



Hong Kong

March 2015

HONG KONG STOCK EXCHANGE CONSULTS ON VOLATILITY CONTROL MECHANISM AND CLOSING AUCTION SESSION

Introduction

The Hong Kong Stock Exchange (the **Exchange**) is consulting on proposals to introduce a Volatility Control Mechanism (**VCM**) in the securities and derivatives markets and to re-introduce a closing auction session (**CAS**) in the securities market. Written responses to the Consultation Paper¹ are required to be submitted by 10 April 2015. The Exchange's stated aim in making the proposals is to improve the global competitiveness of the Hong Kong market. It views a VCM as necessary for containing systemic risk caused by extreme price volatility in the securities and derivatives markets while the CAS will meet investors' need to be able to execute trades at securities' closing prices.

The Exchange is proposing a light touch VCM in which a 5-minute cooling-off period would be triggered if a potential stock execution price exceeds a dynamic price limit ($\pm 10\%$ for securities and $\pm 5\%$ for derivatives from the price level 5 minutes ago). The Exchange is also proposing an enhanced CAS system with new features addressing inherent price instability.

Key Features of Proposed Voluntary Control Mechanism

¹ The Hong Kong Stock Exchange's "Consultation Paper Proposal for Introduction of Volatility Control Mechanism in the Securities and Derivatives Markets and Closing Auction Session in the Securities Market" of January 2015 available at <http://www.hkex.com.hk/eng/newsconsul/mktconsul/Documents/cp201501.pdf>.

- A light-touch VCM for Hang Seng Index (**HSI**) and Hang Seng China Enterprise Index constituent stocks and HSI, Mini-HSI, H-shares Index and Mini H-shares Index futures.
- Will apply during continuous trading sessions (**CTS**) to automatched trades only (not manual trades off exchange).
- Order execution of each instrument will be monitored against a dynamic price limit of $\pm 10\%$ for securities ($\pm 5\%$ for derivatives) from the last trade of the instrument 5 minutes prior to the current trade.
- A potential execution price outside the price limit will be rejected and trigger a 5-minute cooling-off period during which the instrument can trade only within the fixed price limit immediately before the VCM trigger.
- Bids above or below the price limit during the cooling-off period are rejected and on resumption the same price limit monitoring mechanism will resume unless there are no trades during the cooling-off period when there is no limit on the pricing of the first trade.
- Maximum of 2 VCM triggers per instrument for each trading session (morning and afternoon sessions are 2 separate trading sessions). VCM monitoring ceases on expiry of second cooling off period.
- VCM will stop 20 minutes before the end of CTS and there will be no VCM monitoring during After Hours Futures Trading in the derivatives market.

- Trading of linked instruments (e.g. derivative warrants, callable bull/bear contracts and single stock options) will not be affected by a VCM being triggered for an underlying/linked instrument.

Key Features of Proposed Closing Auction Session

- CAS would apply initially only to constituent stocks of major indexes (the Hang Seng Composite LargeCap and MidCap Indexes); other stocks eligible for southbound trading under Shanghai-Hong Kong Stock Connect; and ETFs with underlying Hong Kong stocks (with possible extension to all equity securities and funds in a second phase).
- Price limit of:
 - $\pm 5\%$ from the reference price during the order input period; and
 - the best bid and best ask price for subsequent periods.
- Input of at-auction limit orders is allowed throughout CAS, subject to the above price limit.
- Orders cannot be amended or cancelled in the last few minutes before the end of the CAS.
- The CAS closes at a random time.
- Short selling is allowed during the CAS subject to compliance with the tick rule.
- The reference price will be used for trade execution if there is no final Indicative Equilibrium Price to increase matching opportunities.

VCM - Background

The Consultation Paper notes that trading via electronic means and automated algorithms are now prevalent and that markets and products have become increasingly interconnected. These changes in trading strategies and methods have increased the potential systemic risks to market integrity, as demonstrated by the "Flash Crash" incident in the US on 6 May 2010.²

² Extreme price fluctuation originated from individual instruments triggered an adverse chain reaction in interconnected asset class and products and led to non-fundamental driven volatility in the overall market.

Following a G20 2010 review and the report of the International Organization of Securities Commissions (IOSCO) published in 2011,³ there is now an international consensus that regulators should ensure that suitable VCMs are in place to deal with volatile market situations.

Current Situation in Hong Kong

Currently, Hong Kong is one of the few jurisdictions with no VCM in place since it is a single market in which inter-venue and arbitrage trading do not take place. Stamp duty in the securities market also makes marginal arbitrage trades unprofitable. Major trading incidents like the Flash Crash have not occurred in the Hong Kong market as yet.

The Securities and Futures Commission (SFC) however agrees with the Exchange that Hong Kong should review whether a form of VCM is necessary to safeguard against market disorderliness caused by extreme price volatility. Given the circumstances of the Hong Kong market, the Exchange views a light-touch VCM regime to be the most appropriate, although a more sophisticated system could be implemented if needed in the future.

Types of VCM

The IOSCO report suggested that a VCM model should be able to deal with systemic risks arising from advances in trading technology and inter-connectedness of multiple markets and products, especially in relation to benchmark index products. A cooling-off period should be included in the model to allow market participants time to reassess trading strategies, reset any algorithm parameters accordingly and re-establish an orderly market.

³ IOSCO. "Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency". October 2011.

There are three main types of VCMs: circuit breakers, trading limitations and price limit.

	Circuit Breakers	Trading Limitations	Price Limit
Features	Market-wide interventions Suspend or halt trading upon major index declines	Stop continuous trading immediately and switch to auction mode during extreme volatility	Automated price volatility safeguard mechanism Temporary trading restriction on trading of major equity product/index on price volatility beyond a pre-set price threshold
Jurisdictions	US	EU	Mainland, Singapore
Exchange's Assessment	<ul style="list-style-type: none"> • Simple system • Significant market impact once triggered • Only triggered upon overall market volatility 	<ul style="list-style-type: none"> • Some degree of trading interruption • More complex mechanisms with random end and multiple auction extensions 	<ul style="list-style-type: none"> • Causes least market interruption • Relatively simple mechanism

Proposed VCM Regime

VCM Type

The Exchange believes that a dynamic price limit model should be adopted in relation to major instruments in the securities and derivatives markets. It prefers an instrument-level VCM rather than a market-level one as this would allow normal trading of other instruments to carry on unaffected and cause less disruption to the market. This would address systemic risks while being relatively easier for investors to understand.

Applicable Instruments

Following the IOSCO guidance, the Exchange proposes that the VCM should only apply to instruments that present systemic risks due to the inter-connectedness of the securities and derivatives markets. The VCM model proposed would therefore apply to the following key index-related products:

- **Securities:** Heng Seng Index (HSI) & Hang Seng China Enterprise Index (HSCEI) constituent stocks, which covers about 60% of equities' turnover; and
- **Derivatives:** HSI, H-shares Index (HHI), Mini-Hang Seng Index (MHI) & Mini H-shares Index (MCH) (spot month and the next calendar month) futures, which covers about 90% of trading volume in the futures market.

The Exchange evaluated the extent of potential trading interruption expected for the proposed VCM model. Back-testing the proposed VCM model with 9-year HKEx trade data, the Exchange found that the VCM model proposed would have

been triggered 30 times per year in securities and 3 times per year in derivatives and that most triggers would have occurred in more volatile periods.⁴ The Exchange therefore reached the conclusion that the VCM model proposed would cause mild interruptions to the market.

Applicable Trading Session

In line with international practice, the proposed VCM would cover only the CTS. It would not cover the auction sessions for either market since auctions sessions have a different price discovery process and price volatility controls are already built in to the auction design. Similarly it would not cover the After-Hours Futures Trading (AHFT) session in the derivatives market as a static price limit is already in place.

The VCM's cooling-off period would not operate during the last 15 minutes of the CTS, so that VCM monitoring would stop 20 minutes before the end of the CTS. This would allow uninterrupted trading in the final 15 minutes of the CTS so that investors can unwind their day positions and avoid taking overnight risks. This arrangement will apply to both the securities and derivatives markets.

Applicable Trade Type

The Exchange suggests limiting VCM to automatched trades only: it will not apply to manual trades concluded off-market since the latter are not involved in order matching on the Exchange and may not affect price formation of the market.

⁴ >90% VCM triggers would have occurred during 1997/98 and 2007/08 in securities. 75% VCM triggers would have occurred during 2008 in derivatives.

Reference Price

A dynamic reference price referring to the last traded price 5 minutes ago is proposed by the Exchange. The Exchange explains that a static reference price is not recommended due to its potential irrelevance while a too-recent reference price (e.g. the last traded price) would not be sufficiently sensitive to price changes in liquid instruments which generally take a larger number of trades for the price to move.⁵ The VCM models recently adopted by US and Singapore securities markets use similar reference prices. US markets use the average trade price in the previous 5 minutes, while Singapore uses the price of the last trade 5 minutes ago which is simpler to implement than the US model.

Triggering Level

After studying the frequency of VCM triggers at different triggering levels with a back test analysis, the Exchange has proposed a price limit of $\pm 10\%$ for securities and $\pm 5\%$ for derivatives by reference to a dynamic price. A lower triggering level is suggested for the derivatives market since its applicable instruments are at the basket level rather than at the individual stock level as in the securities market. A smaller percentage change in prices of index series would therefore have a much larger impact on the derivatives market. The existing error trade parameter in the index futures market is 3% and the triggering level proposed (i.e. 5%) is only 1.5 times greater.

Number of VCM triggers per annum for different triggering levels

Market Triggering Level (%)	Securities	Derivatives
3%	542	24
5%	40	3
10%	2	0

An alternative option would be to set individual triggering levels for each product or price range. The Exchange however worries that the additional complexity would confuse the market.

The Singapore Exchange adopts a 10% triggering level for securities while triggering levels adopted by other securities exchanges vary from 2%-100%. For derivatives, overseas exchanges set different triggering levels for different products.

⁵ According to back-testing data, the sensitivity of VCM decreases as the monitoring time window reduces.

Limit on Number of VCM Triggers per Trading Session

The number of VCM triggers allowed for each VCM instrument would be limited to two in each trading session. VCM would cease to be effective for the rest of the session upon the second trigger in the session. For these purposes the morning and afternoon sessions will be treated as two separate trading sessions. This would ensure that trading interruption would be limited to a 10-minute maximum of 2 cooling-off periods per trading session.

While VCM models adopted in overseas markets typically allow multiple triggers, the Exchange considers that a light-touch approach may be preferable in the initial stages. Allowing multiple triggers could be considered in the future if a more sophisticated system is wanted.

Cooling-off Period

An order with a potential execution price beyond the price limit would be rejected and trigger an immediate 5-minute cooling-off period. During the cooling-off period, the instruments could be traded only within the price limit applicable immediately before the cooling-off period. Aggressive orders (i.e. high bid and low ask orders) outside the price limits would be rejected immediately, but passive orders outside the price limit would be allowed to be input to build up order depth.

The market would be alerted of the trigger and given time for reflection. The Exchange believes that a 5-minute cooling-off period should be sufficient for algorithmic or fat finger errors to surface and for market participants to reassess their positions, while not causing excessive market disruption. The Exchange also notes that the proposed VCM model is not intended to cover price movements driven by fundamentals.

Many overseas securities exchanges implement a 5-minute cooling-off period (including the US, London and Singapore stock exchanges), while the Australian stock exchange has a 2-minute cooling-off period. Shorter cooling-off periods of 30 seconds or less are typical in overseas derivatives markets using dynamic price limits. For the sake of simplicity, the Exchange proposes a 5-minute cooling-off period for both securities and derivatives markets.

Trading Resumption

After the cooling-off period, the same dynamic price limit system ($\pm 10\%$ for securities ($\pm 5\%$ for derivatives) from the last trade 5 minutes ago) will resume. If there is no trading during the cooling-off period, the first trade can be executed without any price limit applying.

Market Data Dissemination

Once the VCM is triggered, the reference price, upper and lower price limit, trading state and time of VCM expiry/resumption would be disseminated through the market data feed to enable market participants to make informed choices. VCM instruments would also be flagged in the market data feed. The market data mentioned above would not be disseminated without a VCM trigger in order to avoid confusing the market with excessive information.

Inter-market/ Product Connectivity

In order to keep market disruption to a minimum, all instruments would be treated independently for the purposes of the VCM. The trading of related instruments and derivatives would therefore remain unaffected when a VCM is triggered for their linked instruments. The Exchange acknowledges the difficulties for market makers of instruments related to instruments for which a VCM has been triggered. Market makers may therefore request a waiver or relaxation of their market making obligations, in accordance with the existing policies and procedures as appropriate.

Order Price Validation

The normal order validation rules such as the quotation rules in the securities market and dynamic price banding in the derivatives market for continuous trading would remain applicable.

CAS - Background

The Consultation Paper proposes re-introducing a CAS, which is an improved version of the one put in place for 9 months in 2008. The proposal comes in response to continued demand for reinstatement of a CAS to enable orders at the closing price.

Rationale for a CAS

In the securities market, continuous trading (or continuous auction) and single-price auction (or call auction) are the main types of trading mechanisms. Many major securities exchanges adopt continuous trading in their main trading session, when bid and ask orders are submitted to the market and executed in price and time priority against matching orders within a central limit order book. However, continuous trading is less well suited to the peaks of activity at the start and the end of the day, where market participants are reacting to overnight information and trying to complete their executions for the day, respectively. A single-price auction is therefore commonly adopted at the opening and closing of the market.

In Hong Kong, a single-price auction mechanism operates during a 30-minute Pre-opening Session (**POS**). The POS comprises an order 'input phase' to gather buy and sell interests to trade at a single price and a 'price determination and trade execution phase' to determine an opening price by pooling share orders and finding a price at which most can be matched.

As to the market close, CTS continues until market close and the closing price is calculated based on the median of 5 snapshots taken at 15-second intervals during the last minute of trading. The mechanism gives some protection against gaming of the closing price, but the Exchange points out that market participants often find it hard to execute orders exactly at the closing price. Furthermore, this calculation method does not take into account the volume of trades or supply and demand. Exchange Participants (**EPs**) therefore tend to input Market-on-Close (**MOC**) orders which are mandated to be executed at the closing price at the very end of CTS, which leads to price swings towards the end of CTS, especially on index rebalancing days. The Exchange has been asked to consider reintroducing a CAS at market close, a practice which has already been introduced by all securities exchanges in developed countries and most securities exchanges in emerging economies.

2008 CAS Introduction

The Exchange introduced a CAS (the **previous CAS**) with a similar design to the single-price mechanism used in POS in May 2008. Over 80% of market participants used the previous CAS which accounted for about 5% of equity turnover, and sometimes over 20% on index rebalancing. The system was also deemed to have improved price discovery while in operation.

Following instances of individual securities experiencing large price movements, particularly during index rebalancing, the Exchange proposed introducing a 2% price limit during the CAS following a public consultation which concluded in February 2009. The price limit was however never implemented due to the Exchange's suspension of the previous CAS on 23rd March 2009 to restore investor confidence following a significant (11%) drop in the share price of HSBC a few seconds before the end of CAS. In a Securities and Futures Appeals Tribunal (**SFAT**) proceeding against the trader responsible for the plunge, the SFAT highlighted that the previous CAS was susceptible to price volatility due to significant order imbalance together with an aggressive limit order hidden in the order book which was invisible to the market.

Current Situation

Market participants have been asking for years for a CAS to be reintroduced in some form to accommodate their need to execute orders at the closing price. Index tracking funds in particular need to rebalance their holdings at the closing price in tracking their underlying index and for fund valuation purposes.

The Exchange cites estimates that about 10% of daily equity flow on normal trading days and more than 30% on major index rebalancing days come from MOC orders. In 2013, the total amount of rebalancing and MOC fund flow exceeded HK\$1.2 trillion. That figure is expected to rise with the growth in passive/index tracking funds.

The current closing practice does not support the execution of MOC orders. The Consultation Paper notes that tracking error for index funds varies from a few to over ten basis points and estimates that the industry is losing more than a billion a year due to closing price slippage. The cost is borne by index tracking funds, and ultimately by their investors which include pension funds and general retail investors.

Not having a CAS also puts Hong Kong out of line with the world's developed markets, all of which use a CAS, and most emerging markets.⁶

⁶ Markets with CAS: Australia, Austria, Belgium, Brazil, Canada, Colombia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Indonesia, Ireland, Israel, Italy, Japan, Korea, Mainland, Malaysia, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Portugal, Qatar, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, UAE, UK and US. Markets without CAS: Hong Kong, China (the SSE), Chile, India and Egypt

Proposed CAS Model

The Exchange proposes re-introducing an enhanced CAS model which addresses the issue of inherent instability in the previous CAS in the securities market to meet market demand for execution at the closing price and improves the closing price formation mechanism.

Applicable Securities

Initially, only securities which require execution at market close or which are involved in index rebalancing would have a CAS. CAS securities would therefore include:

- i) the major index constituent stocks being the constituent stocks of the Hang Seng Composite LargeCap Index and Hang Seng Composite MidCap Index and other securities tradable under the Shanghai-Hong Kong Stock Connect scheme. The two selected indices would include almost all Hong Kong-listed constituent stocks in the Hang Seng Index series, the FTSE Index Series and the MSCI Index Series by market capitalisation and turnover; and
- ii) Exchange-traded Funds (**ETFs**) with Hong Kong stocks as underlying.

According to trading statistics as of September 2014, these should cover 80% of the equity market by market capitalisation and turnover.

The CAS model could later be extended to all equity securities and funds in a second phase subject to market feedback after implementation. This would extend CAS coverage to 100% of the equity market by market capitalisation and turnover. CAS would not apply to structured products, equity warrants and debt securities and any other securities the Exchange considers to be inappropriate for a CAS. Securities without a CAS would continue to close at the current market close of 16.00 using the existing closing mechanism.

	Phase 1	Phase 2
Types of Securities Included	<ul style="list-style-type: none"> • Major index constituent stocks (~280 stocks) • Exchange-traded Funds (ETFs) with Hong Kong stocks as underlying (~40 ETFs) 	<ul style="list-style-type: none"> • All equity securities and Funds (~1,500 products)
Types of Securities Excluded	structured products, equity warrants and debt securities and any other securities the Exchange considers inappropriate to include	structured products, equity warrants and debt securities and any other securities the Exchange considers inappropriate to include
Coverage of Equity Market by Market Capitalisation and Turnover	80%	100%

Price Limit During the CAS

To avoid large price swings, the new CAS would impose a price limit on at-auction limit order entry during the CAS at $\pm 5\%$ from the reference price during the order input period, and later at the best bid and best ask. Given the inclusion of other price control measures, such as the at-auction limit orders which would be allowed throughout the CAS and the introduction of random closing, the Exchange suggests a less restrictive price limit (compared to the 2% price limit proposed for the previous CAS) to safeguard the market against excessive price swings without restricting liquidity. According to trading statistics from April to June 2014, a 5% price limit can accommodate:

- more than 99% of the price volatility during the last 10 minutes on normal trading days; and
- more than 95% on index rebalancing days.

Price Limit During No-Cancellation and Random Closing Period

To facilitate price discovery through at-auction limit orders while maintaining the maximum possible range of executable prices in the Order Input Period, the Exchange proposes keeping the permissible price range of orders between the prices of the lowest ask and the highest bid during the No-Cancellation and Random Closing Periods. The proposal aims to prevent unexpected price volatility due to aggressive at-auction limit orders input near the end of the CAS.

CAS Timetable

The new CAS proposed consists of 4 periods from 16:00 to 16:12.

Blocking Period (16:00 – 16:01)

After 16:00, a 1-minute Blocking Period will start during which a reference price (the median of the 5 snapshot nominal prices taken from 15:59 at 15-second intervals) would be determined and published for each CAS security. The reference price would be used to determine the price limit of input prices for at-auction limit orders during the subsequent order input period. The reference price and the price limit would be disseminated to the market.

After determination of the reference price, outstanding orders from the CTS would be carried forward as at-auction limit orders to the CAS. Aggressive orders with prices exceeding the $\pm 5\%$ price limit would be cancelled.

Order Input Period (16:01 – 16:08)

A 7-minute Order Input Period would start from 16:01. EPs would be allowed to enter at-auction orders and at-auction limit orders into the system within the price limit of $\pm 5\%$ from the reference price. Orders entered during this period may be cancelled or amended.

No-Cancellation Period (16:08 – 16:10)

A 2-minute No-Cancellation Period would start from 16:08 during which EPs could enter both at-auction orders and at-auction limit orders. The input prices of at-auction limit orders would have to be within the lowest ask and highest bid prices in the order book. The new price limit would be at or narrower than the $\pm 5\%$ price limit imposed in the Order Input Period and would be disseminated to the market via market data feed. Orders with prices outside the new price limit would be rejected.

Orders would not be able to be cancelled or amended.

Random Closing Period (16:10 – random point up to 16:12)

A 2-minute Random Closing Period would start from 16:10 and the exact end of the CAS would be determined randomly by the system, with order matching starting immediately afterwards. Securities market trading would close for the day, and the closing prices of all CAS Securities would then be disseminated.

Order input and other associated rules for the No-Cancellation Period would continue to apply.

Market Closing Time

The proposed CAS would extend market close for 12 minutes. During preliminary discussions with market participants, the Exchange received feedback that the length of a CAS should be reduced to allow the market to close at 16:10.

The Exchange noted that Exchange Participants would have less time doing their day end processing including margin calls as a result.

Although the proposed CAS would only be implemented in the securities market, closing time of the derivatives market would be extended for 15 minutes (from 16:15 to 16:30) to allow investors the same time window to rebalance their positions. The start of AHFT is also suggested to be moved from 17:00 to 17:15 in order to maintain the 45-minute time window for market participants to reconcile trading data and take care of other operations.

At-auction Limit Orders

At-auction limit orders were not allowed after the Order Input Period in the previous CAS to prevent the entry of aggressive at-auction limit orders at the end of the CAS, widening the possible executable price range and leading to price swings. However, the limitation may have an undesired effect on liquidity.

The new CAS would allow the input of at-auction limit orders throughout the CAS initially at $\pm 5\%$ from a reference price and later at the best bid and best ask. Those entered after the Order Input Period would not affect the Indicative Equilibrium Price (IEP) range. The design could provide price protection as well as price improvement opportunity.

Short selling Orders with a Tick Rule

Short selling orders with a price not lower than the reference price would be allowed in the CAS. The order priority and features of the short selling orders would be the same as for other at-auction limit ask orders, but these orders would be flagged as “short sales” and further subject to the tick rule on the reference price. The Consultation Paper notes that foreign markets allowing short selling in CTS usually permit short selling in CAS as well. Some market participants have also reflected to the Exchange that short selling orders could help reduce price volatility by offsetting order imbalances at times of surplus on the buy side.

No Order Amendment and Cancellation Towards the End of the CAS

To avoid significant changes to the order book towards the end of CAS, a 2-minute Pre-order Matching Period during which amendments and order cancellations were not allowed was put in place in the previous CAS to encourage early order input. The new CAS model proposed includes a similar feature disallowing last-minute amendments or cancellations after the Order Input Period.

Random Closing

A number of foreign exchanges including the LSE, DB and Australian Securities Exchange (ASX) have adopted a random closing for their CAS and this was also suggested by some respondents to the previous CAS consultation. The Exchange's view is that a random closing time and price limit together can better deter gaming around closing time and encourage the early input of orders. It believes that market concerns as to complexity and market confusion could be addressed by education. It is therefore proposed that auction matching would start randomly within a 2-minute period starting between 16.10 and 16.12 and CAS would end at a time determined randomly by the system.

Allowing Matching for Securities without Final IEP at Reference Price

In the previous CAS, IEP would not be available in the absence of at-auction limit orders on one or both sides of the order book, or if the lowest ask and highest bid prices overlapped. The closing price would then be determined by the median of the 5 snapshot prices of the last minute of the CTS.

To maximise matching opportunity in the CAS, overseas exchanges accepting both at-auction orders and at-auction limit orders implement mechanisms preventing overlapping of highest bid and lowest ask prices. The Exchange therefore proposes enhancement of the matching algorithm such that securities without a final IEP, at-auction orders and at-auction limit orders at or better than the reference price would be matched at the closing price, which would be the reference price.

Auction Transparency

In the new CAS model, market data including the existing market data available for POS (including IEP, Indicative Equilibrium Volume or IEV and 10 price queues) and additional market data, including the reference price, the upper price limit, the lower price limit, the trading state, the imbalance information at the IEP (direction and imbalance volume) and a flag identifying CAS securities, would be provided to facilitate price discovery and trading. The 16.00 price (i.e. the median of the 5 snapshot nominal prices at the end of the CTS) would also be published for all CAS and non-CAS securities.

Other Concerns

The Consultation Paper also addresses the following potential concerns:

Current Closing Calculation

The current closing calculation does not take into consideration trade volume or market supply and demand. EPs therefore tend to input MOC orders at the very end of the CTS. This practice often leads to price volatility towards the end of the CTS, especially on index rebalancing days. Moreover, the current way of setting the close has caused index tracking errors of more than a billion a year. The proposed CAS is expected to facilitate execution of MOC orders at the closing price and address the issue of price volatility near the market close.

Institutional Investors and EPs rather than Smaller EPs and Retail Investors Would Benefit From CAS

Although institutional investors are more likely to trade towards the close of the market as they need to execute MOC orders, retail investors should also benefit as their orders would be more likely to be executed with increased institutional participation. Retail investors' unexecuted orders in the CTS would be carried forward to CAS as at-auction limit orders and may then

be executed at a better price automatically. In addition, retail investors who are end investors of index tracking fund would benefit from savings due to lower tracking errors.

Market Manipulation

New features like the 5% price limit, allowing at-auction limit orders throughout the CAS, the introduction of random closing and better market transparency should all assist in addressing potential market manipulation. The Exchange has also said that it would assist the SFC in terms of monitoring trading activity, conducting reviews and enforcement action.

Perception of Retail Investors' Disadvantage in CAS

According to the Exchange, retail investors tended to input limit order types with a specified price in the previous CAS. These orders were all executed at a price at or better than the limit prices entered allowing retail investors to enjoy price improvement under the CAS. Allowing the input of at-auction limit orders throughout the CAS under the new model will also benefit retail investors who prefer price protection.

Price Volatility in the New Model

As observed in the previous CAS and from international experience, a CAS can reduce market volatility as a whole. For individual securities, new features of the proposed CAS can reduce price volatility when there are large order imbalances and address the price volatility issues experienced under the previous CAS.

Volatility at the End of CTS

Judging from statistics from the previous CAS, the Exchange believes that retail and institutional investors would continue to trade actively at the end of the CTS after implementation of the CAS since unfilled orders input before the CAS would enjoy a higher order priority, and liquidity would not be thin during this period.

Potential Gaming of the Reference Price

Determination of the reference price in the new CAS model adopts the current closing price calculation mechanism, i.e. using the median of the 5 snapshot prices as the reference price. Since the price determination has some degree of randomness, and the liquidity around the end of the CTS is

generally high, gaming should be difficult. The Exchange would also closely monitor trading activities with the SFC to detect any potential gaming activities.

Price Limit too Wide or too Narrow

The uniform price limit of 5% proposed is considered appropriate. The Exchange explains that a narrow price limit may obstruct price discovery and trade execution, while a wide limit may tolerate large price swings. By back test analysis, a 5% price limit would be able to cover over 99% of the price volatility during the last 10 minutes of trading on normal days and more than 95% on the index rebalancing days. The 5% limit is not too wide either, as even today, some stocks may move more than 5% towards the end of the trading session.

Model Complexity and Market Confusion

The Exchange acknowledges the need for education about the new system and proposes to hold seminars for brokers and investors before and after the re-introduction. Extra market data and reports would also be provided to facilitate the smooth introduction of the system.

Incorporation of New Features in Existing POS and the Proposed Mid-Session Auction of Trading Halts initiative

The Exchange notes that some features proposed in the new CAS model may also be beneficial for the existing POS and the proposed mid-session auction of Trading Halts initiative. Potential enhancements to the POS and the planned Trading Halts will not be considered for the time being for the sake of simplicity. Appropriate new features would only be implemented at a later stage upon review.

Price Misalignment of Certain Structured Products and their Underlying

Since MOC execution is not needed for structured products, they are not included in the CAS although their underlyings are included. The Exchange points out that a number of foreign exchanges adopt a similar classification and suggests that market education and better market transparency could help facilitate investor understanding of the new system. The Exchange however warns investors of potential overnight risk if they fail to unwind their positions before the end of the CTS, the potential of Mandatory Call Events for CBBC and fluctuation of the price of underlying stocks in the CAS.

Significant System Changes and Market Investment

The Exchange expects that most changes would be made by the Exchange itself and that comparatively minor changes would be required at the EP system level. In any event, many EPs and their system vendors participated in the previous CAS and should be able to adapt to the new CAS fairly easily. Furthermore, the new CAS is proposed to be implemented together with other major enhancements such as the proposed VCM model and possibly Trading Halts in order to minimise market participants' development and testing efforts, which would bring synergistic developmental and testing savings for EPs. In any case, adequate preparation time would be given to the market for system implementation.

Implementation

The Exchange has said that it would allow adequate implementation lead time of around 1 year for the new VCM and CAS. The Exchange would also provide educational programmes to market participants to facilitate understanding. As for monitoring and enforcement, the Exchange would cooperate with the SFC to make any necessary changes.

Responding to the Consultation Paper

The Consultation Paper can be downloaded from the Exchange's website. Interested parties should submit their comments on the proposals in writing by completing and returning the questionnaire (<http://www.hkex.com.hk/eng/newsconsul/mktconsul/Documents/cp201501q.doc>) on or before 10th April 2015.

Responses should be delivered to the Exchange by:

Mail or hand delivery to:

Corporate Communications Department
Hong Kong Exchanges and Clearing Limited
12th Floor, One International Finance Centre
1 Harbour View Street
Central
Hong Kong

Fax to: (852) 2524-0149

E-mail to: response@hkex.com.hk

The Consultation Questions

VCM Questions

Q1: Do you support the introduction of an instrument-level VCM based on price limit model in Hong Kong? Please give reasons for your view.

Q2: Do you agree that the proposed VCM model should only be applied to the HSI and HSCEI constituent stocks in the securities market? Please give reasons for your view.

Q3: Do you agree that the proposed VCM model should only be applied to the HSI, HHI, MHI and MCH (spot month and the next calendar month) index futures in the derivatives market? Please give reasons for your view.

Q4: Do you agree that the market should have a 15-minute uninterrupted trading period before the end of the last continuous trading? Please give reasons for your view.

Q5: Do you agree with the proposed reference price for the securities market, namely the price of last trade 5 minutes ago? If not, what would you prefer? Please give reasons for your view.

Q6: Do you agree with our proposed reference price for the derivatives market, namely the price of last trade 5 minutes ago? If not, what would you prefer? Please give reasons for your view.

Q7: Do you agree with the proposed triggering level for the securities market, namely 10% from the reference price across the proposed instruments covered by the VCM? If not, what level would you prefer? Please give reasons for your view.

Q8: Do you agree with the proposed triggering level for the derivatives market, namely 5% from the reference price across the proposed instruments covered by the VCM? If not, what level would you prefer? Please give reasons for your view.

Q9: Do you agree that a maximum of two VCM triggers per trading session per instrument should be imposed to minimise market interruption? Please give reasons for your view.

Q10: Do you support trading within a price limit during the cooling-off period? If not, do you prefer another approach? Please give reasons for your view.

Q11: After the cooling-off period, do you support resuming the same dynamic price limit monitoring mechanism (i.e. $\pm 10\%$ ($\pm 5\%$) from the last trade 5 minutes ago in the securities (derivatives) market)? If not, do you prefer another approach? Please give reasons for your view.

Q12: Do you have any other suggestions on enhancing the resumption procedures?

Q13: Do you agree that the duration of the cooling-off period should be 5 minutes for both the securities and derivatives markets? If not, what would you prefer and why? Please give reasons for your view.

Q14: Do you agree with the additional market data dissemination for the proposed VCM model? If not, what would you propose and why? Please give reasons for your view.

Q15: If a VCM is triggered for a given instrument, should trading of related instrument (e.g. futures contract of different contract months) on the same underlying continue as normal? Please give reasons for your view.

Q16: If a VCM is triggered for a given instrument, should trading of derivatives (e.g. single stock options or warrants) of that instrument continue as normal? Please give reasons for your view.

Q17: Do you have any other comments on the VCM proposal?

CAS Questions

Q18: Do you support the introduction of the new CAS model in the Hong Kong securities market? Please give reasons for your view.

Q19: Do you agree that the new CAS model should only be applied to the major index constituent stocks (i.e. Hang Seng Composite LargeCap Index and Hang Seng Composite MidCap Index constituents as well as other Stock Connect Securities for Southbound trading)? Please give reasons for your view.

Q20: Do you agree that the new CAS model should be applied to ETF? If yes, which type of ETF should be applied? Please give reasons for your view.

- i) Apply to all ETFs
- ii) Only apply to ETFs with Hong Kong stocks as underlying

Please give reasons for your view.

Q21: Do you agree that at a later stage the new CAS model should be expanded to other equity securities and funds as proposed? If so, when should the CAS be rolled out to these securities and funds? Please give reasons for your view.

Q22: Do you agree that the new CAS model should exclude structured products, equity warrants and debt securities? Please give reasons for your view.

Q23: Do you support introducing a price limit during the CAS? Please give reasons for your view.

Q24: Do you support a price limit of 5% during the Order Input Period for all CAS Securities? Please give reasons for your view.

Q25: Do you agree that a further price limit within the best bid and best ask should be applied during the No-Cancellation Period and Random Closing Period? Please give reasons for your view.

Q26: Do you agree that at-auction limit orders should be allowed throughout the CAS? Please give reasons for your view.

Q27: Do you think short selling orders with a tick rule should be allowed during the CAS? Please give reasons for your view.

Q28: If short selling order is to be allowed, should it be at or higher than the reference price? Please give reasons for your view.

Q29: Do you agree that order amendment and cancellation should be disallowed during the No-Cancellation Period and Random Closing Period? Please give reasons for your view.

Q30: Do you agree that random closing be adopted in the CAS to prevent gaming? Please give reasons for your view.

Q31: If random closing is to be adopted, should it be over a period of up to 2 minutes or would you prefer a different duration? Please give reasons for your view.

Q32: In the absence of a final IEP, do you agree that the reference price should be used as the closing price and for trade matching? Please give reasons for your view

Q33: What would be the preferred duration of the CAS?

- i) Same as the proposed model, i.e. 7-minute Order Input Period to end the CAS at 16:12; or
- ii) 5-minute Order Input Period to end the CAS at 16:10; or
- iii) Others, please specify

Please give reasons for your view.

Q34: Do you agree that some features of the new CAS model may also be beneficial for the POS and/or the Trading Halts? If so, which feature(s)? Please give reasons for your view.

Q35: Do you agree that any enhancements for POS and/or the Trading Halts should be implemented later rather than during the introduction of the new CAS? Please give reasons for your view.

Q36: Do you foresee any issues with your day end processing such as margin calls in the cash market due to the extended trading time for 12 minutes? If yes, how may the issue be resolved? Please give reasons for your view.

Q37: To maintain the 45 minutes break before the start of AHFT, do you agree that the start time of AHFT to be changed from 17:00 to 17:15? If not, what time do you prefer? Please give reasons for your view.

Q38: Which implementation approach for the securities market would you prefer:

- i) the development and testing of the VCM, CAS and Trading Halts functionalities are to be implemented together on the AMS/3.8 platform and be rolled out one by one; or
- ii) (1) the development, testing and rollout of VCM and CAS are to be implemented together on the AMS/3.8 platform, and (2) Trading Halts proposal is to be introduced as part of the Exchange's next-generation trading system, the Orion Trading Platform-Cash; or
- iii) Others, please specify.

Please give reasons for your view.

Q39: What should be the implementation priority among the three initiatives (i.e. VCM, CAS and Trading Halts) in the securities market? Please give reasons for your view.

Q40: How long do you need to prepare for the rollout starting from the issuance of the specification for each initiative:

i) VCM:

- a) under 3 months; b). 4-6 months; c). 7-12 months; d). >12 months

Please give reasons for your reply.

i) CAS:

- a) under 3 months; b). 4-6 months; c). 7-12 months; d). >12 months

Please give reasons for your reply.

Information Attached to the Consultation Paper

Appendix I: Overseas market practices on VCM

Appendix II: Detailed features of the proposed VCM

Appendix III: Two common types of trading mechanisms in the securities markets

Appendix IV: Existing closing methodology (Median price method)

Appendix V: Previous CAS model

Appendix VI: Features of closing auction models of selected overseas exchanges

Appendix VII: Trading timetable of HKEx's securities and derivatives markets after introduction of the new CAS model

CHARLTONS

Best Boutique Firm 2014

Asian Legal Business Awards

This newsletter is for information purposes only.

Its contents do not constitute legal advice and it should not be regarded as a substitute for detailed advice in individual cases.

Transmission of this information is not intended to create and receipt does not constitute a lawyer-client relationship between Charltons and the user or browser.

Charltons is not responsible for any third party content which can be accessed through the website.

If you do not wish to receive this newsletter please let us know by emailing us at unsubscribe@charltonslaw.com

Hong Kong Office

Dominion Centre

12th Floor

43-59 Queen's Road East

Hong Kong

Tel: + (852) 2905 7888

Fax: + (852) 2854 9596

www.charltonslaw.com