Frequently Asked Questions and HKEx's Answers on the HKEx Clearing House Risk Management Reform Measures
11 March 2012

BACKGROUND

1. Why is Clearing House reform needed?

HKEx's risk management reform is long overdue. The risk management framework currently used in the cash market has been adopted since the establishment of the Central Clearing and Settlement System in 1992. Such framework has remained largely unchanged and failed to keep up with the rapid market development over the last 20 years. For example, when the HKSCC Guarantee Fund (GF) was first set up in 1992, the average daily turnover (ADT) was only $3 billion whereas the fund size was $105 million. The ADT reached almost $12.68 billion in 2000. In 2011 when the ADT increased 23 times from 1992 to $69 billion, the fund size only doubled to $245 million. It is obvious that the small and static GF is not sufficient to support the ever growing market volume.

2. Why does HKEx need to reform its Clearing Houses now?

In addition to the fact that HKEx's risk management reform is long overdue, there is pressing need for the current reform because:

The 2008 global financial crisis prompted governments, regulators, and financial institutions in the world to, among other things, raise capital adequacy standards and tighten risk management measures. HKEx has recognised that it needs to enhance its regime to keep up with the changing global standards.

The default of Lehman Brothers exposed the weakness of the risk management regime. HKEx lost close to $160 million in Lehman's default, and the GF size was reduced to $245 million. On that day, Lehman was not even one of the top ten CPs by position. Had a larger CP defaulted, the GF might not have been able to cover the loss, and HKSCC might have collapsed.

HKEx recognises that as institutions of systemic importance, its clearing houses and the robustness of their risk management measures are crucial to the long term stability and competitiveness of the Hong Kong financial market. The risk management reform is therefore not only necessary but also demands immediate attention.

3. Why does HKEx think a majority of brokers are supporting this reform?

We believe brokers are supporting the reform for a number of reasons:

(1) Brokers recognise the urgency to enhance the market's ability to withstand shocks
All brokerages, regardless of size, are deeply invested in the long-term stability and competitiveness of the Hong Kong financial market. They share our concerns regarding the integrity of the market and its ability to withstand future shocks. They also recognise the urgency for HKSCC to address its capital adequacy issue to more reliably meet its role as a Central Counterparty (CCP) in one of the world's major markets.

(2) Brokers welcome the "user pays" principle

Both small and large brokers welcome the "user pays" principle under the standard margining proposals. According to this principle, risk management contributions are commensurate with the levels of risk created by individual CPs. In addition, the introduction of standardised margining will significantly enhance protection for individual CPs. This is because margin contributed by defaulting CP will be the first line of defence, thereby reducing the chance for non-defaulting CPs to share residual default losses.

(3) HKEx plans to introduce relief arrangements to alleviate brokers' financial burden

Small brokerages welcome the various relief arrangements proposed by HKEx such as the Margin and Dynamic GF Credits. These relief arrangements will alleviate the added financial burden brought by the reform measures to brokers that hold small positions. As such, the overall impact of these changes on small brokers will be relatively minimal.

(4) Brokers agree the Hong Kong market should align with global risk management standards

Large brokers are keen to see HKEx aligning with the ever-rising global standards and have indicated their willingness to contribute to the clearing houses at levels that better reflect the risks associated with their business activities.

4. Are there any relief measures to help alleviate the financial burden of CPs?

HKEx has planned to put in place various relief arrangements to smooth out the impact brought by the reform measures to brokers, regardless of their size.

<u>HKSCC: To introduce a Margin Credit</u>

HKEx will introduce a Margin Credit of up to $5 million and a Dynamic GF Credit of up to $1 million to every HKSCC CP.

On average, around 80 per cent of the HKSCC CPs would not have been required to pay margin or contribute to the Dynamic GF on a given day. Around half of the HKSCC CPs would not have been affected by the new measures at all.

<u>HKCC: To share half of CPs' daily Dynamic Reserve Fund (RF) collectible</u>

HKEx will share 50 per cent of the daily Dynamic RF collectible with HKCC CPs through the HKCC Contingent Advance Capital (HKCC Contingent Advance).

On average, more than 90 per cent of the HKCC CPs would pay $5 million or less additional Dynamic RF.

<u>SEOCH: To revise the Collateral assumption</u>

HKEx will revise the SEOCH Collateral assumption, and on average, around 85 per cent of the SEOCH CPs would have benefited from contributing less into the Dynamic RF.

OVERVIEW OF PROPOSALS

5. What will be the key reform measures?

The key reform measures are:

- introduce standardised daily margining and a Dynamic GF into the cash market;
- revise the stress testing assumptions for the cash and derivatives markets
- introduce a Margin Credit of up to $5 million to every HKSCC CP;
- introduce a Dynamic GF Credit of up to $1 million to every HKSCC CP; and
- share 50 per cent of the daily Dynamic RF collectible with HKCC CPs through the HKCC Contingent Advance Capital.

6. What impact will the reform measures have on the market?

Had the proposed measures been enacted from September 2007 through December 2011 (the reference period)**,** the impact on the markets would have been:

<u>HKSCC</u>
On average, around 80 per cent of the HKSCC CPs would not have been required to pay margin or contribute to the Dynamic GF on a given day. Around half of the HKSCC CPs would not have been affected by the new measures at all.

Margin

- The average daily increase in margin collectible from all HKSCC CPs would have been around $752 million (from $2.8 billion[1] to $3.5 billion).
- The change in the top 10 CPs' margin contributions would have ranged from a reduction of $29 million to an addition of $201 million.

Dynamic GF

- The average daily increase in Dynamic GF collectible from all HKSCC CPs would have been around $1.2 billion (from Nil).
- The top 10 CPs' additional Dynamic GF contributions would have ranged from $44 million to $67 million.

<u>HKCC</u>

- On average, more than 90 per cent of the HKCC CPs would have paid $5 million or less additional Dynamic RF during the reference period.
- The average daily increase in Dynamic RF contributions from all HKCC CPs would have been around $200 million (an increase from $550 million to $750 million).
- The top 10 CPs would have made additional Dynamic RF contributions of $8 million to $18 million.

<u>SEOCH</u>

- On average, around 85 per cent of the SEOCH CPs would have benefited from contributing less into the Dynamic RF.
- The average daily reduction in Dynamic RF contributions from all SEOCH CPs would have been around $247 million (reduced from $649 million to $402 million).

[1] Although HKSCC currently does not have a standard margining mechanism, it collects additional collateral from certain CPs with major positions to protect the Guarantee Fund from material loss in the event of sizeable default.

- On average, the top 10 CPs would have enjoyed a reduction in their Dynamic RF contributions of $8 million to $53 million.

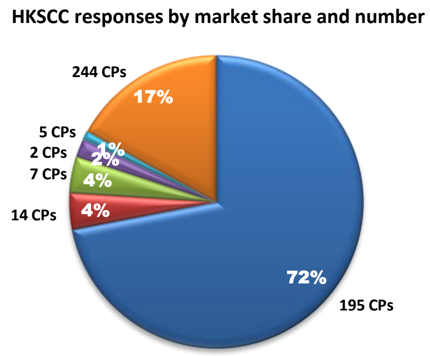
OVERALL MARKET RESPONSE

7. What was the overall response to the consultation paper?

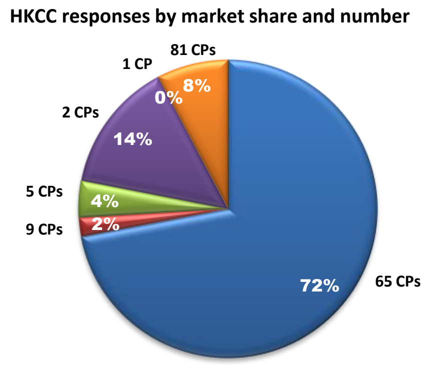
HKEx received encouraging responses from the market. The consultation drew 626 responses from Clearing Participants (CPs), professional and industry associations, market practitioners and individuals. Among the 626 respondents, 273 were HKSCC, HKCC or SEOCH [2] CPs. With strong support from the market, HKEx will proceed with implementing the proposals put forth in the July 2011 consultation paper.

The following is an analysis of CP responses by clearing house:

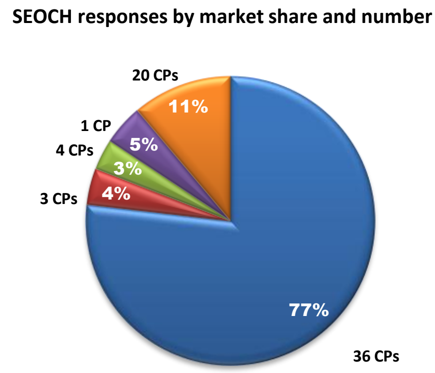
- Out of all 467 HKSCC CPs, 223 responded to the consultation paper, representing about 83 per cent by market share[3] (48 per cent by number). A total of 72 per cent of CPs by market share (42 per cent by number) expressed full support to all proposals.



- Out of all 163 HKCC CPs, 82 responded to the consultation paper, representing 92 per cent by market share[4] (50 per cent by number). A total of 72 per cent of CPs by market share (40 per cent by number) expressed full support to all proposals.



- Out of all 64 SEOCH CPs, 44 responded to the consultation paper, representing 89 per cent by market share[4] (69 per cent by number). A total of 77 per cent of CPs by market share (56 per cent by number) expressed full support to all proposals.



■ Agree to ALL questions ■ Disagree with 1-2 question ■ Disagree with 3-5 questions
■ Disagree with 6-7 questions ■ Disagree with all questions ■ Did not respond

---

[2] HKSCC, or Hong Kong Securities Clearing Company Limited, is the securities clearing house of HKEx. HKCC, or HKFE Clearing Corporation Limited, is HKEx's futures and options clearing house. SEOCH, or the SEHK Options Clearing House Limited, is HKEx's stock options clearing house.

[3] Market share represents respondents' share of total market turnover for the nine months ended 30 September 2011.

[4] Market share represents respondents' share of total market margin requirement as at 30 September 2011.

KEY RESPONSES

8. While responses to the consultation show very strong support to the proposals, what are the major concerns of the respondents? How will HKEx address these concerns?

Respondents' major concerns are:

a) **Allow GF and RF contributions to be counted as liquid capital under the Securities and Futures (Financial Resources) Rules (FRR) under the Securities and Futures Ordinance.**

Almost all respondents strongly supported the idea for GF and RF contributions to be counted as liquid capital to help reduce their funding burden.

HKEx is proactively discussing this possibility with the Securities and Futures Commission (SFC). HKEx has provided information to the SFC for their analysis and is also exploring ways to further improve liquidity of these contributions with the regulator, including enhancing the relevant collection and refund mechanisms.

b) **HKSCC should increase Margin Credit level.**

Seventeen CPs, three industry associations and three individual respondents suggested the HKSCC should temporarily or permanently increase the Margin Credit further to ease CPs' financial burden.

According to HKEx's analysis, the proposed $5 million Margin Credit would have alleviated an average of about 80 per cent of CPs from paying margin during the reference period. HKEx considers this level of Margin Credit appropriate as it provides meaningful assistance to the market. In addition, HKEx's analysis shows that a further increase in the Margin Credit would only yield limited incremental benefit to the market as the sizes of CPs tend to increase rapidly towards the end of the spectrum within the existing market structure. As an illustration, doubling the Margin Credit to $10 million would have only exempted an additional 6 per cent of CPs from paying margin. HKEx does not consider this an efficient way to employ financial resources. HKEx has, in parallel, formulated various refinements to our proposals to further reduce CPs' margin obligations.

c) **HKSCC should allow flexibility in margin collection currency.**

Sixteen CPs and one individual respondent suggested the HKSCC accept margin payment in a single currency by converting margin requirements with respect to positions denominated in different currencies to one eligible currency.

Considering respondents' requests, HKSCC plans to revise the proposal and provide CPs with the options to pay margin either in the original trading currencies of their positions or in one alternative eligible currency of their choice.

9. Instead of standardised margining, would it be better for the margin rate to be customised and based on CPs' financial strength, credit rating or size of positions held?

HKEx's proposal was formulated based on the "user pays" principle. This means that risk management contributions are commensurate with the levels of risk created by individual CPs. Even with a standardised margin rate, if a CP has larger risk exposure, it will still be subject to higher margin requirements.

The proposed margining methodology sets out the baseline for margin calculations; the margin rate applicable to an individual CP can be adjusted upwards if required to manage additional risk exposure for specific circumstances. In addition, HKSCC has a suite of other risk management measures that can be used if necessary to mitigate the additional risk factors of a CP. These risk management measures can be applied to address specific situations and are more effective. For example, additional collateral can be imposed on a CP that has executed a sizeable trade on illiquid stock. Such collateral requirements will be specific to the relevant position and lifted after its settlement. Additional collateral can also be levied when a CP has experienced internal control or settlement problems.

International benchmarking shows that the combination of a baseline margin rate and additional risk management measures is an approach commonly adopted by other major clearing houses.

10. Some CPs mentioned that if the settlement cycle in the cash market is reduced from T+2 to T+1, risk will be reduced and the level of margin and Dynamic GF the market needs to pay can be lowered. Has HKEx considered this suggestion?

The current T+2 settlement arrangement allows sufficient time for investors to complete the necessary post-trade operations within a two-day settlement cycle. This is particularly important to overseas investors who operate in different time zones and through different intermediaries. According to the Cash Market Transaction Survey 2010/11 conducted by HKEx, overseas investors contributed 46 per cent of the total market turnover in Hong Kong and 69 per cent of the overseas investors were from Europe and the US. Most overseas investors would find it impractical to operate in a settlement cycle that is shorter than the current T+2 arrangement. HKEx's international benchmarking shows that the current T+2 settlement cycle is amongst the shortest in major international markets.

11. Will Dynamic RF credit similar to the HKSCC Dynamic GF Credit be granted to HKCC CPs instead of or in addition to the HKCC Contingent Advance?

In formulating the proposed funding support models for each clearing house, HKEx has taken into account the unique characteristics of each clearing house as well as the size of their participantships. While we believe the Dynamic GF Credit will provide effective relief to a significant portion of the HKSCC CPs with relatively small risk exposures, the HKCC Contingent Advance will be more meaningful in relieving the daily liquid capital burden for a majority of HKCC CPs. Granting a Dynamic RF credit to each HKCC CP in addition to the HKCC Contingent Advance would not be the most effective use of HKEx's financial resources.

12. To what extent will the refinements made to the original proposal alleviate CPs' financial burden? For example, will fewer HKSCC CPs be required to pay margin or into the Dynamic GF? Will more HKCC CPs and SEOCH CPs contribute less to the Dynamic RF?

The extent that financial or operational burdens can be alleviated depends on the business nature of the CPs and whether or not they choose to adopt certain measures. Therefore, the benefits may vary from case to case.

Some refinements are expected to reduce the funding burden of CPs:

- For example, HKEx recognises that a CP might have favourable Marks related to unsettled positions that have mark-to-market gains. To relieve HKSCC CPs' added burden due to the introduction of margining, HKEx proposes to offer a CP with offset between the amount of favourable Marks calculated from its unsettled positions and its margin requirements.
- In addition, HKEx also plans to allow the deduction of the relevant margin collected from the required cash prepayment for early release of stocks on settlement day. This will reduce the amount of cash prepayment for CPs who choose to do so.

Other refinements are expected to enhance funding and operational efficiency:

- Take HKSCC as an example: the original proposal was to collect margin according to the trading currency. The refinement now provides CPs with the option to pay margin either in the original trading currencies of their positions or in one alternative eligible currency of their choice.
- Similarly, some CPs have requested the acceptance of non-cash collateral to satisfy margin and Marks requirements. By allowing the use of bank guarantees, CPs will enjoy more funding flexibility, especially in the form of cash.

On the derivatives market side, HKCC and SEOCH are considering the counting of RF contributions as liquid capital in the calculations of their existing Capital-Based Position Limits (CBPL). Such an arrangement, if approved, would benefit HKCC and SEOCH CPs by requiring less working capital to maintain the same level of CBPL.

IMPLEMENTATION

13. What is the implementation timetable?

The proposed revisions to the SEOCH Collateral assumption will tentatively take place in the second quarter of 2012. Implementation of the other proposals is scheduled for the third quarter of 2012 subject to the readiness of the necessary system enhancements.

Prior to implementation of the reform, HKEx will kick off a communication programme which may include briefing sessions, circulars, margin and Dynamic GF simulation reports to ensure CPs have a practical understanding of the various changes to the rules, operational procedures and systems in relation to this reform.