

26, 29 Aug 2019
& 2 Sep 2019

**BRIEFING SESSION ON
MARKET CONSULTATION ON
MARKET
MICROSTRUCTURE
ENHANCEMENTS**

HKEX
香港交易所

HKEX Cash Trading

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AGENDA

1

Pre-opening Session (POS) Enhancement

2

Volatility Control Mechanism (VCM) Enhancement

3

Next Steps & Timeline



Background of Pre-opening Session (POS) Enhancement

POS

VCM

Timeline

Enhance POS
Liquidity



Improve Price
Discovery



Model launched for 17+ years since 2002 and market has advanced since then

Participants requested using some relevant features of CAS to POS model

A proven CAS model with market familiarization for ~ 3 yrs

General market support to improve current POS and welcome a market consultation



Key Features of Proposed POS Model

		Pre-Opening Session				
Time	9:00	9:15	9:20	9:22	After matching	9:30
Session	Order Input Period (15 mins)	No-cancellation Period (5 mins) ⁽¹⁾	1 Random Matching Period (0-2 mins) ⁽²⁾	Blocking Period (8-10mins)	Continuous Trading Session (CTS)	
Description	2 <u>Price Limit:</u> ±15% of previous closing price ⁽³⁾	Within lowest ask & highest bid (recorded at the end of Order Input Period)			Unfilled at-auction limit orders will be carried forward to CTS as limit orders	
	<u>Order Type Allowed:</u>	At-auction Order				
	3 At-auction Limit Order					
	<u>Actions Allowed:</u>	✓ Input ; ✗ Cancel & Amend				

- (1) An alternative model, shorten No-cancellation period by 2 mins (i.e. 9:15 – 9:18) such that auction matching may occur latest by 9:20 same as today.
- (2) When an Indicative Equilibrium Price (IEP) cannot be determined in POS, same as today, no order matching will be conducted.
- (3) The ±15% price limit is **NOT applicable** to some pre-defined scenarios, including IPO stocks, stocks on their ex-entitlement day, stocks resuming trading after suspension



Examples of price limit in POS

First Stage
09:00 - 09:15

Previous Closing Price = \$100
Price Limit = \$85 to \$115

09:15 Price

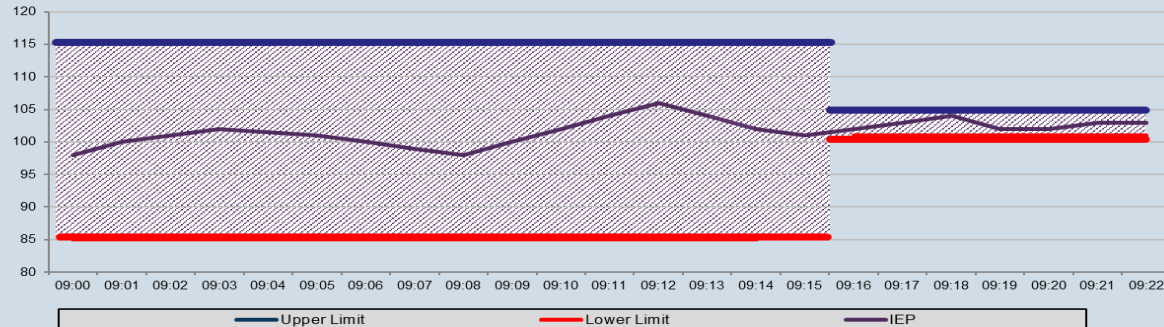
Best (highest) Bid Price = \$105
Best (lowest) Ask Price = \$101

Second Stage
09:15 - 09:22

At-Auction limit order price limit = \$101 to \$105

IEP price range maintains between \$101 - \$105 since no cancellation and amendments of orders after

Illustration



Key Features of Proposed POS Model

- 4 **Applicable Securities (POS Securities): all equities ⁽¹⁾ and funds ⁽²⁾**
- 5 **Allow short selling on DS with a tick rule referencing to the previous closing price**
- 6 **Additional market data: POS security indicator, the two-stage upper and lower price limits and imbalance information (direction & quantity)**



(1) Include depositary receipts, investment companies, preference shares, stapled securities
(2) Include Exchange Traded Funds (ETFs) & Real Estate Investment Trusts (REITS)

Consideration for the Proposed POS Features

POS

Market Familiarization

- Follow CAS Auction Design where applicable
- Trading hours and periods remain similar to current POS model

VCM

Excessive Price Movement Prevention

- $\pm 15\%$ price limit of the previous closing price
- Internationally volatility control measures are common in Opening Session ⁽¹⁾

Timeline



(1) Controls such as price limit or auction extension in Opening Session can be found in exchanges in US, UK, Europe, Japan etc.

AGENDA

1 Pre-opening Session (POS) Enhancement

2 Volatility Control Mechanism (VCM) Enhancement

3 Next Steps & Timeline



Background of Volatility Control Mechanism (VCM) Enhancement

VCM

- To safeguard market integrity against disorderliness caused by extreme price volatility
- Dynamic price limit model applied at the individual stock level
- During CTS⁽¹⁾, a 5-minutes cooling-off period will be triggered if the potential transaction price of an applicable security deviates more than $\pm 10\%$ away from the last traded price five minutes ago
- Further guidance from IOSCO⁽²⁾, regulated markets should review and calibrate volatility controls from time to time

IOSCO's Guidance on volatility controls

2016



Implementation of a simple & light-touch approach

2018



NOW



Only stock-level volatility controls with:

- Limited stock coverage
- A relatively simple design
- No triggering history



(1) Continuous Trading Session (CTS); VCM monitoring will not apply to the first 15 minutes and the last 20 minutes.
(2) International Organisation of Securities Commissions (IOSCO).

Proposed Enhancements to VCM Model

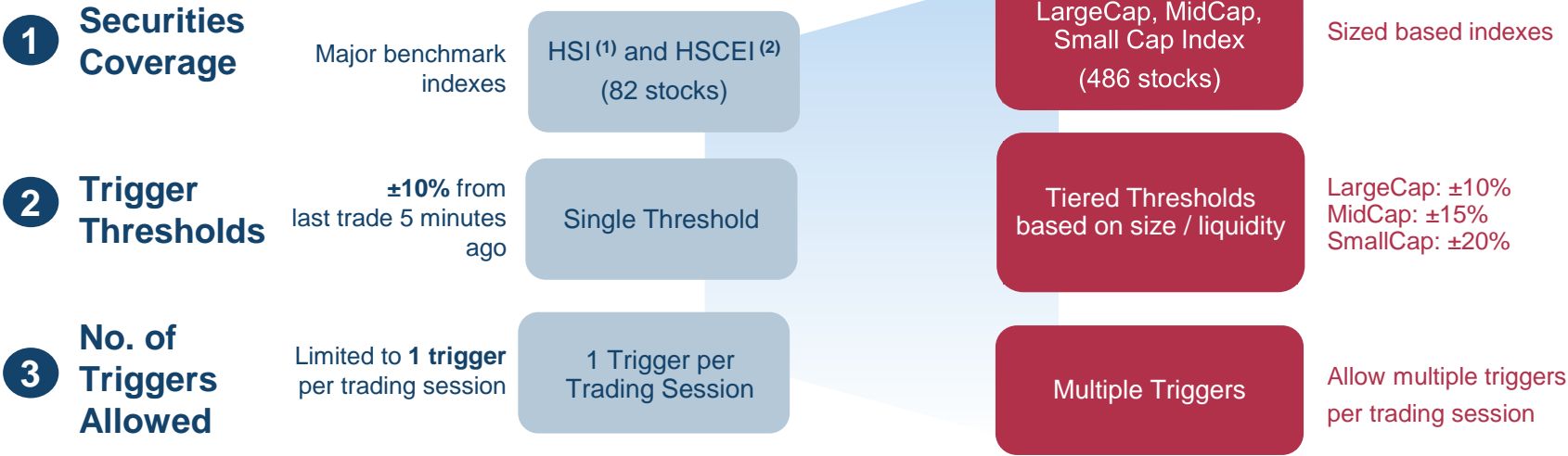
POS

VCM

Timeline

Current Model

Proposed Model



Potentially may have more triggers



(1) Hang Seng Index (HSI)
(2) Hang Seng China Enterprise Index (HSCEI)

Proposed Enhancements to VCM Model

1 Expansion of Securities Coverage

HSI and HSCEI
(82 stocks)

- Market Capitalisation Coverage : 61%
- Equity Turnover Coverage: 66%



- Hang Seng Composite **LargeCap Index** constituents
- Hang Seng Composite **MidCap Index** constituents
- Hang Seng Composite **Small Cap Index** constituents
(486 stocks)

- Market Capitalisation Coverage : 90%
- Equity Turnover Coverage: 96%

Considerations

- A better protection for the market
- No. of triggers for each group (Large, Mid, Small Cap stocks): <1 trigger per month ⁽¹⁾
- Why not cover all equities?
 - Relatively simpler market microstructure with mainly retail investors trading non-HSCI stocks
 - Liquidity of non-HSCI stocks is generally thin ⁽²⁾
 - VCM could be triggered frequently on non-HSCI stocks which may impact their trading adversely and reduce investor interest further

(1) If the triggering level are set at the proposed level.

(2) An average stock in this segment would only have a daily turnover of HK\$3 million and a transaction recorded every 3 minutes.



Proposed Enhancements to VCM Model

2 Triggering Thresholds

Single Threshold

	Trigger Level	Price Bands within Cooling-off
HSI & HSCEI	±10%	±10%



Tiered Thresholds

	Trigger Level	Price Bands within Cooling-off
HSCI LargeCap	±10%	±10%
HSCI MidCap	±15%	±15%
HSCI SmallCap	±20%	±20%

Considerations

- Global practice adopts wider thresholds for less liquid stocks / exclude them
- No. of triggers will be increased significantly if a single threshold of ±10% is used



Proposed Enhancements to VCM Model

3 No. of Triggers Allowed

Limited to 1 trigger per trading session
(i.e. max. 2 triggers per day)

- Resume with no VCM monitoring within the same CTS session



No limit on the number of triggers

- VCM monitoring resumes immediately after the expiry of cooling-off period
- 1st automatched trade concluded in the cooling-off period becomes the reference price for VCM monitoring thereafter ⁽¹⁾

Considerations

- Internationally other exchanges do not limit the no. of triggers
- Allowing multiple triggers would not increase the no. of triggers significantly for the proposed stock coverage and thresholds



(1) If there is no automatched trade concluded during cooling-off period, the 1st automatched trade concluded after the cooling-off period will become the reference price and VCM monitoring will be resumed thereafter. 14

Detailed back-test analysis from Jan 2011 to Dec 2018 (multiple triggers per session)

POS

VCM

Timeline

Number of VCM triggers per month across different stock groups and thresholds				
Stock Group \ Thresholds	±10%	±15%	±20%	±30%
1. Hang Seng Composite LargeCap Index constituents	~ 0			
2. Hang Seng Composite MidCap Index constituents	~ 4	~ 1	~ 0	~ 0
3. Hang Seng Composite SmallCap Index constituents	~ 12	~ 1	~ 0	~ 0
4. Non Hang Seng Composite Index stocks	~ 757	~ 108	~ 37	~ 9



Considerations for VCM enhancements

Market Familiarization

- Relatively straight forward in technical sense
- Large retail client base and relatively simple market structure
- The proposed mechanism is relatively simple for market to get familiarized with the subsequent handling after VCM trigger

Additional Market-level Volatility Control?

- US: last trigger in 1997 & modified subsequently;
Europe: rely on stock-level volatility controls
- With the expanded VCM coverage, does the HK market need additional market-level volatility controls, such as a market-wide Circuit Breaker⁽¹⁾ ?

(1) Market-wide circuit breaker is a type of market-level volatility control adopted by some overseas exchanges which generally halts market trading for either a short period of time or the whole trading day during severe market declines, with an aim to provide a temporary cooling-off window for market participants to re-establish orderly trading at times of market stress.



Consideration of an Automated Circuit Breaker

POS

VCM

Timeline

A time window for dissemination of important policy?

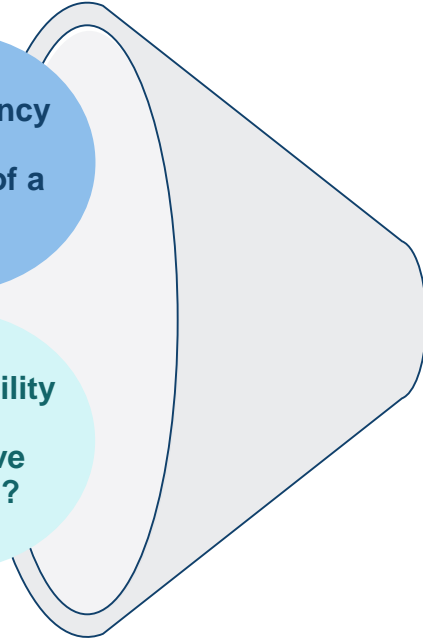
Allows investors and brokers to cool down?

Transparency on the certainty of a halt?

Denied access to trading liquidity when need it the most ?

Add to market panic & exacerbate declines?

Less flexibility for an alternative decision?



Circuit Breaker ?



AGENDA

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Timeline

- Market Consultation Timetable
 - **16 August 2019**: Consultation Paper Issuance
(HKEX website: News \ Market Consultation \ 2016-Present\ August 2019- Consultation Paper on Market Microstructure Enhancement)
 - **27 September 2019**: Deadline for Responses Submission
(E-mail: response@hkex.com.hk ; or by mail / hand delivery)
- Consultation Conclusion
 - **By the end of 2019** (*tentative*)

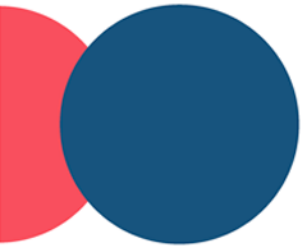


Project Corner

HKEX website: Services \ Trading \ Securities Overview \ Trading Mechanism \ POS and VCM Enhancement Initiatives

The screenshot shows the HKEX website interface. At the top left is the HKEX logo with the Chinese characters '香港交易所'. To the right of the logo are utility links for 'Font Size', 'About HKEX', and 'Related Sites: LME', along with a search bar. A dark blue navigation bar contains the following menu items: MARKET DATA, PRODUCTS, SERVICES, LISTING, NEWS, and MUTUAL MARKET. Below the navigation bar, a breadcrumb trail reads 'Services \ Trading \ Securities \ Overview \ Trading Mechanism'. The main heading is 'POS AND VCM ENHANCEMENT INITIATIVES'. On the left side, there is a vertical menu with the following items: Overview (highlighted in red), Trading Mechanism, POS and VCM Enhancement Initiatives (highlighted in red), Regulated Short Selling, and Exchange Rates for RMB Equity Trading Support Facility (TSF). The main content area on the right is titled 'POS AND VCM ENHANCEMENT INITIATIVES' and contains three sections: 'Market Consultation' with a link to 'Consultation Paper and Questionnaire'; 'FAQ' with a link to 'FAQ (Updated as of 16 August 2019)'; and 'Circular' with a link to 'Consultation Paper and Briefing Sessions on Market Microstructure Enhancements in the Securities Market'. Below these is a section for 'Other Reference Materials' with a link to 'Press Release: HKEX Consults Market on Proposed Microstructure Enhancement in the Securities Market'.





Q & A

Appendix: Comparison Between Current and Proposed POS Model

	Current POS				Proposed POS			
Securities Coverage	All securities				Equity Securities & Funds			
Period & Order Types Allowed	Period	Time	At-Auction Order	At-Auction Limit Order	Period	Time	At-Auction Order	At-Auction Limit Order
	Order Input	9:00 – 9:15 (15 mins)	✓	✓	Order Input	9:00 – 9:15 (15 mins)	✓	✓
	Pre-order Matching	9:15 – 9:20 (5 mins)	✓	✗	No-cancellation	9:15 – 9:20 (5 mins)	✓	✓
	Order Matching	9:20 – 9:28 (8 mins)	✗	✗	Random Matching ⁽¹⁾	9:20 – 9:22 (0-2 mins)	✓	✓
	Blocking	9:28 – 9:30 (2 mins)	✗	✗	Blocking	After Match – 9:30 (8-10 mins)	✗	✗
	Reference Price	N/A				Previous Closing Price		

(1) Proposed POS Random Matching Period: Order input allowed until matching starts randomly within 2 minutes.



Appendix: Comparison Between Current and Proposed POS Model

	Current POS	Proposed POS
Price Limit	No fixed price range ⁽¹⁾	A two-stage price limit to at-auction limit orders: <ul style="list-style-type: none"> • 1st stage: $\pm 15\%$ of previous closing price • 2nd stage: within the lowest ask and highest bid recorded at the end of Order Input Period • 9-times rule still applicable
Short Selling	Not allowed	Allowed with tick rule (i.e. price cannot be lower than the previous closing price)
Market Data Dissemination	Indicative Equilibrium Price (IEP) Indicative Equilibrium Volume (IEV)	IEP IEV POS Stock Indicator Order imbalance information Reference Price (i.e. Previous Closing Price) Stage 1 and Stage 2 price limits

(1) Except 9-times rule



Appendix: Comparison Between Current and Proposed VCM Model

	Current VCM	Proposed VCM
Type of VCM	Dynamic price limit model at the individual stock level to capture rapid price changes	
Product Coverage	HSI & HSCEI constituent stocks	Constituents of All Hang Seng Composite LargeCap, MidCap and SmallCap Indexes
Applicable trading session	Only applied in CTS but not auction sessions ⁽¹⁾	
Reference Price	Last traded price 5 minutes ago	
Triggering level	±10%	±10%: Large Cap ±15%: MidCap ±20%: SmallCap
No. of triggers	Max 1 trigger per CTS session	No maximum number of triggers per CTS
Cooling-off procedures	Trading within band during 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	

(1) For VCM monitoring, it exclude first 15 mins. of morning and afternoon CTS and last 20 mins of the last CTS of the day



Appendix: VCM International comparison – Securities Coverage

Exchange	Equities
NYSE/ NASDAQ	✓ All equities
LSE	✓ All index stocks + some other more liquid stocks ✗ Exclude some illiquid stocks (e.g. certain SETSqx stocks and AIM stocks)
DB	✓ All equities on Xetra
JPX	✓ All domestic equities
ASX	✓ All equities
SGX	✓ Most domestic equities ✗ Exclude equities with price < S\$0.5
HKEX	✓ 80+ HSI and HSCEI stocks only ✗ Does not cover remaining 2100+ equities and 160+ ETFs



Appendix: VCM International comparison – Triggering Thresholds

Exchange	Reference price (<u>D</u> ynamic/ <u>S</u> tatic)	Triggering level		Past triggering
NYSE/ NASDAQ	D: Average traded price in last 5 mins	Tiered structure by type and price: Index stocks/ index : 5% ; Others: >=\$3: 10% ; <\$3: 20%-75%+	Price band doubles during first 15 and last 15 mins	Multiple times per day
LSE (DB: similar but thresholds not disclosed)	D: Last trade (<i>to prevent error trade</i>) S: Last auction trade (<i>to prevent large price movement</i>)	Tiered structure by liquidity: Key index (FTSE) stocks: last trade – 3%-25% ; last auction trade: 8% - 25% Other equities– wider thresholds or do not apply		Multiple times per month
JPX	D: Last trade S: Daily price limit from previous day's closing price	“Special quote” to slow down discontinuous trades (~ 1.4%-2.5% from the last trade) Daily Price Limit from previous close by price tier		NA
ASX	D: Weighted average price in last 2 mins ; S: Last auction price	2-min auction triggered when the dynamic price range ($\pm 10\%$ around the dynamic reference) reaches the Extreme Trade Range (>20% to >50% from last auction price based on stock price)		Multiple times per month
SGX	D: Price traded 5 mins ago	10% for stocks >\$0.5 (do not apply otherwise)		Multiple times per month
HKEX	D: Price traded 5 mins ago	10% for HSI/ HSCEI stocks		No trigger in the past 2 years

