

**HKEx Discussion Paper for
the Legislative Council Panel on Financial Affairs
Relating to After-Hours Futures Trading**

Purpose

1. This paper aims to address concerns raised by Panel Members and the industry on the proposed arrangements of Hong Kong Exchanges and Clearing Limited (“HKEx”) to introduce after-hours futures trading (AHFT). Its final proposal is at the Appendix.

Background

2. In May 2011, HKEx published a public consultation paper to seek market comments on the proposal to introduce AHFT. The consultation conclusions were published in December 2011 which also announced HKEx’s plan to implement AHFT. In summary, among 455 responses to the consultation paper received, 353 responses (or about 78%) supported the proposal. A total of 287 submissions were received from employees of brokerage firms, of which, 243 responses (or about 85%) supported the proposal. Among the 103 submissions from corporate respondents, 89 responses (or about 86%) supported the proposal. The latter included 67 Futures Exchange Participants and two-third of them were small/medium-size securities and futures trading firms.
3. In June 2012, Hon WONG Kwok-hing made submission to the Panel expressing concerns to the proposal because of the potential risk exposures of brokers and its impact to the stability of the financial markets. In response to Hon. WONG’s concerns, a FA Panel meeting was held in July 2012 to brief Panel Members on the AHFT proposal and an information paper was provided to the Panel in December 2012 setting out the finalized proposed arrangements for the introduction of AHFT by HKEx and addressed Hon. WONG’s queries.
4. At the FA Panel meeting on 7 January 2013, Hon. WONG Kwok-hing raised that the industry remained concerned about the potential risks to investors, particularly arising from the proposed price limit and unavailability of normal banking services during

AHFT session and suggested to invite industry practitioners to attend the FA Panel meeting to discuss the proposal.

5. This discussion paper provides an update to the FA Panel on the strategic value, risk management measures to be adopted and responses to market concerns to facilitate the discussion.

Strategic Value with AHFT

6. HKEx believes that AHFT is important for the development of the futures industry in Hong Kong and to support Hong Kong as the premier international financial centre. The strategic reasons of introducing an AHFT platform covering European and US time zones are as follows:
 - a. Bring new business to the futures industry by facilitating investors to manage the risk exposures of their equity futures positions during the night time in the globalized market environment.
 - b. Strengthen Hong Kong as the major offshore RMB trading centre by offering RMB fixed income and currency products to global investors, which will promote internationalization of RMB.
 - c. Allow Hong Kong to offer products on global asset classes such as commodities which require long trading hours.
7. The capability to operate AHFT is essential for HKEx to compete with other overseas derivatives exchanges that are already offering night trading and to fend off competition in similar products:
 - a. CME is currently offering 23 hours trading on non-deliverable RMB currency futures and is planning to introduce a new deliverable offshore RMB currency futures products in Q1, 2013 similar to the RMB currency futures products recently introduced by HKEx.
 - b. HKEx plans to introduce futures and options products based on the newly compiled Mainland related index series by China Exchanges Services Company Limited, a new joint venture of HKEx, Shanghai Stock Exchange and Shenzhen Stock

Exchange. The AHFT allows HKEx to compete with other Asian exchanges like SGX that is offering A-shares index futures during Asian morning and night time hours (up to 2 am). Without AHFT, HKEx might become inferior in terms of exchange services.

HKEx's Current Major Risk Management Measures

8. HKEx assigns capital-based position limit (CBPL) to each Clearing Participant (CP) based on its liquid capital and monitors the CBPL utilization of all CPs on a daily basis. It is a measure to ensure that the risk exposures of the CPs are commensurate with their financial strengths.
9. Moreover, HKEx collects mark-to-market loss and margin on all futures and options positions on a daily basis to manage the risk of CPs, supplemented by ad-hoc intra-day margin call which will be conducted based on real-time market prices and CPs' positions during periods of high market volatility. The prevailing minimum margin requirement for clients in trading Hang Seng Index futures and H-shares Index futures is set at 6% of the futures contract value. The margin requirements are adjusted from time to time and increased with market volatility.

HKEx's Proposed Arrangements of AHFT

10. After HKEx has considered the comments from market participants in the consultation, assessed technical and operational feasibilities on the brokers side and discussed with Securities and Futures Commission (SFC) executives, HKEx has finalized the proposal for AHFT as follows -
 - a. Introduction of an AHFT session (T + 1 Session) from 5:00 p.m. to 11:00 p.m. for Hang Seng Index (HSI) futures, H-shares Index (HHI) futures and gold futures at initial stage and followed by Mini HSI futures, Mini HHI futures and RMB currency futures and BRICS futures subject to market readiness.
 - b. All trades transacted in the T+1 Session would be registered as T+1 Trades and be cleared and settled on the following trading day.

- c. In addition to the current CBPL arrangement, HKEx would manage the real-time risk of CPs during AHFT through CBPL monitoring at regular intervals during the T+1 Session, supplemented by ad-hoc monitoring, if required. CPs breaching their CBPL during the AHFT may be requested to reduce their exposures to re-establish compliance with their CBPL or disconnected from the HKEx trading system.
 - d. A new mandatory variation adjustment and margin call would be introduced in the next regular trading session to collect by 12:00 noon both mark-to-market loss and margin of all positions including that created by trades in the T+1 Session.
 - e. A 5% price limit would be imposed during AHFT.
11. The details of the proposed arrangements are set forth in Appendix.

Responses to Market Concerns

12. There are some market comments that market liquidity during AHFT may be low and this would subject the market to risk of manipulation. HKEx's view is that although the trading volume in AHFT might not be the same as that in regular trading sessions, based on the responses to the consultation and our assessment, there are demands from investors to manage their positions during night time in response to the news and events in Europe and the US. HKEx believes that many investors will participate in AHFT by referencing to the movements of European and the US stock market indices and they will monitor the market prices during AHFT for trading or hedging opportunities using their trading technology. This trading participation should help in guarding against market manipulation. In addition, HKEx will conduct its market surveillance during AHFT. We do not notice any manipulative activities occurred in overseas futures markets, such as Japan, Australia and Singapore, during their AHFT sessions.
13. Some market participants may be concerned about the possible excessive price movement during AHFT. HKEx proposes to make reference to the practice of other major markets to impose a +/-5% price limit. Price limit can prohibit any transactions beyond the range and deter any excessive price movements and can provide certain assurance to brokers that the client margin would not be

exhausted by any excessive price movement in the after-hours futures trading session.

14. Some market participants were concerned about potential undue volatility in the AHFT session and suggested to reduce the proposed price limit from +/-5% to +/-2.5%. By international standard, +/-5% price limit for AHFT has been the tightest trading range allowed (CME also applies +/-5% price limit for S&P 500 index futures trading in the non-regular hours trading session). If the price limit was set too low, the anticipated number of times when the market is limited would be frequent. This would not be desirable for an orderly traded futures market and would severely curtail the benefit of enabling market participants to hedge exposures during after-hours in the traded futures market. Below is a summary of the historical differences between the daily opening prices and previous closing prices of spot months of HSI futures and HHI futures between 2005 and 2011:

Average No. of Times in a Year	Difference >5%	Difference >2.5%
HSI futures	1	14
HHI futures	4	24

Having noted the concerns, HKEx has considered the comments and discussed with market participants, HKEx believes that the proposed price limit of +/-5% is adequate to serve its purpose and has no plan to change the price limit +/-5%. HKEx will monitor the effectiveness of the price limit continuously. HKEx may consult SFC, if and when HKEx sees any need to adjust the price limit.

15. There are some market comments that AHFT would increase the market volatility in the opening of next day's trading. Nowadays, Hong Kong market will be affected by overseas market during night time even though it is closed. The price impact will be seen when Hong Kong market opens on the next day. With the introduction of AHFT, some of the futures trading and hedging needs in response to the overnight news and events could be satisfied. As such, overnight buying and selling pressures in the futures market would not be concentrated in the futures market opening period in the next morning and the volatility and magnitude of the futures market price movement at the opening can be reduced. AHFT will enable

investors to manage market risks sooner and incrementally and help reduce futures market's opening price volatility.

16. Some market participants may be concerned about the management of clients' trading risk during AHFT session when normal banking services are not available. Currently, there are already brokerage firms running night desks to serve their clients for overseas futures trading. Those brokers have experiences and measures in handling the trades and risk management of their clients outside the Hong Kong banking hours. Those measures include: setting a higher client margin level for their clients; applying trading limits to clients according to their financial strength; requiring their clients to deposit additional margin funds, if considered necessary, to safeguard their positions via banking facilities during night time such as internet banking, ATM and PPS. Brokers have procedures to notify their clients promptly if the alert level of the preset trading/position limit is reached during T+1 Session. In the event that additional margin is not received, brokers have discretion to close out the client's position. Moreover, as the prevailing minimum margin requirement for clients is set at 6% of the futures contract value, the client margin would not be fully eroded during AHFT Session with the proposed price limit set at up/down 5%.

17. Some brokers might be concerned about the additional operational costs involved in AHFT that are not commercially justifiable for them to participate. From international experiences such as SGX and OSE, SGX has introduced AHFT on Nikkei 225 futures since 1996 and the volume of night session as a percentage of day session reached 40% in October 2012. OSE has introduced AHFT on Nikkei 225 futures since 2007 and the trading volume of AHFT has increased almost 5 times between 2007 and 2012 and the night time trading volume accounted for 37% of the day time trading volume for the 12 months up to September 2012. We expect the business growth due to AHFT will benefit the futures industry as a whole. However, whether a brokerage firm would be benefit from AHFT would depend on how well it can capture such new business opportunity. We note that there are brokers offering to execute and clear after hours trades on behalf of brokers who decide not to remain open for business during AHFT. Such trade execution services for other brokers could be an alternative that may alleviate brokers' operational concerns. It would be a commercial decision for

brokers to make whether they would choose to make use of other brokers' trade execution services.

Implementation Plan

18. HKEx has been closely interacting with brokers and their system vendors throughout their system development and enhancement process for AHFT. Many brokerage firms have been actively preparing their systems to support AHFT business.
19. HKEx's software development and internal testing for AHFT have been completed. 92 Exchange Participants (EPs) (about 61% of total futures trading volume) and 61 CPs (about 54% of clearing volume) confirmed positive results for the simulation test on 1 Dec 2012. There will be a final simulation test on 19 January 2013 open for the rest of the EPs/CPs to test their readiness for AHFT.
20. Subject to the SFC approval, HKEx plans to implement AHFT in March or April 2013.

Hong Kong Exchanges and Clearing Limited
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Final Proposal on After-hours Futures Trading

After-hours futures trading with regard to products, trading, clearing and risk management will be implemented as follows:

a) **Products**

At the initial stage, HSI futures, HHI futures and gold futures would be introduced for after-hours trading. Subject to the development of trading liquidity in the main stock index futures contracts, mini-HSI futures and mini-HHI futures will be introduced at the next stage. Trading arrangements of the stock market will not be affected. As and when market conditions warrant, HKEx might also consider introducing other existing or new derivatives products for after-hours trading in the future.

b) **Trading**

i. Proposed Trading Hours

A new trading session (T+1 Session) will be introduced in the futures market. The opening time of the T+1 Session will be 45 minutes after the close of the regular trading session (T Session), i.e. 5:00 p.m. for stock index futures and gold futures. Trades executed during the T+1 Session (T+1 Trades) will be registered as the following day's trades.

The T+1 Session will end at 11:00 p.m.

ii. Holiday Arrangements

If it is a Hong Kong public holiday or there is half-day trading in the HKEx securities market or it is a bank holiday in both the UK and United States, there would be no T+1 Session on that day.

iii. Typhoon or Black Rainstorm Arrangements

If a Typhoon Signal No. 8 or above or a Black Rainstorm Warning is hoisted and is not lowered before 12:00 noon, there would be no T+1 Session on that day.

iv. Order Types

All rest of day orders, until expiry orders and specified date orders, by default, will be effective only in T Session and outstanding orders will be carried forward to the next T Session and so on whilst outstanding.

For Exchange Participants (EPs) and their clients participating in after-hours trading need to select the order attribute “T+1” when entering their rest of day orders, until expiry orders and specified date orders for those orders that should be effective for both T Session and the T+1 Session. These orders with “T+1” attribute will be carried forward from T+1 Session and back into T Session and so on whilst outstanding.

Fill-or-kill orders and fill-and-kill orders which are to be executed (or not) immediately, the order attribute “T+1” will not be applicable and will be ignored.

v. Price Limit Up/Down Mechanism

The proposed percentage for the price limit up/down is 5%. HKEx will review and may adjust the proposed percentage for the price limit according to how often the limit is triggered and other experience with the limit in practice.

No sell order of price below 95% and no buy order of price above 105% of the last traded price of the spot month contract in the T Session will be allowed. Trading (for all contract months) will be allowed only within the price limit range during the T+1 Session.

Notes: Trading in the T Session will not be subject to this price limit up/down mechanism.

vi. Handling of Error Trades

Existing error trade rules will apply in the T+1 Session.

vii. Block Trade Facility Not Applicable

At the initial stage, the Block Trade Facility will not be available in the T+1 Session. HKEx will consider introducing the Block Trade Facility when options products are available for trading in the T+1 Session.

c) Clearing

i. Clearing of Trades Executed in T+1 Session

T+1 Trades will be registered as the following day's trades. Together with trades executed in the following day's T Session, these trades will undergo the standard clearing process during the standard clearing session (T Clearing Session). With after-hours futures trading, the T Clearing Session will start 1 hour earlier than the T Session for respective futures products. T Clearing Session ends at 6:45 p.m. i.e. existing System Input Cutoff Time.

In addition, a new clearing session (T+1 Clearing Session) will be introduced. The T+1 Clearing Session will start at the same time as the T+1 Session and end 45 minutes after the close of the T+1 Session (i.e. 11:45 p.m.).

A comparison of time windows for existing and proposed clearing sessions is as follows:

Product	Time Window	T Clearing Session	T+1 Clearing Session
HSI/HHI Futures	Existing Time Window	8:45 a.m. – 6:45 p.m.	N/A
	Proposed Time Window	7:30 a.m. – 6:45 p.m.	5:00 p.m. – 11:45 p.m.
Gold Futures	Existing Time Window	8:30 a.m. – 6:45 p.m.	N/A
	Proposed Time Window	7:30 a.m. – 6:45 p.m.	5:00 p.m. – 11:45 p.m.

This dual clearing session arrangement enables trading during T+1 Session (whereby executed trades are registered as T+1 Trades) and day-end processing of T trades to take place concurrently. Clearing Participants (CPs) can still process post-trade activities

on T trades as normal during the T Clearing Session while trading can take place under T+1 Session.

ii. Position Recording

Positions will be maintained according to clearing dates and separate records are held at all times for T day and T+1 day positions. T day positions will be finalized after the end of T Clearing Session at 6:45 p.m. and subject to day-end margin calculation. T+1 day positions will be finalized after the end of T+1 Clearing Session at 11:45 p.m. These T+1 day positions will become T day opening positions on the following day, i.e. the following day's positions are made up of positions created during the T Session on that day plus trades / post-trades executed during the T+1 Session of the previous day.

d) **Risk Management**

In the absence of a level of banking support to facilitate intra-day call capability during the T+1 Session similar to that during the T Session, the following additional risk management measures will be implemented to mitigate the counterparty risks associated with after-hours futures trading.

- i. Perform monitoring of CPs' capital-based position limit (CBPL) based on both the current market prices and positions at regular intervals during the T+1 Session, supplemented by ad-hoc CBPL monitoring. CPs breaching their CBPL may be requested to reduce their exposures to re-establish compliance with their CBPL and risk being disconnected from the HKEx trading system and closing out action should they fail to comply with such request or further increase their exposure.
- ii. A mandatory variation adjustment (VA) and margin call to markets (based on the morning Calculated Opening Prices¹) with T+1 Session will be introduced following the market open of each T Session to collect by 12:00 noon both mark-to-market loss and margin of all positions including that created by trades in T+1 Session. The Calculated Opening Price is the

¹ If the Calculated Opening Price is not available, market price shortly after the market open will be used.

equilibrium market price derived from the price discovery period of thirty minutes before the opening of the morning trading session.

- iii. There will be no intra-day VA or margin call during the T+1 Session.

The comparison of the proposed risk management measures for AHFT with that of overseas exchanges is set out below.

	Chicago Mercantile Exchange	NYSE Liffe	Eurex	Singapore Exchange	HKEx (Proposed)
Risk management measure during AHFT Session	Position limit monitoring	Intra-day margin call (up to 9:00pm local time)	Intra-day margin call (up to 10:30pm local time)	Information Unavailable	Regular CBPL Monitoring
Risk management measure after AHFT Session	Mandatory MTM* and margin call	Mandatory MTM* and margin call	Mandatory MTM* and margin call	Mandatory MTM* and margin call	Mandatory VA and margin call
Settlement deadline	1:40pm next day afternoon	9:00am next day morning	10:00am next day morning	7:00am next day morning	12:00noon next day morning

*MTM (Mark-to-market) is equivalent to VA of HKEx.

Source: Respective exchange/clearing house websites.

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