

Cürex FX ECN

Benchmark Liquidity Pool Rules

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The Cürex FX ECN liquidity pool is the source of the FTSE Cürex FX Benchmarks. The Cürex FX ECN is an anonymous, live streaming, non-rejectable and non-discriminating, exchange-like ECN. Set forth below are the trading rules for the Cürex ECN.

Cürex FX Benchmark Pool Trading Rules

Liquidity Providers and Clients are considered distinct entities operating under different, transparent rule sets in the Cürex FX ECN.

1. Liquidity Provision (Market Maker) Rules:

- All Liquidity Provider prices must be firm, i.e., non-rejectable.
- Liquidity Providers cannot trade with each other.
- All orders are FIFO.
- Liquidity Provider orders cannot exceed 100 messages/second per currency pair.
- Liquidity Providers must show continuous, two-way pricing in a minimum of 25 currency pairs over a 24 hour period.
- Liquidity Providers must show a minimum of 3 million units in all currency pairs.

2. Client Transaction Rules:

- All orders are FIFO.
- Clients can trade with liquidity providers and other clients.
- Client orders must stay in the order book for a minimum of 300 milliseconds before the order can be removed.
- Client orders will be delayed by a variable time period (up to 150 milliseconds) before being placed in the matching engine
- Client order frequency cannot exceed 100 messages/second
- The Cürex FX ECN currently supports the following order types and related times-in-force (TIF):

- **Limit Orders:** these can be entered for the Day, Good Until Cancelled (GTC), or Good For Time (GFT).
- **TWAP:** these can be entered for the Day, GTC or GFT.
- **VWAP:** these are entered as GFT or Immediate or Cancel (IOC) but remain subject to the variable time delay.

Cross Market Protection

To protect the Benchmark liquidity pool from inverted pricing, the following rules are applied on the Cürex ECN:

- 1. If a new price from a Liquidity Provider crosses through an older price from a Liquidity Provider on the opposite side of the book, the new price will be discarded.**

This will prevent an off market price from inverting the book. For example, if the book is 1.4320 / 1.4525, and a new bid of 1.4600 is submitted by a Liquidity Provider, the new 1.4600 bid will be discarded as it crossed through the 1.4525 offer already in the book.


- A. However, if the new price crosses through an old price and both prices are from the same Liquidity Provider, both prices will be removed from the book.**

- 2. If an old price from a Liquidity Provider causes more than two new Liquidity Provider prices to be rejected (as per rule 1), the old price will be discarded.**

This will prevent a 'stuck' price from causing the book to stagnate. Building on the rule 1 example, if the book is 1.4320 / 1.4525, a new bid of 1.4600 is rejected as it crosses the book. If another new bid of 1.4700 is submitted, it will be deemed valid and the offer of 1.4525 will be considered stale, and dropped from the book.

- 3. Rule 2 is only acted upon if the new prices are from separate liquidity providers.**

This rule prevents a single liquidity provider from invalidating the book. Both of the new bids in the rule 2 example need to be provided by separate liquidity providers for rule 2 to be effected.

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- 4. The above rules regarding cross market protections apply specifically to Liquidity Providers. In the case where a Client’s order is crossed by a price on the opposite side of the book, the Client order would be executed against the “crossing order” and the remainder of the Liquidity Provider order (if any) will remain in the matching engine and be available for execution.**

Risk Management Filter

Definitions

Book	The bids and offers in the system for a specific instrument.
Price Band Pips	The number of pips used to calculate the price band.
Price Band Reference (PBR)	The price band reference price.

Price Bands

Price Bands are based on all available liquidity in the system for a given symbol. This includes Liquidity Provider prices and resting Client orders.

A price band exists for the bid and for the offer. The price band is formed by adding the Price Band Pips to the Price Band Reference (PBR) for the offer and subtracting the Price Band Pips from the PBR for the bid; the PBR is updated based on the last traded price or the last best bid/offer that is better than the last traded price.

Orders may not aggress beyond the price band limits; if they do, they will be rejected.

Examples

The following examples illustrate price band behavior.

EXAMPLE 1 - PRICE BAND PIPS IS SET TO 20

With the Price Band Pips set to 20, the effective price bands are 20 ($40 \text{ PBR} - 20 \text{ pips} = 20$) on the bid side and 60 ($40 \text{ PBR} + 20 \text{ pips} = 60$) on the offer side.

Bids less than or equal to 20 (in the dark gray section of **Figure 1**) and offers greater than or equal to 60 cannot be aggressed since they are outside the price band limits. As a result, sell orders with limits less than or equal to 20 will be rejected and buy orders with limits greater than or equal to 60 will be rejected.

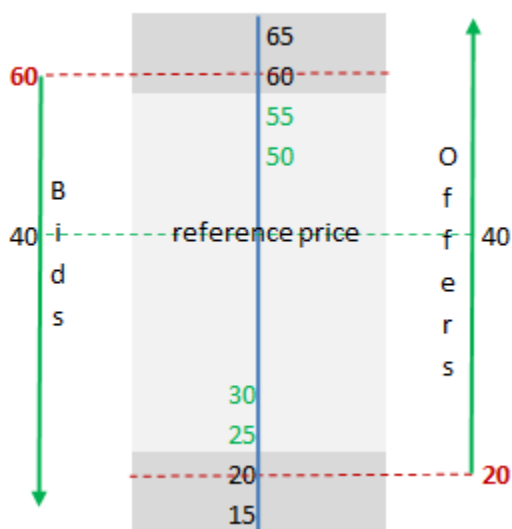


Figure 1 - Price Band set to 20/60

EXAMPLE 2 – BUY - A TRADE CAUSING THE PBR TO CHANGE

Figure 2 shows an order aggressing the offer causing the PBR to change. The left side shows the initial state of the book before a trade attempt occurs. The right side shows a trade occurring at 50 (paying the offer). Once the trade occurs, the PBR is set to the traded price. The new bands are adjusted based on this price.



Figure 2 - pay the offer

Figure 3 shows prices coming back into the book on the offer side pushing the PBR down causing the bands to re-adjust. On the left, a new 50 offers come in, but the PBR remains the same because the offer is not better than the last PBR. On the right, a new 45 offer comes in, and is better than the PBR causing the PBR to change to 45.



Figure 3 - offers replenishing

EXAMPLE 3 – SELL - A TRADE CAUSING THE PBR TO CHANGE

Figure 4 shows an order aggressing the bid causing the PBR to change. The left side shows the initial state of the book before a trade attempt occurs. The right side shows a trade occurring at 40 (hitting the bid). Once the trade occurs, the PBR is set to the traded price. The new bands are adjusted based on this price.

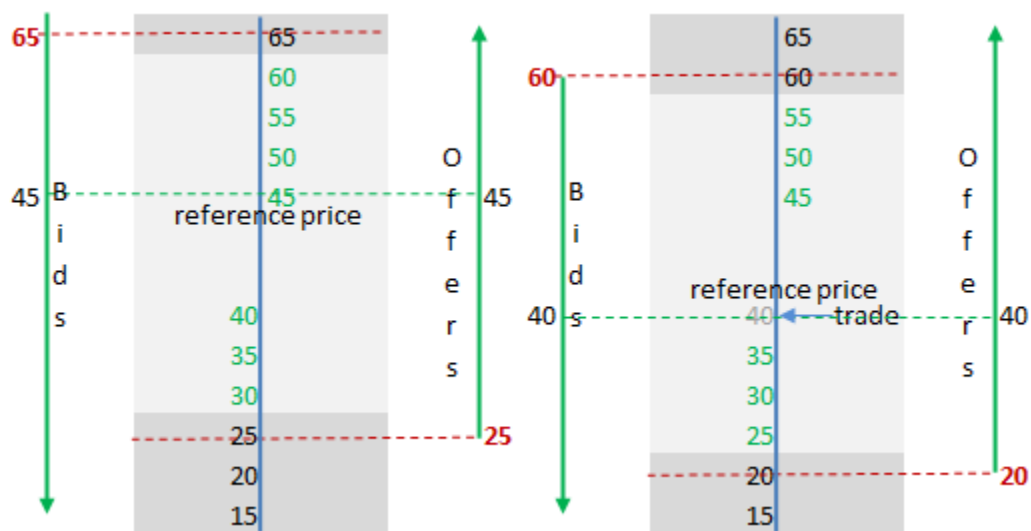


Figure 4 - Hitting the bid