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Frequently asked questions

Hong Kong listed structured products market

Introduction

These FAQs are intended to give you a better understanding of structured products including standard warrants ("**standard warrants**"); inline warrants ("**inline warrants**") and callable bull or bear contracts ("**CBBCs**") listed in Hong Kong. These FAQs include examples and quick facts about some of their key features and risks, as well as some information about how they work in practice.

However, these FAQs are not designed to deal with all the important issues or scenarios that may affect you. They do not provide all the information you need to invest and they do not constitute investment or legal advice. You must read the listing documents for further information about the relevant product and seek independent advice if you have questions. Investing involves responsibility.

Should I invest in structured products?

Structured products are high risk derivative products which are only suitable for experienced investors. You should not invest in these products if:

- you do not have investment experience in investing in leveraged products
- the investment does not suit your investment objectives
- you do not fully understand the risks involved
- you are not willing to accept price volatility and assume the risks of a possible total loss
- you do not have sufficient knowledge of the factors that affect their pricing
- you do not know how to assess the creditworthiness of the issuer or (if applicable) its guarantor

If you are in doubt, you should clarify with the intermediary or seek independent professional advice.

What documents should I read?

You should read the listing documents of the relevant products. The listing documents contain important information, such as trade particulars of the relevant products and information of issuers and liquidity providers that you must read before investing in any structured products. You should also read these FAQs carefully.

Where can I find out more?

The following resources also provide useful information:

(a) The website of the HKEX has special pages for structured products. You can obtain the listing documents for structured products from those designated webpages.

(b) The website of individual issuers. Links to individual issuers' websites can be found on the website of the HKEX.

(c) The website of the Investor and Financial Education Council has various education materials on structured products.

Who should I contact if I have any questions about my structured products?

If you have any questions or concerns about your product, or about an issuer's or a liquidity provider's performance, you can contact the issuer directly or speak to an independent advisor.

The issuer's contact details are set out in the relevant listing documents and can also be found on the HKEX's website.

If necessary, you can also contact The Stock Exchange of Hong Kong Limited ("**Exchange**") by calling +852 2840 3330 or by sending email to info@hkex.com.hk.

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Part I : General features of standard warrants, inline warrants and CBBCs

Standard Warrants

1.1 What are standard warrants?

A standard warrant is an instrument that gives the holder a right – but not the obligation - to "buy" or "sell" an underlying asset at a pre-set price (called the "exercise price") on or before the expiry date. Standard warrants can be issued over a range of assets, including but not limited to stocks, exchange traded funds, stock indices, currencies and commodities or a basket of assets. The list of eligible stocks for warrants over single stock is posted on the HKEX's website. However, investing in a standard warrant does not give you any rights in or to the underlying asset. Currently, all standard warrants are cash settled when exercised on expiry.

There are two types of standard warrants:

(a) A "call" warrant may be invested in by an investor who believes that the price of the underlying asset will increase during the term of the standard warrant.

(b) A "put" warrant may be invested in by an investor who believes that the price of the underlying asset will decrease during the term of the standard warrant.

Typically, standard warrants in Hong Kong are issued with a life span of six months to two years, but are usually traded by investors before expiry. Standard warrants magnify your investment through leverage. This carries significant opportunities as well as significant risks. Standard warrants usually cost a fraction of the price of the underlying asset and may provide a leveraged return, but such leverage could also magnify your losses.

Standard warrants are a special form of option in which an investor can only take a long position in the standard warrants, just like option buyers. This means you can only take a long position in a call or a put warrant by buying such standard warrant and close out such long position previously established by selling such standard warrant – that is, you cannot short sell such standard warrant.

Your maximum loss will therefore be limited to the amount you pay for the standard warrant (plus any transaction costs, such as broker fees associated with your investment).

1.2 How do standard warrants work?

This depends on the type of warrant you buy (call versus put). The following examples deal with either a call or put warrant linked to a local stock.

(a) ***Call warrant -*** At the expiry of a call warrant over a local stock, if the 5-day average closing price of the underlying stock before the expiry date is:

i. *higher* than the warrant's exercise price, the warrant is "in-the-money" and will be exercised automatically at expiry. In that case, you will receive a cash payment calculated by reference to the positive difference between that 5-day average closing price and the exercise price of the call warrant, adjusted by the entitlement ratio; or

ii. *equal to or lower than* its exercise price, the warrant is "at-the-money" or "out-of-the-money", respectively, and will become worthless.

(b) ***Put warrant -*** At the expiry of a put warrant over a local stock, if the 5-day average closing price of the underlying stock before the expiry date is:

i. *lower than* its exercise price, the warrant is "in-the-money" and will be exercised automatically at expiry. In that case, you will receive a cash payment calculated by reference to the positive difference between the exercise price and that 5-day average closing price, adjusted by the entitlement ratio; or

ii. *equal to or higher than* its exercise price, the warrant is "at-the-money" or "out-of-the-money", respectively, and will become worthless.

1.3 How are the rights of a standard warrant holder different from the rights of a shareholder over the underlying stock?

Holder of a standard warrant on an underlying stock does not have the same rights as the shareholder of the underlying stock. Holders of standard warrants do not have voting rights or the right to receive any dividends, bonus or other distributions from the issuer of the underlying stock. The life span of a standard warrant is fixed, which may be automatically exercised on its expiry date or may expire worthless, whereas a shareholder of the underlying stock can hold such stock as a long term investment.

Inline warrants

1.4 What are inline warrants?

An inline warrant is an instrument that entitles its holder to receive a fixed pre-determined amount which depends on whether the level of an underlying asset is at or falls within ("in-the-range") or outside ("out-of-the-range") the upper and lower strike prices or levels at expiry. Inline warrants can be issued over a range of assets, including stocks and stock indices. Like standard warrants, inline warrants can be issued over a range of eligible underlying assets prescribed by the Exchange from time to time. However the list of eligible underlying assets is currently more restrictive for inline warrants than it is for standard warrants. The list of eligible underlying assets for inline warrants is posted on the HKEX's website.

Investing in an inline warrant does not give you any rights in or to the underlying asset and currently, all inline warrants are cash settled when exercised on expiry.

When an inline warrant is in-the-range at expiry, the amount payable per inline warrant is HK$1. When an inline warrant is out-of-the-range at expiry, the amount payable per inline warrant is HK$0.25.

Unlike standard warrants which provide a directional (i.e. upwards or downwards) exposure, investors in inline warrants would expect markets to remain flat or within a range.

In addition, as the payout of an inline warrant is capped at a fixed amount of HK$1 per inline warrant, it is usually traded at a price which is lower than the maximum payout of HK$1. Therefore, any trade on inline warrants conducted above HK$1 will be cancelled automatically by the Exchange.

Investors can only take a long position in an inline warrant by buying such inline warrant and close out such long position previously established by selling such inline warrant, you cannot short sell an inline warrant.

If you hold an inline warrant which expires out-of-the-range, your maximum loss will be limited to the amount you pay for the inline warrant less the pre-determined fixed payoff at expiry (i.e. HK$0.25 per inline warrant) (plus any transaction costs, such as broker fees associated with your investment).

In the case that issuers become insolvent or default on their obligations under the inline warrants or their guarantors become insolvent or default on their obligations under the guarantee, the maximum loss in the inline warrants will be your entire investment amount plus any transaction costs.

1.5 How do inline warrants work?

The payout of an inline warrant at expiry will depend on whether such inline warrant is in-the-range or out-of-the-range at expiry.

An inline warrant will be in-the-range at expiry when the valuation at expiry of the underlying asset is at or falls within the upper and lower strike prices or levels.

An inline warrant will be out-of-the-range at expiry when the valuation at expiry of the underlying asset falls outside the range determined by the upper and lower strike prices or levels.

The potential payoff at expiry for inline warrants are based on two possible scenarios:

(a) ***Scenario one -*** When an inline warrant is in-the-range at expiry, then its holder is entitled to receive a cash settlement amount equal to HK$1 per inline warrant.

(b) ***Scenario two -*** When an inline warrant is out-of-the-range at expiry, then its holder is entitled to receive a cash settlement amount equal to HK$0.25 per inline warrant. This is because this cash settlement amount of HK$0.25 is incorporated in the price (i.e. paid upfront) when purchasing an inline warrant.

Therefore an investor in an inline warrant will expect the valuation at expiry of the underlying asset to fall within or at the upper and lower strike prices or levels at expiry.

The valuation at expiry will be determined as follows:

(a) with respect to an index underlying: the final settlement price of the underlying index on expiry day; or

(b) with respect to a stock underlying: the average of the closing prices of the underlying stock for five trading days immediately preceding expiry day.

1.6 How are the rights of an inline warrant holder different from the rights of a shareholder over the underlying stock?

A holder of an inline warrant on an underlying stock does not have the same rights as the shareholder of the underlying stock. Holders of inline warrants do not have voting rights or the right to receive any dividends, bonus or other distributions from the issuer of the underlying stock. The life span of an inline warrant is fixed, whereas a shareholder of the underlying stock can hold such stock as a long term investment.

In addition, the payout of an inline warrant economically differs from a levered exposure to the underlying stock as an inline warrant can only either pay a fixed amount at expiry: HK$1 per inline warrant when in-the-range or HK$0.25 when out-of-the-range. Holders of inline warrants do not benefit from unlimited upside on the underlying stock.

1.7 What are exotic warrants? What are the differences between an exotic warrant and a standard warrant?

There are various types of warrants in the market. Exotic warrants carry exotic features and their terms may be more complicated than standard warrants. An exotic warrant is usually

identified with an "X" in its English stock short name. For more details, investors should refer to the listing documents and seek independent professional advice.

Inline warrant is one kind of exotic warrants, it is identified with an "L" in its English stock short name.

CBBCs

1.8 What are CBBCs?

A CBBC is an instrument that tracks the performance of an underlying asset. The trading price of a CBBC tends to mirror the movement in the price of its underlying asset. Like standard warrants, CBBCs can be issued over a range of eligible underlying assets prescribed by the Exchange from time to time. However the scope of eligible underlying assets is currently more restrictive for CBBCs than it is for standard warrants. The list of eligible stocks for CBBCs is posted on the HKEX's website.

A CBBC can be issued as a bull contract or a bear contract.

(a) A "bull" CBBC may be invested in by an investor who holds a view that the price of the underlying asset will increase during the term of the CBBC.

(b) A "bear" CBBC may be invested in by an investor who holds a view that the price of the underlying asset will decrease during the term of the CBBC.

Similar to a standard warrant, a CBBC may provide a leveraged return, but also carries the risk of magnifying your losses. Your maximum loss under a CBBC is limited to the investment amount you pay for the CBBC (plus any transaction costs, such as broker fees associated with your investment).

1.9 How do CBBCs work?

A CBBC is generally issued at a price that represents the difference between the spot price or level of the underlying asset and the strike price or level of the CBBC, plus the issuer's funding costs.

CBBCs have a mandatory call feature measured by reference to a call price or level. If the spot price or level of the underlying asset is at or below (in respect of a series of bull CBBCs) or at or above (in respect of a series of bear CBBCs) the call price or level at any time during an observation period (including pre-opening session, continuous trading session and closing auction session), a mandatory call event is triggered, following which the CBBC is terminated early and the trading of that CBBC ceases immediately. Otherwise, the following happens on expiry:

(a) ***Bull CBBCs*** - For a bull CBBC, if the closing price or level of the underlying asset at expiry is:

i. *higher than* the CBBC's strike price or level, you will receive a cash payment calculated by reference to the positive difference between that closing price or level and the strike price or level of the CBBC, adjusted by the entitlement ratio; or

ii. *equal to or lower than* its strike price or level, the CBBC will become worthless.

(b) ***Bear CBBCs*** - For a bear CBBC, if the closing price or level of the underlying asset at expiry is:

i. *lower than* the CBBC's strike price or level, you will receive a cash payment calculated by reference to the positive difference between strike price or level of the CBBC and that closing price or level, adjusted by the entitlement ratio; or

ii. *equal to or higher than* its strike price or level, the CBBC will become worthless.

1.10 What are the differences between standard warrants, inline warrants and CBBCs?

The following table describes the key differences between standard warrants, inline warrants and CBBCs.

Feature	Standard Warrants	Inline Warrants	CBBCs
Response to price movement in underlying asset	The value is expected to increase when the likelihood of the underlying asset being in-the-money (above the strike price or level for a call warrant or below the strike price or level for a put warrant) at expiry increases. Conversely, the value is expected to decrease when the likelihood of the underlying asset being out-of-the-money (below the strike price or level for a call warrant or above the strike price or level for a put warrant) at expiry increases.	The value is expected to increase when the likelihood of the underlying asset being within or at the upper and lower strike prices or levels at expiry increases. Conversely, the value is expected to decrease when the likelihood of the underlying asset being within or at the upper and lower strike prices or levels at expiry decreases.	The value is expected to change by approximately the same amount as the underlying asset, but still depends on various factors.
Implied volatility	Affects trading price	Affects trading price	Insignificant to trading price
Tenor	6 months to 5 years	6 months to 5 years	3 months to 5 years
Strike	One strike	Two strikes	One strike
Time value	Time value decreases over time	Time value decreases when the underlying price or level is out-of-the-range; time value increases when the underlying price or level is in-the-range.	Time value decreases over time (reflected in funding cost)
Payoff at expiry	Variable depending on the settlement price versus the strike price	Fixed pre-determined payout, depending on the settlement price or level vs. the upper and lower strike prices or levels	Variable depending on the settlement price versus the strike price

Feature	Standard Warrants	Inline Warrants	CBBCs
Mandatory call	No mandatory call feature	No mandatory call feature	Has mandatory call feature. A CBBC is terminated prior to expiry day when the price of the underlying asset hits the call price
Underlying assets	More underlying assets are eligible for issuance	Relatively fewer underlying assets are eligible for issuance	Relatively fewer underlying assets are eligible for issuance

1.11 What is the difference between a "Category R" and a "Category N" CBBC?

The difference between these two categories of CBBCs is where the call price or level of the CBBC is set.

(a) A "Category N" CBBC refers to a CBBC where its call price or level is *equal* to its strike price or level, under which you will not receive any cash payment after the occurrence of a mandatory call event and will lose your entire investment.

(b) A "Category R" CBBC refers to a CBBC where its call price or level is different from its strike price or level, and you may receive a residual cash payment (called "**residual value**") upon the occurrence of a mandatory call event. However, in the worst case, you will not receive any residual value and will lose your entire investment.

Part II : Product risks

2.1 What are the risks I need to consider before investing in structured products?

Investing in structured products is not suitable for everyone.

Structured products involve a high degree of risk and you must be comfortable with that risk before investing. The relevant listing documents disclose the key risks applicable to the relevant structured products. You must consider and understand those risks. You must also be able to assume the risks, which includes being financially able to bear the potential losses in a "worst case" scenario.

Generally speaking, the key risks include the following:

(a) **Non-collateralisation** - Structured products are not secured by any asset of the issuer or the guarantor (if any) or supported by any other collateral.

(b) **Credit risk** - Holders of structured products are unsecured creditors of the issuer and the guarantor (if any) and they have no preferential claim to any assets that an issuer or a guarantor (if any) may hold. When you purchase structured products, you are relying upon the creditworthiness of the issuer and/or a guarantor (if any).

(c) **Gearing risk**

i. ***Standard warrants and CBBCs -*** although these products often cost less than the underlying assets, they may change in value to a much greater extent than the underlying assets. Although the potential return on such products may be higher than that on the underlying assets, in the worst case the value of these products may fall to zero and holders may lose their entire investment amount.

ii. ***Inline warrants -*** the level of effective gearing embedded in an inline warrant depends on a variety of factors including but not limited to time-to-expiry and spot price or level of the underlying asset compared to the lower and upper strike prices or levels. An inline warrant will be expected to have a high effective gearing when trading close to its lower strike price or level or its upper strike price or level, and a relatively low effective gearing in other cases. These differences in effective gearing are amplified when inline warrants are close to expiry.

(d) **Limited life** - Unlike stocks, structured products have an expiry date and therefore a limited life.

(e) **Time value**

Standard warrants and CBBCs - so long as other factors remain unchanged, the time value of standard warrants or funding costs of CBBCs will decrease over time and will become zero upon maturity. Therefore, without a strong view of the underlying assets, standard warrants or CBBCs should be viewed as a relatively short term investment product in comparison with an investment in the underlying assets.

Inline warrants, generally -

i. when the underlying asset is within or at the upper and lower strike prices or levels and their likelihood of falling in-the-range at expiry increases over time; thus, in such cases, the value of inline warrants increases over time because investors receive the time value of inline warrants.

ii. when the underlying asset is outside the upper and lower strike prices or levels and their likelihood of falling in-the-range at expiry decreases over time; thus, in such cases, the value of inline warrants decreases over time because investors pay time value of inline warrants.

(f) **Market forces** - In addition to the basic factors that determine the theoretical price of a structured product, prices of structured products are also affected by the demand for and supply of the structured products. This is particularly the case when the existing issuance of a single series of structured products are almost sold out and when there are further issues in that single series of structured products.

(g) **Turnover** - High turnover should not be regarded as an indication that the price of a structured product will go up. The price of a structured product is affected by a number of factors in addition to market forces, such as the price of the underlying assets and their volatility, the time remaining to expiry, interest rates and the expected dividend on the underlying assets.

(h) **Possibly limited secondary market** - The liquidity provider may be the only market participant for a particular structured product. The more limited the secondary market, the more difficult it may be for you to realise the value in the structured product before expiry.

(i) **Operational and technical problems affecting liquidity services** - The liquidity provider may not be able to provide liquidity when there are operational and technical problems hindering its ability to do so. Even if the liquidity provider is able to provide liquidity in such circumstances, its performance on liquidity provision may be adversely affected. For example:

i. the spread between bid and ask prices quoted may be significantly wider than its normal standard;

ii. the size for which liquidity will be provided by the liquidity provider may be significantly smaller than its normal standard; and

iii. the liquidity provider's response time for a quote may be significantly longer than its normal standard.

(j) **Corporate action of the underlying stocks** - Corporate actions affect the value of the underlying stocks which in turn affect the value of the structured products. Adjustments may or may not be made to the terms of the structured products (such as entitlement ratio, exercise price, etc.) depending on the terms and conditions set out in the listing documents. Adjustments will not be made to the entitlement ratio of inline warrants due to its product nature.

Where adjustments are to be made, the adjustments will only become effective (the "Effective Date") when all necessary parameters can be determined.

The prices of the structured products may be volatile from the ex-entitlement date of the underlying stocks until the Effective Date. You should exercise particular caution in trading those structured products during that period. In addition, no adjustment will be made to those structured products that expire within that period.

Please also refer to FAQ 2.6 for additional risks of trading inline warrants and CBBCs. You should read carefully the risk disclosure in the relevant listing documents of the structured products before investing in such products.

2.2 If an issuer or its guarantor (if any) (or their respective holding company, where such credit rating is relied upon by the issuer or the guarantor (if any) for satisfying the eligibility requirements in the Listing Rules) suffers from a credit rating downgrade such that it no longer meets the eligibility requirements in the Listing Rules, what would happen to its outstanding structured products?

The issuer's existing structured products are still valid and you can continue to trade them through the Exchange trading system. The issuer must publish an announcement regarding the credit rating downgrade and continue to provide liquidity for its existing structured products and perform its settlement obligations upon expiry.

However, when an issuer no longer meets the eligibility requirements in the Listing Rules, the issuer will not be allowed to launch new issues or further issues. It must apply for the withdrawal of structured products launched but not yet listed and all structured products with no outstanding positions held by the public.

You should be cautious that prices of structured products issued by the affected issuer may be affected by its or its guarantor's credit downgrade. For the avoidance of doubt, where the issuer or the guarantor relies on the credit rating of their respective holding company for satisfying the eligibility requirements under the Listing Rules, such credit rating is for investors' reference only, and investors shall have no recourse against the relevant holding company under the terms of the structured products.

You can access information about the credit ratings of the issuers, their guarantors (if any) or their respective holding companies (where such credit rating is relied upon for satisfying the eligibility requirements in the Listing Rules) on the HKEX's website.

2.3 Can structured products be traded during closing auction session?

No, structured products are not eligible for trading in closing auction session and their market closing time is 4:00 p.m.

However, some underlying securities are eligible for trading in closing auction session and the closing level of the relevant index will be ascertained after 4:10 p.m. (or 12:10 p.m. in the case of half day trading) ("eligible underlying asset"). As a result, the market closing time for a structured product and its underlying asset can be different. In this case, the price or level of eligible underlying assets may move in closing auction session while investors cannot buy or

sell related structured product. Moreover, the CBBC can be knocked out and mandatory call event will occur if the closing price or level of the eligible underlying asset hits the call price or level at the end of the closing auction session.

2.4 Can structured products be traded during the 5-minute cooling-off period after the triggering of the VCM?

Since the affected underlying security or index is not suspended and continues to trade within a specified price limit during the 5-minute cooling off period after the triggering of the VCM, the structured products can still be traded without any price limit. You can access information about VCM on the HKEX's website.

However, investors should note that where events surrounding VCM cause abnormal trading behavior of the underlying leading to hedging difficulties, the liquidity provision obligations of issuers could be exempted. In this case, there may be a temporary absence of price quotes, a reduction in quote size, or a wider bid-ask spread during the 5-minute cooling-off period. Please refer to FAQs 4.20 and 4.35 for more explanations.

2.5 If an issuer defaults, can I claim back my investment?

If a cash settlement amount is payable by an issuer at expiry but the issuer defaults in its payment obligation, you can claim as an unsecured creditor against the issuer, and if the product is guaranteed, also against the guarantor.

None of the structured products currently listed on the Exchange is collateralised. This means that there is no specific security or asset to back up the obligations of the issuer or guarantor. If the issuer or its guarantor (if any) becomes insolvent or default, you may not recover all or even part of the amount due (if any).

2.6 What is the additional risk for trading inline warrants and CBBCs as opposed to standard warrants?

CBBCs are a type of leveraged investment. They may involve a higher degree of risk and are not suitable for all types of investors. You should consider your risk appetite prior to trading in any CBBC. In any case, you should not trade in a CBBC unless you understand the nature of the product and the related transaction costs involved and are prepared to lose your entire investment amount, since a CBBC will be called by the issuer and expire early due to the occurrence of a mandatory call event when the price or level of the underlying asset hits its call price or level. The payoff for a Category N CBBC is zero when it expires early due to the occurrence of a mandatory call event. When a Category R CBBC expires early due to the occurrence of a mandatory call event, the holder may receive a small residual value payment, but there may be no residual value payment in some situations.

An inline warrant is an instrument that entitles its holder to receive a fixed pre-determined amount which depends on whether the spot price or level of an underlying asset is at or falls within ("in-the-range") or outside ("out-of-the-range") the upper and lower strike prices or levels at expiry. Therefore at expiry, there are only two possible scenarios: if the inline warrant expires in-the-range, investor will receive HK$1 per inline warrant held; if the inline warrant expires out-of-the-range, investor will receive HK$0.25 per inline warrant held. Due to the nature of inline warrants, investors should be aware that inline warrant prices will react differently to movements in underlying price or level, time to maturity, implied volatility as compared to standard warrants. Furthermore, movement of inline warrant prices may move in the same direction or the inverse of the underlying price or level movement during the life of the product, depending on where the underlying price or level is compared to the upper and lower strike prices or levels.

2.7 What are the additional risks in trading structured products with overseas underlying assets that investors should be aware of?

(a) Exchange rate risk

Structured products linked to overseas underlying assets that are denominated, traded and settled in Chinese Renminbi (RMB), Hong Kong dollars (HKD) or US dollars (USD) are eligible for issuance.

Investors trading HKD-denominated structured products with overseas underlying assets may be exposed to an exchange rate risk during the term of the structured products when the price and cash settlement amount of such structured products are converted from a foreign currency in which the overseas underlying asset is priced into HKD. Additionally, investors trading in foreign currency denominated (e.g. USD-denominated) structured products with overseas underlying assets corresponding to structured products trading currency may still be exposed to an exchange rate risk if their primary funding income is in a different currency.

(b) Different trading hours between the underlying exchange on which the overseas underlying assets are traded and the Exchange

If trading in the overseas underlying assets is suspended on the underlying exchange, trading in the structured products will be suspended for a similar period.

The trading hours of the underlying exchange (based on Hong Kong time) are likely to be different from the trading hours of the Exchange. Trading in the overseas underlying assets on the underlying exchange may be suspended during non-trading hours of the Exchange. Such suspension may be lifted, and trading may resume, during non-trading hours of the Exchange.

If trading in the overseas underlying assets on the underlying exchange is suspended, trading in the structured products on the Exchange will not be automatically suspended – in such case, the market price of the structured products may fluctuate significantly until trading in the structured products on the Exchange is suspended. If trading in the overseas underlying assets on the underlying exchange resumes following a suspension, trading in the structured products on the Exchange will not be resumed automatically and you will not be able to trade the structured product until trading in the structured products on the Exchange is resumed.

In addition, the trading price of the overseas underlying assets is calculated and published during the trading hours of the underlying exchange. You should be aware of the time zone difference between Hong Kong and the location in which the underlying exchange is situated in assessing the trading price of the overseas underlying assets. The trading prices of the overseas underlying assets may be volatile in response to the movements on the underlying exchange during which the Exchange is not opened for trading of the structured products.

(c) Less public information about the overseas underlying assets and such information may not be available in English or Chinese

There may be less publicly available information about the overseas underlying assets than those about Hong Kong underlying assets and some of that information may not be available in English or Chinese. If you do not understand any such information, you should obtain independent advice.

(d) Foreign tax implications

Investors trading in structured products with overseas underlying assets may be exposed to various foreign tax implications that could adversely affect their overall investment returns. The foreign tax rules may be intricate, and their applicability can vary based on individual circumstances. You should refer to the listing documents to understand the

details of foreign tax implications (if any) and/or consult your tax advisor before investing in such products.

(e) Political and economic risk

The trading prices of the overseas underlying assets may be subject to political, economic, financial and social factors that apply in those geographical regions, which may differ favourably or unfavourably from those factors that apply to Hong Kong. Moreover, foreign economies may also differ favourably or unfavourably from the Hong Kong economy in important respects such as growth of gross national product, rate of inflation, capital reinvestment, resources and self-sufficiency.

(f) Occurrence of mandatory call event for CBBCs outside trading hours

CBBCs linked to overseas underlying assets may be called outside the Exchange's trading hours. In such cases, the CBBCs will be suspended from trading on the Exchange in the next trading session or soon after the issuer has notified the Exchange about the occurrence of the mandatory call event. There will be no automatic suspension of the CBBCs by the trading systems of the HKEX's securities market upon the occurrence of a mandatory call event. For Category R CBBCs, valuation of the residual value will be determined on the valuation day according to the terms and conditions as set out in the listing documents.

(g) Potential differences between structured products denominated in foreign currency and in HKD

i. Differences in spread

Foreign currency-denominated structured products may expose investors to a wider bid-ask spread (in terms of monetary value based on the relevant exchange rate), resulting in higher transaction costs.

Below is an example illustrating the differences in one tick of bid-ask spread between HKD-denominated and USD-denominated structured products.

Trading currency	Price range (in trading currency unit)	1 tick of bid-ask spread
HKD	From HK$0.01 to HK$0.25	HK$0.001
USD	From US$0.01 to US$0.25	US$0.001 *(equivalent to approximately HK$ 0.0078)*

ii. Differences in minimum trading price and liquidity

Structured products are not tradable on the Exchange if the trading price is below 0.01 unit of trading currency. The minimum trading price of structured products denominated in foreign currency (in terms of monetary value based on the relevant exchange rate) may therefore be different from that of structured products denominated in HKD.

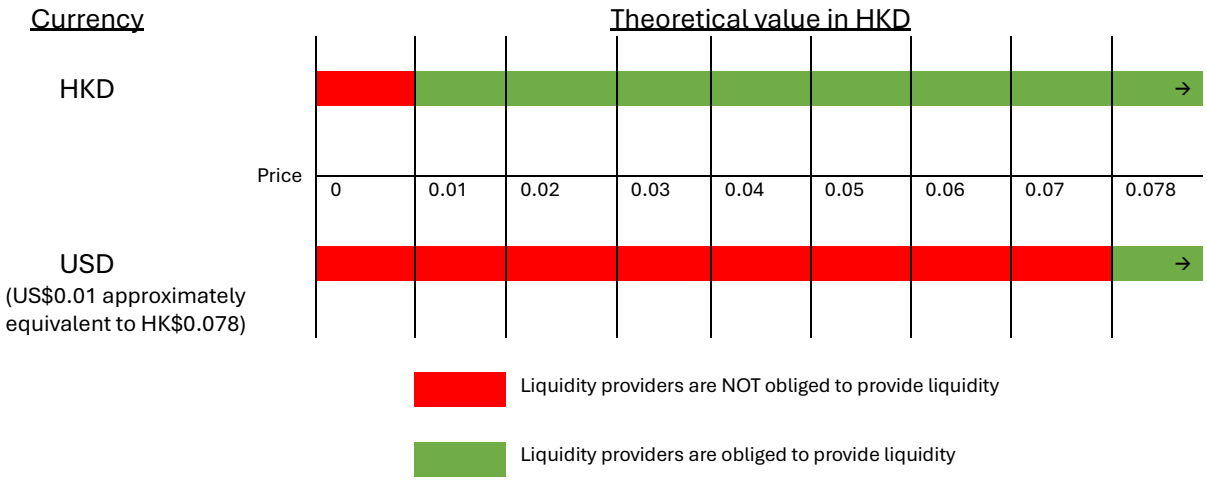
Below is an illustrative example:

Trading currency	No trading if the trading price is <u>less than</u>:
HKD	HK$0.01

USD	US$0.01 *(equivalent to approximately HK$ 0.078)*

In addition to the minimum trading price, liquidity providers are also not obliged to provide liquidity if the theoretical value of the structured product is less than 0.01 unit of trading currency (see FAQ 4.16(e)). Consequently, liquidity in foreign currency denominated structured products may be more limited than that of HKD-denominated structured products.

Below is an illustrative example:



2.8 I hold a warrant and note that the credit rating of the issuer's holding company is disclosed in the listing document. What does this mean for my investment? If the issuer defaults, do I have any claim against the holding company?

The credit rating of the issuer's holding company is required to be disclosed in the listing document for investors' reference if the issuer is relying on the credit rating of its holding company for satisfying the eligibility requirements under the Listing Rules (for example, where the issuer itself is not rated). However, the holding company does not have any contractual obligation to provide financial support to the issuer or to meet the issuer's obligations in respect of the structured products.

No. If the issuer defaults, investors will have no recourse against the holding company and may only claim against the issuer (and the guarantor, if any) in accordance with the terms and conditions of the relevant product.

Where the credit rating of the issuer's holding company is disclosed in the listing document, investors should understand that it is provided for reference only. They should assess its relevance and significance carefully, and should not solely rely on it when making investment decisions.

2.9 Does high turnover indicate that a structured product is popular and liquid? Should I select a structured product based on its turnover?

Not necessarily. While high turnover may suggest that a structured product is actively traded, it does not always reflect sustainable liquidity.

Investors should be aware that trading activity may be concentrated among a small number of participants. In such cases, a high proportion of turnover may be driven by the trading strategies of a few investors rather than broad market demand. If these investors change or withdraw their

positions, liquidity may decline rapidly, potentially making it more difficult to trade the product at expected prices.

Investors should refer to the **List of Structured Products with High Trading Concentration** which highlights structured products where trading activity is concentrated among a small group of investors.

No, investors should not rely solely on turnover when selecting structured products. In assessing liquidity, investors should also consider other factors, including but not limited to the bid-ask spread, the quote size provided by liquidity providers and the duration for which quotes are available.

Part III : Trading arrangements

3.1 What information is included in the English short name of a standard warrant and an inline warrant?

You can learn some basic features of a standard warrant and an inline warrant from its stock short name. Below are the naming conventions for reference.

Z	Z	Q	Q	Q	Q	Q	@	E	C	Y	Y	M	M	A
Or														
Z	Z	-	Q	Q	Q	Q	@	E	C	Y	Y	M	M	A
Or (traded in Renminbi)														
Z	Z	Q	Q	Q	Q	@	E	C	Y	Y	M	M	A	*
Or (traded in USD)														
Z	Z	Q	Q	Q	Q	@	E	C	Y	Y	M	M	A	$

ZZ	**Issuer's short name**
Q	**Up to 5 characters representing name of the underlying asset**
@	**@ = Cash settlement ; * = Physical delivery**
E	**E = European ; R = Regional warrants ; L = Inline Warrants; X = Exotic (non-traditional) ; No Character = American**
C	**C = Call ; P = Put ; No Character = non Call or Put**
YYMM	**Expiry year and month**
A	**Serial number for additional issues by the same issuer on same underlying asset with same expiry year and month (A, B, C ...Z and 1, 2 …9)**
*	**Indicator for warrants traded in Renminbi (RMB)**
$	**Indicator for warrants traded in US Dollars (USD)**

You should note that the above naming conventions are applicable in most cases but not exclusive for all circumstances. The stock short names of both standard warrants and inline warrants indicate some basic information only. You should refer to the relevant listing documents of the product and consult your brokers or investment advisers before trading. Listing documents can be found at the HKEXnews website.

3.2 What information is included in the English short name of a CBBC?

You can learn some basic features of a CBBC from its stock short name. Below are the naming conventions for reference.

Z	Z	#	Q	Q	Q	Q	Q	R	C	Y	Y	M	M	A
Or (traded in Renminbi)														
Z	Z	#	Q	Q	Q	Q	R	C	Y	Y	M	M	A	*

ZZ	**Issuer's short name**
#	**CBBC indicator**
Q	**Up to 5 characters representing name of the underlying asset**
R	**R = With residual value; N = No residual value**
C	**C = Bull contract ; P = Bear contract**
YYMM	**Expiry year and month**
A	**Serial number for additional issues by the same issuer on same underlying asset with same expiry year and month (A, B, C ...Z and 1,2 …9)**
*****	**Indicator for CBBCs traded in Renminbi (RMB)**

The "#" sign in the stock short name could help investors differentiate a CBBC from a standard warrant and an inline warrant.

You should note that the above naming conventions are applicable in most cases but not exclusive for all circumstances. The stock short names of CBBCs indicate some basic information only. You should refer to the relevant listing documents of the product and consult your brokers or investment advisers before trading. Listing documents can be found at the HKEXnews website.

3.3 When can I start to buy structured products on the Exchange?

Investors can start to buy structured products on the Exchange from the first listing day of the products. To initiate the listing process, structured products issuers submit product term sheets to the Exchange for approval on the launch day ("Launch Date"). Commencing from 13 July 2020, the listing cycle has been shortened from five trading days to three trading days following the product launch.

For example:

	Product term sheets approved by the Exchange	Investors can find listing documents on the HKEXnews website	Investors can buy structured products
On or before 12 July 2020	Launch Date (Monday)	On the first trading day following the Launch Date (Tuesday)	On the fifth trading day following the Launch Date (Following Monday)
From 13 July 2020 onwards	Launch Date (Monday)	On the first trading day following the Launch Date (Tuesday)	On the third trading day following the Launch Date (Thursday)

3.4 Will the listing date be affected in the event of an exceptional situation occurring after launch date?

The listing date will be postponed due to an exceptional situation causing the stock market to (i) close for the entire day; or (ii) close prior to its regular hours on any of the two trading days between launch date and the scheduled listing date. No further notice or announcement will be published in respect of such postponement. Below is an illustrative example in respect of a product launched on Monday with a listing date on Thursday:

Trading arrangement in case of an exceptional situation	Postponement of listing date	Listing date
Delayed market opening on Tuesday	No	Thursday
Early market closure on Wednesday	Yes (one day)	Friday
Early market closure on Tuesday and delayed market opening on Wednesday	Yes (one day)	Friday
Early market closure on Tuesday and full day closure on Wednesday	Yes (two days)	Following Monday

3.5 Will structured products be available for trading under severe weather trading?

Trading of structured products will remain available during typhoon signal number 8 or above or the black rainstorm warning issued by the Hong Kong Observatory, or 'extreme conditions' issued by the Hong Kong Special Administrative Region Government. In addition, structured products issuers will provide active quotes and quote requests for structured products as usual.

However, the Exchange will assess specific circumstances in consultation with the Government and the Securities and Futures Commission to decide whether there is an exceptional situation that warrants the markets, including structured products market, to be closed. In this case, the Exchange will make relevant announcements as required to provide the market with advanced notice and updates.

3.6 Will I incur any transaction fees in buying or selling structured products on the Exchange?

Yes. Similar to the trading of shares, transaction fees currently include:

(a) brokerage commission and fees charged by the relevant broker;

(b) the transaction levies imposed by the SFC and the Accounting and Financial Reporting Council of Hong Kong; and

(c) a trading fee charged by the Exchange.

3.7 Do I have to pay any stamp duty?

No. Currently, all structured products traded on the Exchange are cash settled and trading in such cash settled structured products is not subject to any stamp duty.

3.8 Would structured products continue to trade where there is no dissemination of index level by Hang Seng Indexes Company?

No, trading of structured products linked to the affected indices will be halted as soon as practicable after publication of a notice of such failure by Hang Seng Indexes Company on its website. Where such notice is published within 15 minutes before the end of a continuous trading session, trading halt will take place in the next continuous trading session.

3.9 When will the trading halt arising from failure of index level dissemination end?

Trading of the structured products will resume as soon as practicable (which may occur during a trading session) after publication of notice of recovery of normal index level dissemination by Hang Seng Indexes Company on its website. Where such notice is published within 15 minutes before the end of a continuous trading session, trading resumption will take place in the next continuous trading session.

3.10 Will the outstanding orders of structured products be automatically cancelled during the trading halt arising from failure of index level dissemination?

No, outstanding orders will not be automatically cancelled and will remain valid when trading is resumed on the same day. Investors should contact their brokers before trading resumption if they wish to cancel their orders of the structured products.

3.11 How can I trade structured products that are denominated and traded in foreign currency?

Investors without foreign currency accounts may not be able to buy or sell structured products that are traded and settled in the relevant foreign currency. Investors should contact their brokers regarding trading and settlement of such products.

Part IV : Liquidity provision

General information about liquidity

4.1 What is liquidity and why is it relevant to trading in structured products?

A liquid product has a tradable market with tight bid and ask prices and sufficient size, in which there are opportunities to buy and sell structured products. The provision of liquidity is an important feature of structured products because it allows investors to buy and sell structured products that may otherwise be illiquid (that is, have insufficient supply or demand).

Most structured products do not have public holdings on their first listing dates. Issuers may provide liquidity in respect of their products through a designated liquidity agent (called a "liquidity provider"). In Hong Kong, liquidity providers are commonly known as "market makers".Each issuer must appoint one liquidity provider, who must be an Exchange participant, for each of its products.

4.2 What is the role of a liquidity provider?

A liquidity provider provides quotations for a particular structured product to support a tradable environment for that product. Such quotations take into account the prevailing market conditions affecting the underlying asset, such as hedging costs and liquidity, spread and volatility of the underlying. Liquidity providers provide liquidity by inputting orders into the trading system of the Exchange when they receive "quote requests". They do so according to the committed service levels as set out in the relevant listing document. These standards typically include:

(a) the maximum response time – i.e. the maximum time it will take to submit a pair of quotes after a request is received;

(b) the maximum spread between the bid and ask prices;

(c) the minimum quote size;

(d) the minimum holding time for the quotes; and

(e) situations in which a quote will not be provided.

Under certain circumstances, liquidity providers are required to provide "active quotes" (that is, even where no request has been submitted by investors) by actively inputting orders into the Exchange's trading system (see FAQs 4.21-4.36).

4.3 How to identify liquidity provider quotes?

Each liquidity provider is currently identified by a 4-digit broker ID code of 95XX, 96XX or 97XX. The relevant listing documents of an issuer set out the exact obligations of its liquidity provider.

4.4 Why does the liquidity provider sometimes become less active in providing quote?

In circumstances where the outstanding quantity of a structured product in the market increases, the liquidity provider may be less active in providing quotes for such structured product. This is because the key role of a liquidity provider is to facilitate liquidity when there is limited or no market liquidity on the structured product (such as when the products are newly listed on the Exchange with limited or no trading by market participants or investors) and to support a tradable environment for the structured product. If a structured product is not eligible for active quotes due to the fact that there is more than 50% of its aggregate number outstanding in the market, then there may not be any active quote from the liquidity provider. You can find out the outstanding quantity of structured product as of the previous trading day on the HKEX's website.

Where the number of market participants for a particular product grows, the "market force" increases, and the product becomes less dependent on the liquidity provider as the sole source of liquidity. By implication, the role of the liquidity provider becomes less important when there is a higher number of particular structured product outstanding in the market because this means there are more investors trading in the product, leading to a natural market.

4.5 Does the liquidity provider need to maintain the price for a product at a particular level?

No. Liquidity providers are not required to support prices of structured products. In practice, like other market participants, a liquidity provider is free to buy and sell at any price.

4.6 How many liquidity providers can an issuer appoint for each structured product in issue?

Each series of structured product will have only one liquidity provider appointed for such series.

4.7 How do I get the liquidity provider's information for a structured product?

You can obtain the liquidity provider's name and contact details in two ways:

(a) Visit the HKEX's website:

The designated HKEX's website lists all the liquidity providers for all structured products listed on the Exchange.

(b) Check the relevant listing documents of the structured product.

4.8 How can I request prices from a liquidity provider?

Simply contact the liquidity provider directly during trading hours on a trading day at its designated phone number. See FAQ 4.7 about where to find the liquidity provider's contact details.

4.9 What factors affect the liquidity of a structured product, and the way the liquidity provider provides liquidity?

Through the liquidity provider, the issuer takes into account the prevailing market conditions affecting the underlying asset (e.g. hedging costs and liquidity, spread and volatility of the underlying) in the quotations provided to the market.

4.10 Do I have to trade against the liquidity provider's bid or ask price?

Not necessarily. Trading structured products is similar to trading stocks listed on the Exchange. Any investor's bid or ask price may be accepted and traded upon by other investors. You may also place orders just like trading in listed stocks. However, there may not be sufficient interest in trading such structured products.

4.11 If the appointed liquidity provider is no longer an Exchange participant, can that liquidity provider continue to provide liquidity? Is an issuer required to appoint another liquidity provider if the existing liquidity provider is disqualified?

If the appointed liquidity provider is no longer an Exchange participant, it cannot continue to provide liquidity. The issuer must appoint another liquidity provider in its place.

4.12 What are the liquidity provision standards with which liquidity providers are required to comply?

The Exchange has set out the minimum service levels for liquidity provision in the Product Sheets. Issuers are required to specify the minimum service levels in their listing documents and ensure that they comply with the minimum service levels as published by the Exchange from time to time. Liquidity must be provided in respect of their structured products in accordance with these minimum service levels.

Quote Request

4.13 What is "quote request"?

Quote request is one of the methods in which liquidity is provided. It refers to the provision of liquidity by entering orders into the Exchange's trading system in response to an investor's request.

Quote request standards are the minimum service level for all structured products applicable to all possible market conditions (regardless of the underlying assets), subject to certain exemptions set out in the listing documents.

4.14 What are the tightened minimum service levels for quote requests?

The following table summarises the current service levels.

Standard	From 31 October 2012 (Note Inline Warrant is a new product after 31 October 2012)
Maximum bid-ask spread for standard warrants and CBBCs	20 spreads
Maximum bid-ask spread for inline warrants	HKD 0.08

Maximum response time	10 minutes
Minimum size	20 board lots
Minimum holding time	5 minutes* **Issuers can refresh the quote to reflect changes in the price of the underlying asset and the prevailing market conditions*

4.15 What does a "minimum holding time of 5 minutes" mean?

When a liquidity provider responds to your quote request, it must continue to hold a quotation (which effectively means it must continue to make available an offer to trade for investors) for at least 5 minutes after it is posted on the Exchange's trading system upon your request. This means that you can accept the quote (that is, agree to trade on that basis) within such 5 minutes, if it has not lapsed (see below).

However, it is important to be aware that even within those 5 minutes, the liquidity provider may need to adjust the bid and ask prices if the prevailing market circumstances or the price of the underlying asset changes. If that occurs, the liquidity provider will "refresh its quote" – that is, an adjusted quote will be posted on the Exchange's trading system.

More importantly, if a liquidity provider's quote is being traded by another investor within the 5 minute holding time and thus the quotation lapses, you need to submit another quote request if you wish to have a quote from the liquidity provider to trade.

4.16 Under what circumstances is the liquidity provider not required to provide quote upon request?

The liquidity provider is not obliged to provide quote upon request in ten key situations:

(a) during a pre-opening session or a closing auction session (if applicable);

(b) during the first 5 minutes of each morning session or the first 5 minutes after trading commences for the first time on a trading day;

(c) when the structured product or any underlying asset is suspended from trading for any reason;

(d) when there is no structured product available for market making activities;

(e) if the theoretical value of the structured product is less than 0.01 unit of trading currency (e.g. RMB$0.01, HK$0.01 or US$0.01);

(f) in the case of CBBCs only, upon the occurrence of a mandatory call event;

(g) in the case of inline warrants only, if the theoretical value of the inline warrant is at HK$1.0, the liquidity provider must at least provide a bid price;

(h) where the underlying asset is an index, if there occurs or exists any suspension of, or limitation imposed on, trading of options or futures contracts relating to the index or if the index level is not calculated or published as scheduled for any reason;

(i) when there are operational and technical problems beyond the control of the liquidity provider that hinder the liquidity provider's ability to provide liquidity; or

(j) if there is a "fast market" which materially affects the issuer's hedging ability (see FAQ 4.18).

These circumstances are stated in the relevant listing documents.

The following FAQs also explain some of these situations in more details.

4.17 What happens to my structured product if its underlying asset is suspended from trading, including if the suspension continues until expiry?

If trading in the underlying asset of a structured product is suspended, trading in such structured product will also be suspended until trading in the underlying asset resumes. Investors must understand and take into account the risks arising from a loss of time value during a suspension period.

If trading in the underlying asset remains suspended at the expiry of the structured products, the issuer will determine the settlement price in good faith and in a commercially reasonable manner. The cash settlement amount may be substantially less than the investor's initial investment and may be zero.

4.18 What do you mean by "fast market"?

"Fast market" refers to situations where the financial markets experience exceptional price movements and high volatility over relatively short periods of time, which can result in a sudden increase in risk and uncertainty, possibly affecting issuers' hedging abilities.

For example, these situations may include:

(a) **financial uncertainty** - exceptionally volatile market conditions linked to financial uncertainty, for example, the period following Lehman Brothers' bankruptcy in September 2008 and the "flash crash" of 6 May 2010, when the Dow Jones Industrial Average suffered its worst intra-day point loss; and

(b) **underlying uncertainty** - the occurrence of events causing the intraday market price of the underlying stock or index to experience significant fluctuations and/or a material reduction in liquidity of the underlying, for example, Japan's earthquake on 11 March 2011 which resulted in a drastic fall in Nikkei index in the immediately following period and fluctuation in prices of the related structured products.

These are just possible examples of fast market events. Depending on circumstances, some market events may trigger a VCM which may possibly result in a fast market.

It is generally more difficult to provide quotes momentarily when the price of the underlying asset is changing rapidly within a short period of time.

4.19 What will an issuer do when there is a system failure leading to a service interruption?

System difficulties and failures can affect the ability of a liquidity provider to provide quotes within the service level set out in relevant listing documents or provide any quote at all.

A system failure will be notified to the market as soon as practicable and shall be fixed within the shortest possible time.

4.20 What will happen to Quote Requests for the structured product, on a day when the underlying was subject to a VCM?

The issuer will commit to Quote Request obligations during the day, including during the cooling off period, unless an exemption is obtained for Quote Request (see FAQ 4.16 (j) which may relate to a VCM event).

Active Quote

4.21 What are "active quotes"?

Active quotes refer to the provision of liquidity where a liquidity provider actively inputs orders into the Exchange's trading system. Issuers will, without any need for a request from an investor, provide active quotes on structured products as a service to investors. Active quotes save investors the inconvenience of having to request quotes and promote transparency. For further information, please refer to "Liquidity Provision Requirements – Active quote" of the Product Sheets.

4.22 Does active quote mean there is continuous quotation available throughout a trading day?

Generally speaking, yes. However, active quotes may not strictly be "continuous" because liquidity providers may need to pause the provision of active quotes for a reasonably short period of time to adjust quote parameters in response to market conditions or operational needs.

Roughly speaking, active quotes should be provided for at least 90% of the time of a trading day for structured products that meet the criteria for active quotes and each pause should not exceed 10 minutes.

4.23 Is there a minimum holding time for active quotes?

No. Unlike quote request, there is no minimum holding time for active quotes.

4.24 Under what circumstances are issuers required to provide active quotes?

Issuers are only required to provide active quotes during the "Qualified Period". This means the period when:

(a) the criteria set out in FAQ 4.25 are met; and

(b) none of the exemptions set out in FAQ 4.16 applies.

4.25 What are the criteria for active quotes?

Issuers are only committed to providing active quotes for structured products that satisfy the following criteria (as measured on a real time basis):

(a) an active underlying (see FAQ 4.27);

(b) 50% or less of their aggregate number outstanding in the market;

(c) for standard warrants and inline warrants, remaining time to expiry of at least 30 calendar days (for instance, if the expiry date of the warrant is 2 January 2013, active quote should be provided by the liquidity provider up to and inclusive of 3 December 2012);

(d) for standard warrants only, moneyness between 20% in-the-money and 20% out-of-the-money. "Moneyness" is derived by comparing the spot price or level of the underlying and the exercise price or strike level;

(e) for inline warrants only, from 20% below the lower strike price or level to 20% above the upper strike price or level; *and*

(f) for CBBCs only, the prevailing price of the underlying stock falls outside 2% of the call price or the prevailing level of the underlying index falls outside 1% of the call level. This "qualified range" is derived by comparing the spot price or level of the underlying and the call price or level.

4.26 Why do issuers only provide active quotes under the criteria set out in FAQ 4.25?

A liquidity provider's quotation for structured products must be based on the actual market conditions. There are three key considerations for an issuer when deciding if active quotes can be provided:

(a) if the structured product is suitable in terms of demand and risk management;

(b) if the market conditions affecting the underlying asset, such as its liquidity and the availability of hedging, permit active quotations; and

(c) the prevailing market conditions affecting the structured product itself, such as supply and demand patterns.

4.27 How do I know if an underlying asset of a structured product is an "active underlying"?

An "active underlying" means local indices (such as the Hang Seng Index and Hang Seng China Enterprises Index) and stocks listed on the Exchange which are eligible for CBBC issuance. These represent stocks with the highest turnover in the market.

CBBC eligible list is generally updated on a quarterly basis and posted on HKEX's website.

Investors should pay attention to the change in the eligible underlying and the effective date of the eligible list. An underlying previously eligible for CBBC issuance and is removed from the current eligible list will no longer be an "active underlying". As a result, structured products with that particular underlying will cease to be subject to active quotes commencing on the effective date of the eligible list.

On the other hand, a newly added eligible underlying will become an "active underlying" and will be subject to active quotes commencing on the effective date of the eligible list (assuming the criteria for active quotes (see FAQ 4.25) are all met).

4.28 Where can I find the list of structured products that are subject to active quotes?

If you want to know whether a particular structured product is eligible for active quotes at any particular time on a trading day, you may contact the issuer to ask if such structured product meets the active quote criteria.

The list of structured products which were eligible for active quotes based on market data as of close of trading on a trading day will be included in each issuer's daily trading summary published on the next trading day. If you wish to use such market data as a general reference point, please note that such data of structured products is historical.

Such information included in an issuer's daily trading summary will only show historic data as of the close of trading on the previous trading day for general guidance only. You must not assume that such information is accurate, complete or up-to-date. You should not rely on such historic list as an indication that a structured product listed in such daily trading summary actually meets the active quote criteria at any other time.

4.29 Why doesn't the issuer provide active quotes for standard warrants and inline warrants with less than 30 calendar days remaining term?

The time value of some standard warrants, especially those at-the-money, may fall rapidly when they are close to expiry, making it more difficult to provide active quotes. For an inline warrant, the sensitivity to the underlying price or level movement of the inline warrant becomes higher towards expiry and when the underlying price is close to the upper or lower strike price or level, making it more difficult to provide active quotes. Active quotes are therefore only able to be provided for a standard warrant the value of which is not materially affected by the erosion of its time value and for an inline warrant the value of which is not highly sensitive to the underlying price or level movement.

4.30 What is "moneyness" for standard warrants? How is it calculated? Why does the issuer provide active quotes for standard warrants and inline warrants with ±20% moneyness?

"Moneyness" describes where the standard warrant's exercise price or strike level is in relation to the price or level of the underlying asset.

In the case of a standard call warrant, if the exercise price or strike level is:

(a) above the price or level of the underlying asset, the standard warrant is said to be "out-of-the-money"; or

(b) below the price or level of the underlying asset, the standard warrant is said to be "in-the-money".

Numerically, moneyness of a standard call warrant is calculated by reference to the difference between the underlying asset's price or level and the exercise price or strike level, divided by the underlying asset's price or level, as illustrated in the table below.

Exercise price	Price of underlying asset	% in-the-money/out-of-the-money
HK$80	HK$100	(HK$100 - HK$80) / HK$100 x 100% = +20% (i.e. 20% in-the-money)
HK$120	HK$100	(HK$100 - HK$120) / HK$100 x 100% = -20% (i.e. 20% out-of-the-money)

In the case of a standard put warrant, if the exercise price or strike level is:

(a) below the price or level of the underlying asset, the standard warrant is said to be "out-of-the-money"; or

(b) above the price or level of the underlying asset, the standard warrant is said to be "in-the-money".

Similar to a standard call warrant, the moneyness of a standard put warrant is calculated by reference to the difference between the exercise price or strike level and the underlying asset's price or level, divided by the underlying asset's price or level, as illustrated in the table below.

Exercise price	Price of underlying asset	% in-the-money/out-of-the-money
HK$120	HK$100	(HK$120 - HK$100) / HK$100 x 100% = +20% (i.e. 20% in-the-money)
HK$80	HK$100	(HK$80 - HK$100) / HK$100 x 100% = -20% (i.e. 20% out-of-the-money)

Structured products which are either deep in, or out, of-the-money generally have lower investor interest. Accordingly, issuers will only provide active quotes for standard warrants with ±20% moneyness.

4.31 Under what circumstances will active quotes be paused or affected temporarily?

Active quotes may not be continuous because liquidity providers may need time to pause the provision of active quotes for a reasonably short period of time to adjust quote parameters in response to market conditions or operational needs.

Common causes of these short interruptions include the following:

(a) a sudden or material change in the trading pattern of the structured product, such as where a relatively inactive structured product suddenly becomes active;

(b) news is published that might have an impact on the market price of the underlying. For example, a change in forecast earnings or proposed dividends;

(c) the underlying or the stock market experiences exceptional price movement or high volatility over a short period of time which materially affects the liquidity provider's ability to source a hedge or unwind an existing hedge (see FAQ 4.18);

(d) the underlying stock trades at a wider bid-ask spread than normal which causes the spread in the structured product to exceed the maximum level specified in "Liquidity Provision Requirements – Active quote" of the Product Sheets;

(e) the liquidity provider reasonably suspects any potential mispricing, system issue or error;

(f) the liquidity provider reasonably suspects abnormal trading in respect of the underlying;

(g) operational and technical problems such as computer network disconnection, loss of data feed, loss of connectivity with the Exchange or technical issues which arise in the issuer's computer system; or

(h) the liquidity provider will suffer, or expects to suffer, a financial risk due to frequency of trades and size of trades in relation to its structured product.

4.32 Under what circumstances will active quotes be discontinued?

An issuer may stop providing active quotes for a structured product on a trading day if that structured product no longer meets the criteria stated in FAQ 4.25. Individual issuers may voluntarily decide to keep providing active quotes, or may switch to providing liquidity on a quote request basis in accordance with the minimum liquidity service levels.

4.33 What is the spread requirement for active quotes?

The bid and ask spreads for active quote are tighter than the maximum spreads prescribed for quote request. These tightened spreads are as follows:

Product	Local index underlying	Actively traded stock underlying
Standard warrant	**5 spreads**	**10 spreads**
CBBC	**10 spreads**	**15 spreads**
Inline warrant	**HKD 0.02**	**HKD 0.04**

4.34 Why is there a different active quote liquidity service standard (i) between standard warrants and CBBCs and (ii) for structured products between local index and actively traded stock?

Spreads for CBBCs are wider than those for standard warrants because the price of CBBCs is generally more sensitive to movements in the value of the underlying asset, meaning that it is more costly for the issuer to hedge that underlying asset.

Spreads for structured products over an actively traded stock are wider than those for structured products over a local index because of the higher liquidity to hedge a local index and it is generally more costly (e.g. stamp duties, bid-ask spread, etc.) to hedge the actively traded stock underlying.

4.35 How will the provision of active quotes be affected for a structured product when the underlying security is subject to VCM?

Investors should be aware that the standards for active quotes described in the Product Sheets are intended to apply to normal market conditions. Provision of active quotes may be affected where there are abnormal or exceptional market conditions.

Quotes provided by liquidity providers necessarily reflect the liquidity of the underlying securities or indices at any given time. If the liquidity of the underlying is impaired by conditions surrounding a VCM event, or by the VCM itself, the liquidity of the structured product may be adversely affected in terms of quote size and spread relative to more normal market conditions.

During the 5-minute cooling off period after triggering of the VCM, where issuers' hedging ability is materially affected due to the uncertainty in the underlying securities or index, it is possible that the minimum service level for active quotes will not be fulfilled, such as no bid-ask quotations, widening of bid-ask spread and reduction in quote size.

Similarly, after the 5-minute cooling off period, liquidity provision may still be affected if issuers continue to experience hedging difficulties. Under such circumstances, Liquidity Providers may not fulfil the minimum service level for active quotes as described in the Product Sheets.

However, issuers will use best efforts to meet quote request requirements.

4.36 Why may it be more difficult for issuers to provide quotes for CBBCs when the underlying price or level is close to the call price or call level?

When the underlying price or level approaches the call price or call level, the price of a CBBC may fluctuate more sharply. As a result, it may be more difficult for issuers to maintain quotes within the tightened spreads, especially when the underlying stock price is within 2% of the call price, or the underlying index level is within 1% of the call level.

Quote Request Cases

4.37 A liquidity provider has provided quotes with 30 spreads in response to my quote request. Has the liquidity provider breached its obligation to quote within the maximum bid-ask spread set out in the relevant listing document?

Yes, unless the situation falls within any of the circumstances described in FAQ 4.16.

4.38 I made a quote request at 3:15 p.m. with a liquidity provider but it only provided quotes at 3:40 p.m. Has the liquidity provider breached its obligations?

Possibly, it depends on the circumstances. The maximum response time for quote request has been capped at 10 minutes. If the situation falls within any of the circumstances described in FAQ 4.16, then the liquidity provider is not required to provide quotes within 10 minutes.

4.39 I note a liquidity provider provided a quote in response to a quote request which lasted for 3 minutes only. Has the liquidity provider breached its obligation?

Not necessarily. For example, the quote may have been taken by another market participant or one of the circumstances set out in FAQ 4.16 may have arisen.

4.40 I wanted to sell 1,000 board lots of my call warrants and called up the liquidity provider for a quote. Why couldn't I sell my 1,000 board lots even after I got the quote from the liquidity provider?

The quote size offered by the liquidity provider is limited by the actual liquidity of the relevant hedging vehicle (e.g. the underlying asset or the listed or OTC options linked to the underlying asset). In this case, the liquidity provider may not be able to buy all 1,000 board lots of your call warrants if the liquidity provider cannot unwind such hedging vehicle for all of the 1,000 board lots of your call warrants (for example, because the relevant hedging vehicle is illiquid). The minimum quote size that a liquidity provider is committed to quote is 20 board lots.

4.41 I bought a call warrant with a last reported price (or nominal price) of 0.01 unit of trading currency (e.g. HK$0.01) and that reported price has not moved for a long time. I want to sell my holding in the call warrant. Why can't I get any quotes from the liquidity provider?

The last reported price (or the nominal price) is not necessarily the same as the warrant's actual theoretical value. In this case, the most likely reason is that the actual theoretical value of the call warrant is less than 0.01 unit of trading currency. This is one of the circumstances in which a liquidity provider is not required to respond to any quote request.

4.42 I submitted a quote request to a liquidity provider who responded by saying that there are existing liquidity provider quotes already in the market. Has the liquidity provider breached its obligations to respond to my request?

No. If an existing quote that complies with the minimum service levels is available, the liquidity provider will be deemed to have complied with its liquidity obligations.

4.43 I asked a liquidity provider to reduce its bid-ask spread which has already met minimum service levels for quote requests. Is the liquidity provider obliged to provide a tighter spread?

The liquidity provider is only required to commit to the minimum service level. If your request for a bid-ask spread reduction is a tighter standard than the minimum service level, the liquidity provider is not obliged, and may not be able, to provide a tighter spread. It is because the bid-ask spread may change from time to time or even widen according to the prevailing market conditions affecting the underlying asset (such as hedging costs and liquidity, spread and volatility of the underlying).

4.44 Should I still make a quote request for structured products if the liquidity provider is providing active quotes for such products?

If the liquidity provider has provided active quotes that comply with the spread requirement for active quotes as prescribed in the Product Sheets, it should not be necessary to make a separate quote request for such products as the bid and ask spreads for active quotes are tighter than the maximum spreads prescribed for quote request.

4.45 I made a quote request for a call warrant over a stock. The liquidity provider claimed that it was exempted from providing quotes due to a significant move in the Hang Seng Index

or the overall market. Is the liquidity provider justified to claim an exemption from providing quotes?

The liquidity provider is exempted from providing liquidity when there is a "fast market" which materially affects the issuer's hedging ability. Please refer to FAQ 4.18 on what is meant by "fast market".

A significant move in the Hang Seng Index or the overall market may or may not result in exceptional price movement and high volatility of the underlying stock. In this case, the liquidity provider may need to demonstrate to the Exchange that its hedging ability has been materially affected by exceptional price movement during a short period of time.

4.46 I made a quote request on an index inline warrant. I noticed that the liquidity provider only provided a bid quote at HK$0.93 and no ask quote was provided. Why did the liquidity provider not provide any ask quote?

In this case, the inline warrant may be worth at HK$1. The liquidity provider is not required to provide an ask quote because investors are not encouraged to buy the inline warrant at or higher than HK$1 due to the maximum payoff at expiry of HK$1.

Active Quote Cases

4.47 I hold a call warrant over a stock, which is due to expire in 15 days. I want to sell it before it expires. Why is there no active quote for it?

Time to maturity is one of the criteria for active quotes. As your call warrant has a maturity of less than 30 calendar days, it does not meet the active quote criteria set out in the Product Sheets. In this case, you could contact the issuer to make a quote request.

4.48 I hold a call warrant over an active underlying stock with an exercise price of HK$45. The spot price of the underlying stock is HK$50. Is the call warrant eligible for active quotes?

Issuers provide active quotes for call warrants with moneyness between 20% in-the-money and 20% out-of-the-money. Where the spot price of the underlying stock is HK$50, an exercise price of the call warrant between HK$40 (+20%) and HK$60 (-20%) meets the ±20% moneyness criteria. In this case, your call warrant should be eligible for active quotes (subject to it meeting the other criteria), as the exercise price of HK$45 falls within the ±20% moneyness range.

4.49 I hold a call warrant over HSI, with a strike level at 22900. The spot level of HSI is 18300. Is my call warrant eligible for active quotes?

Issuers provide active quotes for standard warrants with moneyness between 20% in-the-money and 20% out-of-the-money.

Where the level of the HSI is 18300, call warrants with strike level between 14640 (+20%) and 21960 (-20%) meets the ±20% moneyness criteria. In this case, your call warrant does not fulfil the active quote criteria because the strike level of 22900 falls outside the ±20% moneyness range.

As a result, you could contact the issuer to make a quote request if you want to sell your call warrant.

4.50 I hold an inline warrant linked to a stock underlying with a lower strike price of HK$100 and an upper strike price of $120. The spot price of underlying is now trading at HK$70. Will the issuer provide active quotes for this inline warrant?

No. Because the spot price of Stock X is more than 20% away from the lower strike price of HK$100. Active quote is only available for inline warrants when the underlying stock price is trading within the range of 20% below the lower strike price to 20% above the upper strike price (i.e. from $80 to $144)

4.51 I hold a bull CBBC linked to a stock underlying, with a call price of HK$50. The spot price of the underlying is now trading at HK$52. Will the issuer provide active quotes for this CBBC?

Issuers provide active quotes for bull CBBCs linked to stocks where the spot price of the underlying stock is above 2% of the call price.

Where the call price of a bull CBBC is HK$50, a spot price above HK$51 meets the percentage requirement for the bull CBBC. In this case, your CBBC should be eligible for active quotes (subject to it meeting the other criteria, such as the aggregate number outstanding in the market) since the spot price is above 2% of the call price. You should also note that the bull CBBC would be knocked out when the spot price reaches HK$50.

4.52 I hold a bull CBBC linked to HSI, with a call level of 19000. The spot level of HSI is 19100. Will the issuer provide active quotes for this CBBC?

Issuers provide active quotes for bull CBBCs linked to an index where the spot level of the underlying index is above 1% of the call level.

Where the call level of a bull CBBC is 19000, a spot level above 19190 meets the percentage requirement for the bull CBBC. Your CBBC does not fulfil the active quote criteria because the spot level is less than 1% above the call level. You should also note that the bull CBBC would be knocked out when the spot level reaches 19000. In this case, you could contact the issuer to make a quote request.

4.53 I hold a HSI call warrant which fulfils the active quote criteria prescribed in the Product Sheets. Why there is no active quote provided?

Active quotes will not be provided where one of the exemptions set out under "Liquidity Provision Requirements" of the Product Sheets applies. For example, the liquidity providers need not provide active quotes where:

(a) the theoretical value is less than HK$0.01

(b) there is a technical failure and operational problems beyond the control of the liquidity provider; or

(c) the underlying asset or the stock market experiences exceptional price movement and high volatility over a short period of time which materially affects the liquidity provider's hedging ability.

Remember that active quotes are not continuous. You could contact the liquidity provider, if you have any questions about liquidity.

4.54 I noticed that an issuer provides quotes for a call warrant which did not fulfil the active quote criteria. The spread of the quote was wider than the maximum bid-ask spread under the active quote requirement. Did the issuer breach the active quote requirement?

No. An issuer may, at its option, provide active quotes voluntarily. In those circumstances, the issuer is not bound by the specific spread requirements for active quotes as set out in the Product Sheets. However, in this case, the issuer will still need to comply with the spread requirement applicable to quote request in response to a quote request.

4.55 I noticed that no ask quote was provided for a stock inline warrant which is an active quote product while only a bid quote at HK$0.97 was provided by the liquidity provider. Why did the liquidity provider not provide any ask quote?

In this case, the inline warrant may be worth at HK$1. The liquidity provider is not required to provide an ask quote because investors are not encouraged to buy the inline warrant at or higher than HK$1 due to the maximum payoff at expiry of HK$1.

Part V : Prices of structured products

General

5.1 What is the "theoretical value" of a structured product? How is it determined?

Structured products have a "theoretical value" that may be very different from their traded (nominal) price.

The theoretical value is the price of the structured product calculated by reference to the issuer's pricing model, taking into account all relevant market factors. See FAQ 5.2, FAQ 5.4 and FAQ 5.6 for the factors that can affect the price of structured products generally.

5.2 What factors affect the price of a standard warrant?

The price of a standard warrant (i.e. put/call warrant) generally depends on the price of the underlying asset. However, throughout the term of a standard warrant, its price will be influenced by a number of other factors, including:

(a) the exercise price of the standard warrant;

(b) the value and volatility of the price of the underlying asset (being a measure of the issuer's expectation on the fluctuation in the price of the underlying asset over time);

(c) the time remaining to expiry: generally, the longer the remaining life of the standard warrant, the greater its value;

(d) the interim interest rates and expected dividend payments or other distributions on the underlying asset;

(e) the liquidity of the underlying asset;

(f) the availability of, and demand for, the standard warrant;

(g) the issuer's hedging transaction costs;

(h) the creditworthiness of the issuer and/or its guarantor; and

(i) in case of standard index warrants, the price and liquidity of the futures contracts relating to such index

Assuming other factors remain unchanged, the theoretical impact of changes in certain key factors on call and put warrants is illustrated in the table below:

Factor*	Standard call warrant price	Standard put warrant price
Price of underlying asset ↑	↑	↓

Volatility of underlying asset ↑	↑	↑
Time to expiry ↓	↓	↓
Interest rate ↑	↑	↓
Expected dividends ↑	↓	↑

** Please note that the table above only shows the theoretical relationship with the key pricing parameters. In reality, there are other factors affecting the price of a standard warrant.*

5.3 Why is the price movement of a standard warrant not directly proportional to the movements in the price of its underlying assets?

(a) The price of a standard warrant is not only affected by the price of the underlying asset but a range of other factors (see FAQ 5.2). This means that movements in the price of a standard warrant may not be proportionate, or may even be opposite, to the price movement of the underlying asset. For example, for a call warrant, if the price of the underlying asset increases, but the implied volatility of the price of the underlying asset decreases, the price of the call warrant may decrease as the drop in its implied volatility may offset an increase in the price of the underlying asset;

(b) if a standard warrant is deep "out-of-the-money" (e.g. when its theoretical value is substantially less than 0.01 unit of trading currency such as HK$0.01), the price of the standard warrant may be insensitive to any increase (in respect of a call warrant) or decrease (in respect of a put warrant) in the price of the underlying asset;

(c) if the outstanding volume of a series of standard warrants in the market is high, the supply and demand of the warrant may have a greater impact on the warrant price than the price of the underlying asset;

(d) in respect of a call warrant, a decrease in time value may offset any increase in the price of the underlying asset, especially when the call warrant is close to its expiry where the time value usually decreases more rapidly; and

(e) in respect of a put warrant, a decrease in time value may offset any decrease in the price of the underlying asset, especially when the put warrant is close to its expiry where the time value usually decreases more rapidly.

5.4 What factors affect the price of an inline warrant?

The price of an inline warrant generally depends on the price or level of the underlying asset. The underlying price or level movement may have a positive or negative (inverse) effect on the price of inline warrants, depending on where the underlying price or level is compared to the upper and lower strike prices or levels. Throughout the term of an inline warrant, its price will be influenced by a number of factors, including:

(a) the range between the upper strike and lower strike price or level of the inline warrants: generally, the wider the range between the upper strike and lower strike price or level of the inline warrants, the greater its value;

(b) the value of the underlying asset: generally, the closer the price or level of the underlying asset towards the mid-way of the upper strike price or level and the lower strike price or level, ignoring all other factors such as dividend and interest rates assumptions in the pricing, the greater the value of the inline warrants; conversely, the farther away the price or level of the underlying asset from the mid-way of the upper strike price or level and the lower strike price or level, the lower the value of the inline warrants;

(c) the volatility of the price or level of the underlying asset (being a measure of the issuer's expectation of fluctuation in the price or level of the underlying asset over time): generally, if an inline warrant is out-of-the-range, the higher the volatility, the greater the value of the inline warrants; conversely, if an inline warrant is in-the-range, the higher the volatility, the lower the value of the inline warrants;

(d) the time remaining to expiry: generally, if an inline warrant is out-of-the-range, the longer the remaining life of the inline warrant, the greater its value; conversely, if an inline warrant is in-the-range, the shorter the remaining life of the inline warrant, the greater its value;

(e) the interim interest rates and expected dividend payments or other distributions on the underlying asset;

(f) the liquidity of the underlying asset;

(g) the availability of, and demand for, the inline warrant;

(h) the issuer's hedging transaction costs;

(i) the creditworthiness of the issuer and/or its guarantor;

(j) in case of index inline warrants, the price and liquidity of the futures contracts relating to such index;

(k) for index inline warrants, the expected probability of the closing level of the underlying asset on the expiry date falling outside the range between the upper strike level and the lower strike level; and

(l) for stock inline warrants, the expected probability of the arithmetic mean of the closing prices of the underlying asset on each of the five business days immediately preceding the expiry date falling outside the range between the upper strike price and the lower strike price.

Assuming other factors remain unchanged, the theoretical impact of changes in certain key factors on inline warrants is illustrated in the table below:

Factor*	Inline warrant price
Underlying asset price or level moving towards the mid-way of the upper strike price or level and the lower strike price or level	↑
Underlying asset price or level moving away from mid-way of the upper strike price or level and the lower strike price or level	↓
Time to maturity ↓	In-the-range: ↑
	Out-of-the-range: ↓
Volatility of underlying asset ↑	In-the-range: ↓
	Out-of-the-range: ↑
Volatility of underlying asset ↓	In-the-range: ↑
	Out-of-the-range: ↓

** Please note that the table above only shows the theoretical relationship with the key pricing parameters for reference only. In reality, there are other factors affecting the price of an inline warrant and the above relationship may not be applicable to extreme cases.*

5.5 Why is the price movement of an inline warrant not directly proportional to the movements in the price or level of its underlying assets?

The underlying price or level movement may have a positive or negative (inverse) effect on the price of an inline warrant, depending on where the underlying price or level is compared to the upper and lower strike prices or levels. In general, assuming all other factors are constant and ignoring dividend and interest rate effect, when the underlying price or level is below the mid-point of the upper and lower strike prices or levels, an increase in the underlying price or level will cause an increase in the inline warrant price. When the underlying price or level is above the mid-point of the upper and lower strike prices or levels, an increase in the underlying price or level will cause a decrease in the inline warrant price, i.e. an inverse relationship. The sensitivity (or delta) of the underlying price or level movement to the inline warrant price movement will also change depending on where the underlying price or level is compared to the upper and lower strike prices or levels, as well as the time to expiry.

As the price of an inline warrant is not only affected by the price or level of the underlying asset, movements in the price of an inline warrant may not be proportionate or may even be opposite to the price or level movement of the underlying asset, in addition to what is described above. For example:

(a) if an inline warrant is out-of-the-range, the decrease in volatility of the price or level of the underlying asset may offset any increase in the price or level of the underlying asset towards the lower strike price or level or any decrease in the price or level of the underlying asset towards the upper strike price or level;

(b) if the outstanding volume of a single series of inline warrants in the market is high, the supply and demand of the inline warrant may have a greater impact on the inline warrant price than the price or level of the underlying asset;

(c) if an inline warrant is out-of-the-range, the decrease in time value may offset any increase in the price or level of the underlying asset towards the lower strike price or level or any decrease in the price or level of the underlying asset towards the upper strike price or level, especially when the inline warrant is close to its expiry where the time value decreases at a faster pace; and/or

(d) if the price or level of the underlying asset falls very deep outside the range between the upper strike price or level and lower strike price or level, the price of the inline warrant may be insensitive to any subsequent increase or decrease in the price or level of the underlying asset towards the mid-way of the upper strike price or level and the lower strike price or level.

5.6 What factors affect the price of a CBBC?

During the term of a CBBC, its price will be influenced by a number of factors, including:

(a) its strike price or level and call price or level;

(b) the likelihood of the occurrence of a mandatory call event;

(c) the probable range of residual value (if any) upon the occurrence of a mandatory call event;

(d) the funding cost;

(e) time remaining to expiry;

(f) the interim interest rates and expected dividend payments or other distributions on the underlying asset;

(g) the liquidity of the underlying asset;

(h) the availability of, and demand for, the CBBC;

(i) the probable range of the cash settlement amount;

(j) the issuer's related hedging transaction costs;

(k) the creditworthiness of the issuer and its guarantor, if applicable; and

(l) in the case of index CBBCs, the price and liquidity of the futures contracts relating to such index.

5.7 Does the price movement of a CBBC always correspond to the movements in the price or level of its underlying assets?

The price of a CBBC tends to follow closely the price of the underlying asset. As a result, if the underlying asset increases in value, a "bull" CBBC with an entitlement ratio of 1 to 1 (i.e. one CBBC to one unit of the underlying asset) generally increases in value by approximately the same amount, whereas a "bear" CBBC with an entitlement ratio of 1 to 1 generally decreases in value by approximately the same amount (see FAQ 5.8 regarding entitlement ratios generally).

However, when the underlying asset of a CBBC is trading at a price close to its call price, the value of CBBC may become more volatile (and less sensitive to movements in the price of the underlying asset due to the risk of occurrence of a mandatory call event) and the change in its value may be disproportionate to the change in the value of the underlying asset.

Entitlement Ratio

5.8 What is the entitlement ratio?

Standard warrants and CBBCs - the entitlement ratio for a product is the number of such products required to be converted into a unit of the underlying asset at the strike price on the expiry date. Assuming all other factors affecting two different products are the same (underlying asset, strike price, expiry date, volatility etc.), their respective entitlement ratios would directly affect their respective values per unit. Generally, a product with a higher entitlement ratio would have a relatively small value per unit. However, in theory, the entitlement ratio would not affect the performance of a particular product, as it has been calculated into the effective gearing.

Inline warrants - the entitlement ratio of inline warrants is always equal to 1 since the final cash settlement amount of inline warrants is fixed at either HK$1 or HK$0.25 depending on where the underlying settlement price or level is compared to the upper and lower strike prices or levels.

Premium

5.9 What is the premium?

Standard warrants and CBBCs - The premium reflects the degree by which the price of the underlying asset needs to move before reaching the break-even price of a product at expiry. For example, if the premium of a call warrant or a bull CBBC is 10%, the underlying price should rise by 10% at expiry, in order to reach the break-even price.

You can calculate the premium based on the formula below (based on the payout formula at expiry):

Premium of a call warrant or bull CBBC $= \dfrac{[\text{strike price} + (\text{product price} \times \text{entitlement ratio})] - \text{underlying price})}{\text{underlying price}} \times 100\%$

Premium of a put warrant or bear CBBC $= \dfrac{\text{underlying price} - [\text{strike price} - (\text{product price} \times \text{entitlement ratio})]}{\text{underlying price}} \times 100\%$

These formulae can therefore be used as a reference to calculate the percentage by which the price of the underlying asset needs to move before reaching the break-even price of a standard warrant or a CBBC at expiry.

Inline warrants - When the underlying price or level is at or between the upper and lower strike prices or levels, the underlying price or level needs to move 0% so that investors can receive the pre-determined fixed payoff of HK$1 at expiry. Hence, the premium for inline warrant when underlying price or level is at or between the lower and upper strike prices or levels is 0%.

When the underlying price or level is below the lower strike price or level, the underlying price or level needs to increase towards the lower strike price or level so that investors can receive the pre-determined fixed payoff of HK$1 at expiry. Hence, the premium for inline warrant when the underlying price or level is below the lower strike price or level is

Premium of an inline warrant $= \dfrac{\text{lower strike price or level} - \text{underlying price or level}}{\text{underlying price or level}} \times 100\%$

When the underlying price or level is above the upper strike price or level, the underlying price needs to drop towards the upper strike price or level so that investors can receive the pre-determined fixed payoff of HK$1 at expiry. Hence, the premium for inline when underlying price or level is above the upper strike price or level is

Premium of an inline warrant $= \dfrac{\text{underlying price or level} - \text{upper strike price or level}}{\text{underlying price or level}} \times 100\%$

5.10 I bought a call warrant linked to the underlying stock with an expiry date of late April. Why did the call warrant trade below its intrinsic value with a negative premium of 1% in mid-March?

This seems unreasonable as the call warrant price should at least be equal to its intrinsic value, i.e. the excess of the prevailing market price of the underlying stock over the exercise price of the call warrant.

While in most cases a call warrant does trade above its intrinsic value, this does not mean that the intrinsic value must be the minimum value of a call warrant. As explained below, it is possible for a call warrant to trade below its intrinsic value.

Holding a call warrant differs from holding the underlying stock, especially since the holders of the call warrant are not entitled to receive any dividends that might be declared by the underlying stock. In this particular case, the underlying stock was due to announce its annual results in late March. Based on practices in previous years, the underlying stock is likely to go ex-dividend in mid-April. With an expiry date for the call warrant in late April, the market price of the underlying stock would be the ex-dividend price in determining the payout of the call warrant on that expiry date. This would result in a lower payout to call warrant holders than it otherwise should. Although the final dividend that the underlying stock would declare was still unknown in mid-

March, it was widely anticipated that the dividend would be no less than $1.5. It was not unreasonable for potential investors and the liquidity provider to deduct the dividend element when pricing the call warrant.

5.11 Why may a bull CBBC linked to the HSI expiring in 6 months sometimes have a negative premium?

In calculating the premium for a bull CBBC linked to the HSI based on the formula as set out in FAQ 5.9 above, we need to determine the underlying price for the HSI.

The spot level of the HSI may differ from its estimated future price, because the estimated future price of the HSI is calculated by reference to the sum of the cash value of the HSI (based on the HSI's spot level) and interest rate, less the expected dividends. In most cases, as the expected dividends would be higher than the interest rate, such estimated future price of the HSI is therefore often lower than the cash value of the HSI's spot level.

The premium calculated pursuant to the formula set out in FAQ 5.9 may therefore be different depending on whether you apply (i) the spot level of the HSI as the underlying price, or (ii) the estimated future price of the HSI as the underlying price.

However, as the product price of a CBBC linked to the HSI is generally based on the estimated future price of the HSI futures expiring in 6 months (rather than the spot level of the HSI), such estimated future price should be adopted as the underlying price for calculating the premium of the CBBC. It is therefore likely that the premium calculated based on such lower estimated future price may result in a positive premium, whereas the premium calculated based on the spot level of the HSI may result in a negative premium, using the formula as set out in FAQ 5.9 above.

Delta

5.12 What is delta of a structured product?

Delta is the ratio of the change in the structured product price (after adjusted by the entitlement ratio) to the change in the underlying asset's price.

Standard warrants – delta normally ranges between 0 and 1 for standard call warrants and 0 and -1 for standard put warrants (the negative sign shows the opposite directional movement to the underlying). In general, at-the-money standard call and put warrants have a delta of approximately 0.5 and -0.5 respectively. In-the-money standard warrants will generally have a higher delta than out-of-the-money standard warrants with the same underlying asset and maturity. For example, a standard call warrant with a delta of 0.1 is generally a deep out-of-the-money standard warrant, whereas a standard call warrant with a delta of 0.9 is generally a deep in-the-money standard warrant. Vice versa, a standard put warrant with a delta of -0.1 is generally a deep out-of-the-money standard warrant, whereas a standard put warrant with a delta of -0.9 is generally a deep in-the-money standard warrant.

CBBCs – in general, the delta of a bull CBBC is close to but not exactly equal to 1 and the delta of a bear CBBC is close to but not exactly equal to -1.

Inline warrants – delta can be positive or negative depending on where is the underlying price or level compared to the strike prices or levels:

(a) when the underlying price or level is higher than the mid-point of the upper and lower strike prices or levels, the delta of the inline warrant will be generally negative (i.e. the underlying moves cause an inverse/opposite move to the price of inline warrant); or

(b) when the underlying price or level is lower than the mid-point of the upper and lower strike prices or levels, the delta of the inline warrant will be generally positive (i.e. the underlying moves cause a same directional move to the price of inline warrant).

5.13 What is delta behaviour of inline warrant throughout the life?

The delta of inline warrants will change throughout the life of the product, depending on different scenarios such as time to expiry, underlying price or level compared to the upper and lower strike prices or levels (ignoring the effect of interest rate and dividend), as follows:

(a) ***Time to maturity*** - generally, the delta will increase as the product approaches expiry, or in other words, delta is higher for shorter dated inline warrants. The increase applies to both positive and negative delta, depending on where the underlying price or level is compared to the upper and lower strike price or level.

(b) ***Underlying price or level compared to the upper and lower strike prices or levels*** - When the underlying price or level is close to either the upper or lower strike price or level, the absolute value delta will be at the highest, assuming all other factors are constant (e.g. for the same time to expiry)

Investors should be aware that both the direction and absolute value of delta can change dramatically especially when the inline warrant is close to expiry and the underlying price or level is around the lower strike price or level or upper strike price or level.

Gearing and Effective Gearing

5.14 What is the difference between gearing and effective gearing?

"Gearing" means the relationship that the cost of the underlying asset bears to the cost of a standard warrant or a CBBC. For example, if the gearing for a particular standard warrant is 10 times, then the investment cost of that standard warrant is 1/10 of the underlying asset.

However, in the case of a standard warrant this only relates to the initial cost of the underlying asset and the initial cost of the standard warrant. It cannot be used later to reflect the dynamic relationship between the price of the underlying asset and the price of the standard warrant over time. "Effective gearing" of a standard warrant is calculated by multiplying the gearing and the delta of the standard warrant (adjusted with entitlement ratio).

For inline warrants, the gearing of inline warrant equals to the maximum payoff at expiry (i.e. HK$1) divided by the price of the inline warrant. Since the final settlement price of inline warrant is fixed at either HK$0.25 to HK$1, the price of inline warrant from issue to expiry date will be normalised to a range approximately between HK$0.25 and HK$1. Therefore, the gearing for inline warrant reflects the potential return at the particular price of the inline warrant and is used to calculate the effective gearing which provides a relationship between the underlying and the product. "Effective gearing" of an inline warrant is calculated by multiplying the gearing and the delta of the inline warrant.

Effective gearing is a better measure of the percentage change of a standard warrant or an inline warrant with a 1% change of underlying asset. For example, if the effective gearing is 10 times for a call warrant (and we assume other factors remain unchanged), when the price of the underlying asset rises by 1%, the theoretical price of the call warrant price should rise by 10%. Similarly, when the underlying asset falls by 1%, the theoretical price of the call warrant price should fall by 10%. For inline warrants, because the delta can be either positive or negative depending on where the underlying price or level versus the upper and lower strike prices or levels, when multiplied against the gearing, it could be presented as either a positive or negative effective gearing. For example, if the effective gearing is negative 10 times for a particular inline warrant (and we assume other factors remain unchanged), when the price of the underlying asset rises by 1%, the theoretical price of the inline warrant should fall by 10%.

However, effective gearing should only be used as a reference as it will change over time given other factors, such as the underlying price, delta, gearing, time decay and implied volatility, also change.

For CBBCs, "gearing" and "effective gearing" are the same in most circumstances, which is the potential multiplying effect on the price of the CBBC in response to a 1% change in the underlying asset price.

5.15 Why does the price movement of a structured product not correspond to the effective gearing?

A number of other factors affecting the price of the structured product may also change over time and, therefore, a mere rise in the underlying asset's price may not necessarily lead to a corresponding increase to the extent of the effective gearing, or to any increase at all in the structured product's price.

Implied Volatility

5.16 What is implied volatility?

Implied volatility represents the anticipated level of volatility of underlying assets over the remaining life of a structured product, as reflected in the price of the structured product.

5.17 How should implied volatility be interpreted?

Standard warrants - Implied volatility is one of the factors influencing the price of a standard warrant. For example, assuming other factors remain constant, when implied volatility of a standard warrant decreases, its price should theoretically also go down, and vice versa. The movement of implied volatility will always cause a same directional movement in the price of a standard warrant, and implied volatility is commonly used as a measurement to compare the expensiveness of a standard warrant with products of similar terms.

Inline warrants - Since the correlation between the movement of implied volatility to the value of inline warrants can be positive or negative, investors should not interpret the changes in implied volatility or compare the implied volatility of different inline warrants in the same way as standard warrants.

To price an inline warrant, issuers usually use several vanilla options with the same underlying securities, maturity and with strikes around the upper and lower strike prices or levels. Although every issuer may have their own pricing and structuring model, below is an example of how inline warrants may be constructed:

(a) enter into a long call spread strategy (i.e. buying a call option at a lower strike price or level and selling a call option at a higher strike price or level) with strikes very close to the lower strike price or level of the inline warrant; and

(b) enter into a short call spread strategy (i.e. selling a call option at a lower strike price or level and buying a call option at a higher strike price or level) with strikes very close to the upper strike price or level of the inline warrant.

As illustrated in the above example, unlike standard warrants which involve a vanilla option with one implied volatility, inline warrants are constructed via several options (structured as call spreads), and every option will have different pricing and implied volatility.

5.18 How does volatility of the underlying asset affect the price of an inline warrant?

In general, the value of inline warrants is affected by the probability of the product expiring in-the-range, and the volatility of the underlying will have an impact on such probability. Below explains the theoretical effect of underlying's volatility to the price of inline warrants:

(a) when the underlying price or level is trading within the upper and lower strike prices or levels (i.e. in-the-range) – lower implied volatility means the probability of the inline

warrants to expire in-the-range will be higher, hence the price of inline warrant will be higher (i.e. an inverse relationship between volatility and inline warrant price); or

(b) when the underlying price or level is trading outside the upper and lower strike prices or levels (i.e. out-of-the-range) – lower implied volatility means the probability of the inline warrants to expire in-the-range is lower, hence the price of inline warrant will be lower (i.e. same directional relationship between volatility and inline warrant price).

5.19 How does an issuer decide the implied volatility level of a structured product when pricing the product? Why does implied volatility of structured products over the same underlying asset differ between different issuers?

Implied volatility is a key parameter in the issuer's pricing formulae that cannot be observed directly. However, issuers can estimate the implied volatility based on:

(a) the historical volatility of the underlying asset;

(b) the implied volatility of the listed and OTC options based on market data; and

(c) the issuer's market expectation and cost of issuing the structured product.

Implied volatility level of standard warrants varies between issuers because each issuer may hold a different market expectation on a particular underlying asset from other issuers and has different issuing cost.

In respect of inline warrants, different issuers can construct inline warrants by using different option strategies (e.g. options with different strike prices or levels), so the price of inline warrants (even with same terms) issued by different issuers may vary.

5.20 What is historical volatility of underlying asset and where can investor find such information?

Volatility is determined by annualised statistics measuring changes in price of its underlying asset: the greater the fluctuations, the higher the volatility.

"Historical volatility" is a measure of underlying price fluctuations over a certain period in the past. You may obtain information on historical volatility of the underlying asset by subscribing to the data provision service of a market data information provider.

5.21 Why does the implied volatility of listed and OTC options affect the price of a standard warrant and an inline warrant?

Implied volatility of a standard warrant and of the combination of options used to construct an inline warrant has a close relationship with the implied volatility generated by OTC and listed options.

After an issuer sells a standard warrant or an inline warrant, it generally needs to hedge against the risks arising from that issuance through different channels: two of those channels are OTC options and listed options. OTC options are options that are traded on a bilateral basis outside of the trading facilities provided by any exchange. Usually, the counterparties are institutional professional investors, such as investment banks. Listed options are those traded on a trading facility such as the Exchange.

If the implied volatility of an OTC option or a listed option is moving downward, the implied volatility of a related standard warrant or the options strategies used to construct an inline warrant may also move downward. On the contrary, if the implied volatility of an OTC option or a listed option is going upward, the implied volatility of the related standard warrant or the option strategies used to construct an inline warrant may also go upward. Therefore, variations in the implied volatility of an OTC option or a listed option may indicate a trend in the implied volatility

of related standard warrant. For an inline warrant it may be less obvious on the price of inline warrant since the effect may be different to the different options strategies used in the construction of inline warrants.

5.22 Where can I see information on the implied volatility of an OTC option?

OTC options are bilateral contracts traded privately between two participants, off-exchange. As a result, there is no public information available for the implied volatility of an OTC option.

5.23 Where can I see information on the implied volatility of a listed option?

You may obtain information on the implied volatility of a listed option by subscribing to the data provision service of a market data information provider.

Funding Cost

5.24 How does "funding cost" affect the price of a CBBC and how is it calculated?

The funding cost of a CBBC is relevant to determining its price. A CBBC is generally traded at a price that represents:

(a) for bull CBBC, (spot price or level of the underlying asset - strike price or level of the CBBC) + prevailing funding cost; and

(b) for bear CBBC, (strike price or level of the CBBC - spot price or level of the underlying asset) + prevailing funding cost.

The funding cost is determined based on:

(a) an issuer's financing or stock borrowing costs, after adjustment for any expected ordinary dividends of the shares (if the underlying assets are dividend-paying shares); and

(b) its profit margin.

These items fluctuate from time to time. The funding cost of a CBBC may be affected by its supply and demand. Furthermore, depending on the liquidity and volatility of the underlying asset at the time, the cost and risk of hedging may also cause a fluctuation in the issuer's funding costs. This means that the issuer's funding costs are not fixed throughout the term of the CBBC. In addition, the longer the duration of the CBBC, the higher the funding costs. The funding costs decline over time as the CBBC moves towards expiry.

When choosing between CBBCs, amongst other considerations, you should compare the funding costs of different issuers of CBBCs with similar underlying assets and features.

Time Value

5.25 What is time value and how does it affect the price of a standard warrant?

Time value is the value of a standard warrant arising from the time left to maturity and is equal to the difference between the current standard warrant price and its intrinsic value. The time value can be considered as the cost paid in return for the gearing effect. In general, the longer the time to expiry, the higher the probability that the underlying price will move in favour of the standard warrant holder and hence a higher standard warrant price. However, the time value of a standard warrant will become zero when the standard warrant has reached maturity. This is often referred to as the time decay of a standard warrant.

5.26 How does time value affect the price of an inline warrant?

As an inline warrant approaches expiry, the effect of time value on its price can be either positive or negative, depending on where the underlying price or level is compared to the upper and lower strike prices or levels. This is different from a standard warrant where time value is always decreasing as it approaches maturity.

Generally, the effect of time value (i.e. time to expiry) on the price of an inline warrant can be explained as follows (assuming other factors remain unchanged and ignoring the effect of dividend and interest rate):

(a) When the underlying price or level is trading within the upper and lower strike prices or levels (i.e. in-the-range) – a shorter time to expiry means the probability of the inline warrant to expire in-the-range will be higher, hence the price of an inline warrant will be higher (i.e. positive time decay, opposite to a standard warrant).

(b) When the underlying price or level is trading outside the upper and lower strike prices or levels (i.e. out-of-the-range) – a shorter time to expiry means the probability of an inline warrant to expire in-the-range is lower, hence the price of an inline warrant will be lower (i.e. negative time decay, similar to a standard warrant).

Supply and Demand

5.27 How does the outstanding quantity affect the price of a structured product?

"Outstanding quantity" means the quantity held by investors and is generally shown as a percentage. It is calculated by dividing the number of structured products held by the market on a particular day (after closing) by the total number of structured products issued. For example, if the number of certain structured products held after closing on a particular day is 90 million and the number of those structured products that had been issued is 100 million, then the outstanding quantity is 90%.

A product with a high outstanding quantity may be more vulnerable to the influence of the forces of market supply and demand. For example, when there is a selling pressure on a product, the price of that product may be squeezed (that is, brought down) by prevailing market forces. The price of the product may also be volatile due to short supply. As a result, its price may not follow the price of the underlying asset very closely.

5.28 How does further issuance affect the price of a structured product?

Issuers are entitled to increase market supply of a structured product where the outstanding quantity exceeds 50%, to prevent price fluctuations caused by short supply. The way this takes place is that the issuer applies to the Exchange for a further issuance of the product.

Further issuance has the potential to bring greater stability to the product price and minimise the chance of price fluctuations caused by the disequilibrium between supply and demand.

Corporate Actions

5.29 How does the distribution of dividends of an underlying stock affect the price of a structured product?

When a listed company announces its financial results, it will also generally announce whether dividends will be paid.

Whether or not this affects the price of a related structured product depends on whether or not dividends were expected and, if so, at what level and on what date. This is because the issuer

considers past records of dividend distribution and the dividends expected by the market, when calculating the structured product price.

If the dividend distribution and ex-dividend date are as expected and other factors remain constant, theoretically, the dividends should not affect the price of the structured product.

5.30 What if the underlying stock eventually declared a dividend lower than expected? How about if the declared dividend is larger than expected?

If the dividend declared is lower than expected, the price of the call warrant would be expected to move up, assuming other factors remain unchanged. On the other hand, if the underlying stock declared a larger dividend than expected, the price of the call warrant would be expected to drop, assuming other factors remain unchanged. Accordingly, investors who bought the call warrant may lose. The impact on a put warrant will be opposite to that of the call warrant.

In respect of an inline warrant, as the issuer's pricing model involves a combination of option strategies with different strike prices or levels, the combined impact arising from unexpected dividend declaration on the price of an inline warrant is less obvious.

5.31 Will the terms of a structured product be adjusted when there is a capital adjustment of the underlying asset?

Under normal circumstances, a standard warrant or CBBC linked to shares of a company will be adjusted if there is a capital adjustment of those underlying stocks (such as bonus issue, rights issue and restructuring event or spin-off / merger / consolidation). Specifically, an adjustment will be made to the call price, strike price and entitlement ratio according to terms specified in the relevant listing documents.

In the case of a merger/consolidation, an adjustment will be made to the call price, strike price and entitlement ratio of the standard warrant or CBBC of the company being merged or consolidated with. If the merger/consolidation results in an extinguishment of the current underlying, such underlying of the standard warrant or CBBC will change from the original underlying to a surviving/new underlying. Where there is a surviving company, no adjustment will be made to the standard warrant or CBBC of the surviving company.

Where the Effective Date of the adjustment occurs after the ex-entitlement date of the underlying stocks (such as in the case of spin-off), no adjustment will be made to those standard warrants or CBBCs that expire in the interim period.

In the case for inline warrants, the adjustment approach will be similar to that of standard warrant mentioned above, except (a) the adjustment will apply to both the upper and lower strike prices or levels; and (b) no adjustment will be made to the entitlement ratio.

5.32 Will structured products be suspended when the underlying stock is undergoing a merger?

It is possible that trading of shares of the entities undergoing a merger may be suspended for a period of time. The Listing Rules require suspension of structured products where the underlying stock is suspended. When this happens, the value of standard warrants and CBBCs may be adversely affected due to time decay during the suspension period. For inline warrants, the value of inline warrants may be adversely affected when the underlying price is outside the upper and lower strike prices (see FAQ 5.4).

5.33 What will be the arrangements on structured products if there is a spin-off of the underlying company and a distribution of specie to shareholders?

Under normal circumstances and for the purpose of calculating the value of the rights attached to the spin-off company, issuers will use volume-weighted average price (VWAP) of those auto-

matched trades of that company on its first day of listing as the basis of adjustment. The adjustment will take effect from the day following the listing date. Investors should note that no adjustment will be made to those structured products that expire before the effective date of the adjustment.

Depending on circumstances of the case, structured products may be suspended from trading from the ex-entitlement date to the listing date of the spin-off company. In this case, the value of standard warrants and CBBCs may be adversely affected due to time decay during the suspension period. For inline warrants, the value of inline warrants may be adversely affected when the underlying price is outside the upper and lower strike prices (see FAQ 5.4).

Similarly, depending on circumstances of the case, the observation period for CBBCs may be suspended from the ex-entitlement date to the listing date of the spin-off company. Thus, no mandatory call event will occur during such period.

Cases

5.34 I hold a call warrant on a stock underlying. The price of the underlying only dropped by 2%. Why did the liquidity provider's quote for my call warrant fall much more than 2%?

A call warrant is a short-term trading instrument with a gearing effect (see FAQ 5.14), it could magnify your loss relative to the underlying performance.

5.35 I bought a call warrant on a stock underlying in the morning trading session, when the underlying was traded at HK$50. The underlying price then dropped to HK$48 and the liquidity provider's quote also dropped. In the afternoon, the price of the underlying went back to HK$50 but the liquidity provider's quote was still lower than the price at which I bought the call warrant, why?

In addition to the underlying price, the liquidity provider's quote also depends on a number of other factors (see FAQ 5.2). Assuming all other factors remain constant, although the underlying price went back to HK$50 from HK$48, it is likely that the increase in the underlying price was offset or even outweighed by the decrease in the implied volatility of the call warrant, hence lowered the call warrant price.

5.36 I note a call warrant launched three days ago was issued at HK$0.25, but its price dropped to HK$0.20 on its first listing date. How could this happen?

The issue price of a call warrant is determined based on the market factors prevailing on the launch date of a warrant. On the first trading day of the call warrant (being 3 trading days after the launch date), it is possible that substantial changes have occurred in respect of the market factors affecting the price of that call warrant.

5.37 I hold a call warrant issued by firm A. There was another call warrant with identical terms (same underlying, expiry date and strike price) issued by firm B. Why was price quoted by firm A lower than that quoted by firm B?

In addition to the terms of the call warrant (i.e. underlying, expiry date and strike price), its price also depends on a number of other factors (see FAQ 5.2) which are based on different pricing assumptions adopted by individual issuers (e.g. different implied volatilities, interest rate, expected dividends, etc.). Moreover, even with identical terms, different call warrants may have a different level of market participation and outstanding amount, which may affect the warrant price to a different extent. Accordingly, the prices of call warrants with identical terms issued by different issuers may vary.

5.38 I hold a bull CBBC issued by firm X which will expire in six months. There was another CBBC with identical terms (same underlying, expiry date, strike price and call price) issued by firm Y. Why was price quoted by firm X lower than that quoted by firm Y?

In addition to the term of CBBC (i.e. underlying, expiry date, strike price and call price), the price of a CBBC also depends on a number of other factors (see FAQ 5.6) which are based on different pricing assumptions adopted by individual issuers (e.g. different funding level, hedging cost, expected dividends, etc.). Accordingly, the prices of CBBCs with identical terms issued by different issuers may be different.

5.39 I hold a HSI call warrant which was last traded at HK$0.01. The HSI increased by more than 3% but the liquidity provider refused to quote and the call warrant's last traded price still remained at HK$0.01. Why didn't the liquidity provider's quote increase in line with the underlying?

It is likely that the HK$0.01 last traded (nominal) price could have been brought down a while ago and does not reflect its prevailing theoretical value before the rally of the HSI, hence it is not the best reference to gauge the actual performance of the call warrant.

It is particularly the case for a short term and deep out-of-the-money call warrant. Despite the HSI rallied more than 3%, the warrant is still out-of-the-money with short time to expiry, hence its prevailing theoretical value after the rally of the HSI is still below HK$0.01.

The liquidity provider is not required to provide quote when the theoretical value of the warrant is less than HK$0.01. (see FAQ 4.16)

5.40 A call warrant had 70% of its volume outstanding in the market. Why did the price of the call warrant drop while the price of the underlying remained unchanged?

Assuming all other factors remain constant, it is likely that the call warrant price is affected by market force. The higher the outstanding amount, the greater the potential that the call warrant price is affected by market supply and demand, and as a result of which the call warrant price may drop due to the high selling pressure while the price of the underlying remained unchanged.

5.41 I hold a call warrant which will expire in 10 days. Why did the liquidity provider's quote fall by 10% despite an increase in the price of the underlying by 1%?

Assuming all other factors remain constant, it is likely that the price of an out-of-the-money and extremely short term call warrant is insensitive to the change in the price of the underlying (due to low delta). It is likely that the liquidity provider's quote fell despite an increase in the underlying price as such extremely short term call warrant was deeply affected by time decay (much more so than the change in the underlying price).

5.42 I hold a very deep in-the-money call warrant linked to HSI and expiring in June (in 2 months) with entitlement ratio 10,000. The delta of the call warrant is almost 1. The HSI index increased 150 points while HSI June futures contracts increased 110 points. The call warrant price increased by HK$0.011 (equivalent to 110 index points) only. Why did it not increase by around HK$0.015 (equivalent to 150 index points)?

HSI call warrants are not solely priced based on HSI index. They are mainly priced based on HSI index, interest rate and expected dividend. Since HSI futures contract reflects the value of HSI index, interest rate and expected dividend, the pricing of the HSI call warrants is generally priced based on HSI futures contracts.

5.43 I hold an inline warrant which will expire in 10 days with an upper strike price of $200 and lower strike price of $150. Why did the liquidity provider's quote fall by more than 50% when the underlying price moved from $152 to $147?

The sensitivity of the price of inline warrants to the movement of the underlying price is the highest when (a) the inline warrants is close to expiry (i.e. short dated); and (b) when the underlying price is close to either the upper or the lower strike price. This is when the delta of inline warrant is the highest. Therefore a small change in underlying price from $152 to $147,

given the lower strike price is $150 and the inline will expire in 10 days, causes a large movement on the price of the inline warrant.

5.44 I hold an inline warrant which will expire in 10 days with an upper strike price of $200 and lower strike price of $150. Why did the liquidity provider's quote fall by 5% when the underlying price remained at $140 compared to the previous trading day?

There are many factors affecting the price of inline warrants, including the time to expiry. The effect of time to expiry will be negative when the underlying price is outside the upper and lower strike prices. As the inline warrant is very short dated, expiring in 10 days, the effect of one day time decay will be much higher compared to a long dated inline warrant.

5.45 I hold an inline warrant which will expire in 10 days with an upper strike price of $300 and lower strike price of $250. The liquidity provider's quote fell by 10% when the underlying price remained at $240. The issuer explained that the volatility of the inline warrant decreased. What does this mean?

When the underlying price is outside of the upper and lower strike prices, a fall in implied volatility will have a negative effect on the price of the inline warrant. As the volatility decreases with an out-of-the-range inline warrant, the probability of the inline warrant to expire in-the-range also decreases (i.e. the probability of the holder receiving a cash settlement of HK$1 is lower). Therefore, the price of inline warrant will reduce to reflect this. This effect is larger as the inline warrant becomes closer to expiry.

5.46 I hold an inline warrant which will expire in 3 months with an upper strike price of $120 and a lower strike price of $100. The price of the underlying stock increased from $115 to $117. Why did the price of the inline warrant drop?

The price of inline warrants may move in the same or inverse direction as the underlying price during the life of the product, which depends on where the underlying price is compared to the upper and lower strike prices, assuming all other factors are constant and ignoring dividend and interest rate effect. As the underlying price is above the mid-point of the upper and lower strike prices (i.e. $110), the price movement of inline warrant will be inverse to the movement of the underlying price (i.e. a negative delta).

5.47 Why are the price movements of inline warrants with same terms issued by different issuers different?

This is due to different assumptions and hedging strategies adopted by different issuers, and hence the price movement of inline warrants with the same terms may vary.

5.48 The inline warrant calculator from an issuer's website showed that the price of the inline warrant that I hold would move up by HK$0.1 while the underlying stock price moved up by HK$1. Why did the quotes of the liquidity providers only rise by HK$0.08?

The objective of the inline warrant calculator shown on the issuer's website is to illustrate the relationships between different factors to the price of inline warrants. The pricing result of the calculator may be different from the issuer's real time pricing model which involves different option strategies with different strike prices or levels and implied volatility. Therefore, the results from the calculator are for reference only.

5.49 Since the minimum cash settlement amount for an inline warrant at expiry is HK$0.25, can the value of an inline warrant be lower than HK$0.25 during its life?

When the probability of the inline warrant expires in-the-range (i.e. holder receiving the HK$1 cash settlement amount) is almost close to zero, the value of the inline warrant should be very close to HK$0.25. However, when there is still a period of time to expiry, this HK$0.25 value

will be discounted by the interest rate during this period before expiry. Hence in theory the value of inline warrant can be below HK$0.25.

5.50 Since the minimum cash settlement amount for an inline warrant at expiry is HK$0.25, does that mean I will never lose all the money?

Since the minimum payout at expiry for an inline warrant is HK$0.25, investors will not lose all of their investment unless the issuer/guarantor becomes insolvent or default on its obligations, which investors may lose the whole investment amount.

It should be noted that in order to receive a minimum cash settlement amount of HK$0.25, investors have purchased the inline warrants with an upfront payment which they would not otherwise need to pay.

5.51 I hold a bull CBBC linked to the HSI expiring in 6 months. The spot level of the HSI increased by 0.1% since I bought the CBBC during the day. Why did the price of the CBBC remain unchanged despite an increase in the spot level of the HSI?

The price of such CBBC is based on the estimated future price of the HSI futures expiring in 6 months against which the CBBC is hedged (rather than the spot level of the HSI or the future price of the front month HSI futures). The estimated future price of the HSI is calculated by reference to the sum of the cash value of the HSI (based on the HSI's level) and interest rate, less the expected dividend. Assuming all other factors remain constant, it is likely that such increase in the spot level of the HSI was offset by the adjustment of expected dividend by the issuer, and hence the price of the CBBC remained unchanged.

5.52 I hold a bull CBBC linked to HSI expiring in 6 months and the entitlement ratio is 10,000. The bull CBBC was about 400 points to be knocked out. HSI index and futures both increased by 100 points but the bull CBBC only increased by HK$0.009. If the delta of the Bull CBBC was equal to 1, its price should increase by HK$0.01 (i.e. 100 index points /10,000 = HK$0.01). Why did the bull CBBC increase by less than HK$0.01?

This is because the delta of the bull CBBC is not exactly equal to 1. Besides, there are a number of different factors which may affect the price of a CBBC other than underlying spot such as expected dividend and funding cost (see FAQ 5.6).

5.53 I hold a bull contract. The price of the underlying was trading close to the call price. Why did the bull contract drop to HK$0.015 while the stock dropped only by HK$0.01 given the entitlement ratio is 1?

When the underlying price is trading close to the call price, the price of the CBBC may become more volatile and the change in the price of the CBBC may be disproportionate to the change in the underlying price. Investors should also be aware of the number of outstanding CBBC in the market. The higher the outstanding number, the greater the selling pressure when the underlying price gets closer to the call price. This leads to a more volatile price behaviour.

5.54 Why does the liquidity provider quote wider spread for a structured product with an illiquid stock underlying than a liquid or blue chip underlying?

A liquidity provider provides quotes for a particular structured product by taking into consideration the prevailing market conditions such as hedging costs and the liquidity, spread and volatility of the relevant hedging vehicles. Normally, blue chip stocks have better liquidity which allows liquidity provider to provide a tighter quote than illiquid underlying.

5.55 I hold a call warrant on HSI. I understand the call warrant price should drop as the HSI drops. However, why did the liquidity provider lower the bid price only but not the ask price. This deprives my chance of buying more call warrant at a lower price.

Liquidity providers can provide bid and ask quotes at the pricing level they deem fair by reference to the theoretical price of the call warrant provided that they comply with the maximum spread requirements. The bid and ask spread may change from the time to time according to the prevailing market conditions affecting the underlying asset such as hedging costs and liquidity, spread and volatility of the relevant hedging vehicles. Therefore it is possible that their quotes will not match your expected price levels due to the widening of the bid and ask spread.

For example, we assume that the theoretical price of the call warrant was initially HK$0.2 with a spread of HK$0.003 on each side, such that the bid and ask quotes were initially HK$0.197 and HK$0.203 respectively. The HSI then drops which leads to a corresponding drop in the theoretical price of the call warrant to HK$0.197. Notwithstanding the drop in the theoretical price of the call warrant, the spread may be widened to reflect the prevailing market conditions. For example, if the spread is then widened to HK$0.006 on each side. The new bid and ask quotes will become HK$0.191 and HK$0.203 respectively for the warrant with a theoretical price of HK$0.197. In such case, the ask quote does not change but the bid quote is lowered due to the widened spread.

5.56 I hold a call warrant linked to an HSI constituent security and the entitlement ratio is 1. The closing price of the call warrant and the underlying was as below.

Date	Closing price of the call warrant	Closing price of the underlying stock
Previous day	HK$0.120	HK$5.00
Today	HK$0.118	HK$5.02

Why did the closing price of the call warrant drop while the closing price of the underlying increased?

This could happen because:

(a) some other pricing factors affected the call warrant price (e.g. volatility, expected dividend, time decay, etc.);

(b) the market closing time of the call warrant and the underlying security was different. Being an eligible security under the closing auction session, it continued to trade in the closing auction session which ended at 4:10 p.m. while the trading in the call warrant ceased at 4:00 p.m. In this case, due to the 10 minutes closing time gap, direct comparison of closing price of the call warrant and the underlying security might not be appropriate and meaningful, or

(c) the closing price of the call warrant might not reflect the quote price of the liquidity provider. In this case, quotes of the liquidity provider might have moved in line with the underlying but were not reflected in the closing price of the call warrant. The closing price could be (1) calculated based on other exchange participants' trades and quotes; or (2) carried forward from previous days.

5.57 I hold a bull CBBC linked to an HSI constituent stock. The CBBC was still trading until close of the market at 4:00 p.m. I noted that the CBBC was knocked out subsequently at around 4:10 p.m. How could the CBBC be knocked out after market close at 4:00 p.m.?

CBBCs can be knocked out during the observation period which includes pre-opening session, continuous trading session and closing auction session. Even though the trading in the CBBC ceased at the end of the continuous trading session at 4:00 p.m., it could still be knocked out when the underlying stock hits the call price at the end of the closing auction session.

5.58 I hold a call warrant with an exercise price of HK$12.28 and the entitlement is 1 share. The underlying company announced a bonus issue of one bonus share for every ten existing shares. How does the bonus issue affect the price and the terms of the call warrant?

The entitlement and exercise price of the call warrant will be adjusted according to the following formula:

Adjusted entitlement = Adjustment factor * E

Adjusted exercise price = X / Adjustment factor

Where

- Adjustment factor = 1 + N
- E: Existing entitlement immediately prior to the bonus issue
- X: Existing exercise price immediately prior to the bonus issue
- N: Number of additional shares received by a holder of existing shares for each share held prior to the bonus issue

In this case,

- Adjustment factor = 1+ 1/10 = 1.1
- Adjusted entitlement = 1 * 1.1 = 1.1 shares
- Adjusted exercise price = HK$12.28/1.1 = HK$11.164 (rounded to the nearest HK$0.001)

The purpose of the adjustment is to ensure that as far as possible, the theoretical price of the call warrant remains unchanged immediately before and immediately after the adjustment. Assuming all factors being equal, the theoretical price of the call warrant will remain unchanged.

5.59 I hold a call warrant on a stock underlying with its expiry date on 14 June. On 5 April, the underlying declared a final dividend and the ex-dividend date of the underlying falls on 29 May. The ex-dividend date of the final dividend for last year was 17 June. How does this affect the price of the call warrant?

Assuming all other factors remain unchanged, the call warrant price will drop upon declaration of dividend on 5 April. It is because the actual ex-date (29 May) falls before the expiry date (14 June) and the dividend actually paid during the term of the call warrant is higher than expected (according to historical record it was expected that such dividend would only be paid after the expiry of the call warrant).

5.60 I hold an inline warrant with an upper strike price of HK$20 and a lower strike price of HK$15. The underlying company announced a bonus issue of one bonus share for every ten existing shares. How does the bonus issue affect the price and the terms of the inline warrant?

The upper and lower strike prices of the inline warrant will be adjusted according to the following formula:

Adjusted upper and lower strike prices = X / Adjustment factor

Where

- Adjustment factor = 1 + N
- X: Existing upper and lower strike prices immediately prior to the bonus issue

- N: Number of additional shares received by a holder of existing shares for each share held prior to the bonus issue

In this case,

- Adjustment factor = 1+ 1/10 = 1.1
- Adjusted upper strike price = HK$20/1.1 = HK$18.182 (rounded to the nearest HK$0.001)
- Adjusted lower strike price = HK$15/1.1 = HK$13.636 (rounded to the nearest HK$0.001)

The purpose of the adjustment is to ensure that as far as possible, the theoretical price of the inline warrant remains unchanged immediately before and immediately after the adjustment. Assuming all factors being equal, the theoretical price of the inline warrant will remain unchanged. Please note that no adjustment on entitlement ratio is needed.

Part VI: CBBC mandatory call events and expiry and settlement

CBBC mandatory call events

6.1 What is a mandatory call event?

A mandatory call event occurs when, at anytime during a trading day between the first trading day and the trading day immediately preceding the expiry date of the CBBC, the spot price or level of the underlying asset is:

- at or below the call price or level in respect of a bull CBBC; or
- at or above the call price or level in respect of a bear CBBC.

A trading day includes the pre-opening session and the closing auction session.

Upon the occurrence of a mandatory call event, the CBBC will automatically expire early and trading in the CBBC will be terminated immediately.

6.2 Where can I find out the time at which a mandatory call event has occurred (MCE time)?

Generally, MCE time is posted on "MCE time" webpage under the Products Corner for Callable Bull/Bear Contract on HKEX website and such information is available within 45 minutes from the occurrence of a mandatory call event. Investors should refer to the announcement published by issuers on HKEXnews website for the official MCE time.

In addition, some issuers may post MCE time on their own websites.

6.3 Will I receive any payment if a mandatory call event occurs and how is MCE valuation period determined?

For "Category N" CBBCs, the answer is no. If a mandatory call event occurs, you will lose all of your investment.

For "Category R" CBBCs, the answer is maybe. You may receive a residual value when a Category R CBBC is being called before expiry. The residual value is calculated generally in accordance with the following principles:

(a) For a Category R "bull" CBBC – (The lowest spot price or level of the underlying asset in the MCE valuation period minus the strike price or level) divided by the entitlement ratio.

(b) For a Category R "bear" CBBC – (The strike price or level minus the highest spot price or level of the underlying asset in the MCE valuation period) divided by the entitlement ratio.

For a CBBC, MCE valuation period is a period commencing from the time upon which a mandatory call event occurs in the trading session of the Exchange up to and including the end of the following trading session.

Pre-opening session and morning session are considered as one trading session. The afternoon session and the closing auction session are considered as another trading session. In the case of half day trading, the pre-opening session, the morning session and the closing auction session are considered as one trading session.

Please see the listing documents of the relevant CBBC for further details.

6.4 I hold a CBBC and my broker confirmed that I had sold the CBBC. However, the broker later told me the trade was cancelled as a mandatory call event had occurred. What is that about?

Mandatory call event may occur at any time during trading hours. If it occurs, no further trade can be concluded via auto-matching. In addition, all trades concluded manually after the mandatory call event will be cancelled.

Please note that since there may be a time gap between the mandatory call event and termination of trading of the CBBC, some CBBC trades concluded after the occurrence of the mandatory call event may be cancelled even though they have been confirmed by brokers. Investors should therefore apply special caution when a CBBC is trading close to the call prices or levels.

Expiry and settlement

6.5 Can I trade in a structured product on the expiry date?

No, the expiry day of a structured product is not the same as the last trading day. Investors can only trade a structured product on or before the last trading day:

(a) For a standard warrant or an inline warrant, there should be 3 settlement days between the last trading day and the expiry day. For example, if a warrant expires on Friday, 23 June, the last day of trading will be Monday, 19 June (assuming the 3 days between 19 and 23 June are settlement days); and

(b) For a CBBC, the last trading day falls on the trading day immediately before its expiry date, subject to the occurrence of a mandatory call event following which the CBBC is terminated early and the trading of that CBBC ceases immediately (see FAQ 1.9).

6.6 How and when are structured products settled?

All structured products currently traded on the Exchange are European style and are cash settled at expiry.

For cash-settled structured products that are in-the-money (in the case of standard warrants and CBBCs) or in-the-range (in the case of inline warrants) on the expiry date, the structured product holders are then paid a positive cash settlement amount according to the terms and conditions as set out in the listing documents. For inline warrants that are out-of-the-range on the expiry date, holders will receive a cash settlement amount of $0.25 according to the terms and conditions as set out in the listing documents.

Investors will receive the cash settlement amount (if any) no later than the third settlement day following the expiry date. In general, Christmas Eve, New Year's Eve and Lunar New Year's Eve (being half trading days) will normally be prescribed by the Exchange as non-settlement day.

6.7 How is the settlement price at expiry of a standard warrant or an inline warrant calculated?

For standard warrants or inline warrants issued on a single local stock traded on the Exchange, the settlement price at expiry is calculated based on the 5-day average closing price of the underlying stock prior to and excluding the expiry day.

For standard warrants or inline warrants issued on a local index, the settlement price at expiry is based on the final settlement price of the corresponding index futures contract of the same expiry month as the standard warrants or inline warrants traded on the Hong Kong Futures Exchange on the second last business day of the contract month.

For more information about the settlement price at expiry for standard warrants or inline warrants on other underlying assets, please refer to the relevant listing documents.

6.8 How is the settlement price at expiry of a CBBC calculated?

For CBBCs issued on a local stock traded on the Exchange, the settlement price at expiry is calculated based on the closing price of the underlying stock on the trading day before expiry of the CBBCs.

For CBBCs issued on a local index (such as HSI or HSCEI), the settlement price at expiry is based on the final settlement price of the corresponding index futures contract of the same expiry month as the CBBCs traded on the Hong Kong Futures Exchange on the second last business day of the contract month.

For more information about the settlement price at expiry for CBBCs on other underlying assets, please refer to the relevant listing documents.

6.9 An underlying stock will be delisted and cancelled for cash by way of privatisation. What will I get if I am holding structured products linked to that stock?

The issuer may elect to early terminate the structured products. Holders of those structured products may receive an early termination amount which is determined by the issuer:

(a) in good faith and a commercially reasonable manner; and

(b) where applicable, by reference to the determination made by the Exchange in relation to the relevant listed options or futures over the underlying stock. In a past case, such early termination amount has been calculated based on the difference between the exercise price and the offer price of cancelling the underlying stock under the proposed privatisation, adjusted by the entitlement ratio. However, such determination may be different on a case-by-case basis.

6.10 What is the method of determining the 5-day average closing price of the underlying stocks when there is a trading suspension or no closing price on the following day(s)?

(a) i. Trading suspension or absence of closing price on the 1st, 2nd, 3rd, or 4th valuation date only - in that case, the closing price on the next valuation date will be used as the closing price on such 1st, 2nd, 3rd, or 4th valuation date, so that there are 5 closing prices used to determine such 5-day average closing price.

ii. Trading suspension or absence of closing price on each of the 3rd and 4th valuation dates only - in that case, the closing price on the 5th valuation date will be used as the

closing price on each of the 3rd and 4th valuation dates, so that there are 5 closing prices used to determine such 5-day average closing price.

(b) Trading suspension or absence of closing price on the 5th valuation date only (but not the expiry date) - in that case, the closing price on the 5th valuation date is determined based on the issuer's good faith estimate made in accordance with the terms and conditions. Such determination will be made on a case-by-case basis based on prevailing market conditions. The closing price on the expiry date was used in most of the past cases.

(c) Trading suspension or absence of closing price on each of the 5 valuation dates and the expiry date - in that case, the closing prices on each of the 5 valuation dates are determined based on the issuer's good faith estimate made in accordance with the terms and conditions. Such determination will be made on a case-by-case basis by reference to the prevailing market conditions. The last reported closing price was used in most of the past cases.

Trading suspension above means suspension of trading of the underlying stock during the last half hour before close of trading.

6.11 What is the method of determining the settlement price at expiry of a CBBC when there is a trading suspension or no closing price for the underlying stocks on the following day(s)?

(a) Trading suspension or absence of closing price on the original valuation date only - in that case, the closing price on the trading day following the original valuation date will be used as the settlement price at expiry.

(b) Trading suspension or absence of closing price on the original valuation date and each of the three trading days immediately following the original valuation date - in that case, the closing price on the 4th trading day following the original valuation date will be used as the settlement price at expiry.

(c) Trading suspension or absence of closing price on the original valuation date and each of the four trading days immediately following the original valuation date - in that case, the settlement price at expiry is determined based on the issuer's good faith estimate made in accordance with the terms and conditions. Such determination will be made on a case-by-case basis by reference to the prevailing market conditions.

Trading suspension above means suspension of trading of the underlying stock during the last half hour before close of trading.

Part VII : Overseas underlying assets

7.1 I bought a structured product linked to an overseas underlying asset listed on an overseas exchange which has different trading hours from the Exchange. What should I look out for?

You can only trade structured products linked to an underlying asset listed overseas during trading hours of the Exchange. However, when the Exchange is closed, even though the overseas exchange is open for trading, you cannot trade your structured products.

If the overseas underlying asset becomes volatile during the trading hours of the overseas exchange, you will not be able to trade out your position while the Exchange is closed. This is one of the risks of trading structured products linked to an overseas underlying asset where the Exchange and the overseas exchange have different trading hours.

In addition, if you hold a CBBC linked to an overseas underlying, you should also be aware that you will not be able to sell it when it approaches knock-out while the Exchange is closed.

Conversely, when overseas exchange is closed and there is no trading of overseas underlying during the trading hours of the Exchange. You may not be able to obtain the underlying price for reference. As a result, the bid/ask spread of the structured products linked to an overseas underlying may be wider, as compared to structured products linked to a local underlying asset.

7.2. Can I trade my structured products linked to an overseas underlying asset when the overseas exchange is closed?

Structured products are traded according to the trading hours of the Exchange. You can still trade your structured products linked to an overseas underlying asset when the overseas exchange is closed, as long as the Exchange is open for trading.

7.3. What are the liquidity providers' obligations on structured products linked to overseas underlying assets?

Unlike structured products linked to local indices or other actively traded local stocks, liquidity providers are not required to proactively provide quotes for products linked to an overseas underlying asset. In case you do not see liquidity providers' quotes in the market, you have to call them to request for quotes. They are obligated to provide quotes within 10 minutes with a maximum bid/ask spread of 20 ticks and a minimum offer size of 20 board lots subject to certain exemptions set out in FAQ 4.16.

7.4. When an overseas exchange is closed for trading, does it mean that the price of structured products linked to an overseas underlying asset listed on that exchange will not move during trading hours of the Exchange?

Despite there being no movement of the overseas underlying asset during trading hours of the Exchange, issuers may take into account various factors in determining the price of the structured products. These factors may include but not limited to the price of the index futures contracts of relevant indices, the after hour trading price of the stock, company results announcements, company related news and the price of depositary receipts in other stock markets.

7.5. Where can I find the price of the overseas underlying assets?

Generally, you may find the price of the overseas underlying assets from the overseas exchanges or information vendors on a delayed basis. If you want to obtain real time pricing information, you may need to subscribe for real time price dissemination.

7.6. Is there anything relating to dissemination of information regarding the overseas underlying asset that I need to be aware of when trading structured products linked to an overseas underlying asset?

Yes. Due to the difference in trading hours among exchanges, the underlying company may release price sensitive news during trading hours of the Exchange, so you must be careful and do your own assessment. If the sensitive news is released during trading hours of the Exchange, the price of the structured products may become highly volatile, and you may only have limited time to digest the news and assess its potential impact. Additionally, such news or information may not be published in your preferred language.

7.7 How would the occurrence of a mandatory call event for CBBCs linked to overseas underlying assets be handled?

For the occurrence of a mandatory call event outside the Exchange's trading hours, trading in the CBBC linked to overseas underlying assets will be suspended upon market open on the trading day of the Exchange immediately after the mandatory call event is triggered.

For the occurrence of a mandatory call event during the Exchange's trading hours, trading in the CBBC linked to overseas underlying assets will be suspended as soon as practicable after the mandatory call event is triggered.

7.8 What happens to my structured product if its overseas underlying asset is suspended from trading?

Normally, if trading in the overseas underlying asset of a structured product is suspended, trading in the related structured product will also be suspended as soon as practicable. This arrangement is generally the same as that applicable to local underlying assets.

7.9 I noticed that a corporate action was announced by the overseas underlying stock, resulting in the suspension of related structured products. Why is this the case?

When issuers need to reference the closing price of overseas underlying stocks on the last-cum date to make corporate action adjustment to the structured products, due to the time difference between Hong Kong and the location of overseas exchange (for example the US), issuers may not be able to announce the adjustments before trading of related structured products commences on the Exchange on the Exchange's trading day immediately following close of trading on the overseas exchange on the last-cum date. Given the adjusted terms have not been announced, trading in those structured products will be suspended for that entire trading day of the Exchange.

You should note that depending on the type of corporate action, trading in the structured products on the Exchange may be suspended for more than one trading day in certain circumstances. In all cases, issuers will publish announcements setting out the corporate action adjustment and suspension arrangement (if any), you can refer to HKEXnews website for details.

7.10 If the overseas underlying assets are traded and settled in foreign currency, does it mean that the structured products must be traded and settled in foreign currency as well?

Not necessarily. The structured products may be traded and settled in Hong Kong Dollar even though the overseas underlying assets are traded and settled in foreign currency (e.g. United States Dollar). Investors should be aware of the exchange rate risk in this scenario.

Part VIII : Glossary

The following table briefly explains some of the common terms used in these FAQs when describing structured products and how they work. Please also refer to the relevant listing documents, which contain important details of how these terms apply in practice.

Term	What this means
5-day average closing price	The average of the closing prices of the underlying stock quoted on each of the 5 business days falling immediately before the expiry date of a standard warrant or inline warrant. This price is used to compare against the exercise price of a standard warrant, and for the case of inline warrants to compare against the upper and lower strike prices, to determine the cash settlement amount at expiry.
Active quote	A method of providing liquidity by actively inputting orders into the Exchange's trading system
At-the-money	A standard warrant or CBBC is at-the-money when the underlying asset price is equal to the strike price.
Call price or level	A pre-set benchmark price or level of the underlying asset used to determine if a mandatory call event has occurred.

Term	What this means
Cash settlement amount	The potential cash amount payable under a structured product at expiry, calculated in accordance with a payout formula specified in the listing document.
CBBC	Callable bull or bear contract listed on the Exchange.
Closing auction session	For a full day trading, closing auction session commences at 4:00 p.m. (12:00 noon for half day trading) and ends at 4:10 p.m. (12:10 p.m. for half day trading). A closing auction allows trades to be executed at the closing price. During a closing auction, market participants may input buy and sell orders, with the price that most volume can be traded at forming the closing price. All orders will then be executed at that price.
Entitlement ratio	The number of standard warrants or CBBCs needed to buy (or sell) one unit of the underlying asset. For example, a standard warrant linked to stock XYZ that has an entitlement ratio of 10:1 means that the holder of that standard warrant needs 10 standard warrants to acquire one unit of stock XYZ. In general (assuming other trade terms being the same), a standard warrant with a high entitlement ratio will have a lower price generally, and vice versa.
European style	European-style warrants can only be exercised on the expiry date
Exchange	The Stock Exchange of Hong Kong Limited.
Exercise price or level	A pre-set benchmark price or level to determine the potential cash settlement payout at expiry of a standard warrant or CBBC. For the case of inline warrants, it refers to an upper and a lower strike prices or levels used to determine the potential cash settlement payout at expiry.
Expiry date	The day on which the term of a structured product expires
Inline warrants	A different type of structured product compared to standard warrants, which offers a fixed cash settlement amount of $1 per warrant when the underlying settlement price or level falls within/at the upper and lower strike prices or levels at expiry, otherwise investors will receive $0.25 per inline warrant.
In-the-money	A standard warrant or CBBC is in-the-money when the underlying asset price falls above the strike price or level (in the case of call warrant / bull contracts) or below the strike price or level (in the case of put warrant / bear contracts).
In-the-range	An inline warrant is in-the-range when the underlying falls within or at the upper and lower strike prices or levels.
Liquidity provider	An Exchange participant appointed by the issuer to provide liquidity for a particular structured product.
Listing documents	They are supplement listing document and base listing document
Lower strike price or level	Applies to inline warrants only, being the lower of the two strike prices or levels as part of an inline warrant product terms, use to determine at expiry the cash settlement amount.
MCE or Mandatory Call Event	An event that occurs when the spot price or level of the underlying asset reaches or goes beyond the call price or level during the term of a CBBC.
MCE valuation period	A period commencing from the time at which a mandatory call event occurs in respect of a CBBC in a trading session of the Exchange to the end of the following trading session. The MCE valuation period may be extended due to the occurrence of disruption to the

Term	What this means
	trading of the underlying asset. Please see the listing documents of the relevant CBBC for further details.
Observation period	A period commencing from the first listing date of a CBBC to its last trading day (both days inclusive) in which the issuer will observe if a mandatory call event has occurred in respect of such CBBC.
OTC or over-the-counter	An off-exchange trading platform where financial instruments are traded directly between two parties on negotiated prices and terms.
Out-of-the-money	A standard warrant or CBBC is out-of-the-money when the underlying asset price falls below the strike price or level (in the case of call warrant / bull contracts) or above the strike price or level (in the case of put warrant / bear contracts).
Out-of-the-range	An inline warrant is out-of-the-range when the underlying falls outside the upper and lower strike prices or levels.
Product Sheets	Product Sheets containing specific product terms and liquidity provision requirements for each type of structured products approved by the Exchange, as published by the Exchange from time to time on the Exchange's website to provide guidance to structured products issuers for product issuances
Quote request	A method of providing liquidity by entering orders into the Exchange's trading system, in response to an investor's request.
Residual value	The residual cash payment (if any) paid to an investor in a Category R CBBC upon the occurrence of a mandatory call event.
Settlement day	A business day on which the settlement services of CCASS are open for use by CCASS participants. In general, a trading day will also be a settlement day, except that Christmas Eve, New Year's Eve and Lunar New Year's Eve will normally be prescribed by the Exchange as non-settlement days.
Standard warrants	Plain vanilla warrants with simple expiration date, strike price or level; call and put types with no additional special features such as those in exotic warrants.
Structured products	Hong Kong listed structured products which include standard warrants, inline warrants and CBBCs.
Underlying asset	The asset(s) to which a structured product is linked.
Upper strike price or level	Applies to inline warrants only, being the higher of the two strike price or level as part of an inline warrant product terms, use to determine at expiry the cash settlement amount.
Volatility	The degree of change in the price of the underlying asset of a particular warrant: the greater the fluctuations, the higher the volatility.
VCM or Volatility control mechanism	VCM is a dynamic price limit model applied at the individual instrument level. Where the price deviates more than a predefined percentage within a specific time frame, the instrument will trade within band during a 5-minute cooling off period. This provides a window allowing market participants to reassess their strategies, if necessary. It also helps to re-establish an orderly market during volatile market situations.