

18 October, 2016

CPMI Secretariat
Committee on Payments and Market Infrastructures
Bank for International Settlements
Via email: cpmi@bis.org

IOSCO Secretariat
Board of the International Organization of Securities Commissions
Via email: consultation-2016-01@iosco.org

Re: Consultative report: Resilience and recovery of central counterparties (CCPs): Further guidance on the PFMI

Dear Secretariat:

Hong Kong Exchanges and Clearing Limited (HKEX) appreciates the opportunity to comment on the Committee on Payments and Market Infrastructures (CPMI) and Board of the International Organization of Securities Commission (IOSCO) consultative report *Resilience and recovery of central counterparties (CCPs): Further guidance on the PFMI* published in August 2016 (the "Report").

HKEX supports the *Principles for financial market infrastructures* set out by CPMI and IOSCO in April 2012 (the "PFMIs") to provide guidance on consistent risk management and resilience standards for CCPs globally. HKEX believes that a robust and comprehensive risk management framework is the most effective method to ensure the resilience of CCPs against potential destabilising scenarios. The supplemental guidance on forming recovery plans is also welcomed and further ensures that effective and comprehensive measures are in place ex-ante to not only maintain but restore (where necessary) the viability and financial strength of CCPs in order to continue providing critical clearing services.

HKEX is a leading operator of exchanges and CCPs in Hong Kong and the United Kingdom and is a key player globally as one of the world's largest exchange groups by market capitalisation. HKEX operates the only recognised stock market and futures market in Hong Kong through its wholly-owned subsidiaries, The Stock Exchange of Hong Kong Limited and Hong Kong Futures Exchange Limited. In Hong Kong, HKEX operates four clearing houses, which are the only recognised clearing houses in Hong Kong: Hong Kong Securities Clearing Company Limited (HKSCC), HKFE Clearing Corporation Limited (HKCC), The SEHK Options Clearing House Limited (SEOCH) and OTC Clearing Hong Kong Limited (OTC Clear). HKSCC, HKCC and SEOCH provide integrated clearing, settlement, depository and nominee activities to their participants, while OTC Clear provides over-the-counter interest rate and foreign exchange derivatives clearing and settlement services to its members.

HKEX has a global leadership position in base metals futures and options trading through The London Metal Exchange (the LME). The LME is the most liquid industrial base metals market in the world. LME Clear Limited (LME Clear) is a CCP incorporated in the United Kingdom and has been established to provide clearing and settlement services for the LME. LME Clear is an authorised CCP for the purposes of the European Market Infrastructure Regulation (EMIR).

The global nature of our CCPs requires us to consider the regulatory framework which implements the PFMI in Hong Kong, the United Kingdom (thus in accordance with EMIR) and also in the jurisdictions where our participants are located. Since the introduction of the PFMI, we have enhanced our risk management framework and revised individual rulebooks as and where necessary to reflect specific guidance, industry standards and support new businesses. We work closely with local regulatory authorities and numerous international regulatory authorities based on where our participants (both direct and indirect) may be ultimately located. Each of our CCPs has been recognised by its local authority, per the respective regulatory framework, as complying with the PFMI.

HKEX welcomes the opportunity to comment on the further guidance provided in the Report and is supportive of the objective to provide increased clarity and granularity to further assist with implementation of the PFMI. The explanatory examples provided in the Report are very useful to help interpret and better understand the expectations for implementation and will enable more consistent adoption by CCPs and regulatory frameworks. However, there are instances where the proposed guidance should be clarified, supplemented or revised to best meet stated objectives and practical implementation. Where guidance is difficult to further specify, we encourage CPMI and IOSCO to provide examples, along with the merits of the recommended practices, of how CCPs can comply with the final guidance. Our detailed comments to the consultative report are on pages that follow.

We appreciated the opportunity to participate in the industry workshop hosted by CPMI and IOSCO this past September. Such forums are constructive and meaningful to provide industry feedback and we would greatly encourage further dialogue as industry comments are received and incorporated to the final guidance.

HKEX participates in numerous industry forums and has contributed to the industry response letters submitted by CCP12 and the European Association of CCP Clearinghouses (EACH). We support the comments made in those responses.

If there are any comments to our response or points where expanded commentary or dialogue would be helpful, please contact Ketan Patel, Deputy Group Risk Officer (KetanPatel@hkex.com.hk).

Yours faithfully
For and on behalf of
Hong Kong Exchanges and Clearing Limited



Trevor Spanner
Chief Operating Officer and Group Risk Officer

HKEX comments on the CPMI-IOSCO consultative report: *Resilience and recovery of central counterparties (CCPs): Further guidance on the PFMI (the “Report”)*

HKEX welcomes the opportunity to provide comments to the Report. We are supportive of the further guidance and its objective to provide increased clarity and granularity to further assist with implementation of the PFMIs. The explanatory examples provided in the Report are very useful to help interpret and better understand the expectations for implementation and will enable more consistent adoption by CCPs and regulatory frameworks. However, there are instances where the proposed guidance should be clarified, supplemented or revised to best adopt the stated objectives and practical implementation.

The comments that follow are provided with consideration to our operation of five CCPs based in Hong Kong and the United Kingdom which provide clearing services for both the derivatives and cash markets across numerous assets classes to participants globally.

1. Implementation Timeframe

We are supportive of the further guidance for reasons described in the introduction of the Report; however, we are concerned that the stated implementation deadline is not realistic. The timeframe must consider adequate time for the industry to assess potential enhancements required, formulate and develop any required enhancements (with consultation with clearing participants and regulatory authorities) and also account for the potential requirement to amend existing regulatory frameworks. We would propose that a CCP, with consultation to its regulatory authority, be required to form an implementation plan, focused on outcomes rather than prescriptive text, within a reasonable period of time (e.g., 12 to 18 months) following the publication of the **final** report.

In addition, it would be helpful if CPMI and IOSCO appended the further guidance to the *Principles for financial market infrastructures* final report to assist with the comprehensiveness of documentation and overall adherence to the *PFMI Disclosure framework and Assessment methodology*.

2. Further guidance on Governance

Is the guidance provided on CCPs’ governance sufficient and appropriate?

The guidance provided is sufficient and appropriate. We are supportive of the objectives of the further guidance on governance and agree that objectives for communication, accountability, and feedback and disclosure are important. The Report describes that the CCP’s board should bear the ultimate and ongoing responsibility for fundamental components of the risk management framework, although we consider this not to imply day-to-day risk management. Consistent with the EACH response to this Report, we support replacing the words ‘explicit responsibility’ with ‘explicit accountability’ or ‘final responsibility’¹ in the sub-sections of section 2.2 in the Report:

- Design and objectives of the margin system and stress testing framework;
- Ongoing maintenance of required financial resources (paragraphs 2.2.1 to 2.2.5);
- Determining the amount and characteristics of a CCP’s own financial resources to absorb losses (paragraphs 2.2.6 to 2.2.10);
- Limiting destabilising, procyclical changes (paragraphs 2.2.11 to 2.2.13);
- Review and validation of margin system and stress testing framework (paragraph 2.2.14); and

¹ Article 4(4) of European legislation EMIR RTS 153/2013 state that ‘*the governance arrangements shall ensure that the board of a CCP assumes final responsibility and accountability for managing the CCP’s risks.*’

- Disclosure and feedback mechanism for reviewing the margin system and stress testing framework (paragraphs 2.2.15 to 2.2.20)

We agree with the Reports notation that the board may designate a risk committee (or equivalent) that operate in conjunction with, and are informed by, the respective CCP risk management teams, as responsible for analysing and elevating as necessary matters that require immediate attention or are otherwise appropriate for periodic disclosure and consultation (as part of the risk governance framework). We do not believe that more prescriptive text on the formation of risk committees is necessary, so long as there is designated oversight of a given clearing service. For example, a risk committee may be formed to cover a specific clearing service or, where appropriate, multiple clearing services (e.g., in the case where they might share similar risk profiles, participants and/or operate in the same jurisdiction).

Is the current level of public disclosure by CCPs appropriate? In particular, is there a need for further disclosure related to margin and stress testing methodologies? If so, would the disclosure of the items included in the list (or a subset of the list) suggested by an industry group and attached as an Annex be appropriate and sufficient for disclosure and feedback purposes?

The current level of public disclosure as outlined in the *Disclosure framework and Assessment methodology* published by CPMI and IOSCO is appropriate. HKEX adheres to the *Disclosure framework* and publishes both the qualitative and the quantitative disclosures publicly on our website.

In addition, participants regularly receive numerous risk reports (that includes, for example, current information about exposure, margin, and collateral), have access to our risk management disclosures and rulebooks as well as direct contact with our clearing and risk management departments. We believe that this information together with the qualitative and quantitative disclosures provided as part of the *Disclosure framework* allow participants to regularly assess, understand and anticipate the risks associated with their relationship to our CCPs and thus is consistent with the objectives stated in paragraph 2.2.13.

The cover note of the Report further included an Annex that outlines suggestions for further disclosure. HKEX supports appropriate disclosure to participants in a globally consistent manner. However, it must be recognised that certain types of disclosure may be sensitive to our participants or to HKEX, for commercial reasons and the protection of intellectual property rights, thus we consider it appropriate that any disclosure (beyond that consulted and published in the final *Disclosure framework*) be shared directly under strict non-disclosure agreements.

The Report also describes that a CCP should establish a framework for disclosure and feedback to participants to provide greater awareness and ability to assess risk impact of and provide feedback on new or changing risk management practices. Such framework may embody advisory forums established for soliciting views and obtaining feedback. We believe that any such advisory forums should regularly report feedback to the risk management committee (or equivalent designated forum by the board) and the greater board as part of the risk management committee's periodic reporting.

HKEX has established such feedback forums. The further guidance described in the Report (paragraphs 2.2.15 to 2.2.20) is helpful context to the types of feedback and disclosure that should be offered in feedback forums. In addition, we have the following specific comments:

- HKEX discloses and seeks feedback from its participants on key risk management framework changes and enhancements including the margin system and stress testing framework (e.g., through technical white papers). This feedback is typically performed bilaterally. However, HKEX will establish additional member advisory groups where it is appropriate to do so.
- HKEX performs annual validations of margin models and makes summaries available to its regulators and participants, where appropriate. The validations and any corresponding summary reports, along with the technical white papers (where available) should be sufficient to satisfy the further disclosure requested in paragraph 2.2.17.

3. Further guidance on Stress testing

Is the guidance provided on stress testing sufficient and appropriate?

HKEX agrees with the scope and the objectives of the further guidance to ensure a robust framework for potential credit and liquidity risks. Such considerations are core to our overall risk management framework and are supported by extensive analysis and policies to ensure risks are identified and sufficient resources are available. However, we believe that there are inherent complexities with regard to the guidance on stress testing that should be further analysed and considered with industry engagement before it is finalized.

The Report presents potential types of **credit risk** and seeks to outline scenarios that should be considered in a stress testing framework. Indeed, such considerations are incorporated into our model development and/or annual validations to ensure that scenarios applied are comprehensive and appropriately tailored to capture the unique risk considerations of each clearing service. However, we would caution against any overly prescriptive or standardised approach that might restrict a CCP's flexibility to design scenarios most appropriate for each clearing service (e.g., portfolio mix and composition, type of product and execution medium (exchange-traded or over-the-counter), margin methodologies). In addition, we have the following specific comments:

- The guidance on sequential and unsynchronised defaults is not sufficiently clear in terms of the intent or application across different types of cleared markets (paragraphs 3.2.23 and 4.2.3). For example, the guidance suggests that stress testing should consider macro extreme but plausible market moves in one direction followed immediately by an equal move in the opposite direction (such as an equity benchmark index move up and down in the same period of risk). We believe such a scenario does not necessarily meet the plausibility standard for extreme macro movements. Though we acknowledge that in certain markets such consideration could be appropriate, where scenarios are loosely correlated for micro level stresses (e.g., certain curve shocks), it reinforces the complexity and potential shortcomings of setting out prescriptive guidance.

When assessing the proposed guidance on stress testing, we consider other stress testing frameworks that currently exist or are being considered by other regulatory agencies. We have the following observations:

- We compare the proposed guidance to that which applies to other financial institutions. While there are meaningful and acknowledged differences between CCPs and other financial institutions, particularly with regard to stress testing (as noted in the Methodology section of the ESMA CCP Report referenced below), we believe it is insightful to assess and understand parallels. For example, the Federal Reserve's stress test framework that applies to the largest banks in the United States applies a comprehensive series of adverse and severely adverse supervisory scenarios and also includes consideration to a 'global market shock'. The global market shock is defined as 'a set of one-time, hypothetical shocks to a broad range of financial market risk factors'.ⁱ The Federal Reserve guidance for banks does not seek to apply (based on our understanding) sequential, unsynchronised macro scenarios in the manner that is being considered in the Report. We expect that doing so would lead to materially unrealistic results that, while extreme, are not plausible.
- We also consider the European Securities and Markets Authority *EU-wide CCP Stress test 2015* report (the "ESMA CCP Report"). The ESMA CCP Report describes very pragmatically the complexities of designing and applying prescriptive guidance for a CCP stress testing framework.
- Finally, we are aware that CPMI and IOSCO intend to issue draft guidance for consultation on a framework for supervisory stress testing during 2017.ⁱⁱ We consider that this will be an appropriate forum for detailed discussion and analysis on the more specific guidance being contemplated.

The Report presents potential types of **liquidity risk** and seeks to outline scenarios that should be considered in a stress testing framework. Indeed, such considerations are incorporated into our liquidity

framework to ensure that we maintain sufficient liquidity to satisfy payment outflows by currency as well as access to additional liquidity resources beyond those that exist in the default waterfall. The majority and type of collateral collected from participants by a CCP adheres to the definition of high quality liquid assets outlined by the Basel Committee on Banking Supervision, which we believe is a meaningful guiding principle when assessing the liquidity profile of CCPs. In addition, we have the following specific comments:

- The Report describes that a CCP's liquidity framework should consider potential liquidity requirements in each currency where there exists a payment obligation (paragraph 3.2.8). As part of our liquidity framework, we regularly monitor and assess potential liquidity demands, consider when setting out our acceptable collateral policy, and maintain arrangements with liquidity providers to ensure that resources can be promptly drawn or converted if necessary. In addition, CCPs also maintain access to the spot market to facilitate access on a same day basis (in many cases) to other currencies. We believe that such an approach is consistent with regulatory outcomes and is collectively suitable to meet the objectives set out in paragraphs 3.2.15 and 3.2.16.
- The Report describes that a CCP should identify potential liquidity risk related to the failure of a liquidity provider (e.g., settlement bank, custodian, liquidity facility) (paragraph 3.2.9). Such risk is considered qualitatively as part of our overall liquidity framework and monitored quantitatively on a daily basis consistent with regulatory objectives. While we seek to establish relationships with only highly reputable liquidity providers, the potential failure and resultant consequences is best considered as part of a CCP's recovery planning together with the recovery plan of the respective liquidity provider itself (consistent with the objectives set out in the CPMI and IOSCO report *Recovery of financial market infrastructures*)ⁱⁱⁱ.

It is important to draw a distinction between credit and liquidity exposures and the resources to cover those exposures. In the event of a settlement or custody bank failure (a liquidity exposure), where there is no access to deposited resources, there is no liquidity source. The role of the CCP is to guarantee the obligations (e.g., mark-to-market) of the counterparty to the trade, not to guarantee the performance of other types of financial market infrastructures such as settlement or custody banks. Consideration of such risks is best considered as part of the recovery and resolution planning of each financial market infrastructure.

The Report suggests that a CCP should assume no continuity of a defaulted clearing participant's client portfolios for purposes of stress testing (paragraph 3.2.51). This guidance lacks the appropriate context and discussion on whether it demonstrates adherence to the extreme but plausible standard. In particular, it does not reflect the fact that, while zero porting may be plausible in certain markets, there may be markets where the account structure and the likely availability of back up arrangements mean that the possibility of porting being zero is implausible. The failure of a clearing participant who is facilitating client cleared portfolios is considered in our default management process; however, we believe it would be exceedingly conservative and not reflective of demonstrable market practices to disregard entirely the potential for continuity through porting to a solvent clearing participants (either through pre-existing arrangement or as part of the auction process) or liquidation. Specifically, the guidance does not consider that many of the larger clients (who are likely to be the largest contributors to client exposure) already maintain multiple clearing relationships. While such a scenario may meet the extreme standard, it is not plausible, and therefore we believe that the guidance should be revised. We believe the guidance should require that client portfolios be considered when developing the methodology to size the default fund and any assumptions related to continuity of client portfolios of a defaulted clearing participant should be considered on a case by case basis by the CCP concerned and its regulator.

The Report includes guidance that a CCP's stress testing model should be periodically reviewed, suggesting a monthly frequency (3.2.53). The guidance describes that the periodic review should include "comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions". While we agree that credit and liquidity stress testing should be conducted routinely, we consider that the suggestion to analyze each key parameter and underlying assumption or reverse stress testing to identify new stress scenarios lacks appropriate context and is neither plausible or practical. Instead, we believe that it is sufficient to perform such testing on at least a quarterly basis or more frequently

consistent with established governance procedures (e.g., reporting to senior management, risk committee or the board).

In the light of the potential for member positions and market prices to change significantly during the day, is the proposed guidance on capturing intraday positions and price movements in stress tests appropriate and sufficient?

We agree that monitoring intraday risks is important and would encourage a more holistic perspective on how CCPs assess and manage intraday risk exposures (e.g., pre-trade risk controls, intraday monitoring, risk monitoring). CCPs cannot be reasonably expected to accurately predict intraday position changes, nor is it reasonable to rely on historical position changes when forecasting future portfolio compositions, without using appropriate context and scenario modelling. The portfolios of direct and indirect participants may fluctuate for a multitude of reasons, including, for example, post-trade activities, changing market characteristics, or as a result of changes to the participant's strategy or business model.

Therefore, we agree with the Report's acknowledgement that any framework will rightly include an element of subjectivity by the CCP (paragraph 3.2.22). We also consider that the guidance is a meaningful outline of considerations during model development, periodic assessment and regular independent validation exercises. Nevertheless, any specific guidance must be clear in terms of intent and merit, and pragmatic towards reasonable simulations instead of merely aggregating the worst case of the worst case scenarios. For example, incorporating the worst intraday price swings and intraday portfolio changes does not appropriately consider whether these two characteristics will occur on the same day or on the stressed day itself.

The Report also discusses incorporation of intra-period or peak price moves (paragraph 3.2.35) when developing extreme but plausible scenarios (paragraph 3.2.22 to 3.2.26). Any such guidance must consider how it would impact the ability of methodologies to appropriately capture risks unique to specific products and the cleared market (e.g., derivatives clearing, cash clearing). For example, accounting for historical maximum price change over a 30 or 40 year period within a CCP's stress observations, outside those calculated during a settlement cycle (e.g., end of day), stands to create outcomes that are likely to lead to significant cost increases and potentially not be reflective of trading strategies and infrastructure that has changed dramatically over the same time period.

HKEX assesses intraday exposures through a collection of tools in addition to stress testing including, but not limited to, initial margin, settlement variation, pre-trade risk management controls and continuous monitoring of clearing participant portfolios. We believe that it is important that such tools, in addition to stress testing, be viewed holistically and that no single component is required to be so conservative as to pose liquidity constraints on clearing participants. For example, HKEX operates CCPs that utilise pre-margin checks for some derivatives markets and multiple intraday variation margin cycles for others. The efficacy and implementation of these risk mitigation techniques, designed to the unique nature of certain clearing services, has proven resilient and sufficiently pragmatic.

4. Further guidance on Coverage

Is the guidance provided on coverage sufficient and appropriate? Is the current two-tiered Cover 1/Cover 2 minimum standard still appropriate in relation to the guidance in the report?

HKEX generally agrees with the guidance on coverage and believes that it is appropriate to maintain the existing standard. We believe that it is fundamental to risk management and CCP resilience to ensure that both credit and liquidity risks are continuously assessed and sufficiently covered. In considering the further guidance in the Report related to coverage, we have the following observations:

- There is an inherent balance when assessing coverage from the perspective of credit (PFMI #4) and liquidity (PFMI #7) which may meaningfully differ across individual CCPs and respective jurisdictions.

Therefore any guidance must consider the CCP- or jurisdictional- specific market dynamics. For example, many CCPs in Asia rely on commercial banks for cash deposits which is viewed positively from a liquidity coverage perspective, particularly where reverse repos are less liquid (or in some instances, not available), however, may be viewed less positively from a credit coverage perspective. There are risk mitigation tools that are employed by CCPs (in this instance and likewise as a general matter) such as concentration limits and ongoing assessment of credit risk, however any guidance that requires a jump-to-default assumption of one or two commercial banks is likely to lead to impractical guidance absent broader consideration to high quality liquid assets.

- The potential impact of any heightened requirements of CCPs must be considered in parallel to the impact on clearing participant (both direct and indirect) capital requirements against cleared exposures. We consider that exceedingly prudent requirements could lead to direct clearing participants exiting the business (either for proprietary clearing or on behalf of clients) which would lead to further concentration of a CCP's membership base, reduce the accessibility of cleared markets for clients and is likely to make it challenging for solvent clearing participants to accept clients of a defaulted clearing participant, thus negatively impacting recovery and continuity of client positions in the event of a direct clearing participant default. This concern has already manifested itself as the industry continues to observe direct clearing participants exit the business on account of capital constraints.

In addition, we have the following specific comments on voluntary, excess collateral contributions:

- The Report states that any voluntary, excess contributions by clearing participants should be ignored when assessing the adequacy of financial resources (paragraph 4.2.4). This guidance may not be appropriate for numerous reasons. Should a direct clearing participant default, any resources that are currently on deposit would be available to secure outstanding obligations of that clearing participant, therefore it is appropriate to recognise reductions in risk exposure for all collateral on deposit. Guidance to the contrary stands to lead to negative consequences including disincentives to post excess collateral that would otherwise be available to manage a default and thus reduce potential exposure to loss allocation to non-default clearing participants. Similarly, it would prevent the flexibility of clearing participants to voluntarily reduce exposure to mutualised risk (where the CCP allocates default fund requirements based on uncollateralised exposure). The guidance would also have a negative impact on the successful porting of clients to solvent clearing participants during the default management process of a CCP as over-collateralised clients would be more attractive to clearing participants that are considering bidding on such portfolios during an auction.
- If the concern is withdrawal of voluntary, excess collateral during or immediately prior to a default and such removal could impact the overall size and adequacy of the default fund (i.e., the top 1 or 2 clearing participants), the guidance should allow mitigating policies, such as a CCP offering flexibility to clearing participants whereby voluntary, excess can be designated for multiday coverage and require advanced notice (e.g., 2 days) for any withdrawal. Another option would be to ensure that any obligations are satisfied prior to withdrawal and that any withdrawal of excess would not impact the sufficiency of financial resources. Further consideration to such options would allow flexibility while also ensuring consistent outcomes.

5. Further guidance on Margin

Is the guidance provided on margin sufficient and appropriate?

HKEX agrees with the scope and the objectives of the further guidance on margin to ensure that the amount of margin collected is commensurate with the risk characteristics of products cleared and the wider market served. The ability to cover potential future exposure is fundamental to ensure the resilience of a clearing service, thus we welcome the guidance as a meaningful outline of required considerations during model development, periodic assessment and regular validation exercises.

In many instances, margin methodologies are considerably advanced and have been tuned specifically to address unique risk characteristics and behaviors of individual clearing services. Further, the sophistication of margin models is likely to vary across CCPs and by types of markets served. Therefore, it is important that any guidance be outcomes focused and not be overly prescriptive to prohibit model development or tailoring, however we agree that there must be appropriate disclosure and validation against requisite considerations.

In considering the further guidance in the Report related to margin, we have the following specific comments:

- The Report provides further guidance on considerations when setting an appropriate margin period of risk (MPOR) (paragraphs 5.2.4 to 5.2.8). We agree with the scope and guidance provided in the PFMIs, which describe that an appropriate MPOR should consider (among other things) the liquidity characteristics of products cleared with consideration to any additional factors that may impact close-out. However, we query the reference in the further guidance to assess 'certain participant customer demographics' and would request clarification and examples of how this characteristic would impact the liquidity characteristics of a product.
- The Report provides further guidance on model assumptions, specifically advocating for the introduction of a volatility floor (paragraph 5.2.10). While we agree that volatility is a fundamental component of a margin model, we are concerned that guidance to introduce a volatility floor may not be appropriate for all margin models, potentially not fully considering their sophistication, and in some cases could lead to an under-estimation of margin. For example, we foresee this scenario when applied at the portfolio level in Filtered historical simulation (FHS) Value-at-Risk models due to the unintended distortion of historical scenarios. We believe that an alternative approach, appropriately tailored for types of cleared markets, could be to introduce a margin floor (based on e.g., notional, value, short option minimum). Further, we consider that ETL / Expected Shortfall models with (i) stress scenarios or (ii) longer look back periods can accomplish similar outcomes.
- The Report provides further guidance on the incorporation of liquidation costs (paragraph 5.2.11). We agree that any methodology, together with the broader considerations regarding default management (e.g., potential illiquidity, concentrated portfolios), should anticipate, to the extent practicable and estimable, liquidation costs. Further, we consider that certain suggestions may already be considered in the margin methodology, and therefore would not require further consideration or specific 'add-ons'. Nevertheless, while such costs are already anticipated, it would be helpful if any final guidance could provide greater context and examples of the types of 'assumed liquidation costs' and, specifically, how they should apply to the various types of cleared markets.
- The Report provides guidance on price data, including consideration to backup sources for exchange-traded products (paragraph 5.2.19). In line with the EACH response, we believe that the logic of requiring back up sources for exchange-traded prices sourced from an exchange is unclear, especially where the CCP clearing such products is connected to the exchange. In situations in which the trading markets are not operational, there may not be a reliable external source for the prices of those products.
- The Report provides further guidance on backtesting and advises consideration to outstanding payment obligations of a clearing participant at the time of a potential default (paragraph 5.2.26(ii)). We agree that this scenario should be considered to ensure the sufficiency of available financial resources; however, we consider that this is more appropriately gauged with stress testing of total financial resources rather than backtesting. Backtesting is typically focused on the performance of margin models and/or collateral haircut models rather than operational risk of changes in collateral profile.

Is the guidance provided on procyclicality appropriate and sufficient?

HKEX generally agrees with the objectives of the further guidance on procyclicality to raise awareness and provide considerations on how to appropriately balance risk protection with concerns around procyclicality in

the risk framework. In this regard, we welcome the guidance as a meaningful compilation of required considerations during model development, periodic assessment and regular validation exercises.

There are numerous measures that a CCP may take to manage down expected losses in response to market events. We consider that any measures taken in response to market events, including, but not limited to, those that drive an increase in margin requirements should not always be viewed as procyclical, particularly as they serve to actively manage down expected losses from increases in the probability of default of a given clearing participant. Nevertheless, we agree that procyclical impacts are important, thus, as a matter of practice, seek to increase margins in a measured way to mitigate potential wider market impacts (where possible). We would welcome more coherent guidance and clarity towards the ultimate objective to ensure consistent adoption and outcomes globally.

The PFMI do not explicitly address margin add-ons. Is the guidance provided on margin add-ons adequate to ensure sufficient coverage by the margin system and other prefunded financial resources in line with the PFMI?

The PFMI and the further guidance in the Report sufficiently outline the types of risks that must be considered. When viewed holistically with other risk mitigation techniques available to the CCP, we do not believe further guidance is merited. There are many risk mitigation techniques available to a CCP through the form of specific margin add-ons or other measures (e.g., margin models, pre-trade risk controls, risk limits or position reductions). We believe a more holistic assessment is appropriate and affords flexibility to the CCP to apply the most appropriate risk mitigation method based on the prevailing circumstances. Therefore, we welcome the optionality proposed in the Report.

However, if further guidance is believed necessary to achieve consistent outcomes, we would welcome more clear and precise guidance (as and where merited) to ensure consistent global adoption.

The PFMI do not prescribe a minimum margin period of risk or closeout period. Is further guidance in this area needed?

The PFMI (paragraph 3.6.7) and further guidance in the Report (paragraph 5.2.4 to 5.2.6) adequately outline the considerations to establish an appropriate MPOR. Further, we believe that CCPs should undertake regular default management fire drills in conjunction with the markets that they clear and the participants. The MPOR is inextricably linked to the default management arrangements and each CCP should consider the appropriate MPOR in consultation with its regulator. Please also refer to our comments above in this section.

6. Further guidance on CCP contribution to losses

Is the guidance provided on a CCP's contributions to financial resources to cover losses sufficient and appropriate?

HKEX agrees that CCP contributions to the default waterfall are important to consider. For CCP contributions to financial resources available for **default loss scenarios**, we would welcome guidance to help achieve a globally consistent approach (paragraph 6.2.2). We believe that CCP contributions should be material enough to incentivise appropriate risk management by the CCP however be conscious of potential moral hazard should the contribution be outsized relative to clearing participant contributions to financial resources in order to maintain and recognise inherent incentives of a defaulter pays model.

The guidance on CCP contributions to financial resources available for **non-default loss scenarios** requires further analysis and discussion to ensure a more holistic approach (paragraph 6.2.3). The guidance should consider providing examples of how to pragmatically consider the scope and the size of this risk, while being mindful of CCP- and regional- specific market and clearing dynamics (e.g., as described above in section #4 of our response regarding settlement and custody bank failure). In addition, any guidance must be mindful

that clearing participants typically do maintain a level of discretion on the types of collateral posted and are aware of the CCP's investment policies (which are subject to both governance procedures and disclosure).

7. Further guidance on Recovery planning

Is the guidance already provided on recovery planning in the Recovery Report sufficient and appropriate?

HKEX broadly agrees with the objectives for CCP resilience, recovery and continuity as described in the CPMI and IOSCO report *Recovery of financial market infrastructures* (the "Recovery Report"), as a complement to the guidance in the PFMLs, and the further guidance on certain items in the Report. Related to specific recovery measures and tools, we continue to support industry feedback provided by CCP12 to this Report as well as the Recovery Report. We believe that any guidance and prescription for specific measures or tools must carefully consider the potential negative consequences to a successful default management process, including impact to end clients.

The Report references the allocation of losses not caused by a participant default (paragraphs 7.2.1 to 7.2.2). As described in our comments above in section #4 and section #6, we consider that additional analysis and discussion is needed to ensure a comprehensive and holistic approach, focused on consistent outcomes globally. The guidance should consider providing examples of how to pragmatically consider the scope and the size of this risk, while being mindful of CCP- and regional- specific market and clearing dynamics.

The Report references potential liquidity shortfalls following participant defaults (paragraph 7.2.4). We consider these points similar to those raised in the further guidance on stress testing. Refer to our comments above in section #3.

The Report reinforces that arrangements must be in place for timely replenishment of financial resources (paragraph 7.2.5). We support the further guidance to ensure that clearing participants are aware of and understand replenishment obligations. We agree and our rulebooks reflect that financial resources should be replenished as soon as practicable, though we consider the guidance on certain instances of discretion necessary to appropriately account for specific jurisdictional or entity structure considerations including cross-jurisdiction, time zone differences and parent/subsidiary entity funding structures. For example, it may be more practical for a CCP to consider using a financial resource buffer instead of shortening the replenishment period. We consider that the current guidance in the report permits certain flexibility but is appropriately focused on outcomes.

ⁱ <http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20160623a1.pdf>

ⁱⁱ <http://www.fsb.org/wp-content/uploads/Progress-Report-on-the-CCP-Workplan.pdf>

ⁱⁱⁱ <http://www.bis.org/cpmi/publ/d121.pdf>