

UBS Education:

U.S. Index Warrants and CBBCs



We have shared some features of the Hong Kong Index callable bull/bear contracts (CBBCs) and warrants in the UBS Education before, and now we would like to further discuss about U.S. Index warrants and the latest U.S. Index CBBCs. Given the different trading hours between the United States and Hong Kong, how do these products fulfill their potential during trading hours of the Hong Kong to let investors continuously capture the trend of the U.S. stock?

The price of underlying U.S. Index warrants will move during Hong Kong trading hours since the issuers use underlying futures as hedging tools. In the case of the Nasdaq, issuers use NASDAQ 100 E-mini Futures, whereas the Dow Jones E-mini Futures is used as hedging tool for the Dow Jones, which means that when events occur in the APAC region and Europe while the U.S. stock market is closed, it will still reflect on the U.S. stock futures immediately. Hong Kong investors can adjust their strategies with U.S. Index Warrants or CBBCs before the U.S. stock market opens.

The calculation of price movement of U.S. Index products is similar to that of the Hong Kong products. While U.S. stock indices are denominated in USD, Hong Kong warrants are in HKD, the price movement will be influenced by the exchange rate of USD.

$$\text{U.S. Index Warrants Price Movement} = ((\text{U.S. Index Futures Price Movement} / \text{Entitlement Ratio}) * \text{USD Exchange Rate}) * \text{Delta}$$

The U.S. index warrant settlement at expiry date is similar to that of the Hang Seng Index, except that Hong Kong index futures settle at the end of every month, whereas US index futures generally settle on the third Friday of every three months (i.e., March, June, September, and December). The settlement reference price is the current month's futures contract settlement price. Settlement calculations are as follow:

$$\text{U.S. Index Call Warrant Settlement Price} = (\text{Settlement Level} - \text{Strike Level}) / \text{Entitlement Ratio} * \text{USD Exchange Rate}$$

$$\text{U.S. Index Put Warrant Settlement Price} = (\text{Strike Level} - \text{Settlement Level}) / \text{Entitlement Ratio} * \text{USD Exchange Rate}$$

As for the U.S. CBBCs, it should be noticed that there is no call mechanism. A Mandatory Call Event is triggered by the spot level of US Indices so can only occur during the US stock market trading hours. UBS US Index CBBCs are traded on the Hong Kong Stock Exchange. Therefore, if US Index Futures reach the call level of a CBBC during HK stock trading hours, the issuer will continue to quote for the CBBCs (unless the theoretical value of the CBBCs are less than HKD0.01, the issuers cannot quote). Investors can still trade during the HK stock trading hours even when the related future price is lower than the call level of bull contracts or higher than the call level of bear contracts.

During US stock trading sessions, for CBBCs that are already listed, if the US Index spot level touches or goes beyond the call level of the US Index CBBCs, Mandatory Call Events will be triggered for those CBBCs. For CBBCs to be listed on the next HK trading day, if the US Index closing level touches or goes beyond the call level of the US Index CBBCs, Mandatory Call Events will be triggered for those CBBCs as well. The Mandatory Call Events will be reflected before the opening of the next HK stock trading day. As US Index CBBCs are traded across two different time zones, if the next trading day falls on a HK holiday, the Mandatory Call Event will be postponed and only reflected on the next HK trading day.

UBS only issues Category R US Index CBBCs. This means there might be residual value for the US Index CBBCs after Mandatory Call Events. Different from Hong Kong stock market, 9:30am to 4:00pm US Eastern Time is the US stock market trading hours. The observation period commences from the moment the Mandatory Call Event occurs, and up to the end of the following US stock market trading session. The residual value is calculated as follows:

$$\text{The Residual Value of US Index Callable Bull Contract} = (\text{Lowest Index Level between Two Sessions of Trading Hours} - \text{Strike level}) * 1 \text{ Board Lot} * \text{USD exchange rate} / \text{Conversion Ratio (converted into the Settlement Currency at the Exchange Rate*)}$$

$$\text{The Residual Value of US Index Callable Bear Contract} = (\text{Strike Level} - \text{Highest Index Price between Two Sessions of Trading Hours}) * 1 \text{ Board Lot} * \text{USD exchange rate} / \text{Conversion Ratio (converted into the Settlement Currency at the Exchange Rate*)}$$

* "Exchange Rate" is the exchange rate between USD and HKD at or about 4:00pm New York Time on the last Index Business Day of the valuation period of the Mandatory Call Event. This is determined by the issuer with reference to the median quote of the "USDHKD" exchange rate displayed on the Bloomberg page "BFIX" (expressed as the number of units of HKD per 1 unit of USD). If the exchange rate on this page is not available for any reason at such time on such date, the issuer shall determine the exchange rate in a commercially reasonable manner.

If there is no Mandatory Call Event on or before the last trading day, the foreign exchange rate will also need to be factored in the calculation of holding a CBBC until expiry and before settlement date. Settlement calculations are as follow:

$$\text{Settlement Price for US Index Callable Bull Contracts} = (\text{Closing Level} - \text{Strike Level}) * 1 \text{ Board Lot} * \text{USD Exchange Rate} / \text{Conversion Ratio (converted into the Settlement Currency at the Exchange Rate*)}$$

$$\text{Settlement Price for US Index Callable Bear Contracts} = (\text{Strike Level} - \text{Closing Level}) * 1 \text{ Board Lot} * \text{USD Exchange Rate} / \text{Conversion Ratio (converted into the Settlement Currency at the Exchange Rate*)}$$

* "Exchange Rate" means the exchange rate between USD and HKD at or about 10:00am New York Time on the Valuation Date. As determined by the issuer with reference to the median quote of "USDHKD" exchange rate displayed on the Bloomberg page "BFIX". If the exchange rate on this page is not available for any reason at such time on such date, the issuer shall determine the exchange rate in a commercially reasonable manner.

If the US Index Futures settlement level is equal to or lower than the strike level of a bull contract or it's no less than the strike level of the bear contract, the settlement price will be zero.

For details on warrants and CBBCs, please refer to UBS website: <http://www.ubs.com/hkwarrants>

Clip of warrants' tutorial and market highlights

https://www.youtube.com/channel/UCKw86qy4eBAlnmd52MND45Q?view_as=subscriber

UBS Warrants and CBBCs' Team

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