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## I. Characteristics of warrants:

1. **What are warrants:** Derivatives that give the right, but not obligation, to buy or sell an underlying asset at a pre-set price on or before a certain day in the future.



On a specific date or within a certain period, investors may, based on the **agreed-upon price** (exercise price), buy (sell) underlying instruments **for an agreed-upon quantity** (exercise ratio) from (to) the issuer. Warrants after listed may be traded based on the market price.

## 2. Classification of warrants:

### ⦿ Classification by bullish/bearish stock market outlook

Call warrants	To be purchased by investors <b>making bullish bets</b> .
Put warrants	To be purchased by investors <b>making bearish bets</b> .

### ⦿ Classification by timings of exercise

American warrants	Investors may request for exercise on any trading day within the duration of warrants.
European warrants	Investors may request for exercise only on <b>the maturity date</b> of warrants.

### ⦿ Classification by exercise values

In-the-money warrants	A call warrant with the underlying instrument's price > exercise price, or a put warrant with the underlying instrument's price < exercise price.
At-the-money warrants	A warrant with the underlying instrument's price = exercise price.
Out-of-the-money warrants	A call warrant with the underlying instrument's price < exercise price, or a put warrant with the underlying instrument's price > exercise price.

## Classification by warrant codes

Call warrants	A six-digit code numbered from 030001 to 089999.
Put warrants	A five-digit code plus the English letter P, U or T and numbered from 03001P to 08999P, 03001U to 08999U, and 03001T to 08999T.
Call warrants with indices or securities of foreign exchanges as underlying instruments.	A five-digit code plus the English letter F and numbered from 03001F to 08999F.
Put warrants with indices or securities of foreign exchanges as underlying instruments.	A five-digit code plus the English letter Q and numbered from 03001Q to 08999Q.
Callable bull certificates	A five-digit code plus the English letter C and numbered from 03001C to 08999C.
Callable bear certificates	A five-digit code plus the English letter B and numbered from 03001B to 08999B.
Extendible callable bull certificates	A five-digit code plus the English letter X and numbered from 03001X to 08999X.
Extendible callable bear certificates	A five-digit code plus the English letter Y and numbered from 03001Y to 08999Y.

### 3. Introduction of theoretical warrant price:

Warrants' prices are generated based on the Black-Scholes Model. The issuers' official websites usually provide calculations of theoretical warrant prices; after the investor inputs relevant parameters, the warrant price will be calculated to serve as a reference of the reasonableness of the warrant market price.

### 4. Comparison of warrants, shares and margin trading:

	Warrants	Shares	Margin trading
Leverage effect	Around 8 - 10 times on average	1 time	No more than 2.5 times
Liquidity	Mid-high	High	High
Investment period	6 months - 2 years	No time limit	1 year
Margin call	No	No	Yes
Maximum loss	Premiums	Capital invested	Capital invested
Funds required	Low	High	Medium
Transaction tax	1‰	3‰	3‰

## II. Warrants liquidity provider mechanism

Every warrant issued by an issuer shall come with a liquidity provider, which is responsible for offering bid and ask quotes of such warrant, thereby facilitating trades of such warrant by investors and resolving the situation of insufficient liquidity where bid and ask orders are not fulfilled.

1. **Voluntary quoting:** The liquidity provider shall take the initiative to offer a quote at least every five minutes, and the quote shall be maintained for at least 30 seconds or be adjusted along with the underlying instrument's price change. The difference between bid and ask quotes offered thereby may not exceed 10 ticks.

Example: If a warrant bid order is NT\$1, the minimum regulatory tick size is NT\$0.01; therefore, the ask price offered by the liquidity provider may not exceed NT\$1.1. **I.e. The difference between a bid order and ask order may not exceed NT\$0.1 (10 × 0.01).**

### 2. Minimum order quantity per transaction:

- (1) Buy : The quantity may not be lower than 100,000 shares, or the total amount may not be less than NT\$100,000. Nevertheless, the aforementioned restriction shall not be applicable when the underlying instruments lack liquidity or are disposition shares, or during the period between five minutes and fifteen minutes after the market opens and five minutes before the market closes; provided that, the order quantity may not be lower than 10,000 shares.
- (2) Sell : May not be lower than 10,000 shares.

### 3. Example of quotes offered by the liquidity provider:

Quantity	Bid order	Ask order	Quantity
		1.02	10
		1.01	10
10	1		
10	0.99		

## III. Information for warrants:

1. Taiwan Stock Exchange Corporation's official website: <https://www.twse.com.tw/zh/>, please click "Call (put) warrants" in "Important Topics."
2. Market Observation Post System (MOPS): <https://mops.twse.com.tw>, please click "Warrants" for inquiries.
3. Market Information System (MIS): <https://mis.twse.com.tw>.