

# FREQUENTLY ASKED QUESTIONS

Updated: 28 July 2016

The FAQ will be updated from time to time and is subject to change.

## General

### 1.1 Why does HKEX decide to introduce these two market structure changes? What does HKEX want to achieve through these new market measures?

The two market measures represent major microstructure upgrades for the securities and derivatives markets in the short to medium term to enhance the overall competitiveness of Hong Kong's market.

The Volatility Control Mechanism (VCM) is based on the regulatory guidance of the Group of Twenty (G20) and International Organization of Securities Commissions (IOSCO), and is designed to safeguard market integrity from extreme price volatility arising from automated trading ("Flash Crash", bad algorithms, etc.), and to contain systemic risks caused by the inter-connectedness of Hong Kong's securities and derivatives markets, particularly with respect to benchmark index products. Almost all major markets around the world have put in place some sort of volatility control mechanisms to control extreme price volatility.

The Closing Auction Session (CAS) is designed to meet the diverse trading needs of investors by enabling trade execution at the securities' closing prices, which is a key investment mandate of some funds such as index trackers. Internationally, all developed markets except Hong Kong and most developing markets have a closing auction.

### 1.2 What is the rollout date of these two initiatives?

For the securities market, the CAS and the VCM will be rolled out sequentially to reduce migration risk. (Phase 1 CAS on 25 July 2016 and then the VCM tentatively one month thereafter on 22 August 2016)

The VCM for the derivatives market will be rolled out tentatively in Q4 2016.

Relevant specification documents for the system development and implementation of the VCM and CAS are available on the HKEX website:

- Securities market:  
[http://www.hkex.com.hk/eng/market/sec\\_tradinfra/vcm\\_cas/vcm\\_cas.htm](http://www.hkex.com.hk/eng/market/sec_tradinfra/vcm_cas/vcm_cas.htm)
- Derivatives market:  
[http://www.hkex.com.hk/eng/market/dv\\_tradinfra/vcm.htm](http://www.hkex.com.hk/eng/market/dv_tradinfra/vcm.htm)

*Summary of implementation timeline and instruments to be covered by the CAS and VCM:*

<b>Tentative Schedule</b>	<b>25 July 2016</b>	<b>22 August 2016</b>	<b>Q4 2016</b>	<b>Subject to the review of Phase 1 CAS</b>
<b>Rollout</b>	CAS – Phase 1	VCM – Securities	VCM – Derivatives	CAS – Phase 2
<b>Scope of securities / derivatives products</b>	<ul style="list-style-type: none"> <li>- Hang Seng Composite LargeCap &amp; Composite MidCap Index constituent stocks</li> <li>- H shares which have corresponding A shares listed on Mainland securities exchanges</li> <li>- All ETFs</li> </ul>	HSI & HSCEI constituent stocks (currently 81 stocks)	HSI Futures (HSI), Mini-HSI Futures (MHI), H-shares Index Futures (HHI) and Mini H-shares Index Futures (MCH) spot month and the next calendar month contracts (currently 8 contracts)  Excludes: Far month contracts, options and all other derivatives products	All equity securities and funds  Note: Other CAS features would be same as Phase 1 except that short selling with a tick rule would be considered in Phase 2 (there's no short selling in Phase 1)

# CAS

## 2.1 What is a CAS?

Closing auction, which allows execution at the closing price, is a trading mechanism commonly used in securities markets across the globe. During a closing auction, market participants interested in trading at the closing price may input buy and sell orders. Then their orders interact with each other to form a consensus closing price for each security and orders are executed at that price.

The CAS commences immediately after the completion of the Continuous Trading Session (CTS).

## 2.2 How does the CAS work?

The CAS would last for about 8 to 10 minutes and consists of a reference price fixing period, an order input period, a no-cancellation period and a random closing period as follows:

	Full Day Trading	Half Day Trading*
Reference Price Fixing Period	16:00 – 16:01	12:00 – 12:01
Order Input Period	16:01 – 16:06	12:01 – 12:06
No-Cancellation Period	16:06 – 16:08	12:06 – 12:08
Random Closing Period	16:08 – 16:10	12:08 – 12:10

\* Eves of Christmas, New Year and Lunar New Year

Time	9:30-12:00; 13:00-16:00	16:00	16:01	16:06	16:08	16:10
Session	Continuous Trading Session (CTS)	Closing Auction Session				
		Reference Price Fixing Period (1 min)	Order Input Period (5 mins)	No-cancellation Period (2 mins)	Random Closing Period (2 mins)	
Description	Reference price based on the median of 5-snapshot nominal prices in the last minute of CTS	<ul style="list-style-type: none"> <li>Calculate &amp; publish reference price</li> <li>No Input, Cancel, Amend</li> <li>Afternoon session orders within price limit carried forward automatically</li> </ul>	<u>Price Limit:</u> a 5% of Reference Price      b Within lowest ask & highest bid			
			<u>Order Type Allowed:</u> At-auction Order At-auction Limit Order			
			<u>Order Input, Cancellation &amp; Amendment:</u> Input/Cancel/Amend Allowed      Input Allowed, Cancel & Amend Not Allowed			

### Other New Measures

- Better transparency by showing the limit for the Indicative Equilibrium Price, the 16:00 CTS closing and imbalance information (direction and quantity)
- Will consider short selling with a price not below reference price in Phase 2
- Allow matching of at-auction and at-auction limit orders at the reference price when an auction price cannot be determined

- In the first period (Reference Price Fixing Period, 4:00-4:01 pm), a reference price, which sets the allowable price limit of the CAS ( $\pm 5$  per cent from the reference price), is calculated for each CAS security. The reference price is determined by taking the median of 5 nominal prices in the last minute of the Continuous Trading Session (CTS) and the system would take 5 snapshots on the nominal prices at 15-second interval starting from 15:59:00.
- In the second period (Order Input Period, 4:01-4:06 pm), at-auction orders and at-auction limit orders within the  $\pm 5$  per cent price limit could be entered, amended or cancelled on CAS securities.
- Starting from the third period (No-Cancellation Period, 4:06-4:08 pm), at-auction orders and at-auction limit orders could be entered. However, the prices of new at-auction limit orders must be between the lowest ask and highest bid of the order book, and no orders could be amended or cancelled.
- In the last period (Random Closing Period, 4:08-4:10 pm), the order rules from the No-Cancellation period apply and the market closes randomly within two minutes.
- After the random closing period, there is order matching for all CAS securities at the final IEP. In cases where no final IEP is established during the CAS, the reference price would be treated as the final IEP for order matching and would become the closing price of the CAS security. This price would also be used for order matching based on matching priority, i.e. by order type, price and then time.

#### Eligible Securities

### **2.3 What securities are covered under the CAS? Would it be extended to cover all securities in the future?**

The CAS would be rolled out in two phases, with the list of securities potentially expanded in Phase 2.

Phase 1 includes all the Hang Seng Composite LargeCap and MidCap index constituent stocks, the H shares which have corresponding A shares listed on the exchanges in Mainland China and all ETFs. Before Phase 1 implementation, the finalised list of Phase 1 CAS securities would be published on the HKEX website at the [VCM and CAS web corner](#).

In order to maximize the stability and continuity of CAS operations, during Phase 1 CAS any addition of constituent stocks to the Hang Seng Composite LargeCap and MidCap indexes would be added to the list of CAS securities; while deletion from these indexes would not be removed from the list of CAS securities.

Subject to a review of Phase 1 and approval by the SFC, Phase 2 will be rolled out at least 6 months after the Phase 1 and will potentially include all equity securities and funds not covered in the Phase 1.

### **2.4 What would happen to a new order input during the CAS for a non CAS security?**

Any new order input for non CAS securities during the CAS will be rejected.

## Changes to Trading Hours and Typhoon Arrangements

### 2.5 What would be the changes to trading hours in the securities and derivatives market as a result of the conclusion?

#### *Securities market*

With the introduction of the CAS, the securities market closing time would be extended to a random closing between 16:08 and 16:10 from today's 16:00.

The trading hours of the securities market under the CAS model would be as set out in the table below for full and half day trading respectively:

<b>Securities market trading hours under new CAS model (Full Day)</b>		
Trading sessions	Current trading hours	Trading hours with a CAS
Pre-opening Session	9:00-9:30	Remain unchanged
Morning Session	9:30-12:00	Remain unchanged
Extended Morning Session	12:00-13:00	Remain unchanged
Afternoon Session	13:00-16:00	Remain unchanged
CAS (applicable to all CAS Securities)		
Reference Price Fixing Period	N/A	16:00-16:01
Order Input	N/A	16:01-16:06
No Cancellation	N/A	16:06-16:08
Random Closing	N/A	16:08-16:10

<b>Securities market trading hours under new CAS model (Half Day)</b>		
Trading sessions	Current trading hours	Trading hours with a CAS
Pre-opening Session	9:00-9:30	Remain unchanged
Morning Session	9:30-12:00	Remain unchanged
CAS (applicable to all CAS Securities)		
Reference Price Fixing Period	N/A	12:00-12:01
Order Input	N/A	12:01-12:06
No Cancellation	N/A	12:06-12:08
Random Closing	N/A	12:08-12:10

#### *Derivatives market*

The closing times of normal trading sessions for Stock Index Futures and Options, Currency Futures and Commodity Futures will change from 16:15 to 16:30 for a normal trading day and from 12:00 to 12:30 for a half trading day, except on the last trading day of

the contracts. The opening time of After-Hours Futures Trading will change from 17:00 to 17:15.

In addition, trading hours on the last trading day, the final settlement price calculation algorithm and typhoon arrangements will also change accordingly. Please refer to the SEHK Circular (Ref: [MO/DT/056/16](#)) issued on 17 May 2016 for details.

## **2.6 What is the typhoon arrangement in the securities market after the introduction of the CAS?**

If a Typhoon Signal No. 8 or above is hoisted before 15:45 (for full day trading) or 11:45 (for half day trading), trading will terminate 15 minutes after the hoisting of the Signal. There will be no CAS for that trading day if trading has not been resumed by 15:45 (for full day trading) or 11:45 (for half day trading).

If a Typhoon Signal No. 8 or above is hoisted at or after 15:45 (for full day trading) or 11:45 (for half day trading), trading for the day will continue as normal until the end of the CAS.

### Order Type

## **2.7 Could orders which can only be input and executed at the CAS (i.e. at-auction orders and at-auction limit orders) be entered during the CTS?**

At-auction orders and at-auction limit orders can only be input starting from 16:01 (the beginning of the Order Input Period). All other order types, such as limit orders / enhanced limit orders / special limit orders / odd lots / special lots, will be rejected during the CAS.

Currently AMS/3 only accepts limit, enhanced limit and special limit orders during the CTS and orders are continuously executed in strict price and time priority. There is no order type in AMS for input order in CTS but could only be executed at CAS.

## **2.8 Could an Exchange Participant perform amendment of order type from at-auction limit to at auction and vice versa during the CAS?**

Order type cannot be amended via order modification function. If an EP wants to change the order type, they would need to cancel the original order and input a new order of another order type.

### Price Limit

## **2.9 How does the price limit in the CAS work?**

A two-stage price limit is applied to control the price of limit orders which are either carried forward from the CTS to the CAS, or newly input during the CAS.

	<b>Applicable session</b>	<b>Scope of price limit</b>
Stage 1	Order Input Period	± 5% from reference price
Stage 2	No-Cancellation Period	Within the lowest ask & highest bid

	Random Closing Period	at the end of Order Input Period as recorded at 16:06
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*Carry forward of outstanding orders into the CAS*

- Outstanding orders within the permissible price limit (i.e. buy order  $\leq$  upper limit and sell order  $\geq$  lower limit), including short selling or market making orders, will be automatically carried forward from the CTS to the CAS. AMS/3 would treat such orders as at-auction limit orders.
- In Stage 1, aggressive orders with price outside the permissible price limit (i.e. buy order  $>$  upper limit and sell order  $<$  lower limit) will be cancelled by AMS/3 with an order cancellation message returned to the relevant EP. Passive orders with price outside the permissible price limit (i.e. buy order  $<$  lower limit and sell order  $>$  upper limit) will remain on the order book but will not be executed at the end of the CAS. In Stage 2, any at-auction limit orders with limit price outside the price limits when the second stage price limit takes effect will not be cancelled by the system but would not be executable during the CAS.

*New order input during CAS*

- At-auction orders and at-auction limit orders within the  $\pm 5\%$  of the reference price can be entered starting from the Order Input Period. An at-auction limit order that is input during the CAS and which has a limit price is outside the permissible price limit will be rejected by AMS/3.
- Starting from the No-Cancellation Period, the price limit may be further tightened and is set at the highest bid and the lowest ask of the order book at the end of the Order Input Period as recorded at 16:06. This price limit will remain unchanged for the whole period of No-Cancellation and Random Closing Periods.

**2.10 What would happen if an order for CAS has been entered outside CAS the permissible price limit?**

An at-auction limit order that is input during the CAS and which has a limit price is outside the permissible price limit will be rejected by AMS/3. For example, if the reference price is \$100, AMS/3 will reject buy and sell orders with prices lower than \$95 or higher than \$105. During the No-Cancellation Period and Random Closing Period, AMS/3 will reject new buy and sell orders with prices outside the highest bid and lowest ask recorded at the end of Order Input Period (i.e. 16:06).

**2.11 Some market participants asked for a 2 per cent price limit for the CAS. What was the rationale for the 5 per cent limit HKEX proposed and did HKEX consider changing it after reviewing the comments it received?**

HKEX acknowledged the market's concern on price volatility in the CAS, so it proposed implementing a price limit. It should be noted that most markets do not have a price limit in their closing auction, and a 5 per cent price limit is the narrowest among those with a price limit.

When HKEX had a closing auction in 2008, it announced at one point that it would implement a 2 per cent price limit, but the closing auction was suspended before the limit

was implemented. The price limit was the only proposed measure to curb price instability then and hence a 2 per cent limit was proposed, although many market participants commented then that it would be too restrictive to trading. The CAS has a number of other price control measures so the price limit need not be as restrictive as a 2 per cent limit.

Based on daily trading statistics, a 2 per cent limit would be overly restrictive to trading and would make it difficult for many stocks orders to be completed at the close both on normal days as well as on index rebalancing days. Market participants might place orders with more aggressive prices or trade ahead of the market close under such circumstances and hence reduce the utility of the CAS. Also, HKEX noted that even today, some stocks may fluctuate more than 5 per cent within a few minutes, and the 5 per cent price limit is still not wide enough for these stocks.

HKEX have therefore decided to proceed with the original proposal, i.e. introducing a 5 per cent price limit first during the Order Input Period, which balances retail and institutional market feedback and the strong need to address the price volatility issue. The 5 per cent price limit may be subject to review in the future.

**2.12 In a rare case, what would be the price limit if the highest bid or lowest ask fall outside the 5% price limit at the end of Order Input Period?**

At any time during the CAS, order price must not deviate more than 5% from the reference price.

**2.13 What happen to the orders that are outside the price limit after the second stage price limit takes effect on and after 16:06? Can they be cancelled by EPs? Will they be executable?**

Any at-auction limit orders with limit price outside the price limits at 16:06 when the second stage price limit takes effect will not be cancelled by the system but would not be executable during the CAS.

Other Price Checking

**2.14 Is there still a price check validation during the CAS, and if so is the CAS going to adopt a 9 times rule or a 24 spread rule or simply a 5% upper/lower limit rule? Would the existing price warning mechanism apply in the CAS?**

In the CAS, orders would subject to the  $\pm 5\%$  price limit and 9-time rule checking but the 24-spread rule would not applicable for CAS. The existing price warning mechanism would continue to apply in the CAS.

Order Matching and Closing Price Determination

**2.15 Will trade matching occur if there is no Indicative Equilibrium Price (IEP)?**

In cases where no final IEP is established during the CAS, the reference price would be treated as the final IEP for order matching and would become the closing price of the CAS security. This price would also be used for order matching based on matching priority, i.e. by order type, price and then time.



**2.16 If there is no overlap in the CAS limit order book (i.e. no IEP) at the end of the CAS, how will the closing price be calculated?**

The reference price will be the closing price.

**2.17 If there is a one-sided order book (i.e. either no buyers or no sellers) in the final minutes of the CAS, how will the closing price be calculated?**

The reference price will be the closing price.

**2.18 If the reference price is at \$100, and at the end of CAS the order book only has 1 at-auction limit buy order at \$99 and 1 at-auction sell order, will these orders be matched?**

No, since IEP cannot be formed, the reference price (\$100) will be the closing price but the limit buy order (\$99) is not matchable at \$100.

**2.19 If the reference price is at \$100, and at the end of CAS the order book only has 1 at-auction limit sell order at \$99 and 1 at-auction buy order, will these orders be matched?**

Yes, since IEP cannot be formed, the reference price (\$100) will be the closing price and the limit sell order (\$99) is matchable at \$100.

**2.20 If the reference price is at \$100, and at the end of CAS the order book only has 1 at-auction sell order and 1 at-auction buy order, will these orders be matched?**

Yes, the closing price will be at \$100 and the orders will be matched at that price.

**2.21 If the reference price is set at \$100, and at the end of the CAS if the best bid is set at \$101 and best offer is set at \$102 and no other at-auction order (i.e. no overlap in limit order book), how will the closing price be calculated and will there be order matching?**

The reference price will be the closing price and there will be no order matching.

### Short Selling

**2.22 Is short selling allowed in the CAS? What would happen on outstanding short sell orders input during the CTS?**

To allow the market to be familiar with the new CAS, short selling will not be implemented in the Phase 1 of the CAS. Hence, input of new short selling order during the CAS will not be allowed during the Phase 1 of the CAS.

However, it should be noted that outstanding short selling orders, which are input during the CTS and with order prices higher than or equal to the lower price limit (i.e. order price  $\geq 95\%$  of reference price), will be automatically carried forward to the CAS. All these orders will be treated as at-auction limit orders.

For the short selling orders carried forward to the CAS, EPs are allowed to cancel and

reduce the quantity of the orders during the CAS and in such cases the original order priority will be maintained. However, change of order price or increase of quantity of these orders during the CAS will not be allowed.

**2.23 If a short sell order is submitted prior to 16:00, yet its price is lower than the reference price but higher than the lower price limit in the first stage, will the short sell order be carried over to the CAS?**

Yes, provided that the price of this short selling order is higher than the lower price limit.

Market Data Related

*(The number in the bracket represents the corresponding OMD-C message ID)*

**2.24 What is the time of dissemination of Closing Price (62) for CAS securities and non-CAS securities?**

The Closing Price (62) of both CAS and Non-CAS eligible securities would be disseminated shortly after market close which can take place at anytime during the 2-minute Random Closing period from 16:08 to 16:10.

**2.25 Why is Reference Price (43) received twice at 16:00 and 16:06 for certain securities?**

Reference price for all CAS and Non-CAS eligible securities is calculated and published in Reference Price (43) message, shortly after the start of Reference Price Fixing Period (RP). For CAS securities, the upper and lower price limit disseminated in the Reference Price (43) at 16:00 may be adjusted after the end of Order Input session at 16:06. Reference Price (43) message for each CAS eligible security would be sent again at the end of Order Input session to provide the lower and upper price limits, regardless of whether there is any change.

**2.26 Would Trade (50) / Trade Ticker (52) be received during the CAS? If so, what are those trades?**

Similar to the current Pre-Opening Session (POS), Trade (50) / Trade Ticker (52) message of auction trade would be disseminated if auction orders and auction limit orders input in the CAS session are matched. In addition, as manual trades are allowed to be reported during the CAS, Trade (50) / Trade Ticker (52) for such trades may also be disseminated during the CAS.

**2.27 Is it true that the reference price and closing price of Non-CAS eligible securities are always the same?**

Yes. For Non-CAS securities, the reference price disseminated at Reference Price Fixing Period (RP) will be the closing price after Closing Auction Matching (MA).

**2.28 When would the Indicative Equilibrium Price (IEP) message be generated?**

IEP messages would be generated when IEP is changed during the POS or CAS. For the CAS, you would receive IEP(41) messages at Order Input (OI) (i.e.TradingSessionSubID =5), No Cancellation (NW) (i.e. TradingSessionSubID = 106), Random Close (RC) (i.e TradingSessionID = 107) & Matching (MA (i.e. TradingSessionSubID =4)

## Trading of structured products

### **2.29 Are structured products (i.e. derivative warrants and callable bull/bear contracts (CBBC)) covered by the CAS?**

Structured products (derivative warrants and CBBCs) are not covered under the CAS. In addition, investors should note that it is possible that the market closing time for a structured product would be different from its underlying security (i.e. if the underlying security is a CAS security).

### **2.30 Is it possible for a CBBC to have a mandatory call event (MCE) during the CAS?**

Yes. A CBBC could be called (i.e. undergo an MCE) when its underlying hits the call price at the end of the CAS.

## Derivatives Market

### **2.31 How does CAS in the securities market affect the final settlement price of derivatives products?**

*Hang Seng Index Futures, H-shares Index Futures, Mini-Hang Seng Index Futures, Mini H-shares Index Futures, Section Index Futures and Stock Futures*

The final settlement price (FSP) calculation algorithm remains unchanged, except the last reading in the FSP calculation algorithm will be taken when the closing indices and closing underlying stock prices are disseminated at the end of the CAS in the SEHK. The mechanism to take the other readings remains unchanged as compared to before CAS implementation.

#### *Stock Options*

As Stock Options are physically settled, no FSP will be calculated. Open options contracts which are 1.5% or more in-the-money will be auto-exercised upon expiration, given there are no prior overriding instructions from the broker. Please note the auto-exercise of Stock Options makes references to the closing price of the underlying stock, which would be determined in the CAS for names that are eligible.

#### *Volatility Index Futures*

The FSP determination period on full day trading remains unchanged, whereas on half day trading the FSP determination period is changed from 11:15 – 11:45 to 11:30 – 12:00.

Note: There will be no CAS in the securities market for that trading day if trading terminates because of severe weather conditions and is not resumed by 15:45 (for full day trading) or 11:45 (for half day trading).

### **2.32 How are the trading hours for derivatives market on last trading day affected by CAS?**

The following arrangement is applicable to spot month contracts on last trading day after the CAS implementation.

The trading hours remain unchanged for the following products:

- Hang Seng Index Futures & Options (Including Flexible Index Options)
- H-shares Index Futures & Options (Including Flexible Index Options)
- Mini-Hang Seng Index Futures & Options
- Mini H-shares Index Futures
- HSI Volatility Index (VHSI) Futures
- Sector Index Futures
- CES China 120 Index Futures
- Stock Futures & Options
- Currencies Futures
- HIBOR Futures

For the following products, the closing time will be changed from 16:15 to 16:30 for full day trading and from 12:00 to 12:30 for half day trading.

- HSI Dividend Point Index Futures
- H-shares Dividend Point Index Futures
- IBOVESPA Futures
- MICEX Index Futures
- S&P BSE Sensex Index Futures
- FTSE/JSE Top40 Futures

For London Metal Mini Futures, the last trading time on last trading day remains unchanged, except if the last trading day is a half trading day, the closing time will be changed from 12:00 to 12:30.

#### Miscellaneous

### **2.33 Is input of manual trade allowed during CAS?**

Manual trades for CAS securities would be accepted in AMS/3 during Order Input period, No Cancellation period and Random Closing period.

### **2.34 After the launch of the CAS in the securities markets, will there be any impact on the automatic exercise of stock options contracts on the expiry date?**

The procedure for automatic exercise of stock options will remain unchanged. But investors should note that, for CAS securities, the stock closing price will be disseminated after the end of CAS.

### **2.35 Would there be any impact on Stock Connect?**

The CAS would be applicable to Stock Connect Southbound brokers and investors, and would include current Stock Connect stocks for Southbound trading (i.e. stocks allowed for both buying and selling) in Phase 1.

### **2.36 What were the key CAS concerns raised by the market during the consultation process and have they been addressed?**

The consultation found respondents' key concerns are (1) possible market manipulation; and (2) the perception that retail investors would be disadvantaged in the CAS. They are addressed below:

- Hong Kong has been able to learn from the CAS experience of other markets. HKEX's final CAS model has a number of enhancement features used in other markets to address potential market manipulation. For instance, the model imposes a 5 per cent price limit on at-auction limit orders, allows at-auction limit orders throughout the CAS, provides better market transparency and has a random closing. Implementation would be in phases to allow the market to get familiar with the CAS before further securities are included in scope. The results and effectiveness of the CAS would be reviewed before rollout of the second phase. Besides, HKEX and the Securities and Futures Commission (SFC) would further enhance the joint electronic market surveillance platform to improve the cross market surveillance function. Also, additional spending is budgeted by HKEX for new real time alerts to help monitor suspicious market activity. HKEX would assist the SFC in conducting thorough reviews and taking enforcement actions as necessary should any trading irregularities be detected.
- Participation in the CAS is optional. Investors can choose to participate only in the CTS if they wish. When HKEX had a closing auction before, the liquidity shifted from the CTS to the closing auction was not significant, therefore CAS's impact on investors who do not participate in it should not be significant. For investors who would like to participate in the CAS, HKEX has built in enhancements such as allowing at-auction limit orders throughout the CAS to provide price protection as well as price improvement opportunities for all investors. This should encourage participation from both retail and institutional players and create a level playing field. HKEX would also work with the Investor Education Centre of the SFC and other relevant parties to provide market and investor education to ensure that the CAS and its features would be well understood by all market participants.

# VCM

## 3.1 What are the design principles behind the VCM model for Hong Kong?

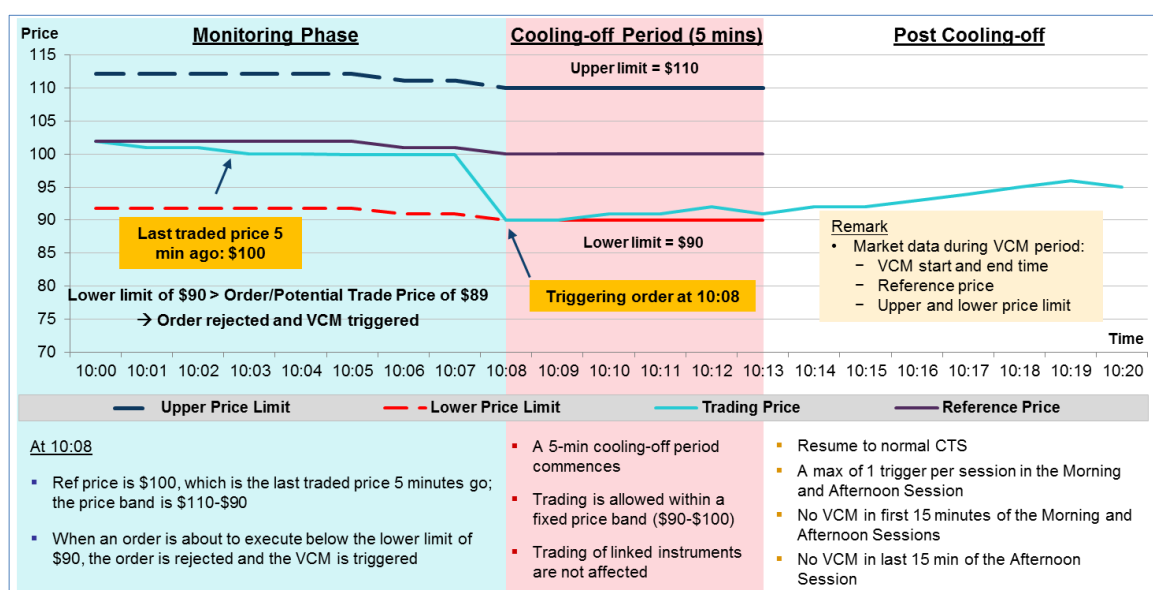
Historically different events have driven different VCM model to be chosen in different markets. Hong Kong has been able to learn from the VCM experience of other markets, and HKEX decided that a light-touch and simple model would be most suitable for Hong Kong's markets since they've never had a VCM and may not be familiar with such mechanisms.

HKEX's proposed VCM is specifically designed to safeguard market integrity from extreme price volatility arising from automated trading ("Flash Crash", bad algorithms, etc.). It also serves to alert the market with a temporary cooling-off period for the participants to reassess their strategies and positions and make investment decisions. It is not a trading halt, does not intend to limit the ups and downs of stock prices due to fundamental events, and it also does not work the same way as the daily price limit model which sets a specific daily price range for securities trading as seen in some markets.

Special care has been taken in the VCM design to minimise market interruption. For example, it applies to individual instrument rather than the entire market, it is based on a dynamic rather than a static reference price, the triggering level ( $\pm 10\%$  for securities market and  $\pm 5\%$  for derivatives market) is set up such that it would not trigger the VCM too often, the VCM is not applicable in certain periods (the first 15 minutes of the morning and afternoon CTS and the last 15 minutes of the afternoon CTS) and to certain instruments, and the fact that a maximum number of triggers per instrument in each trading session (maximum 1 trigger per instrument per CTS) is imposed to prevent excessive trading interruption.

## 3.2 How does the VCM model work?

HKEX has adopted a dynamic price limit VCM model for the securities and derivatives markets, which would trigger a cooling-off period in case of abrupt price volatility detected at the instrument level.



- The VCM is only applicable for board lot order input during the Continuous Trading Session (CTS), but not for any orders input during the Pre-opening Session (POS) and the CAS.
- During the CTS, the potential trade price of a VCM security will be continuously checked against a dynamic price limit of  $\pm 10\%$  based upon the reference price ( $\pm 5\%$ , for the derivatives market) which is the last traded price 5 minutes ago.
- The VCM is triggered if a stock is  $\pm 10\%$  away (or if a futures contract is  $\pm 5\%$  away) from the last traded price 5-min ago; A 5-min cooling-off period will start.
- For each VCM instrument, there will be a maximum of one VCM trigger in each trading session (Morning Session and Afternoon Session are counted as two separate trading sessions).
- Normal trading without restriction will resume on the VCM-triggered instrument after the cooling-off period. There will not be any VCM monitoring on the VCM-triggered instrument within the same trading session.

### **3.3 What instruments are covered under the VCM? Would it be extended to cover all securities in the future?**

For the securities market, the VCM would cover Hang Seng Index (HSI) and Hang Seng China Enterprise Index (HSCEI) constituent stocks (as of 30 June 2016 there are 81 such stocks listed on the Stock Exchange of Hong Kong).

The finalized list of the VCM securities would be published on the HKEX website before the launch of the VCM. Any addition of constituent stocks to the HSI or HSCEI subsequently will also be added to the list of VCM securities on the effective date of the addition. Similarly, any deletion of constituent stocks from the HSI or HSCEI will also be removed from the list VCM securities on the effective date of the deletion.

For the derivatives market, the VCM would cover spot and next calendar month index futures contracts with HSI or HSCEI as their underlying index (currently 8 futures contracts).

HKEX currently has no plan to include more instruments in the securities or derivatives markets which would be subject to the VCM.

### **3.4 What is the applicable period for VCM monitoring?**

VCM monitoring is applicable to continuous trading session (CTS), excluding:

- the first 15 minutes of the morning and afternoon trading session
- the last 20 minutes<sup>1</sup> of the afternoon trading session
- the After-Hours Futures Trading session in the derivatives market

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<sup>1</sup> Since a cooling-off period will last for 5 minutes, the monitoring will stop 20 minutes before end of the Afternoon Session

**3.5 Why would trading of the related or linked instruments of a particular security / futures contract be allowed to continue if the security / futures contract has had a VCM trigger and is in a “cooling-off” period? What is the rationale behind that?**

As the security / futures contract is still allowed to trade within a band during the cooling-off period, its linked or related instruments should be allowed to trade as well. Consideration was given to whether the linked or related instruments should also trade within a band, but defining a band is not practical since the linked or related instruments are typically leveraged or may have inherently different product characteristics. Halting trading of these linked or related instruments would not be preferred too as it may have a significant impact and amount to excessive market intervention. Based on the market feedback received, many respondents agreed the approach taken is the preferred approach for the launch of VCM in the Hong Kong market, as it is new to the market. HKEX would obtain feedback from the market on this arrangement after its implementation and may review it again when the market is more familiar with it.

**3.6 What is the VCM arrangement with respect to adverse weather?**

In the case that market open is delayed due to bad weather (e.g. hoisting of typhoon signal no.8 or above or issuance of black rainstorm warning), similar to the normal market open, the first 15 minutes after market open will not be subject to the VCM monitoring.

In the case of an early close of the market due to bad weather (e.g. hoisting of typhoon signal no.8 or above during trading hours), cooling-off period can still be triggered in the last 15 minutes before market close and can continue until market close.

**3.7 Can VCM be triggered on an applicable instrument multiple times in a trading day?**

For each VCM instrument, there will be a maximum of one VCM trigger in each trading session (Morning Session and Afternoon Session are counted as two separate trading sessions). When normal trading has been resumed after the VCM, there will not be any VCM monitoring within the same CTS.

**3.8 Does the normal price checking during the CTS apply during after a VCM is triggered?**

The 24 spreads rule, the 9 times rules, as well as the existing price warning mechanism would continue to be applicable during the cooling-off period.

Market Data Related

**3.9 When the cooling-off period is started or ended for a securities or futures contract, will there be relevant message broadcasted in the trading system?**

A message will be broadcasted in AMS/3.8 or HKATS when the cooling-off period is triggered for the specific securities or futures contract. Information includes: the start time and end time of cooling-off period, reference price and price limits of the securities or futures contract during the cooling-off period.

Since the information of cooling-off period's end time has already been included in the message when cooling-off period is triggered, there will be no additional message broadcasted at the end of cooling-off period.



*Securities Market (The number in the bracket represents the corresponding OMD-C message ID)*

**3.10 Would VCM Trigger (23) message be disseminated to indicate the end of the cooling-off period?**

For each cooling-off triggered by the VCM, a VCM Trigger (23) message would be disseminated in AMS/3.8 when the cooling-off period begins for specific securities or futures contract. The message provides, among other related information, both the start time and end time of the cooling-off period. There would be no other messages to indicate the end of the cooling-off period.

**3.11 Would I be able to retrieve the VCM Trigger (23) message by any means after the cooling-off end time has passed?**

In general, the VCM Trigger (23) message is available in Refresh Channel for each cooling off period triggered in a day except when the same security has more than one cooling off period triggered for the day. In this exceptional case, only the VCM Trigger (23) message for the latest cooling-off period would be found in Refresh Channel for that security.

*Derivatives Market*

**3.12 I noticed that there would be newly added Market States for the implementation of the VCM in Derivatives Market. Can I have more details about each new state?**

Four new Market States, namely "OPEN\_DPL\_VCM", "OPEN\_VCM", "VCM\_COOL\_OFF\_DPL" and "VCM\_COOL\_OFF", are introduced for the implementation of VCM in Derivatives Market. The first two states are applicable to market, instrument type and class levels whereas the remaining two states down to series level to indicate a cooling off period is triggered by VCM for the series concerned. Please refer to OMD-D Interface Specification and OMD-D Developers Guide for more details.

**3.13 When I receive Market State "OPEN\_DPL\_VCM" or "OPEN\_VCM" for a market, does it mean that all the series under this market are eligible for the VCM?**

Only 8 contracts, namely HSI Futures (HSI), Mini-HSI Futures (MHI), H-shares Index Futures (HHI) and Mini H-shares Index Futures (MCH) spot month and the next calendar month contracts are covered in the VCM for the derivatives market. Therefore if the Market State "OPEN\_DPL\_VCM" or "OPEN\_VCM" is received for a market, an instrument type or a class, it does not necessarily mean that all series within that market/instrument type/class are eligible for VCM.

**3.14 In which message I can find the VCM related information (e.g. cooling off start and end time, upper and lower price limit and reference price)?**

The information of a VCM cooling off period is provided in two Market Alert (323) messages in a structured manner so as to facilitate retrieval of the information including the start time, end time, reference price, upper and lower price limits. For details, please refer to OMD-D Developers Guide.