

# Futures Market Dynamic Price Banding Mechanism

## I. Reasons for development

TAIFEX plans to launch its own dynamic price banding mechanism for the futures market, in order to enhance the stability of market prices, bring the market into greater accord with global markets.

## II. Introduction

### 1. Phase-one products

Applicable products		
TAIEX Futures	Spot month contracts, Next calendar month contracts	Calendar spread orders composed of a spot month contract and the next calendar month contract
Mini-TAIEX Futures		

### 2. How dynamic price banding works

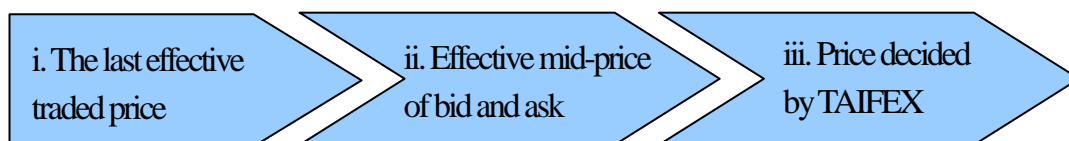
- (1) TAIFEX will check each new order (including limit orders, market orders and market with protection orders) and simulate a matched price based on the order book at the time. TAIFEX will reject buy (sell) orders with a simulated matched price above (below) the upper (lower) limit of TAIFEX' dynamic price band.
  - ✓ Buy Orders: simulated matched price > the upper limit of dynamic price band → reject order
  - ✓ Sell Orders: simulated matched price < the lower limit of dynamic price band → reject order
- (2) Only new orders that may cause abnormal price movements will be rejected. Price modifications are treated as new orders and are subject to dynamic price banding.
- (3) Implied orders constructed by TAIFEX' trading system are not actual orders and therefore not subject to dynamic price banding.

### 3. Calculation of the limits of dynamic price band

- (1) Upper limit of price band: base price + variation range  
Lower limit of price band: base price – variation range

## (2) Base price

Base price determination sequence:



- i. The last effective traded price: In principal, base price is the last traded price prior to the time at which the base price is determined. The last traded price has to fulfill the criteria of the effective traded price.
  - The time lag between the effective traded price and the base price must be within a predetermined number of seconds.
  - The last traded price must be within a predetermined range from the effective mid-price of bid and ask.
- ii. Effective mid-price of bid and ask: If the last effective traded price isn't available, base price is effective mid-price of bid and ask.
  - The effective mid-price is a volume-weighted average price of a series of bid and ask prices starting from the best ones.
  - The accumulated bid/ask volume used in calculating the effective mid-price should reach a predetermined threshold set by TAIEX.
  - (The volume-weighted average ask price ÷ The volume-weighted average bid price) ≤ a predetermined ratio.
- iii. Price decided by TAIEX: When neither i nor ii is available, TAIEX will determine the base price by referring to the underlying index price, the impact of index-component dividends, and relevant global and domestic product prices.

## (3) Variation range

Products		Variation range
TAIEX Futures and Mini-TAIEX Futures	Spot month contracts	the last closing price of underlying index×2%
	Next calendar month contracts	the last closing price of underlying index×1%

#### 4. Applicability within trading sessions

Regular trading session	Call auction	Not applicable
	Continuous matching	Applicable
After-hour trading session	Call auction	Not applicable
	Continuous matching	Applicable

Note: Dynamic price banding is not applicable to block trades.

#### 5. Dynamic price banding with different order types

- ✓ Rest of Session (ROD) or Immediate or Cancel (IOC): Any portion of the order of which the simulated matched price is above (below) the upper (lower) limit of TAIEX' dynamic price band will be rejected, while the remainder of the order with simulated matched prices within the dynamic price band will be executed.
- ✓ Fill or Kill (FOK): If any of the simulated matched prices are above (below) the upper (lower) limit of TAIEX' dynamic price band, the whole order will be rejected.
- ✓ Example: an investor submits a limit order to buy 5 lots of the TX spot month contract. The simulated matched prices of 4 lots are within the dynamic price band, while the simulated match price of 1 lot exceeds the upper limit.
  - ◆ If the limit order is an ROD or IOC order: 4 lots will be executed, while 1 lot will be rejected.
  - ◆ If the limit order is an FOK order: the whole order (5 lots) will be rejected.

#### 6. Special situations resulting in variation range adjustments or dynamic price banding suspensions

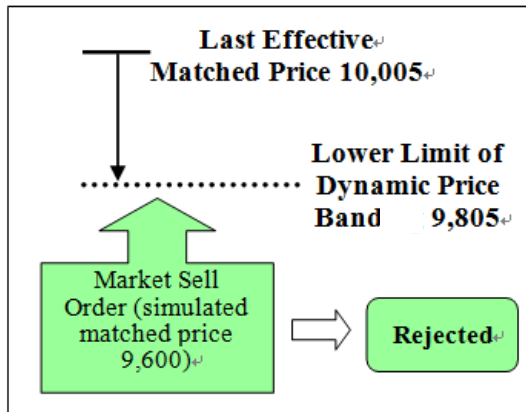
In the event of a natural disaster, riot, war or other force majeure events, or the futures trading volatility index reaching the limit set at TAIEX' discretion, TAIEX may announce adjustments to the variation range or the suspension of dynamic price banding.

### III. Examples

Example 1: Assuming that the last closing price of the TAIEX index is 10,000 points and that the last traded price of the spot month of TAIEX Futures contract prior to the time at which the base price is determined

at 10,005 points, then the upper and lower limits of the dynamic price band will be 10,205 points ( $=10,005+(10,000\times 2\%)$ ) and 9,805 points ( $=10,005-(10,000\times 2\%)$ ), respectively. If an investor submits a market order to sell 1 lot of TAIEX Futures, and the simulated matched price is 9,600, which is below the lower limit of 9,805 points, the order will be rejected.

Bid	Price	Ask
	10004	8
	10003	10
	10002	20
	10001	14
	10000	10
1	9600	
5	9599	
4	9598	
5	9597	
10	9596	



Example 2: Assuming that the last closing price of the TAIEX index is 10,500 points and the last traded price of the spot month of TAIEX Futures contract prior to the time at which the base price is determined at 10,505 points, then the upper and lower limits of the dynamic price band will be 10,715 points ( $=10,505+(10,500\times 2\%)$ ) and 10,295 points ( $=10,505-(10,500\times 2\%)$ ), respectively. If an investor submits a market order to buy 1 lot of TAIEX Futures, and the simulated matched price is 10,800, which is above the upper limit of 10,715 points, the order will be rejected.

Bid	Price	Ask
	10804	8
	10803	10
	10802	10
	10801	8
	10800	1
10	10500	
5	10499	
10	10498	
5	10497	
10	10496	

