are sufficient to cover the time required to achieve a recovery or orderly wind-down of OTC Clear's critical operations and services under stressed market conditions if this is necessary. Their adequacy is re-assessed periodically along with the estimates of the time span for wind-down activities whenever there is a significant change in liquidity, size and maturity of the cleared portfolio, the types of products cleared, and the operations and risk management frameworks.
- 15.5. OTC Clear has developed and maintains the MCP for the wind-down of its critical operations and services, including the liquidation of its clearing portfolio in accordance with the Clearing Rules. OTC Clear's critical operations and services include trade registration processes, risk modelling, margining, collateral management, settlement processes, Default Management Process, the core systems of OTC Clear and its various external interfaces.
- 15.6. In the event that additional financial resources are required, at the OTC Clear Board's discretion, OTC Clear may implement plans to raise additional capital by issuing new shares to existing and/or new shareholders.
- 15.7. OTC Clear will further consider compliance of its recovery and resolution plan upon:
 - a) the issuance of the Hong Kong regulatory authorities recovery and resolution arrangements for financial institutions, including FMIs; and
 - b) CPMI-IOSCO's additional guidelines in respect of recovery and resolution of FMIs.

Principle 16: Custody and Investment Risk

An FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.

CUSTODY OF ASSETS

- 16.1. From 2017, OTC Clear started to accept Non-cash Collateral from its Clearing Members in addition to cash Collateral. OTC Clear appoints multiple creditworthy commercial banks licensed in Hong Kong as its custodians subject to selection criteria and various ongoing monitoring and concentration limits.
- 16.2. The custodian selection criteria are largely the same as those for OTC Clear's settlement banks which as described under Principle 9 – Money Settlements. Custodians appointed by OTC Clear must have robust accounting practices, safekeeping procedures and internal controls that ensure optimal protection of the assets placed by OTC Clear. Custodians must have a minimum credit rating of A3 (or equivalent) from any recognised rating agency and must be licensed banks regulated by the HKMA.
- 16.3. Under the custodian bank agreements entered into by OTC Clear, custodian banks cannot exercise any rights of set-off or consolidation or combination of accounts or any similar rights or any liens or other security interest in respect of any OTC Clear accounts, including those for holding OTC Clear's corporate funds, Margin funds or Rates and FX Guarantee Resources. All custodians are currently situated in Hong Kong, providing OTC Clear with prompt access to its assets without time-zone related operational risks.
- 16.4. OTC Clear conducts on-going risk assessments of its exposures to each custodian. The assessments are on an aggregated basis in case the custodians have multiple roles and relationships with OTC Clear. OTC Clear may appoint additional custodians to diversify concentration risk and reduce exposure to individual custodians as described under Principle 7 – Liquidity Risk.

INVESTMENT STRATEGY

- 16.5. OTC Clear invests its corporate funds, Margin, Participating Margin and Rates and FX Guarantee Resources under a prudent investment policy. OTC Clear's investment strategy follows the investment principles set out by the HKEX Investment Committee and approved by the OTC Clear Board. The investment principles and guidelines for OTC Clear include but is not limited to the following:

- a) **Risk management** – investments are diversified and in high-quality assets to minimize the credit and concentration risks. The concentration limit takes into account the overall credit risk exposures of OTC Clear to individual obligors that have multiple relationships with OTC Clear, e.g. an obligor is a Clearing Member as well as a settlement bank or custodian of OTC Clear. OTC Clear will not invest its own and Clearing Members' assets in Clearing Members' own securities or those of their Affiliates. The only exception is placement of cash deposits with appointed custodians which may be Clearing Members of OTC Clear;
- b) **Preservation of capital** – safety of principal is one of the priority principles of OTC Clear's investment strategy. Investments are undertaken in a manner that seeks to ensure the preservation of capital and allows for quick liquidation with little, if any, adverse price effect;
- c) **Liquidity** – investment portfolios have to be sufficiently liquid at all times and liquidity management is tightly controlled on a daily basis;
- d) **Return** – return on investments is optimized without compromising the other important investment principles and strategies;
- e) **No conflict of public interest** – no investment activity shall, in anyway, directly or indirectly, affect the role of OTC Clear as an RCH under the SFO having particular regard to the interests of the public;
- f) **Permitted Investment Classes** – investment instruments are selected only from well-defined investment classes; and
- g) **Credit Quality** – credit quality of securities issuers and deposit-taking institutions are quantified by credit ratings assigned by recognised credit rating agencies. The recognised credit rating agencies for the purpose of these guidelines are prioritised in the order of Moody's Investors Service, Standard & Poor's Ratings Services and Fitch Ratings.

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.

OPERATIONAL RISK MANAGEMENT FRAMEWORK

17.1. OTC Clear's operational risk management framework aims to identify, monitor, and manage operational risks. The framework consists of but is not limited to, the following elements:

- a) **Group Risk Management Framework** – OTC Clear systematically identifies, assesses, monitors and controls/mitigates material risks inherent in the business and operational processes including operational risk from both internal and external sources, on an on-going basis. OTC Clear conducts a regular exercise to update its issue register to record control gap(s) and/or weakness(es) and track corresponding actions. New risk assessments are conducted when special circumstances arise, for example following the introduction of new products and expansion into new markets. OTC Clear establishes and implements key controls and treatment plans to mitigate, eliminate, monitor, or manage the risks; and
- b) **MCP** – the OTC Clear MCP sets out the contingency and recovery procedures following a disruption to OTC Clear's critical functions, under specific contingency scenarios. The MCP has the following objectives:
 - i. to resume critical functions within two hours following disruptive events;
 - ii. to complete end-of-day procedures and payments, even under contingency situations; and
 - iii. to identify the status of all transactions at the time of the disruption with certainty and in a timely manner.

17.2. When designing the MCP, OTC Clear took into account interdependencies and external links with Clearing Members (and their Clients where applicable), SCHP, Approved Trade Registration System (**ATRS**), the RTGS systems, custodian and settlement banks, Non-cash Collateral custodian(s), SWIFT, market data providers, the OTC Clear

communications network and utility suppliers. The MCP addresses an extensive range of disruptive event scenarios, such as loss of access to workplace premises, power outages, system failures (both internal and external), natural disasters and extreme market movements. It sets out escalation and reporting procedures with various stakeholders, including the OTC Clear Board, regulators, Clearing Members (and their Clients where applicable) and service providers.

- 17.3. OTC Clear's clearing platform operates within a primary and a secondary site. The sites run on a duplicate set of hardware, software and applications. The sites are located in different districts of Hong Kong and are a considerable distance apart to minimise the chances of both sites being affected by the same incident. The primary site has a built in redundancy design with no single point of failure, i.e. the service on a failed server can be restarted on its corresponding backup server automatically. The secondary site runs on standby mode and the start-up of backup systems for core mission critical clearing functions can be completed within two hours, once the disaster recovery process for the primary site commences.

REVIEW, AUDIT AND TESTING

- 17.4. The OTC Clear Board is responsible for establishing and overseeing the risk-management function, and putting in place appropriate internal control systems to manage and monitor risks associated with OTC Clear's business and operations. Additionally, the Board ensures the integrity of OTC Clear's accounting, financial and operational controls and endorses an annual review of the risk management framework.
- 17.5. The MCP is tested regularly or after significant modifications or changes to the systems or related functions. Testing results are reported to the OTC Clear Board and the Risk Management Committee. The OTC Clear Board reviews the OTC Clear MCP annually. Any improvements or non-conformity to the MCP identified from the testing will be addressed by an action plan if necessary.
- 17.6. OTC Clear is subject to periodic internal audits by HKEX's internal audit department. OTC Clear's senior management will put in place an action plan to address any internal control deficiencies that are identified. HKEX's internal audit department tracks the implementation status and provides independent status reporting to the HKEX Audit Committee and the OTC Clear Board.

OPERATIONAL RELIABILITY OBJECTIVES AND CAPACITY SCALABILITY

- 17.7. The operational reliability objectives of OTC Clear are defined in the service agreements with its external service providers, the MCP, and its internal policies and procedures. Quantitative objectives include system availability and performance targets. The primary

resilience objective is to ensure that system recovery can be achieved within two hours. Specific service requirements are established with external service providers.

17.8. OTC Clear's clearing platform has scalability and load balancing features that allow it to support higher volumes by upgrading and expanding hardware without significant architectural changes. The system capacity is scaled based on the projected clearing volumes and a capacity buffer has been put in place to handle potential stress volumes.

17.9. The clearing volumes of OTC Clear, the system capacity and performance are monitored monthly to ensure adequate headroom is available and that any necessary system upgrades or capacity extensions can be completed on a timely basis before maximum capacity levels are reached.

PHYSICAL AND INFORMATION SECURITY POLICIES

17.10. OTC Clear follows HKEX Group's physical and information security policies that identify, assess, and manage potential physical and system vulnerabilities and threats. The physical security measures have been established to guard against unauthorised access, attacks, intrusions, and to minimise the impact of potential natural disasters to physical sites (e.g. business offices and data centres). The information security related policy requirements set out key principles in relation to management of cyber risk and are designed with reference to international standards.

Principle 18: Access and Participation Requirements

An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

MEMBERSHIP REQUIREMENTS AND ON-GOING MONITORING

18.1. The Membership requirements of OTC Clear are risk-based, transparent and comparable to international standards. They are clearly disclosed in Part II of the Clearing Rules and Chapter 2 of the Clearing Procedures of OTC Clear and on the HKEX Market website. Access control is necessary to ensure that only institutions that have the ability to manage risks and meet their obligations to OTC Clear can become Clearing Members. However, OTC Clear understands that unreasonable and overly-strict access requirements may lead to limited participation in the CCP and as a result create excessive concentration of risk among a small number of Clearing Members and high liquidity risk in distressed situations. To ensure fair and open access, OTC Clear does not impose any minimum book size requirements in its admission criteria.

18.2. The Membership requirements and the on-going compliance requirements include, but are not limited to the below:

- a) **Regulatory status** – a Clearing Member must have established a place of business in Hong Kong and be an Authorised Institution (i.e. a licensed bank, restricted licence bank (**RLB**) or deposit-taking company (**DTC**)) regulated by the HKMA or a Licensed Corporation regulated by the SFC⁶;
- b) **Minimum Capital Requirement** – a Clearing Member must have minimum Capital of:
 - i. HK\$10 billion, in the case of a Hong Kong-incorporated licensed bank, overseas-incorporated licensed bank, RLB, or DTC, or a Remotely Regulated Entity⁷; or

⁶ OTC Clear may also admit a Remotely Regulated Entity (i.e. a Clearing Member that is neither a Licensed Corporation nor an Authorized Institution) incorporated in England and Wales as a Clearing Member, if such entity is regulated by the Bank of England and the Financial Conduct Authority, and has an Affiliate which carries on a business in Hong Kong that is regulated by the SFC.

⁷ Except where the amount equal to the product of (i) 5% and (ii) the average of the aggregate Initial Margin requirements in respect of all Position Accounts (including the House Position Account and all Client Position Accounts) of the Clearing Member for each day falling in the immediately preceding calendar month is higher than HK\$10 billion, then such Clearing Member's minimum Capital requirement is such higher amount.

- ii. HK\$390 million, in the case of a Licensed Corporation⁸ or Hong Kong-incorporated RLB or DTC⁹.

In addition, OTC Clear has risk-based Capital requirements such that Clearing Members should maintain Capital in an amount not less than:

- i. its Expected Uncollateralized Loss (stress test value of its positions less its Margin Balance); and
 - ii. its contribution requirement to the Rates and FX Guarantee Resources;
- c) **Operational requirements** – a Clearing Member must be capable of handling the clearing operations processes, including having appointed at least one ATRS to submit its trades for clearing, established connection to the Web Portal for communication with OTC Clear, having the ability to conduct money settlements via the RTGS systems directly or by appointing a member of the RTGS systems and appointed a custodian for Non-cash Collateral settlements if such Clearing Member elects to deliver Non-cash Collateral to OTC Clear to satisfy Margin requirements;
- d) **Risk management requirements** – Clearing Members need to have adequate internal risk management systems and procedures and must provide details of their internal risk modelling and risk management frameworks. Clearing Members must deliver Collateral with an aggregate value of at least HK\$25 million to the Rates and FX Guarantee Fund and nominate representatives with the required skills and expertise to participate in the Default Management Group; and
- e) **Legal requirements** – OTC Clear will obtain relevant legal opinions in specific jurisdictions to assess the legal risks and any conflicts of law issues before admitting entities incorporated in those jurisdictions as its Clearing Members.

18.3. Currently, OTC Clear accepts direct Clearing Members and offers indirect clearing arrangements, i.e. Client Clearing Services, for those who do not qualify for direct membership or do not wish to be direct Clearing Members, as described under Principle

⁸ Except where (a) the “required liquid capital” set forth by the Financial Resources Rule or (b) the amount equal to the product of (i) 5% and (ii) the average of the aggregate Initial Margin requirements in respect of all Position Accounts (including the House Position Account and all Client Position Accounts) of the Clearing Member for each day falling in the immediately preceding calendar month is higher than HK\$390 million, then such Clearing Member’s minimum Capital requirement is such higher amount.

⁹ Except where (a) the capital requirement applicable to such Clearing Member set forth in the Seventh Schedule to the Banking Ordinance or (b) the amount equal to the product of (i) 5% and (ii) the average of the aggregate Initial Margin requirements in respect of all Position Accounts (including the House Position Account and all Client Position Accounts) of the Clearing Member for each day falling in the immediately preceding calendar month is higher than HK\$390 million, then such Clearing Member’s minimum Capital requirement is such higher amount.

19 – Tiered Participation Arrangements. In short, a Clearing Member providing Client Clearing Services to its Clients shall be liable to OTC Clear and be responsible for all its obligations as principal in respect of the Client Clearing Category 1 Accounts and Client Clearing Category 2 Accounts registered in its name.

18.4. The Risk Management Committee reviews the access criteria and requirements at least annually. Any changes or updates to Membership requirements require the OTC Clear Board's approval. To monitor Clearing Members' on-going compliance with the Membership requirements, Clearing Members are required to notify OTC Clear in specific circumstances prescribed in the Clearing Rules, namely, in the event of:

- a) any non-compliance with Capital requirements;
- b) any significant matters relating to their clearing activities;
- c) any non-compliance with the Clearing Documentation;
- d) any corrections or updates to information previously provided to OTC Clear;
- e) any changes to organisational structure; and
- f) updates to financial information.

SUSPENSION AND TERMINATION OF MEMBERSHIP

18.5. Pursuant to Chapter 6 of the Clearing Rules, OTC Clear may suspend the Membership of a Clearing Member if:

- a) the Clearing Member defaults;
- b) disciplinary proceedings have been brought against the Clearing Member;
- c) a Force Majeure Event or Illegality affecting the Clearing Member occurs; or
- d) it is necessary to do so in order to protect the interests of OTC Clear and/or other Clearing Members.

18.6. When the Membership of a Clearing Member is suspended:

- a) all monies payable to OTC Clear still have to be paid on time;
- b) no new Contracts can be entered into by the Clearing Member; and

- c) OTC Clear may liquidate the affected Clearing Member's Contracts and port Client positions and related Client Collateral of the suspended Clearing Member in consultation with the Risk Management Committee.

18.7. Pursuant to the Clearing Rules, OTC Clear may terminate the Membership of a Clearing Member if:

- a) the Clearing Member exceeds any Position Limit set by OTC Clear and fails to remedy the situation;
- b) the Clearing Member's Membership is suspended;
- c) the Clearing Member defaults; or
- d) the OTC Clear Disciplinary Committee or Disciplinary Appeals Committee decides that termination is warranted.

18.8. Prior to the Membership termination, the Clearing Member has to continue to meet its obligations to OTC Clear. Following the Membership termination, Collateral and contributions to the Rates and FX Guarantee Fund will be returned to the Clearing Member in accordance with the Clearing Rules.

Principle 19: Tiered Participation Arrangements

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

- 19.1. OTC Clear offers Client Clearing Services under a principal clearing model. Under this model, a Clearing Member faces OTC Clear as principal to a Contract and the Clearing Member, in turn, faces its Client as principal in a back-to-back transaction. OTC Clear has no direct exposure to the default of the underlying Client. Clearing Members are liable to OTC Clear and responsible for all obligations of the Contracts recorded in their Client Position Accounts. The risk management processes mentioned in Principle 3 apply to risk arising from positions recorded in Clearing Members' House Accounts and Client Accounts.
- 19.2. Before offering Client Clearing Services, authorisation from the OTC Clear Board must be obtained by a Clearing Member. Clearing Members which clear for their Affiliates and their Clients are required to maintain positions of their Affiliates and their Clients and Collateral in segregated Client Accounts. Clearing Members may open Client Clearing Category 1 Accounts for the recording of positions and Collateral on an individually segregated basis, and Client Clearing Category 2 Accounts for the recording of positions and Collateral on an omnibus basis.
- 19.3. OTC Clear collects various information about Clients, including but not limited to name and country of incorporation of the Client and whether the Client is an Affiliate of the Clearing Member, through the account opening procedures imposed on Clearing Members. The same information is collected regardless of whether the Clearing Member records the positions and Collateral in respect of such Client on an individually segregated or omnibus basis. Clearing Members are obligated to review their Clients' information at least annually. Client information that is provided to OTC Clear by Clearing Members are kept and updated by Clearing Members as OTC Clear has no contractual agreements with Clients.
- 19.4. OTC Clear's main source of material dependency arises from Clients whose default may materially affect the creditworthiness of their Clearing Members, especially for Clients whose transactional volumes or values are large relative to the capacity of their sponsoring Clearing Members. Where a Client is an Affiliate of a Clearing Member, OTC Clear will aggregate the positions of such Client with positions in its House Position Account.
- 19.5. In case a Client is unable to fulfil the settlement obligations, Clearing Members are required to cover the settlement and the position of its Client. The Clients' portfolios are stress tested regularly to ensure there is sufficient Collateral to cover potential losses in extreme but plausible scenarios. The Rates and FX Guarantee Fund is also sized based on the default assumption of the largest Clearing Member Group, i.e. the Clearing Member, its

affiliates and its Clients. All of the activities by Clearing Members or their Clients are monitored daily. Daily reports which are used to monitor Client positions and the associated cash flows are generated. OTC Clear imposes risk multipliers when a Clearing Member's aggregate Client portfolio is considered to be overly concentrated. OTC Clear increases Margin requirements progressively with large positions, in Client Accounts of Clearing Members.

- 19.6. Certain Clients, which are Sponsored Settlement Members, may settle Variation Margin and SSM Payment Amounts directly with OTC Clear during the term of the Contracts in their Client Position Accounts and even after a DMP Event has occurred with respect to their Clearing Member. This mitigates the risk that large payment amounts would remain payable in a particular currency upon the default of a Clearing Member, and increases the likelihood that such Client Contract can be ported. Sponsored Settlement Member's creditworthiness is monitored daily by OTC Clear, taking into account a set of risk metrics including respectable and publicly available credit ratings, credit default swap (CDS) spread, the relevant Sovereign CDS spread, financial leverage, Capital ratios and operational weaknesses such as settlement delays. In case of any material credit deteriorations of such Sponsored Settlement Member, OTC Clear will discuss with the respective Clearing Member and risk measures such as review of position limit and/or notional exchange settlement limit for such Sponsored Settlement Member may be considered and discussed with the respective Clearing Member.
- 19.7. OTC Clear monitors and takes into account risks such as credit risk and liquidity risk, that may arise from tiered participation and ensures that appropriate risk mitigation is conducted according to the risk management framework and/or fall within HKEX's risk appetite. Group Risk Management reviews the risk management policies and procedures covering indirect participation regularly, in which the risk arising from the Clients are reviewed as well.

Principle 20: FMI Links

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

- 20.1. Currently, OTC Clear has established a clearing link with Interbank Market Clearing House Co., Limited (**SCHP**) for the clearing of Original Northbound Transactions originally entered into between a Clearing Member and a PRC dealer, or a Client and a PRC dealer, and that is submitted for clearing to OTC Clear and SCHP.
- 20.2. SCHP was certified by PBOC, the central bank of the PRC and the regulator-in-charge of SCHP, under an approval letter on 13 January 2016, as a Qualified Central Counterparty (**QCCP**) adhering to the IOSCO PFMI.
- 20.3. Prior to establishing the clearing link with SCHP, a thorough assessment process analysing regulatory risk, legal risk, operational risk, credit risk and liquidity risk was undertaken. In assessing such risks, OTC Clear follows HKEX policies and frameworks which are aligned with the PFMI issued by IOSCO. Such policies are reviewed periodically by HKEX risk committees as well as senior risk management.
- 20.4. The clearing link with SCHP is subject to ongoing monitoring and periodic review. OTC Clear follows HKEX policies and frameworks to conduct periodic reviews, monitor, and manage link related risks that may arise from activities, such as regular review meetings between SCHP, OTCC, and China Foreign Exchange Trade System & National Interbank Funding Center (**CFETS**), service level agreement reviews with key service providers, concentration reviews, criticality assessments, and due diligence.
- 20.5. The legal framework governing the clearing link with SCHP is:
- the Framework Agreement;
 - the Clearing Link Agreement;
 - Part VA of the Clearing Rules;
 - the Joint Announcement of the People's Bank of China, the Hong Kong Securities and Futures Commission, and the Hong Kong Monetary Authority (《中国人民银行香港证券及期货事务监察委员会香港金融管理局联合公告》, issued on 4 July 2022;

- the Interim Administrative Measures for Co-operation of Mutual Connect between Mainland and Hong Kong Interest Rate Swap Markets (《内地与香港利率互换市场互联互通合作管理暂行办法》) issued by the PBOC on 28 April 2023;
- the PBOC Q&A for Interim Administrative Measures for Co-operation of Mutual Connect between Mainland and Hong Kong Interest Rate Swap Markets (中国人民银行有关部门负责人就《内地与香港利率互换市场互联互通合作管理暂行办法》答记者问) issued by PBOC on 28 April 2023;
- the Shanghai Clearing House Central Clearing Business Rules (《银行间市场清算所股份有限公司集中清算业务规则》), issued by SCHP on 13 February 2020;
- the Shanghai Clearing House Default Handling Guidance for Central Clearing Business (1st Edition) (《银行间市场清算所股份有限公司集中清算业务违约处置指引(第一版)》), issued by SCHP on 26 February 2020;
- the Shanghai Clearing House Guidelines for Inter-bank Market Central Clearing Business (9th Edition, July 2022 Update) (《银行间市场清算所股份有限公司集中清算业务指南(第九版, 2023年3月6日更新)》), issued by SCHP on 6 March 2023;
- the Rules for Central Clearing Business of Mutual Connect between Mainland and Hong Kong Interest Rate Swap Market (Tentative) (《内地与香港利率互换市场互联互通合作集中清算业务规则(试行)》) issued by SCHP on 28 April 2023; and
- the National Interbank Funding Centre Trading Rules for Northbound Swap Connect Interest Rate Swaps (《全国银行间同业拆借中心“北向互换通”利率互换交易规则》) issued by CFETS on 28 April 2023.

The clearing link has been established with the approval of the PBOC and the SFC, and each of SCHP and OTC Clear undertakes the role and function of the central clearing institution with respect to their own respective participants.

- 20.6. OTC Clear has obtained legal opinions in respect of HK law and PRC law from independent law firms, which cover the material aspects of the clearing link with SCHP, including enforceability of the Clearing Link Agreement and Part VA of the Clearing Rules against SCHP, collateral arrangements between OTC Clear and SCHP, netting of payments. OTC Clear is satisfied that there is a sound legal basis for the interoperability arrangements under the clearing link with SCHP and that there is high degree of certainty that OTC Clear's actions under the Part VA of the Clearing Rules will not be voided, reversed or subject to stays, in the event that SCHP defaults.

- 20.7. Payments in respect of Inter-CCP Rates Derivatives Contracts between OTC Clear and SCHP are settled in cash and OTC Clear conducts its money settlements through CIPS. OTC Clear is not a member of the CIPS system and has appointed two Hong Kong licensed banks which are CIPS direct participants to act as its settlement banks to handle the payments of the Contract with SCHP through CIPS. CNY payments made by SCHP will be made via CIPS to the CIPS accounts of OTC Clear's settlement banks. Upon receipt of such funds via CIPS, OTC Clear's settlement banks will credit such funds to OTC Clear's account opened with such settlement banks via the Renminbi Clearing House Automated Transfer System (**RMB CHATS**). Such settlements effected through RMB CHATS will be protected under Part 3 of the PSSVFO, and will be final and will not be liable to be reversed, repaid or set aside by reason of any written law or rule of law.
- 20.8. Inter-CCP Rates Derivatives Contracts between OTC Clear and SCHP constitute "market contracts" as defined in the SFO. As such, Part III of the SFO operates to protect such Contracts from avoidance or challenge following the commencement of HK insolvency proceedings with respect to either SCHP or OTC Clear under otherwise applicable HK law insolvency provisions and such Contracts and any payments thereunder would not be subject to any stays. Further, the provision of the cash collateral by SCHP to satisfy the Inter-CCP SHCH Margin Amount requirement would not be subject to challenge under the HK insolvency clawback provisions and would not be subject to any stays by virtue of the protection given to "market charge", "market collateral" and to proceedings or action taken by a recognized clearing house (i.e. OTC Clear) relating to the settlement of a "market contract" under Part III of the SFO.
- 20.9. The legality and effectiveness of the Inter-CCP Rates Derivatives Contracts between SCHP and OTC Clear, including its netting calculation, margin settlement on a net basis and provision of cash collateral by SCHP to satisfy the Inter-CCP SHCH Margin Amount requirement, fall under the scope of clearing and settlement in accordance with the clearing rules of an approved central clearing institution pursuant to the swap connect arrangement (i.e. SCHP). Article 37 of the PRC Futures & Derivatives Law (《中华人民共和国期货和衍生品法》), promulgated on 20 April 2022 and effective as of 1 August 2022 expressly provides: (i) that the settlement lawfully carried out for central clearing shall not be stayed, invalidated or revoked by reason of the commencement of bankruptcy proceedings of any party to the central clearing, and (ii) that the right of early termination by OTC Clear in the case of an SHCH Event of Default and the default management actions relating thereto and accordingly, such actions (and the loss allocation process) shall not be voided, reversed or subject to stay under PRC law.
- 20.10. Cash collateral posted by OTC Clear in satisfaction of the Inter-CCP OTCC Margin Amount requirement and held in the PRC Collateral Account is segregated from the proprietary assets of SCHP and OTC Clear's right to request for the return of such cash collateral will be recognised and upheld both before and after the commencement of bankruptcy proceedings with respect to SCHP and will not be subject to any bankruptcy stay.

- 20.11. In order to mitigate the spill-over effects from the default of SCHP, OTC Clear covers its current and potential future exposures to SCHP, by ensuring that it has prompt access to collateral representing the Inter-CCP Margin Amount that is held at a bankruptcy remote custodian bank, under an account control agreement which obligates such bank to remit the full amount to the non-defaulting CCP upon the default of the other CCP. The Inter-CCP Margin Amount is sized to cover the potential loss arising from the default of SCHP or OTC Clear. The methodology used by OTC Clear to calculate the Inter-CCP Margin Amount is the amount that would be hypothetically collected from SCHP as Initial Margin and CM Funded Contribution Amount as if SCHP would have been a regular Clearing Member of OTC Clear, plus an agreed buffer. SCHP calculates the Inter-CCP Margin Amount using its own similar methodology. The Inter-CCP Margin Amount that is required to be settled is the higher of the two amounts calculated by SCHP and OTC Clear, with each CCP contributing half of such higher amount. The Inter-CCP Margin Amount is resized daily and must be settled in cash in CNY, HKD, and USD.
- 20.12. OTC Clear does not re-hypothecate amounts collected from its Clearing Members as Initial Margin to fund OTC Clear's contribution to the Inter-CCP Margin Amount. Instead, each Clearing Member entering into Standard Northbound Rates Derivatives Contracts will be required to contribute additional amounts in CNY, HKD, and USD representing Participating Margin which will be re-hypothecated by OTC Clear for such purpose.
- 20.13. OTC Clear and SCHP do not contribute to each other's guarantee fund and each CCP does not have any direct exposure to the default of the other CCP's participants.
- 20.14. OTC Clear's Rates and FX Guarantee Fund is sized taking into account the exposure in respect of the Inter-CCP Rates Derivatives Contracts registered to SCHP's House Position Account.
- 20.15. Ongoing periodic dialogue with SCHP and regular review of SCHP's risk profile will be maintained and performed to identify, monitor and manage any new and increased risks or spill-over effects arising from any changes in the clearing, operations and risk management framework and system infrastructure of the SCHP, which may impact the interoperability arrangement. OTC Clear's risk framework takes into account exposures to the SCHP. Arrangements with the SCHP are subject to credit exposure monitoring thresholds (clearing quota) on an ongoing basis. Furthermore, Credit Risk Team conducts regular catchup with Inter-CCP on any adverse changes in respect to certain factors (e.g. financial data, ownership, rating) and escalates to risk committees where necessary. This process ensures that current and potential future exposures are covered with a high degree of confidence. Inter-CCP Margin posted to cover the risk between OTC Clear and SCHP is held in the custodian bank.
- 20.16. OTC Clear does not require a SCHP to contribute to any OTC Clear default fund, nor does OTC Clear contribute to the default fund of any SCHP. However, Inter-CCP Margin, is

collected for the particular clearing service in which the SCHP participates, is sized to include the SCHP's positions. Hence Inter-CCP Margin is provided pro rata by the clearing members and OTC Clear of that clearing service. Moreover, OTC Clear has a number of processes in place to manage inter-CCP risk, for example regular stress testing of the SCHP's exposures. Further, the rights and obligations set out in the relevant clearing link agreement govern the process by which each CCP ensures risk is managed.

Principle 21: Efficiency and Effectiveness

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

DESIGN OF THE CLEARING MODEL

- 21.1. OTC Clear has developed its legal, operational and risk management structures to be consistent with international regulatory requirements and standards and has benchmarked itself against the designs of major international CCPs. OTC Clear has engaged professional firms to validate its design, including independent law firms and consulting firms to advise on the legal structure and the risk management frameworks.
- 21.2. In establishing OTC Clear, views and feedback from the Hong Kong OTC derivatives community were obtained on the design of OTC Clear's operations and risk management framework, the scope of clearable products and the system infrastructure. In addition, the Clearing Rules went through multiple rounds of consultation with potential Clearing Members prior to the launch of the clearing services and their comments and suggestions were taken into account as appropriate.
- 21.3. To ensure that OTC Clear is responsive to market needs on an on-going basis, as described under Principle 2 – Governance, there are Clearing Member and Client representatives on the OTC Clear Board and its committees to provide advice and input from the users' perspective. OTC Clear continues to make use of a range of channels, including seminars, workshops, one-on-one meetings, and surveys to solicit and gather market feedbacks.

GOALS AND OBJECTIVES

- 21.4. As an RCH, OTC Clear is given several specific statutory duties and responsibilities in the SFO. In summary, the objectives of OTC Clear are to ensure, so far as is reasonably practicable, that there are orderly, fair and expeditious clearing and settlement arrangements for any Contract cleared or settled through its facilities, that risks associated with its business and operations are managed prudently, that it operates its facilities in accordance with its Clearing Rules as approved by the SFC and that it can at all times provide and maintain facilities to meet contingencies for the conduct of its business. In addition, OTC Clear has set goals and objectives in the areas of:
- a) **Minimum service level targets** – including adequate system capacity, scalability and the operation of an effective business continuity plan;

- b) **Risk-management expectations** – the ability to maintain sufficient liquid resources for daily operations and during recovery or orderly wind-down of critical operations and services, etc.; and
- c) **Business priorities** – the expansion of product coverage and acceptable Collateral types and the seeking of CCP recognition in overseas jurisdictions.

21.5. The SFC supervises OTC Clear’s on-going compliance with the statutory duties and objectives and other obligations of an RCH. The OTC Clear Board, with the support of the OTC Clear management and in consultation with the Risk Management Committee and the User Committee, reviews and evaluates the overall achievements of its goals and objectives on an on-going basis.

Principle 22: Communication Procedures and Standards

An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

- 22.1. OTC Clear uses internationally accepted communications procedures and protocols for exchanging messages across systems to facilitate efficient payment, clearing, settlement, and recording.
- 22.2. OTC Clear communicates with its Clearing Members, Sponsored Settlement Members, SCHK, custodians and settlement banks, Non-cash Collateral custodian and ATRS using the Transmission Control Protocol/ Internet Protocol. Clearing Members and Sponsored Settlement Members access OTC Clear's clearing platform, The Rates and FX Clearing System, through a Web Portal, which is a browser-based terminal developed on standard web-based technology.
- 22.3. OTC Clear uses internationally accepted SWIFT messages for sending/receiving payments to/from its Clearing Members, Sponsored Settlement Members, Non-cash Collateral custodian, custodians and settlement banks. Trades submitted from ATRS to OTC Clear are in Financial products Markup Language (**FpML**) format for products which are not Standard Northbound Rates Derivatives and Financial Information Exchange (**FIX**) protocol for Standard Northbound Rates Derivatives. FpML is internationally recognised and promoted within the ISDA community as the standard of choice for electronic communication, information sharing and transactions dealing in OTC financial derivatives and structured products and FIX is extensively used by global financial markets. OTC Clear communicates with SCHK using FIX and Secure File Transfer Protocol.

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.

RULES AND PROCEDURES

23.1. OTC Clear has clear and comprehensive Clearing Rules that are disclosed to Clearing Members, Sponsored Settlement Members, the SCHP and the public. When establishing its Clearing Rules, OTC Clear benchmarked the proposed contents, arrangements and practices against those of international CCPs and took into account the feedback received from prospective Clearing Members and market participants. The Clearing Rules document the operation, risk management measures and fee structure of OTC Clear in general as well as the handling of various non-routine events, including but not limited to;

- a) Force Majeure events;
- b) Illegalities;
- c) the occurrence of an Event of Default of a Clearing Member or of OTC Clear;
- d) the Loss Distribution Process following a DMP Event;
- e) the winding down of OTC Clear;
- f) bad-weather or Extreme Conditions¹⁰ events; and
- g) business continuity procedures.

23.2. Any amendments to the Clearing Rules require approval from the OTC Clear Board and the SFC, and for risk management-related provisions, prior consultation with the Risk Management Committee. The User Committee and Clearing Members will be consulted if the changes to the Clearing Rules are substantive or involve a change of policy or business direction of OTC Clear. Clearing Members are informed through circulars of any

¹⁰ "Extreme Conditions" means the occurrence of "extreme conditions" as announced by any government authority of Hong Kong due to serious disruption of public transport services, extensive flooding, major landslides, large-scale power outage or any other adverse conditions before Typhoon Signal No. 8 or above is lowered to a Typhoon Signal No. 3 or below.

changes or updates to the Clearing Rules. A revised and updated version is posted on the HKEX Market website for access by its Clearing Members and the public.

- 23.3. In addition to the Clearing Rules, OTC Clear documents and publishes information on the system's design and operations. This includes technical details about the connectivity to and operation of the Web Portal, information on the what-if Margin simulation tool, sample data and report files and templates, and information on the rights and obligations of Clearing Members, Sponsored Settlement Members and the SCHP in various packs, user manuals and guides. The information is available on the HKEX Market website and allows prospective Clearing Members to understand the OTC Clear services and the risks they would face by participating in OTC Clear. OTC Clear may provide training to Clearing Members as necessary and offers a telephone hotline for enquiries about OTC Clear's services during office hours.
- 23.4. OTC Clear facilitates Clearing Members, Sponsored Settlement Members, and SCHP's understanding of OTC Clear's Clearing Rules by providing communication channels such as email and telephone hotline as well as dedicated teams who are available to assist on enquiries and provide training where necessary. During a Clearing Member's on-boarding process, it is also clearly communicated and agreed upon the obligation as a Clearing Member to adhere to OTC Clear's Clearing Rules.
- 23.5. OTC Clear publicly discloses the fees at the level of individual services it offers through the HKEX Market Website. In the case where fee discounts are offered or fee changes occur, OTC Clear will disclose this information to the public through circulars which are available on the HKEX Market website.
- 23.6. OTC Clear's first public PFMI disclosure document was completed in July 2014 and is published on the HKEX Market website. The document will be updated following material changes to OTC Clear and its services, systems or environment, and at least every two years.
- 23.7. Please refer to CHAPTER 5: List of Publicity Available Resources on the HKEX MARKET/HKEX Group Websites for a list of information, materials, and statistics on cleared transaction volumes and values published on the HKEX Market website.

Principle 24: Disclosure of Market Data by Trade Repositories

A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

As OTC Clear is not a TR, Principle 24 – Disclosure of Market Data by Trade Repositories is not applicable.

CHAPTER 5: List of Publicity Available Resources on the HKEX MARKET/HKEX Group Websites

OPERATIONS AND RISK MANAGEMENT FRAMEWORKS

- 1 Overview of OTC Clear clearing services
(http://www.hkex.com.hk/Services/Clearing/OTC-Clear/Overview/Clearing-Services?sc_lang=en)
- 2 List of OTC Clear clearable products
(http://www.hkex.com.hk/products/otc-derivatives/eligible-otc-clear-products?sc_lang=en)
- 3 Risk management framework
(http://www.hkex.com.hk/Services/Clearing/OTC-Clear/Risk-Management?sc_lang=en)
- 4 Collateral management
(http://www.hkex.com.hk/services/clearing/otc-clear/risk-management/collateral-management?sc_lang=en)
- 5 Fees schedule
(http://www.hkex.com.hk/Services/Rules-and-Forms-and-Fees/Fees/OTC-Derivatives/Clearing?sc_lang=en)
- 6 Operation calendars and operating hours
(http://www.hkex.com.hk/Services/Clearing/OTC-Clear/Overview/Clearing-Services/Operations-Calendar-and-Operating-Hours?sc_lang=en)
- 7 Clearing statistics
(http://www.hkex.com.hk/market-data/statistics/clearing-and-settlement-and-depository/otc-clearing-and-settlement-statistics?sc_lang=en)
- 8 Further details about PSSVFO on the HKMA website
(<https://www.hkma.gov.hk/eng/key-functions/international-financial-centre/financial-market-infrastructure/oversight-of-financial-market-infrastructure-fmi/mandate-of-the-hkma-to-oversee-financial-market-infrastructures/>)

LEGAL AND REGULATORY INFORMATION

- 9 Clearing Rules of OTC Clear
(http://www.hkex.com.hk/Services/Rules-and-Forms-and-Fees/Rules/OTC-Clear/Rules?sc_lang=en)
- 10 Clearing Member circulars
(http://www.hkex.com.hk/Services/Circulars-and-Notices/Participant-and-Members-Circulars?sc_lang=en)
- 11 PFMI disclosure document
(http://www.hkex.com.hk/Services/Clearing/OTC-Clear/PFMI?sc_lang=en)

GOVERNANCE ARRANGEMENTS

- 12 Organisational structure of the HKEX Group
(http://www.hkexgroup.com/-/media/HKEX-Group-Site/Hr/org_chart.pdf)
- 13 List of Non-Voting Ordinary Shareholders of OTC Clear
(https://www.hkexgroup.com/About-HKEX/Organisation/Principal-Subsidiaries/List-of-Directors?sc_lang=en)
- 14 List of directors of OTC Clear
(https://www.hkexgroup.com/About-HKEX/Organisation/Principal-Subsidiaries/List-of-Directors?sc_lang=en)
- 15 List of members of OTC Clear committees
(http://www.hkexgroup.com/About-HKEX/Organisation/Principal-Subsidiaries/Committees?sc_lang=en)
- 16 Terms of reference of OTC Clear Board and committees
(https://www.hkexgroup.com/About-HKEX/Organisation/Principal-Subsidiaries/Terms-of-Reference?sc_lang=en)
- 17 List of directors of HKEX
(https://www.hkexgroup.com/About-HKEX/Organisation/Board-and-Committees?sc_lang=en)
- 18 List of members of HKEX committees
(https://www.hkexgroup.com/About-HKEX/Organisation/Board-and-Committees?sc_lang=en)

- 19 Terms of reference of the HKEX Board and its committees
(https://www.hkexgroup.com/About-HKEX/Organisation/Board-and-Committees?sc_lang=en#5857E4C45B2D46EBB09E3C3D5420B930)

MEMBERSHIP

- 20 List of Clearing Members
(http://www.hkex.com.hk/services/clearing/otc-clear/getting-started/list-of-clearing-members?sc_lang=en)
- 21 Membership criteria
(http://www.hkex.com.hk/services/clearing/otc-clear/getting-started/becoming-an-otc-clear-clearing-members?sc_lang=en)
- 22 Membership application information
(http://www.hkex.com.hk/services/rules-and-forms-and-fees/forms/membership-application-documents?sc_lang=en)

CLEARING PLATFORM

- 23 System information and user guides
(http://www.hkex.com.hk/Services/Clearing/OTC-Clear/Infrastructure?sc_lang=en)

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