

General Knowledge on Derivatives Products

Preface

There are different kinds of investment product in Hong Kong and many of them are contained derivative element. Therefore, understand what we are buying and the risks we are facing, relatively is more important than “How much we can earn from this investment”. In this article, we will discuss some of the common derivative products in Hong Kong and the fundamentals relating to these instruments. We hope that audiences find this article to be useful and can give you a general knowledge to know more about derivatives, such as their nature, significant risk involved, etc. It is impossible to list all of the factors that may affect the performance and risks of each of these instruments. You **MUST** consult your professional investment advisor for further information before you invest.

衍生产品基本常识

序言

香港市场有许多不同种类的投资产品，其中许多都含有衍生元素。因此，熟悉我们所购买的产品和我们面对的风险比“投资能够为我们带来多少收益”更为重要。在这篇文章中，我们将讨论香港市场上一些常见的衍生产品和有关这些衍生工具基本常识。我们希望这篇文章能够使读者受益，了解更多有关衍生产品的基本知识，如他们的性质，涉及的重大风险等，为更深入的学习衍生产品打下基础。罗列出所有能够影响每只衍生工具表现和风险的因素是不太可能的，阁下在投资之前**必须**咨询您的专业投资顾问以便获得更深入的信息。

What is Derivative?

Derivative is a financial product whose value depends on, or derives from the value of another "underlying" asset. Futures, forwards, options, warrants, swaps, swaptions, structured notes are all examples of derivative products. Derivatives can be used for hedging, protecting against financial risk, or can be used to speculate on the movement of underlying asset, interest rates or the levels of financial indices.

什么是衍生产品？

衍生产品是一种金融产品，其价值取决于或衍生于另外一个标的资产的价值。期货，远期，期权，认股权证，掉期，掉期期权，结构性票据都是衍生产品。衍生产品可用于套期保值，防范金融风险，或者可以用来根据标的资产、利率或各种金融指数的变动而进行投机。

Payoff Pattern

We can base on the payoff pattern of the derivative products to classify them into two types, they are **forwards** and **options**.

The payoff pattern of forwards is linear and symmetric. It means that the change in the value of the derivatives is in the same direction and proportion as the change in value of the underlying. For example, if Hang Seng Index moves up 1%, the near term futures contract on this index should also move up 1%. There will be a little bit deviation from 1% due to index composition expectations and changes in future dividend term structure and forward interest rates expectations.

The payoff pattern of options is non-linear and asymmetric. It means that the change in value of the derivatives is not in the same proportion and may not be in the same direction as the change in value of the underlying. Same as the above example, if Hang Seng Index moves up 1%, it doesn't mean the instrument hold by the investor should also be moved up 1%. It is depended on the types of the option (call or put), the status of the option (in-the-money, at-the-money or out-of-money), time-to-maturity etc.

盈利模式

根据盈利模式，我们可以将衍生产品分为两类，**远期和期权**。

远期的盈利模式是线性和对称的。这意味着，衍生产品的价值变化同其标的资产的价值变化是同向的，并且变化比例相同。例如，如果恒生指数上涨1%，以恒生指数为标的的近期期货合约理论上也应上涨1%。但现实中，由于受指数成分股构成、未来股息期限结构变化和远期利率的预期影响，上涨幅度可能会与1%有微小偏差。

期权的盈利模式是非线性和非对称的。这意味着，衍生产品的价值变化与标的资产的价值变化可能是不同向的，且变化的比例不尽相同。如上述所讲例子，恒生指数如果上涨1%，并不意味着投资者所持有的衍生工具也上涨1%。这要取决于期权的类型（看涨期权或看跌期权）、期权的状态（价内期权、平价期权或价外期权）、至到期日的时间等。

Futures vs. Forwards

Futures is a kind of forwards contract. They are priced on the same way. The major difference is that futures contract is an exchange traded contract, where the Hang Seng Index Futures and H-shares Index Futures are an example of futures contracts traded on exchange. They have fixed terms for the contract size, length of the contract, expiry date etc. For those that are not traded on the exchange, they are called forward contracts. All these contracts traded via over-the-counter derivatives markets. Another difference is a minimum margin payment is required for the futures contract. The purpose of the margin payment is assured the investor has sufficient money to cover any possible trading loss. For the forward contracts, the actual payment would only be settled at the contract expiry date. In this sense, both parties are taking the counter party risks for each other.

期货与远期

期货类似于远期合约，他们以同样的方式定价。两者的主要区别为，期货合约是在交易所买卖的合约，恒生指数期货及H股指数期货就是在交易所买卖的期货合约的例子。期货合约在合同的大小，条款和到期日等方面都有统一的标准。而那些不

在交易所交易的合约被称为远期合约，远期合约都在场外交易。另一个区别是期货合约有支付最低保证金的要求，支付保证金的目的是确保投资者有足够的金钱去弥补任何潜在的交易损失。而就远期合约而言，实际支付只在合约到期日发生。从这个意义上说，双方互相承担对手方的风险。

Futures Terminology

期货术语

Contract Size: Contract value of each futures contract and is predetermined by the exchange itself. For example, if investor wants to trade gold futures in Hong Kong, he can found out that the contract size offers by HKEx is 100 troy ounces per contract and HKMEx is 32 troy ounces.

合约大小: 每份期货合约的合约价值是由交易所本身事先确定的。例如如果有投资者想投资黄金期货，他/她会发现，由香港交易所所提供的合约，每张价值为100金衡盎司，而由香港商品交易所所提供的合约，每张价值为32金衡盎司。

Cost of Carry: The relationship between futures prices and spot prices can be summarized in terms of what is known as the cost of carry. This measures the storage cost plus the interest that is paid to finance the asset less the income earned on the asset.

持有成本: 期货价格和现货价格之间的关系可以用持有成本来概括。持有成本是存储成本加上持有金融资产需缴付的利息减去金融资产所产生的收入所得而得来的。

Expiry Date:	It is the date specified in the futures contract. This is the last day on which the contract will be traded, at the end of which it will cease to exist.
到期日:	在期货合约中指定的日期。这是该合约进行交易的最后一天。这一天过后这个合约将被终止进行交易。
Front Month:	The first expiration month in a series of contract month.
即月:	在一系列合约月份中的第一个到期结算的月份。
Futures price:	The price at which the futures contract trades in the futures market.
期货价格:	期货合约在期货市场的交易价格。
Initial Margin:	The initial deposit made to the broker when open a new futures position whether long or short.
初始保证金:	当投资者进场建立期货合约部位时,不论是长仓还是空仓缴纳给经纪人的保证金。
Long position:	Outstanding purchase position.
长仓:	多头部位,未结算的买进期货部位。
Maintenance Margin:	The minimum amount of cash is needed to have in the trading account in order to maintain the outstanding position.
维持保证金:	投资者为了维持现有部位而必须保持其帐户内的最低保证金金额。
Marking to market:	At the end of each trading day, the value of the derivatives portfolio in the investors' accounts are adjusted according to the daily settlement price of each outstanding contract in a process known as marking to market.
逐日盯市制度:	在每个交易日结束后,对投资者帐户中尚未结算的衍生产品组合价值,以当日结算价为标的进行重新的价值评估。

Contract Multiplier:	It is used to compute the cash value of each futures contract. For example, the contract multiplier for Hang Seng Index Futures is HKD 50.00 per index point. Now the contract is trade at 16,000 point. The contract value for this contract will be HKD 800,000 (16,000 point x HKD 50.00).
合约乘数:	用以计算每个期货合约的现金价值。例如,恒指期货合约的合约乘数为每指数点 50 港元,如果一个恒指期货合约现有的报价为 16,000 点,则此合约的一张合约价值为 80 万港元 (16,000 点 x 50 港元)。
Open Interest:	Total outstanding long and short positions in the market.
空盘量:	在期货市场上尚未结清的全部长仓和空仓的数量。
Short position:	Outstanding sales position.
淡仓:	尚未结清的空头部位。
Spot price:	The price at which an asset trades in spot market.
现货价格:	一项资产在现货市场交易的价格。
Spread:	It can be defined as the futures price minus the spot price. There will be a different spread for each delivery month for each contract. Under normal circumstances, the spread will be positive. This reflects that futures prices normally exceed spot prices.
价差:	可以被定义为期货价格减去现货价格。期货合同的每个交割月份都会有不同的价差。正常情况下,价差是正数,这反映了期货价格通常高于现货价格。
Tick Size:	Minimum price difference between bid and offer quotes.
最小价格波动值:	买卖价之间的最小价差。

Options

Option essentially is a right but not an obligation for an option buyer to buy or sell certain amount underlying asset at a predetermined price on or before a specified date. As for the option seller, it has the obligation to sell or buy the underlying asset given the option is exercised by the option buyer. Option buyer has to pay an option premium to the option seller in exchange for that right. Within option products, we should know the difference between a “Call Option” and a “Put Option”. The meanings of “American Style Option” and “European Style Option” and many other terms. You may feel confusing of them but don't let the names overwhelm you. Each of them has a specific definition when referring to the option trading. If you are feel interest to learn more about option, these terms will become familiar to you.

期权

期权实质上是一种权利而不是一种义务。一个期权合约的买方有权利在特定日期或在此日期之前以特定价格买入或卖出一定数量的标的资产，而期权合约的卖方则有义务在期权合约买方行使期权后将相关标的资产买入或卖出。期权的买方以支付期权费的方式换取权利。在期权产品中，我们应当知道“认购期权”和“认沽期权”之间的区别、“美式期权”和“欧式期权”及许多其它术语的含义。你可能对这些名词感到困惑，但不要被它们的名字吓到。当这些术语与期权交易相关联时，每个术语都有其特定的含义。如果你有兴趣了解更多有关期权方面的知识，你需要熟悉这些术语。

Option Terminology

期权术语

American Style Option: An option contract that can be exercised at any time between the date of purchase and the expiration date.
美式期权: 可在到期日或之前任何一交易日行权的期权合约。

At-the-money:

An at-the-money option (ATM) is an option that would lead to zero cash flow if it exercises immediately. An option on the index is ATM when the current index level equals the strike price (i.e. spot price = strike price).

等价:

等价期权指期权如果被行权时所产生的现金流为零。以一个指数期权为例，当前指数点位和指数期权的履约价相同时（即现货价格=行使价），这个指数期权处于实值状态，即等价状态。

Call Option:

An option contract which gives the holder the right, but not the obligation, to buy a specified amount of an underlying asset at a specified price within a specified time in exchange for a paying a premium. The call option buyer hopes the price of the shares will rise by a specific date while the call option seller (or writer) hopes that the price of the shares will drop, remain stable, or rise by an amount less than their profit on the premium by the specified date.

看涨期权:

期权合约赋予持有人权利，但没有义务，在特定时期内以协议价格购买指定数量的标的资产来做为支付期权费的补偿。看涨期权的买方希望在某一特定日期前股票价格会上升，而看涨期权的卖方则希望在某一特定日期前股票价格会下降，保持稳定，或上升的幅度小于他们在期权费上的盈利。

Call Premium:

The amount a call option costs.

看涨期权费:

看涨期权的成本金额。

Covered Call:

A short call option position plus a long position in an underlying asset.

备兑认购期权:

卖出看涨期权的同时买入等值标的资产的长仓。

Covered Put:	A short put option position against a short position in an underlying asset.
备兑认沽期权:	卖出看跌期权的同时卖出等值标的资产的淡仓。
Credit Spread:	The difference in value between 2 options, where the value of the short position exceeds the value of the long position.
信贷价差:	卖出期权所得到的溢价超过买入期权时所支付的溢价的差异。
Debit Spread:	The difference in value between 2 options, where the value of the long position exceeds the value of the short position.
借记价差:	买入期权时所支付的溢价超过卖出期权所得到的溢价的差异。
Deep-in-the-Money:	A deep-in-the-money call option has a strike price well below the current price of the underlying instrument. A deep-in-the-money put option has a strike price well above the current price of the underlying instrument. Both primarily consist of intrinsic value.
深度价内:	深度价内的看涨期权的履约价远低于当前标的工具的现货价格。深度价内的看跌期权的履约价远高于当前标的工具的现货价格。两者都有内在价值。
European Style Option:	An option contract that can only be exercised on the expiration date.
欧式期权:	只能在到期日行权的期权合约。
Exercise:	Implementing an option's right to buy or sell the underlying security.
行权:	执行期权的权利买入或卖出标的股票。

Exercise Price:	The specified price on an option contract at which the contract may be exercised, whereby a call option buyer can buy the underlying asset or a put option buyer can sell the underlying asset. It also known as strike price.
行权价:	指合约可以被行权时的特定价格,即看涨期权的买方能够购买标的资产或看跌期权的买方可以出售标的资产时的期权价格。它也被称为履约价格。
Expiration Date: 截止日期:	The last day on which an option may be exercised. 可行使购股权的最后一天。
In-the-Money:	A "call" option is in-the-money if the strike price is less than the market price of the underlying asset. A "put" option is in-the-money if the strike price is greater than the market price of the underlying asset.
价内:	如果履约价低于标的资产的市场价格,看涨期权就处于实值状态,即价内状态。如果履约价高于标的资产的市场价格,看跌期权就处于实值状态,即价内状态。
Intrinsic Value:	The difference between the exercise price of the option and the current value of the underlying instrument (spot price). If the option does not have positive monetary value, it is referred to as out-the-money.
内在价值:	期权行权价格和基本工具的当前值(现货价格)之间的差异。如果该期权没有正面的货币价值,它处于虚值状态,即价外状态。
Naked Option:	An option written (sold) without an underlying hedge position.
无保护期权:	是指没有对冲标的资产部位的看涨期权或看跌期权。

- Out-of-the-Money:** A call option is out-of-the-money if its exercise or strike price is above the current market price of the underlying security.
A put option is out-of-the-money if its exercise or strike price is below the current market price of the underlying security.
If an option is out-the-money at expiration, its holder will simply "abandon the option" and it will expire worthless.
- 价外:** 如果行权或履约价高于标的股票当前的市场价格,看涨期权就处于虚值状态,即价外状态。
如果行权或履约价低于标的股票当前的市场价格,看跌期权就处于虚值状态,即价外状态。
如果一个期权在到期时还处于虚值状态,其持有人只能“放弃期权”,期权将变得毫无价值。
- Put Option:** An option contract giving the owner the right, but not the obligation, to sell a specified amount of an underlying security at a specified price within a specified time. The put option buyer hopes the price of the shares will drop by a specific date while the put option seller (or writer) hopes that the price of the shares will rise, remain stable, or drop by an amount less than their profit on the premium by the specified date.
- 看跌期权:** 期权合约赋予持有人权利,但没有义务,在特定时期内以协议价格卖出指定数量的标的资产。看跌期权的买方希望在某一特定日期前股票价格会上升,而看跌期权的卖方则希望在某一特定日期前股票价格会下降,保持稳定,或下降的幅度小于他们在期权费上的盈利。
- Straddle:** A position consisting of a long (short) call and a long (short) put, where both options have the same strike price and expiration date.

- 跨式期权组合:** 指一种包含相同行使价和到期日的看涨期权和看跌期权的组合。
- Strangle:** A position consisting of a long (short) call and a long (short) put where both options have the same underlying, the same expiration date, but different strike prices. Most strangles involve OTM options.
- 异价跨式组合:** 指包含不同行使价但相同标的资产和到期日的看涨期权和看跌期权的组合。多数异价跨式组合都涉及等价期权。
- Synthetic Long Stock:
合成正股长仓:** A short put and a long call.
同时沽出看跌期权和买入看涨期权。
- Synthetic Short Stock:
合成正股短仓:** A short call and a long put.
同时沽出看涨期权和买入看跌期权。
- Time Decay:** The amount of time premium movement within a certain time frame on an option due to the passage of time in relation to the expiration of the option itself.
- 时间衰减:** 期权在一定的时期内随着时间的流逝而导致的时间溢价价值的变动,这种变动取决于期权距离到期的时间。
- Time value:** The price of an option less its intrinsic value. An out-of-the money option's worth consists of nothing but time value.
- 时间价值:** 期权的价值与其内在价值之差。价外期权的价值没有内在价值只有时间价值。
- Volatility:** It measures the underlying assets tendency to move up and down in price, based on its daily price history over the specified time period. Mathematically, volatility is the

standard deviation of the percentage change in daily price.

There are two kinds of volatility:

Historical Volatility - statistical measurement of past price movements.

Implied Volatility - measures whether option premiums are relatively expensive or inexpensive. Implied volatility is calculated based on the currently traded option premiums.

波动性:

在特定的时期，根据期权每天的历史价格，以价格衡量标的资产向上或向下的趋势。从数学的角度来说，波动是每日价格百分比变化的标准差。有两种波动性：

历史波动性(historical volatility)-期权历史价格波动的统计测量。

隐含波动性(implied volatility)-衡量期权溢价是否相对昂贵或者便宜。隐含波动性是基于现有期权交易溢价计算的。

Writer:

An individual who sells an option.

卖方:

卖出期权的个体。

Warrants

Warrants are the most common derivative products with options features in Hong Kong. It is a kind of securities and can be traded in the exchange. We can find there are two different types of warrants in the market. They are Equity Warrant (Company Warrant) and Derivative Warrant.

Equity warrant is a call option issued by an issued company giving the warrant holder a right to acquire new shares in that firm or any of its subsidiaries. Usually the exercise price is higher than the market price at the time of issuance. When warrant holder exercises this right, the firm has to issue new shares for them (the total shares outstanding increases). Derivative warrant is generally issued by third party such as investment bank. They can be either a put or call warrant. The underlying asset can be a single stock, a basket of stocks, an index, a currency, a commodity etc. Most of them are settled in cash.

权证

权证是香港最常见的具有期权性质的衍生工具，他是一种可以在交易所交易的证券产品。香港交易市场中的权证分为两类，分别是股票权证（公司认股证）和衍生权证。

股票权证是由公司发行的看涨期权，给予权证持有人买入该公司或该公司子公司的新股份的权利，通常行权价都会较发行时的市场价格高。当权证持有人行使权利时，公司必须向持有人发行新股份（全部已发行的股份数量便会增加）。衍生权证一般由第三方机构发行，例如投资银行，它们可以是看涨或看跌权证，目标资产可以是单一的股票、一篮子股票、指数、货币、商品等，大部份衍生权证都是以现金结算的。

Applications of Derivative

There are many applications of derivatives. They are usually used for the following four purposes:

- Yield Enhancement
- Access to Different Asset Classes;
- Leverage Effect; and
- Long/Short Exposures & Risk Hedging

衍生工具的应用

衍生工具有很多用途，一般为了实现以下目的：

- 提升投资收益
- 参与不同资产类别
- 杠杆效应
- 做多 / 做空敞口和风险对冲

Yield Enhancement

If an investor anticipates the stock market will not drop significantly in the coming month, and even if certain stocks drop below a certain price, the investor is willing to buy those stocks at that price for investment.

The investor can use the equity-linked note (ELN) by selling a put option or selling the stock option in the exchange directly. The main difference is the investor can base on their investment needs to customize the strike level, contract size and the expiry date of the contract when he invests in the ELN.

On the contract expiry date, if the underlying stock does not fall below a strike level, the investor can enhance his/her investment yield by receiving the option premium and he/she does not have to actually buy the stock. But if the market drops, then the investor needs to buy the stock at a price higher than the market price, and if the stock price falls sharply, there will be a greater risk of loss.

提升投资收益

如果投资者预期股票市场将会在未来数月不会有大幅度下跌，即使一些特定股票低于特定价格时，投资者仍然愿意以该特定价格，买入这些股票作为投资。

该投资者可以利用股票挂钩票据(ELN)，在交易市场直接卖出看跌期权或卖出股票期权，其中主要的差别是，投资者投资ELN时，可以基于自身的要求，定制执行价格水平、合约大小和合约到期日。

如果合约到期日，该标的股票并没有下跌至低于执行价格水平，投资者可以无须买入该股票，通过获取期权金，提高投资收益。但当市场下跌时，投资者便需要以高于市场的价格买入该股票，如果股票价格大幅下跌的话，投资者便会面临重大亏损的风险。

Access to Different Asset Classes

“Access to Different Asset Classes” means that investor can participate in, or buy and sell, different assets like stock and foreign currency through derivatives. As an example, the "A-share" market in Mainland China is a market that foreigners could not participate in; however, through Synthetic ETFs, investors can indirectly participate in the "A-share" market. These Synthetic ETFs make use of derivatives to track (or replicate) the performance of a market index as the main investment objective. Through the Synthetic ETFs, although investor cannot hold "A" shares directly, the performance of "A" shares can be reflected by the Synthetic ETFs the investor holds.

参与不同资产类别

“参与不同资产类别”即代表投资者可以参与或买入卖出不同类别的资产，例如可以通过衍生工具持有股票和外汇敞口。举个例子，海外投资者是无法参与中国大陆的“A股”市场，但是通过合成ETF，投资者便可以间接参与“A股”市场，这些合成ETF的主要投资目的是利用衍生工具追踪（或复制）市场指数的表现，通过持有合成ETF，投资者尽管未能直接持有“A股”，但是仍可以通过持有合成ETF 获取“A股”表现。

Leverage Effect

If an investor wants to increase his participation in the market when a clear market trend is found, a very aggressive approach can be achieved by buying warrants with the same amount of investment. However, the risk taken by the investor will be very high!

For example, an investor hopes to leverage up the exposure on a stock. The underlying stock of a call warrant is \$100 per share at current market level, and a three months maturity call warrant of this stock, with strike \$100, indicating at \$0.5 currently. Assume the conversion ratio of this derivative warrant to stock is 10:1 and the total investment is \$100,000.

Strategy A (stock): Purchase 1000 shares
Strategy B (warrant): Purchase 200,000 shares of the call warrant with strike \$100.

杠杆效应

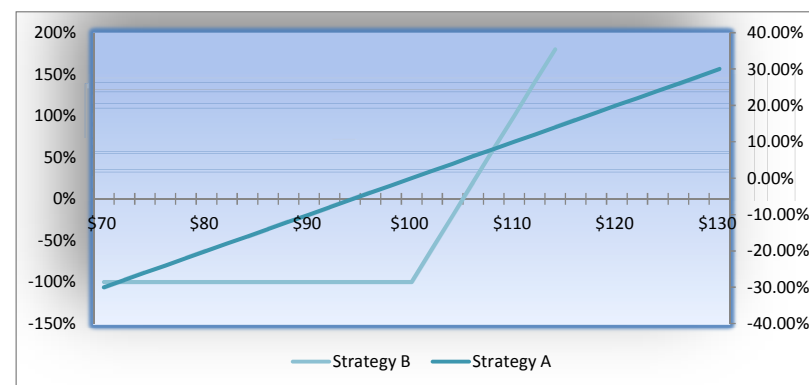
当投资者发现一个明确的市场趋势，如果他想更多参与市场，他可以买入与其投资数量相同的权证，然而，投资者所承担的风险将非常高！

例如，投资者想以杠杆的方式提升某一股票的敞口，某一看涨权证中标的股票的市场价格为每股 100 港元，一个该股票 3 个月到期，而执行价格为 100 港元的看涨权证现时价格是 0.5 港元。假设该股票的衍生权证的转换比例为 10:1，总投资金额为 100,000 港元。

策略 A (股票): 买入 1000 股股票
策略 B (权证): 买入 200,000 股执行价格为 100 港元的看涨权证

Possible payoff and rate of return of two portfolios during this three months investment:
在这3个月内两个组合可能的投资收益和的回报率：

Price \ Portfolio	\$85	\$90	\$95	\$100	\$105	\$110	\$115
A	\$85,000	\$90,000	\$95,000	\$100,000	\$105,000	\$110,000	\$115,000
B	\$0	\$0	\$0	\$0	\$100,000	\$200,000	\$300,000



Observation:

From the above example, it is found that trading in warrant can achieve:

The slope of payoff of Strategy B is much steeper than Strategy A. It can be found that Strategy B is much more sensitive to the change of price of the underlying stock than Strategy A. This leverage effect can help the investors increase their participation in bullish market.

Conversely, if the value of underlying stock remains unchanged until the warrant expire (on its initial value \$100). The value of Strategy B falls precipitously to zero, the rate of return will equal to -100%.

观察结果:

从上面的例子，我们可以发现通过权证交易可以实现如下目的：

策略B收益的斜率是远远高于策略A收益的斜率,可以发现策略B对标的股票价格的变动较策略A更为敏感,这个杠杆效应可以帮助投资者在牛市时增加参与度。相反,如果目标股票的价值保持不变,直到权证到期(其初始值100港元)。策略 B 价值急剧下降到零,回报率会等于-100%。

Long/Short Exposures & Risk Hedging

If purchasing stock seems risky, investor can try to use the “put” to hedge the downside risk. Combining the feature of the put and stock, investor can have a better protection against adverse market situation. It can provide a good strategy when the investor wants to keep on holding the stock for reasons.

For example, if the market price of a stock is at \$25 per share, a six months maturity put warrant of this stock, with strike \$23, indicating at \$0.10. Investor decides to buy 4,000 shares of the stock with the total investment in stock \$100,000. Also, buy 40,000 shares of the put warrant.

Strategy A (stock): Purchase 4,000 shares

Strategy B (stock + warrant): Purchase 4,000 shares of underlying stock and 40,000 shares of put warrant for \$4,000.

做多 / 做空敞口和风险对冲

如果购买股票风险过大,投资者可以尝试使用“看跌权证”对冲下跌风险。结合看跌权证和股票的特征,投资者可以在不利市场形势中获得更好的保护。当投资者因某种原因要继续持有该股票,它可以提供一个很好的避难策略。

例如,如果某股票的市场价格是每股25美元,一个该股票6个月到期,而执行价格为23港元的看跌权证的价格现时是0.10港元。投资者决定买入4000股股票,该股票的总投资为100,000港元。此外,买入该股40,000股的看跌权证。

策略 A (股票): 买入 4,000 股股票

策略 B (股票 + 权证): 买入 4,000 股股票和买入该股 40,000 股的看跌权证

Possible payoff and rate of return of two portfolios during this six months investment: 在这6个月内两个组合可能的投资收益和的回报率:

Price Position	\$17	\$19	\$21	\$23	\$25	\$27	\$29
Holding stock	\$68,000	\$76,000	\$84,000	\$92,000	\$100,000	\$108,000	\$116,000
Holding warrant	\$20,000	\$12,000	\$4,000	-\$4,000	-\$4,000	-\$4,000	-\$4,000

Price Position	\$17	\$19	\$21	\$23	\$25	\$27	\$29
A	-32%	-24%	-16%	-8%	0%	+8%	+16%
B	-15.38%	-15.38%	-15.38%	-15.38%	-7.69%	-0%	+7.69%

Observation:

From the above example, it is found that trading in warrant can achieve the following:

Put warrant can be used to hedge a long stock position when the share price falls. The corresponding values of a put warrant rises will offset the loss comes from the stock. It can help investors to preserve the value of a portfolio in a bearish market or during the uncertain period instead of selling the shares and missed a potential rally.

观察结果:

从上面的例子,我们可以发现通过权证交易可以达到如下目的:

当股价下跌时,看跌权证可用于对冲多头的股票敞口。看跌权证价格上涨的相应价值将抵消股票的损失。它可以帮助投资者在熊市或市场不明朗时,维持投资组合的价值,并继续持有而不是出售的股票,避免错过了一个股票潜在反弹的机会。

Callable Bull / Bear Contracts

Besides derivative warrant, CBBC is one of the most popular derivative products we can be traded in Hong Kong. Same as other derivative instrument, its value is determined by the performance of an asset it is linked to. It also provides investors with a leveraged

investment in underlying assets, which can be a single stock, or an index.

CBBC has two types of contracts. They are Callable Bull Contract and Callable Bear Contract. By investing in a callable bull contract, investors are bullish on the prospect of the underlying asset and intend to capture its potential price appreciation. Conversely, investors buying a callable bear contract are bearish on the prospect of the underlying asset and try to make a profit in a falling market.

CBBC is typically issued at a price that represents the difference between the spot price of the underlying asset and the strike price of the CBBCs, plus a small premium (which is usually the finance cost). The strike price can be equal to or lower (bull)/higher (bear) than the call price. The call price is also referred to as "stop-loss". If the underlying asset's price reaches the call price at any time prior to expiry, the CBBC will expire early. The issuer of the CBBC must call the CBBC and trading of the CBBC will be terminated immediately. Such an event is referred to as a Mandatory Call Event. However, CBBC will expire at a predefined date when the Mandatory Call Event never occurs.

可赎回牛/熊证

除了衍生权证外，可赎回牛/熊证是我们可以香港买卖的最流行的衍生产品之一。其他衍生工具一样，它的价值取决于和它相关联的资产的表现。它还向投资者提供关于标的资产的杠杆投资，标的资产可以是单一股票或指数。

可赎回牛/熊证有两种类型的合同，即可赎回牛证和可赎回熊证。投资者购买可赎回牛证，表示其看好标的资产的前景并打算捕获其潜在的价格升值所带来的收益。相反，投资者购买可赎回熊证，表示其看淡标的资产的前景，并试图在市场下跌时获利。

可赎回牛/熊证的定价为标的资产的现价与可赎回牛/熊证履约价之间的差别，再加上一个小的溢价（通常是融资成本）。履约价可以等于或低于（牛证）/高于（熊证）赎回价。赎回价也被称为“止损”价。如果标的资产价格在到期前的任何时间达到赎回价，可赎回牛/熊证将提前到期。可赎回牛/熊证的发行人必须赎回牛熊证，可赎回牛/熊证的交易将立即终止，这被称为强制性赎回事件。不过，如果强制性

赎回事件没有发生过，可赎回牛熊证将会在预定日期届满后过期。

Key Risks Associated with Derivatives

The key risks involved in derivatives, including:

1. Counter party Risk

When the derivative instruments are issued by third-parties, such as listed companies or financial institutions, if the issuing party encounters financial problems and this leads to a decrease in their credit rating, or if they collapse because of solvency problems, the derivatives' values will be affected and may even lose all value.

2. Market Risk

Derivatives' prices depend on the value of their underlying assets. Normally, fluctuations in the underlying assets' prices will affect derivatives' prices directly. This is the Investment Risk of the Underlying Asset.

3. Liquidity

There may be a risk that the derivatives cannot be easily sold or converted into cash with low cost. Before the expiry, some derivatives may be harder to sell and convert into cash. If it is not possible to sell them, investor will have to wait until the derivatives expire before he/she can get his/her funds back.

4. Interest Rate Risk

Interest rate and the values of all derivative products are closely related. Any derivative will ultimately be exchanged for an "asset" and "money", or exchanged between two currencies. The fact is that "money" is necessarily linked to interest rates; therefore, interest rate changes will definitely affect the values of derivative products.

5. Leverage Risk

Although derivative warrants may cost a fraction of the price of the underlying assets, a derivative warrant may change in value more or less rapidly than the underlying assets. In the worst case the value of the derivative warrants may fall to zero and holders will lose their entire purchase price.

与衍生工具相关的主要风险

涉及衍生工具的主要风险，包括：

1. 对手方风险当衍生工具的发行方是第三方，如上市公司或金融机构，如果发行方遇到财务问题，并导致发行方的信用评级下降；或者如果他们由于偿付能力问题而倒闭，衍生工具的价值将受到影响，甚至可能失去所有的价值。

2. 市场风险

衍生产品的价格取决于标的资产的价值。通常情况下，标的资产的价格波动将直接影响衍生产品的价格，这是标的资产的投资风险。

3. 流动风险

指衍生产品可能很难出售或以低成本转换成现金的风险。一些衍生产品在到期之前，可能难以出售和转换成现金。如果不能卖掉这些衍生产品，投资者在能够拿回他/她的资金之前，不得不等待直到衍生产品到期为止。

4. 利率风险

利率及所有衍生产品的价值是密切相关的。任何衍生产品最终会被交换为“资产”和“钱”，或在两种货币之间转换。事实是，“钱”是必然和利率相联系，因此，利率的变化肯定会影响衍生产品的价值。

5. 杠杆风险

虽然衍生权证的价格可能只是标的资产价格的一小部分，衍生权证价值的变化速度可能会比标的产品价值的变化速度要快或要慢。在最坏的情况下，衍生权证的价值可能会下降到零，持有人将失去他们的整个购买价格。

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Account No.: _____

Date: _____

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