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HKEX
香 港 交 易 所

CONSULTATION CONCLUSIONS

MARKET MICROSTRUCTURE ENHANCEMENTS IN THE
SECURITIES MARKET: PRE-OPENING SESSION AND
VOLATILITY CONTROL MECHANISM

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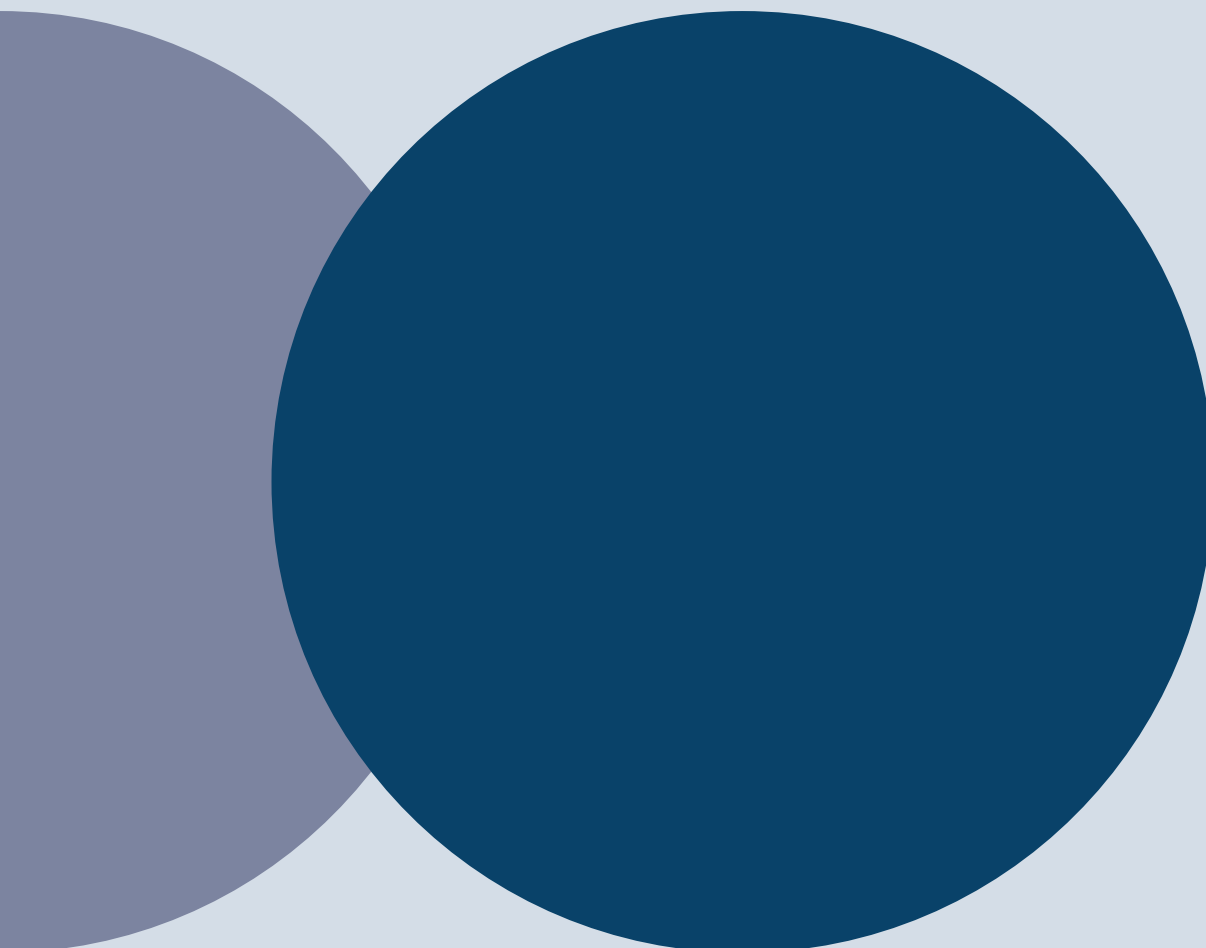
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EXECUTIVE SUMMARY

1   On 16 August 2019, HKEX published a consultation paper on the proposed enhancements to Pre-opening Session (POS) and Volatility Control Mechanism (VCM) in the Hong Kong securities market (Consultation Paper).   The Consultation Paper also took the opportunity to explore the necessity of a market-level volatility control on top of the proposed VCM enhancements.   This paper (Conclusions Paper) sets out the conclusions to the consultation.

2   The proposed POS enhancements will adopt relevant auction features from the well-accepted Closing Auction Session (CAS) and aim to improve price discovery and trading liquidity before the market open.   The proposed VCM enhancements will further expand the coverage of VCM in the securities market and aim to further contain risks caused by extreme price volatility in individual stocks, in line with international practice and regulatory guidance.

3   The consultation received a total of 100 responses from a broad spectrum of key users of the Hong Kong securities market, including the following:

- 64 Exchange Participants (EPs) contributing 51% of securities market turnover[1];

- 7 asset management companies with aggregate global assets under management (AUM) of over US$14 trillion who are major international and local institutional investors;

- 6 major industry associations representing both retail and institutional interests in the Hong Kong market:
    - Asia Securities Industry & Financial Markets Association (ASIFMA)
    - Hong Kong Securities Association (HKSA)
    - Hong Kong Securities Professionals Association (HKSPA)
    - The Institute of Securities Dealers (ISD)
    - The Hong Kong Association of Online Brokers (HKAOB)
    - The Hong Kong Institute of Financial Analysts and Professional Commentators (HKIFAPC)

- 2 other corporate entities - 1 major index company and 1 bank; and

- 21 individuals, who include two professors and some staff members of asset management companies or EPs.

Enhancements to POS

4   Across all market segments, the vast majority of respondents supported our proposal to adopt relevant CAS features and apply them to POS.   Having carefully considered the responses, HKEX concludes that there is substantial market support for the proposed enhancements of POS, including the proposed ±15% price limit, and will proceed with their implementation.

5   In addition, two specific requests raised by market participants below are considered to be beneficial and hence would also be implemented together with the proposed enhancements:

- On price limit: Apply the ±15% price limit (with reference to the adjusted closing price) for stocks which are on their ex-dates, to prevent excessive and unintended price volatility at open, instead of exempting these stocks from the application of ±15% price limit as per our original proposal; and

- On product coverage: Also include Leveraged and Inverse Products (LIPs) in POS for better price discovery and liquidity.   The model proposed in the Consultation Paper suggested

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[1] Based on securities market turnover from January to August 2019.

the POS product scope to cover all equities and funds, where funds including Exchange Traded Funds (ETFs) and Real Estate Investment Trust (REITs) only, meaning LIPs will not be included. However, given LIPs are also funds and trade in similar ways as ETFs, it would be appropriate to include LIPs in both POS and CAS for trading liquidity and easier communication with investors. LIPs will also be included to CAS when the POS enhancements is implemented to ensure a consistent approach.

6   There are also some other suggestions raised, which include a wider price limit, covering all securities in POS, removing the Random Matching Period and shortening the duration of POS. Having carefully evaluated the overall market feedback for each of these features, HKEX decides that we will adhere to the original proposal but keep these suggestions in view for future consideration.

Enhancements to VCM

7   The large majority of respondents also supported the proposed expansion of VCM in the securities market to cover more securities. Having carefully considered the responses, HKEX concludes that there is substantial market support for the proposed enhancements of VCM in the securities market and will proceed with their implementation.

8   In response to market feedback received, we decided to fine tune two areas as follows:

- Maximum number of VCM triggers: After the initial VCM expansion, the maximum number of VCM trigger will be kept at one time per trading session so that the market would have the opportunity to experience and practice handling of a VCM trigger first. Allowing multiple triggers for each trading session can then be implemented six months after the expansion, subject to a brief review on market operations amid VCM triggers. The implementation of multiple triggers should not be subject to a separate consultation; and

- Dissemination of VCM market data: Also publish the applicable trigger threshold of each VCM stock on HKEX website.

9   There are also some other suggestions raised in enhancing VCM, which include extending the coverage of VCM to the entire Continuous Trading Session (CTS) and resuming VCM cooling-off period with an auction. Having carefully evaluated the overall market feedback, and pros and cons of each of these features, HKEX decides to implement the items proposed in the Consultation Paper, but will keep these suggestions in view for future consideration.

Additional Market-level Volatility Controls

10   The Consultation Paper also took the opportunity to solicit market feedback on whether HKEX should consider any market-level volatility controls (such as a market-wide circuit breaker (CB)) on top of the proposed VCM enhancements. We received very mixed responses across market segments, where the large majority of respondents by number strongly opposed to the implementation of a CB. On the other hand, a number of corporate respondents with a significant market share in securities market turnover supported the idea of a CB, but also mentioned that the topic should be studied carefully before any actual model being proposed.

11   Due to the divided views mentioned above, the unpredictable market impact should a CB be triggered, as well as our plan to expand the coverage of VCM which would have already safeguard our market integrity against price volatility further, HKEX concludes that no immediate decision on implementing a CB could be made at this stage. However, in order to better gauge market feedback, we would conduct a market outreach with a possible model to facilitate discussion, before determining if any concrete next steps are necessary.

Implementation Approach and Timeline

12   The technical changes for the proposed POS and VCM enhancements would be independent, and will only have limited synergy if their implementation is bundled together. Respondents

have, in general, also indicated shorter implementation lead-time required for the VCM enhancements as compared with the POS enhancements.   Accordingly, HKEX will roll out the two initiatives in phases, with the VCM enhancements to be rolled out earlier, before the technical changes for the POS enhancements are developed and tested by HKEX and market participants.

13   Adequate preparation lead-time will be given to the market.   **The rollout of VCM enhancements is tentatively set for the second quarter of 2020**.   **That for POS enhancements is tentatively set for the second half of 2020**.   Timing of both rollouts on Orion Trading Platform—Securities Market (OTP-C) is subject to the required rule amendments and market readiness.   The implementation details will be announced in due course.

PART A

PRE-OPENING SESSION (POS) ENHANCEMENTS

CHAPTER 1: BACKGROUND ON POS ENHANCEMENTS

14   In the 2015 public consultation[2] on introduction of CAS, market participants indicated that, after the successful rollout of CAS to the securities market, they would prefer to apply some features from the enhanced CAS to POS in order to improve price discovery and trading liquidity in POS.

15   CAS in the securities market has since been successfully rolled out to cover a significant subset of securities.   On 8 October 2019, CAS was further expanded to cover all remaining equities and funds.   With the completion of CAS implementation by stages in accordance with our 2015 consultation conclusions, HKEX believes it is the right moment to further enhance POS in order to facilitate a smooth price discovery process in the market open and thereby attract more investors and trading liquidity.

16   The proposed POS enhancements include:

- Adopting relevant features used in the existing CAS model, including:
    - To adjust securities coverage to include all equity securities and funds, but to exclude structured products, debt securities, leveraged and inverse products, equity warrants and rights;
    - To add randomised auction matching;
    - To allow at-auction limit orders throughout the session;
    - To allow short selling orders with a price not lower than the reference price (previous closing price); and
    - To enhance market transparency through more market data disclosure.

- Introducing a two-stage price limit:
    - To set a price limit at ±15% with reference to the previous closing price during the period where orders may be entered, amended or cancelled, and later to within the lowest ask and highest bid prices recorded at the end of order input period during the periods where orders can only be entered but not amended or cancelled;
    - Not to apply the ±15% price limit under pre-defined scenarios, including IPO stocks, stocks on their ex-dates (e.g. stocks on their ex-entitlement date) and stocks resuming from trading suspension, so as to allow free price discovery same as today; and
    - Where a stock is not traded in POS due to the ±15% price limit, trading in such stock will continue as usual during CTS without a price limit.

- Adjusting the time periods in POS so as to add a new Random Matching Period of up to 2 minutes to end order inputs randomly before trade matching occurs.

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[2] CAS Consultation Paper and the corresponding Conclusions Paper issued in 2015.

CHAPTER 2: COMMENTS AND RESPONSES ON POS ENHANCEMENTS

17   In this chapter, we set out the key comments raised by respondents on the proposed POS enhancements and our responses on each of the areas being consulted upon.

Following the CAS Auction Design

18   We first asked whether respondents support our proposal to make use of relevant auction features that have been implemented in CAS and apply them in POS.   (*Consultation Question 1*)

Comments Received

Category	Q1. Using the following auction features in POS, similar to CAS: • Randomised auction matching; • Allowing at-auction limit orders throughout the session; • Allowing short selling orders with a price not lower than the previous closing price; and • Enhanced market transparency.	
	Support	**Not Support**
Corporates	**75 (99%)**	**1 (1%)**
EPs	62	1
Asset management companies	7	0
Industry associations	5	0
Other corporate entities	1	0
Individuals	**19 (95%)**	**1 (5%)**

19   The vast majority of corporate and individual respondents (99% and 95% respectively) supported our proposal to adopt relevant CAS auction features and apply them to POS.

20   Despite the strong support received, some respondents also made two feedback related to having randomised auction matching and allowing short selling:

- A number of corporate respondents did not see the need to have randomised auction matching for POS.   In particular, an industry association was of the view that having either one of (1) randomised auction matching and (2) No-cancellation Period would be sufficient to discourage gaming; and

- On short selling, a small number of corporate respondents prefer other kinds of tick rule, which are more relaxed than the proposed one (i.e. to be at a price not lower than the previous closing price).   Separately, an industry association and a number of corporate respondents representing the retail sector did not support offering short selling in POS in general.

Our Response

21   We welcome the strong support to our proposal.   On the need for randomized auction matching, HKEX is of the view that even when a No-cancellation Period is already in place, a randomized end to POS is necessary to prevent last-minute price volatility in the auction.   We hold such view especially given our experience with the previous CAS implementation in 2008, where we observed that very last-minute order input before a pre-announced auction end time may introduce last-minute price volatility.

22   On short selling during POS, faced with some market feedback on one side to further relax the

tick rule, and some feedback on the other side which do not support short selling in POS, we decide to keep our original proposal of allowing short selling orders with a price not lower than the previous closing price.   Our original proposal has the support from the vast majority of respondents, and is also a good approach balancing meeting trading need of selected market participants and concerns from other trading members.

Conclusion

23   We will proceed with the proposal to adopt relevant CAS auction features and apply them to POS, which will include randomised auction matching, allowing at-auction limit orders throughout the session, allowing short selling orders with a price not lower than the previous closing price and enhanced market transparency.   Please refer to Chapter 3 for a summary of the concluded POS model.

Applicable Securities for POS

24   We then asked whether respondents agree that the enhanced POS model should be applied to all equities and funds only similar to CAS.   (*Consultation Question 2*)

Comments Received

Category	Q2. enhanced POS model should be applied to all equities and funds only similar to CAS: • Including equities (including depositary receipts, investment companies, preference shares and stapled securities) and funds (ETFs and REITs) • Excluding debt securities, structured products, leveraged and inverse products, equity warrants and rights.	
	Agree	**Disagree**
Corporates	**69 (91%)**	**7 (9%)**
EPs	56	7
Asset management companies	7	0
Industry associations	5	0
Other corporate entities	1	0
Individuals	**17 (85%)**	**3 (15%)**

25   The vast majority of corporate and individual respondents (91% and 85% respectively) supported our proposal to apply POS to all equities and funds only, similar to CAS.

26   However, it is worth noting that small number of corporate respondents prefers the status quo, meaning that POS should apply to all securities same as today.   A corporate respondent specifically noted that Structured Products should be included as they are today.   Some respondents prefer not to exclude LIPs, which are also funds and trade in similar ways as ETFs[3].

Our Response

27   We welcome the general support to our proposal to apply POS to all equities and funds only. Nonetheless, we also agree with certain respondents' view, as mentioned above, that including LIPs in POS would ensure model and operational consistency for all Exchange Traded Products (ETPs) which trade in a similar fashion.   LIPs have been launched for more than two years and there has been no issue on LIP trading in POS thus far.

Conclusion

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[3] ETFs and LIPs are often together referred by HKEX as Exchange Traded Products (ETPs).   ETFs are included in both POS and CAS.

28   Apart from all equities (including depository receipts, investment companies, preference shares and staple securities) and funds (including ETFs and REITs), LIPs would also be included in POS. To ensure consistency between POS and CAS, LIPs will also be included in CAS when the enhanced POS is implemented.

Price Limits Imposed on At-auction Limit Orders during POS

29   We asked whether respondents support applying a two-stage price limit during POS similar to CAS.   (*Consultation Question 3*)

30   We also asked whether respondents support our proposal of setting the price limits to be initially ±15% from the previous closing price, and then to within the lowest ask and highest bid prices recorded at the end of order input period.   (*Consultation Question 4*)

Comments Received

Category	Q3. Applying a two-stage price limit during POS similar to CAS		Q4. Setting the price limits to be initially ±15% from the previous closing price, and then to within the lowest ask and highest bid prices recorded at the end of order input period	
	Support	**Not Support**	**Support**	**Not Support**
Corporates	**67 (87%)**	**10 (13%)**	**59 (76%)**	**19 (24%)**
EPs	56	7	51	13
Asset management companies	5	2	3	4
Industry associations	5	1	4	2
Other corporate entities	1	0	1	0
Individuals	**15 (83%)**	**3 (17%)**	**11 (61%)**	**7 (39%)**

31   The large majority of corporate and individual respondents (87% and 83% respectively) supported our proposal to implement a two-stage price limit during POS similar to CAS (i.e. initially a fixed percentage from a reference price, and then to within the lowest ask and highest bid prices recorded at the end of order input period).

32   On the actual threshold of the price limit to be applied, we received majority support from corporate and individual respondents (76% and 61% respectively) on setting the price limit to be initially ±15% from the previous closing price.   Nonetheless, an industry association and some corporate respondents, representing the institutional sector, believed the threshold of ±15% may be too narrow for stocks that experience major overnight news.   A small number of corporate respondents do not prefer price limit in POS in general.

33   An industry association and a corporate respondent, representing the institutional sector, suggested that the price limit should also apply to stocks on their ex-dates to avoid the situation that investors inadvertently place orders on stocks on their ex-dates with incorrect price.

Our Response

34   We are encouraged by the general support to apply a two-stage price limit during POS similar to CAS.

35   On the actual threshold of the price limit, despite the fact that some respondents may prefer a wider limit, we are of the view that setting the price limit at ±15% would be a prudent approach and which would only have minimal impact to trading.   Based on a review of trading statistics from January 2018 to April 2019, there was on average only one equity security each day that moved over 15% during POS.

36   On the suggestion that the price limit can also apply to stocks on their ex-dates, we agree that it will be beneficial and will help market participants to avoid the situation that investors inadvertently place orders with incorrect price that may be at multiple levels above or below the previous closing price.

Conclusion

37   We will proceed with our proposal to apply a two-stage price limit to POS, with the threshold of the price limit for the first stage to be set at ±15% from the previous closing price.   In order to ensure that this percentage threshold can be easily updated as the market evolves, this threshold will also be made an operating parameter in HKEX's system for flexibility to review and change in the future.

38   The fixed ±15% price limit will also apply to stocks on their ex-dates, and will be based on the adjusted previous closing price, if available, as determined by HKEX.

POS Trading Hours and Periods

39   We asked whether respondents support the proposed time periods in the enhanced POS (i.e. overall duration of the enhanced POS will continue to be 30 minutes from 9:00am to 9:30am, and a new period of up to 2 minutes, Random Matching Period, would be added to replace the current Order Matching Period and to randomise the auction matching time), or whether respondents prefer the alternative model with the No-cancellation period shortened by 2 minutes such that auction matching may occur latest by 9:20am same as today.   (*Consultation Question 5*)

Comments Received

Category	Q5. Proposed time periods in the enhanced POS, or prefer the alternative model with the No-cancellation period shortened by 2 minutes such that auction matching may occur latest by 9:20am same as today		
	Support Proposed Model	Support Alternative Model	Not Support
Corporates	**55 (71%)**	**19 (25%)**	**3 (4%)**
EPs	47	14	2
Asset management companies	4	3	0
Industry associations	3	2	1
Other corporate entities	1	0	0
Individuals	**12 (75%)**	**3 (19%)**	**1 (6%)**

40   The large majority of corporate and individual respondents (71% and 75% respectively) supported our proposed model (i.e. Order Input Period (15 minutes), No-cancellation Period (5 minutes), Random Matching Period (up to 2 minutes)).

41   Some corporate and individual respondents (25% and 19% respectively) preferred our alternative model (i.e. Order Input Period (15 minutes), No-cancellation Period (3 minutes), Random Matching Period (up to 2 minutes)), citing the following reasons:

•   The shorter No-cancellation Period in the alternative model means lower risks of orders being unable to be cancelled;

•   The alternative model would ensure POS order matching is conducted no later than 9:20am; and

•   The alternative model would leave 5 minutes or more for market participants to prepare for the open of Stock Connect Northbound trading.

Our Response

42   While the alternative model may allow POS to be completed earlier, HKEX is of the view that the proposed model is the closest to the existing POS model with respect to the duration within which orders can be input.   This will ensure that market participants will not be worse off in terms of the amount of time they have for order input.

Conclusion

43   We will adopt the proposed model such that the overall duration of the enhanced POS will continue to be 30 minutes from 9:00am to 9:30am, and a new period of up to 2 minutes, Random Matching Period, would be added to replace the current Order Matching Period and to randomise the auction matching time.

Other Possible Enhancements in POS

44   We specifically checked with respondents on a feature that we proposed not to be adopted for POS (i.e. not matching at-auction order at the previous closing price when an Indicative Equilibrium Price (IEP) cannot be formed in POS).   (*Consultation Question 6*)

45   We explained in the Consultation Paper that currently, in the price determination algorithm for POS auction, if at-auction limit orders are absent on either side of the order book, or if the highest bid price is lower than the lowest ask price, no IEP will be formed and no order matching would occur.   In order to maximise order matching, the current CAS has been configured such that under this situation, auction matching may still occur at the reference price for the matchable at-auction orders.   Following the CAS model, we may use the previous closing price to match POS orders under similar circumstances.   However, after discussion with market participants, it is proposed that such feature should not be adopted for POS for the following reasons:

- Unlike CAS where the reference price is determined right before the start of CAS, significant price-changing events could have taken place overnight rendering the previous closing price not representative at the market open; and

- There is little need for investors to complete trades in POS (where investors still have a whole day to trade), as opposed to the strong need from many investors (including passive fund managers) to complete trades at day close, especially during index rebalancing events.

Comments Received

Category	Q6. Not matching at-auction order at the previous closing price when an IEP cannot be formed in POS	
	Support	Not Support
Corporates	**68 (89%)**	**8 (11%)**
EPs	56	7
Asset management companies	5	1
Industry associations	6	0
Other corporate entities	1	0
Individuals	**15 (94%)**	**1 (6%)**

46   The vast majority of corporate and individual respondents (89% and 94% respectively) support our proposal and agree with our rationale in not matching at-auction order at the previous closing price when an IEP cannot be formed in POS.

Our Response and Conclusion

47   We welcome the market's agreement with our thinking, and conclude that POS will <u>not</u> match at-auction order at the previous closing price when an IEP cannot be formed.

CHAPTER 3: CONCLUSIONS ON POS ENHANCEMENTS

48   Having carefully considered all of the responses received from different market segments, HKEX concludes that there is substantial market support for the proposed enhancement to POS in the securities market.

49   Based on the rationale discussed in the previous chapter, the POS model proposed would be implemented with a few refined features.   The final model is shown below:

	Concluded POS (refinement against proposed model highlighted in red)	Existing CAS for comparison
Securities Coverage	• All equities (including depository receipts, investment companies, preference shares and staple securities) • Funds (including ETFs and REITs) • **LIPs to also be included**	

Period

Total: 30 mins

Period	Time
Order Input	9:00 – 9:15 (15 mins)
No-cancellation	9:15 – 9:20 (5 mins)
Random Matching[4]	9:20 – 9:22 (0-2 mins)
Blocking	After matching – 9:30 (8-10 mins)

Total: 8-10 mins

Period	Time
Reference Price Fixing	16:00 – 16:01 (1 min)
Order Input	16:01 – 16:06 (5 mins)
No-cancellation	16:06 – 16:08 (2 mins)
Random Closing	16:08 – 16:10 (0-2 mins)

Input of Order Types Allowed
AO: At-auction; ALO: At-auction Limit Order

Period	AO	ALO
Order Input	✓	✓
No-cancellation	✓	✓
Random Matching	✓	✓
Blocking	-	-

Period	AO	ALO
Reference Price Fixing	-	-
Order Input	✓	✓
No-cancellation	✓	✓
Random Closing	✓	✓

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[4] Order input is allowed until matching starts randomly within the 2–minute window.

	Concluded POS (refinement against proposed model highlighted in red)	Existing CAS for comparison

Price Limit	A two-stage price limit to at-auction limit orders:
	– 1st stage:
	   • ±15% (for POS); **also applicable to stocks on their ex-dates (e.g. stocks on their ex-entitlement date)**
	   • ±5% (for CAS)
	of reference price during the Order Input Period
	
	– 2nd stage:
	starting from the period when order amendment and cancellation are no longer allowed, within the lowest ask and highest bid recorded at the end of order input period	

Cases when price limit will not apply	Under certain predefined scenarios so as to allow free price discovery, including: • IPO stocks • ~~stocks on their ex-dates (e.g. stocks on their ex-entitlement date)~~ • stocks resuming from trading suspension	When in the rare case that no Reference Price can be determined for a CAS Security In such case all outstanding limit orders of the CAS Security are carried over from CTS to CAS
Short Selling	Allowed with tick rule (i.e. price cannot be lower than the reference price of the corresponding sessions)	
Market Data dissemination	• Indicative Equilibrium Price (IEP) • Indicative Equilibrium Volume (IEV) • POS Stock Indicator/ CAS Stock Indicator • Order imbalance information (direction and quantity) • Reference Price • Stage 1 and Stage 2 price limits	
Reference Price	Previous closing price	The median of the 5 snapshot nominal prices taken from 15:59:00 at 15-second intervals
Handling of when final IEP cannot be established	No auction matching	Auction matching may still occur at the reference price for the matchable auction orders

50   The implementation approach and timeline will be discussed in Chapter 8.

PART B

VOLATILITY CONTROL MECHANISM (VCM) ENHANCEMENTS

CHAPTER 4: BACKGROUND ON VCM ENHANCEMENTS

51   In view of the impact of technological changes on market integrity, as well as the regulatory guidance by International Organisation of Securities Commissions (IOSCO) and the Securities and Futures Commission (SFC), HKEX introduced a stock-level VCM mechanism in 2016, following a public consultation conducted a year before.

52   Based on feedback obtained from the consultation then, market participants preferred a light-touch and simple model as VCM was new to Hong Kong, and investors were not familiar with such mechanisms.   Accordingly, the current VCM has a limited coverage to constituent stocks of Hang Seng Index (HSI) and Hang Seng China Enterprise Index (HSCEI) only (total number of stocks at 80[5]), with a fixed triggering level of ±10% to the last traded price 5 minutes ago, and a maximum number of one trigger per stock per trading session.

53   No VCM trigger has occurred over the past three years, which is partially due to the light-touch approach adopted, as well as the relatively low price volatility of VCM stocks exhibited during the period.

54   In August 2018, further guidance was issued by IOSCO[6], which essentially requires regulated markets to establish suitable volatility controls, and, in addition, to review and calibrate such controls from time to time to ensure that they stay relevant with respect to the latest market development.

55   Accordingly, working in conjunction with the SFC, HKEX decided to consult the market on the following VCM enhancements in the securities market, with the objective to further strengthen our safeguards against disorderly trading caused by extreme price volatility in individual stocks:

- Expanding VCM stock coverage to constituent stocks of Hang Seng Composite (HSCI) LargeCap, MidCap and SmallCap Indexes (total of nearly 500[7] stocks);

- Applying a tiered structure of triggering thresholds at ±10%, ±15%, and ±20% to the last traded price 5 minutes ago respectively for the constituent stocks of the three HSCI size indexes; and

- Allowing multiple triggers per trading session for each VCM stock.

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[5] Data as of 15 October 2019.

[6] IOSCO final report on "Mechanisms Used By Trading Venues To Manage Extreme Volatility And Preserve Orderly Trading" issued on 1 August 2018.

[7] Data as of 15 October 2019.

CHAPTER 5: COMMENTS AND RESPONSES ON VCM ENHANCEMENTS

56   In this chapter, we set out the key comments raised by respondents on the proposed VCM enhancements and our responses on each of the areas being consulted upon.

Expansion of VCM Coverage

57   We asked whether respondents support the proposed expansion of VCM stocks in the securities market to all HSCI constituent stocks to safeguard market from possible disorderliness in trading caused by advances in trading technology.   (*Consultation Question 8*)

58   We also asked, in the case that the respondent prefers other expansion options, what those options are.   (*Consultation Question 9*)

Comments Received

Category	Q8. Proposed expansion of VCM stocks in the securities market <u>to all HSCI constituent stocks</u> to safeguard market from possible disorderliness in trading caused by advances in trading technology	
	Support	**Not Support**
Corporates	**53 (70%)**	**23 (30%)**
EPs	47	16
Asset management companies	3	3
Industry associations	3	3
Other corporate entities	0	1
Individuals	**16 (89%)**	**2 (11%)**

Category	Q9. Other preferred expansion options			
	(i) Alternative Option 1: Expand to include constituents of Hang Seng Composite LargeCap Index only	**(ii) Alternative Option 2: Expand to further include all constituents of Hang Seng Composite LargeCap and MidCap Indexes only**	**(iii) Alternative Option 3: Expand to all equities but with a higher triggering threshold for the non-HSCI stocks**	**(iv) Others**
Corporates	**1 (5%)**	**6 (30%)**	**13 (65%)**	**0 (0%)**
EPs	1	5	7	0
Asset management companies	0	0	3	0
Industry associations	0	1	2	0
Other entities	0	0	1	0
Individuals	**0 (0%)**	**1 (100%)**	**0 (0%)**	**0 (0%)**

59   The large majority of corporate and individual respondents (70% and 89% respectively) supported our proposal to expand VCM stocks in the securities market to all HSCI constituent stocks.   On the other hand, a significant number of respondents, including two industry associations representing both the retail and institutional sectors and a significant number of corporate respondents, support an expansion of VCM to all equities.

Our Response

60   Having carefully considered all responses, and in view of the fact that the current VCM mechanism has never been triggered and therefore a cooling-off period would still be something new to the market, we recommend to keep the original proposal of expanding to all HSCI constituent stocks only, while we keep in view to review the scope of coverage in the future.   The proposed scope would represent a gradual yet meaningful further step in enhancing VCM.

Conclusion

61   We will adopt the proposal of expanding to all HSCI constituent stocks only, while keeping in view to further expand the scope of coverage in the future.

Triggering Thresholds

62   We proposed trigger thresholds of ±10%, ±15%, ±20% for Hang Seng Composite LargeCap, MidCap and SmallCap stocks respectively if HKEX is to expand VCM stocks coverage as proposed.   (*Consultation Question 10*)

Stock Group	Triggering Level	Price Bands Within Cooling-off Period
Hang Seng Composite LargeCap Index constituents	±10%	±10%
Hang Seng Composite MidCap Index constituents[8]	±15%	±15%
Hang Seng Composite SmallCap Index constituents	±20%	±20%

Comments Received

Category	Q10. Trigger thresholds of ±10%, ±15%, ±20% for Hang Seng Composite LargeCap, MidCap and SmallCap stocks respectively	
	Support	Not Support
Corporates	**64 (85%)**	**11 (15%)**
EPs	54	9
Asset management companies	6	0
Industry associations	3	2
Other corporate entities	1	0
Individuals	**15 (79%)**	**4 (21%)**

63   The large majority of corporate and individual respondents (85% and 79% respectively) supported our proposed trigger thresholds of ±10%, ±15%, ±20% for Hang Seng Composite LargeCap, MidCap and SmallCap stocks respectively.

64   Some industry associations and corporate respondents, representing the retail sector, proposed either a uniform threshold (at ±10% or ±15%) for all stocks, or larger thresholds for some of our proposed tiers (e.g. ±10%, ±20%, ±30%).

65   A coporate respondent suggested to publish the trigger threshold at individual stock level for market participants' reference.

Our Response

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[8] It should be noted that for current VCM securities which are constituent stock of both HSCEI and Hang Seng Composite MidCap Index at the same time, the triggering level will change from the current 10% to 15% according to the proposed categorisation.

66   We welcome the general support of our proposed thresholds, which aim to strike a good balance between the level of market protection offered, and the level of trading interruption be introduced to the market, and where the number of triggers generated would be manageable.

67   Since after the VCM expansion there will be three different VCM trigger thresholds based on which stock group the stock belongs to, we also agree that the publication of VCM trigger thresholds to the market would be a good reference information to increase market transparency and facilitate trading.

Conclusion

68   We shall adopt the proposed trigger thresholds of ±10%, ±15%, ±20% for Hang Seng Composite LargeCap, MidCap and SmallCap stocks respectively.

69   We will also publish the applicable trigger threshold of each VCM stock on HKEX website.   In the longer run, we will include this information in the "Security Master Attribute File" when the market data system is enhanced (however this longer term arrangement will not be a pre-requisite for VCM expansion).

Maximum Number of Triggers Per Session

70   We asked whether respondents support our proposal to allow multiple triggers in the same trading session.   (*Consultation question 11*)

Comments Received

Category	Q11. Allow multiple triggers in the same trading session	
	Support	**Not Support**
Corporates	**57 (75%)**	**19 (25%)**
EPs	48	15
Asset management companies	5	1
Industry associations	3	3
Other corporate entities	1	0
Individuals	**11 (65%)**	**6 (35%)**

71   The majority of corporate and individual respondents (75% and 65% respectively) support our proposal to allow multiple triggers in the same trading session.

72   However, some respondents, including three industry associations representing the retail sector, two EPs and one asset management company, prefer to keep at only one trigger per session due to possible issues with margin calls and/ or interruptions to continuous trading should a stock experience multiple VCM triggers.

Our Response

73   We recognise the general support for allowing multiple triggers, but at the same time note the strong preference of some key market participants representing retail interests to continue to keep at one trigger per session.   After careful consideration, we believe a two-phase implementation approach will help ensure the smooth implementation of multiple triggers.   As there has been no VCM trigger in the Hong Kong market thus far, we believe it would be more prudent to allow the market to experience a VCM trigger first after the expansion, and get familiar with market operations associated with a VCM trigger.   Multiple triggers shall then be allowed six months after the initial VCM expansion, subject to a review by HKEX on market operations amid VCM triggers.

Conclusion

74   We will allow the market to experience a trigger first after the initial VCM expansion, and implement multiple triggers six months after the initial VCM expansion, subject to a review by HKEX on market operations amid VCM triggers.   The implementation of multiple triggers should not be subject to a separate consultation.

Other VCM Features

75   We asked respondents whether there are other suggested enhancements or any other comments for VCM in the securities market.   (*Consultation Question 12*)

76   In the case that respondents have other suggested enhancements, we also asked whether they would support implementing the three enhancement features proposed first, as they can be implemented relatively quickly, before HKEX moves on to review or implement some other more complex features.   (*Consultation Question 13*)

Comments Received

Category	Q13. (When respondents have other suggested enhancements) Implementing the three enhancement features proposed first before HKEX moves on to review or implement some other more complex features	
	Support	**Not Support**
Corporates	**7 (54%)**	**6 (46%)**
EPs	4	4
Asset management companies	1	1
Industry associations	1	1
Other corporate entities	1	0
Individuals	**0 (0%)**	**1 (100%)**

77   There are some other suggestions, raised by a number of corporate respondents, which include extending the time coverage of VCM to the entire CTS, and conducting auction trading during VCM cooling-off period.

78   The majority of respondents who made other suggestions (54%) also agree to implement the enhancement features proposed in the Consultation Paper first before HKEX moves on to review or implement other features.

Our Response

79   Having carefully evaluated the overall market feedback and the pros and cons of each of the features related to respondent's suggestions, HKEX decides to implement the items proposed in the Consultation Paper, but will keep these suggestions in view for future consideration.

Conclusion

80   We will first expand the VCM stock coverage and adopt a tiered structure of triggering threshold corresponding to the index that the VCM stock belongs to, as well as to publish the triggering threshold of each applicable VCM stock as detailed in paragraph 69.   Six month after the initial VCM expansion, we will allow multiple triggers to take place for each trading session for each VCM stock.   The implementation of multiple triggers should not be subject to a separate consultation

CHAPTER 6: COMMENTS AND RESPONSES ON ADDITIONAL MARKET-LEVEL VOLATILITY CONTROLS

81 On top of the proposed VCM enhancements mentioned in the preceding paragraphs, we also checked with respondents whether HKEX should also consider a market-level volatility control (such as a CB) for the Hong Kong market.   The nature of CB (one form of market-level volatility control) and their pros and cons were briefly discussed in the Consultation Paper.   (*Consultation Question 14*)

82 We also asked, in case respondents believe HKEX should consider such a market-level volatility control, the kind of model that would be suitable, and when should HKEX consider it. *(Consultation Question 15)*

Comments Received

Category	Q14. On top of the proposed VCM enhancements, should we also consider a market-level volatility control (such as market-wide circuit breakers) for the Hong Kong market?	
	Support	**Not Support**
Corporates	**18 (23%)**	**59 (77%)**
EPs	13	51
Asset management companies	3	3
Industry associations	1	5
Other corporate entities	1	0
Individuals	**3 (19%)**	**13 (81%)**

83 This consultation question received very mixed responses.   The large majority of respondents by number strongly opposed to CB, citing the following reasons:

- The existing VCM already provides an adequate solution

- The existence of market-wide circuit breaker could exert a "magnet effect" and exacerbate market movement near the pre-announced limits as market participants trade in anticipation of a market halt

- Possible domino effect when the liquidity chain is stopped (especially for leveraged investors)

- The much-negative experience during the 1987 four-day market suspension fiasco

- Hong Kong has long been a free market

84 On the other hand, an industry association representing the institutional sector and a significant number of corporate respondents with 38% of market share by turnover, supported that HKEX should explore the CB idea but mentioned that it may not be a priority, and that the topic should be studied carefully before any actual model is proposed.

85 When asked what kind of model would be suitable, most of the respondents who supported the idea of a CB agreed that a wider threshold is suitable for Hong Kong, and the trigger threshold should be wide enough such that the CB will only be triggered under rare and extreme conditions.

Our Response

86 As the impact of introducing a CB could be high and far-reaching, the topic needs to be carefully evaluated.   We are also mindful that internationally, CB is not a proven model to control market

volatility (no trigger in the past 20 years in any of the developed markets with a CB) and hence its effect in cooling off market panics is highly uncertain.

Conclusion

87   Due to the divided views mentioned above, the unpredictable market impact should a CB be triggered, as well as our plan to expand VCM coverage which would have already safeguard our market integrity against price volatility further, HKEX concludes that no immediate decision on implementing a CB could be made at this stage.   However, in order to better gauge market feedback, we would conduct a market outreach with a possible model to facilitate discussion, before determining if any concrete next steps are necessary.

CHAPTER 7: CONCLUSIONS ON VCM ENHANCEMENTS

88   Having carefully considered all of the responses received from different market segments, HKEX concludes that there is substantial market support for the proposed enhancement to VCM in the securities market.

89   Based on the rationale discussed in earlier chapter, the proposed VCM model would be implemented with a few refined features.   The final model is shown below:

	Concluded VCM Model (concluded enhancements underlined and refinement against proposed model highlighted in red)
Type of VCM	• Dynamic price limit model applied at the individual stock level to capture rapid price changes
Product coverage in the securities market	• **Constituent stocks of All Hang Seng Composite LargeCap, MidCap and SmallCap Indexes**
Applicable trading session	• Only applied in CTS but not auction sessions • Excludes the first 15 minutes of morning and afternoon CTS to allow free price discovery at beginning of CTS • Excludes the last 15 minutes of the last CTS of the day to allow free price discovery at market close
Reference price and trigger level	• Reference price: last traded price 5 minutes ago • ~~**Triggering level: ±10%**~~ • **Triggering level: ±10%, ±15%, ±20% for Hang Seng Composite LargeCap, MidCap and SmallCap Indexes constituent stocks respectively** • **Also publish the trigger threshold of each VCM stock on HKEX website. In the longer run, include this information in the "Security Master Attribute File" when the market data system is enhanced**
No. of triggers	**Phase 1:** • **Keep at maximum of one trigger per each of morning session and afternoon session in CTS; VCM monitoring in the same trading session will be stopped after the expiry of cooling-off period (same as today)** **Phase 2 (6 months later after a review of VCM triggers):** • **No maximum number of triggers per CTS** • **VCM monitoring in CTS will resume after the expiry of cooling-off period, and the first trade[9] in the cooling-off period will become the reference price for resuming VCM monitoring** • **In the exceptional case that there is no orders matched during the cooling-off period, the reference price will not be formed and there will be no dynamic price band to limit**

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[9] Same as the current arrangement, non-automatch trade will not be counted.

	Concluded VCM Model (concluded enhancements underlined and refinement against proposed model highlighted in red)
	trade prices of the stock. Once the stock starts to have order matched, the reference price will be the first trade[10] after the cooling-off period and VCM monitoring will resume * The implementation of multiple triggers should not be subject to a separate consultation
Cooling-off and resumption procedures	• Trading within band during the 5-min cooling-off period
Market data dissemination	• Dissemination of additional market data when VCM triggered
Inter-market/ product connectivity	• Trading of related instruments unaffected when VCM triggered for their underlying

90   The implementation approach and timeline will be discussed in Chapter 8.

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[10] Same as the current arrangement, non-automatch trade will not be counted.

PART C

IMPLEMENTATION APPROACH AND TIMELINE

CHAPTER 8: COMMENTS, RESPONSES AND CONCLUSIONS ON IMPLEMENTATION APPROACH AND TIMELINE

91 For the remaining analysis of implementation approach and timeline as described in paragraphs 95 to 96, respondents who did not respond to a particular question are excluded from the relevant statistical analysis shown below.

92 We asked respondents how much time would be needed to prepare for the rollout of the proposed POS and VCM enhancements respectively. *(Consultation Questions 16 and 17)*

Comments Received

Category	Q16. Lead-time required to prepare for rollout of the proposed POS enhancements			
	(i) Under 3 months	(ii) 4-6 months	(iii) 7-12 months	(iv) Others
Corporates	**18 (24%)**	**34 (45%)**	**21 (28%)**	**3 (4%)**
EPs	13	29	18	2
Asset management companies	5	2	0	0
Industry associations	0	2	3	0
Other entities	0	1	0	1
Individuals	**4 (29%)**	**6 (43%)**	**3 (21%)**	**1 (7%)**

Category	Q17. Lead-time required to prepare for rollout of the proposed VCM enhancements		
	(i) Under 3 months	(ii) 4-6 months	(iii) Others
Corporates	**19 (25%)**	**42 (56%)**	**14 (19%)**
EPs	13	38	11
Asset management companies	4	2	0
Industry associations	1	2	2
Other entities	1	0	1
Individuals	**5 (36%)**	**8 (57%)**	**1 (7%)**

93 The vast majority of corporate respondents (96%) indicated a required lead-time of 12 months or less to implement the POS enhancements. Respondents have, in general, indicated shorter implementation lead-time required for VCM enhancements as compared with POS enhancements.

Our Response

94 As mentioned in the consultation paper, the technical changes for the proposed POS and VCM enhancements would be independent, and will only have limited synergy if their implementation is bundled together. Based on the models concluded above, minimal technical changes (if any) would be required for the VCM enhancements for both HKEX and market participants, while substantial technical changes for both the trading platform and market data systems would be required for the POS enhancements.

Conclusion

95   We conclude to roll out the enhanced POS and VCM in phases, with VCM enhancements to be rolled out earlier before the technical changes for POS enhancements are developed and tested by HKEX and market participants.

96   The implementation details and timetable will be announced to the market in due course and adequate preparation lead-time will be given.   The rollout of VCM enhancements is tentatively set for the second quarter of 2020; and the POS enhancements is tentatively set for launch in the second half of 2020.   Timing of both rollouts on OTP-C is subject to the required rule amendments and market readiness.

APPENDIX 1: CONSULTATION PROCESS AND HANDLING OF RESPONSES RECEIVED

Consultation Process

1   On 16 August 2019, HKEX published a Consultation Paper on the proposed enhancements in POS and VCM in the securities markets.   On the same date, HKEX also issued a news release and circulars to invite market participants to provide feedback to the proposals.

2   HKEX then conducted a series of external briefings and meetings to explain the POS and VCM consultation.

Handling of Consultation Responses

3   The consultation period closed on 27 September 2019.   The consultation received a good number of responses from a broad spectrum of key market users from various segments of the securities market in Hong Kong, comprising 64 EPs, 7 asset management companies, 6 industry associations, 2 other corporate entities and 21 individual respondents.   5 responses were late submissions received, and were accepted after the consultation closure.

Representativeness of Respondents' Views Received

4   The responses received represent a good cross-section of users of the securities market, including:

- 64 EPs contributing 51% of securities market turnover[11];

- 7 asset management companies with aggregate global AUM of over US$14 trillion who are major international and local institutional investors;

- The following 6 major industry associations representing both retail and institutional interests in the Hong Kong market:

  - Asia Securities Industry & Financial Markets Association (ASIFMA)
  - Hong Kong Securities Association (HKSA)
  - Hong Kong Securities Professionals Association (HKSPA)
  - The Institute of Securities Dealers (ISD)
  - The Hong Kong Association of Online Brokers (HKAOB)
  - The Hong Kong Institute of Financial Analysts and Professional Commentators (HKIFAPC)

- 2 other corporate entities - 1 major index company and 1 bank; and

- 21 individuals, who include two professors and some staff members of asset management companies or EPs.

Analysis of the Consultation Responses

5   We have taken into consideration all submissions received, including those late submissions, in our analysis, as all represent certain views of the market.

6   The review of responses incorporates a qualitative (and necessarily judgmental) assessment, and is not purely quantitative, so that we may properly weigh and balance the views received from respondents both for and against the proposals put forward in the consultation.   For

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[11] Based on the turnover statistics of the securities market from January to August 2019.

example, the feedback of an industry association will likely be considered differently than that from an individual investor given the consensus-building and advocacy role of such entity.   By the same token due weight has been given to responses submitted on behalf of multiple persons or institutions and the rationale for their positions.

7   It should be noted that not all respondents provided feedback to every question in the questionnaire, as some questions may not be relevant for some respondents due to the nature of their businesses.

8   Our aim in publishing the Consultation Paper is to promote an informed, focused and coherent discussion of the proposals, which are of great market interest and potential significance to the Hong Kong market.   While the Conclusions Paper summarises the main comments received, it also informs the market of the consultation conclusions, the rationale behind them, and accordingly the way forward for these proposals.

9   All original responses, excluding those from respondents who requested non-disclosure, are published on the HKEX website in the interests of transparency.   Respondent identities have been masked as appropriate in these responses as per their requests.   All personal data will not be disclosed unless otherwise requested by the respondent.

10   We would like to take this opportunity to thank all those who have shared with us their comments and views during the consultation process.

APPENDIX 2: LIST OF RESPONDENTS

EPs (64 in total)

1	ABN AMRO Clearing Hong Kong Limited
2	Citadel Securities (Hong Kong) Limited
3	Nittan Securities Asia Limited
4	Success Securities Limited
5	Upmax Securities Limited
6	Victory Securities Company Limited
7-64	58 EPs requested anonymity

Asset Management Companies (7 in total)

65-71	7 asset management companies requested anonymity

Industry Associations and Key Market Representatives (6 in total)

72	Asia Securities Industry & Financial Markets Association (ASIFMA)
73	The Hong Kong Institute of Financial Analysts and Professional Commentators Limited (HKIFAPC)
74	Hong Kong Securities Association (HKSA)
75	Hong Kong Securities Professionals Association (HKSPA)
76	Hong Kong Association of Online Brokers (HKAOB)
77	The Institute of Securities Dealers (ISD)

Other Corporate Entities (2 in total)

78-79	2 Other Entities requested anonymity

Individuals (21 in total)

80	Professor CHAN Kalok (The Chinese University of Hong Kong Business School)
81	Professor YAO Chen (The Chinese University of Hong Kong Business School)
82-100	19 individuals have not provided explicit consent for disclosing their personal data

Remarks:

For responses in corporate capacity, the number of responses is calculated according to the number of submissions received and not the underlying members that they represent.