Premium Based Tick Size for Dutch equity options

Go Live on the Amsterdam market: 2 June 2009

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Contents

Introducing Premium Based Tick Size - PBTS

- In order to create an optimal trading environment a smaller tick size will be introduced for orders with a low premium for all individual equity option classes traded on the Amsterdam market including options on ETFs (ISX).
- A premium threshold determines the tick size.
  - The tick size for orders below and including this threshold is € 0.01
  - The tick size for orders above this threshold is € 0.05
- The premium threshold will be set to € 0.20
- The order price will be validated against the tick size before immediate execution or acceptance in the order book.
- PBTS will be active from 2 June 2009.
- This presentation will explain Premium Based Tick Size (PBTS) in more detail.

Introducing PBTS

- The price of an incoming order will be validated against the PBTS threshold and tick size.
- Validation will not be impacted by the underlying value or the theoretical value of the option series.
- For example; if the underlying value is € 38.50 and the theoretical value of an option is € 0.24, orders up to € 0.20 can be entered with a 1c tick.
- Final acceptance is also subject to price limits and other validations.

Order premium	
0.01 … 0.15 0.16 0.17 0.18 0.19 **0.20**	tick size € 0.01 **premium threshold**
0.25 0.30 0.35 0.40 …	tick size € 0.05

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PBTS and Strategies

- Strategy orders will be subject to the same PBTS threshold and validation principles.
- The limit price of a strategy order is subject to validation, not the separate leg prices.
- If implied pricing is applied “odd” prices can be calculated.
  - ►An “odd” price is a price above the PBTS threshold with a 1c tick.
- Such prices will be submitted to the market and are tradable.
- An “odd” price can be traded by inserting:
  - A market order (will not be validated);
  - A limit order with a ‘crossing’ price
  - An immediate or cancel order with the “odd” price as limit.

PBTS and Strategies

- Strategies with implied prices.
- Outright orders resulting in implied prices for a strategy.
  - blue prices are explicit prices
  - red prices are implied prices

series	bid	ask
A	0.10	0.15
B	0.20	0.30
SPRD AB	**0.05**	**0.20**

- An explicit buy order for spread AB enters the market (buy B and sell A).
- The strategy order price of € 0.17 is validated correctly.
- Implied prices of € 0.13 in series A and € 0.27 in series B will be the result of the strategy order.
- The implied price of € 0.27 is considered an “odd” price but is submitted to the market and is also tradable.

series	bid	ask
A	0.10	**0.13**
B	**0.27**	0.30
SPRD AB	0.17	**0.20**

PBTS and Strategies

- Because of explicit outright orders it is also possible to have ”odd” implied in prices.

series	bid	ask
A	0.13	0.18
B	3.50	3.75
SPRD AB	**3.32**	**3.62**

- One could argue that it should be possible to enter a strategy order with a tick of € 0.01 if both legs are traded below the PBTS threshold.
- For simplicity a straight forward model has been chosen. Therefore in this example the PBTS threshold remains the same and orders above the threshold are only accepted with a tick size of € 0.05.
- An order for the straddle could for example be entered at € 0.19; € 0.20; € 0.25 or € 0.30, but not at € 0.23 or € 0.24.
- However, the € 0.21 and € 0.31 implied prices are tradable.

series	bid	ask
A	0.07	0.12
B	0.14	0.19
STDL AB	**0.21**	**0.31**

PBTS and Strategies

- The same applies when 2 legs with a value above the PBTS threshold are involved. One could argue that the spread should be entered with a tick of € 0.05.
- For simplicity the PBTS threshold remains the same and strategy orders below the threshold are accepted with a tick of € 0.01.

series	bid	ask
A	5.20	5.25
B	5.35	5.45
SPRD AB	**0.10**	**0.25**

- Therefore an order to buy the spread at € 0.19 will be accepted.

series	bid	ask
A	5.20	5.25
B	**5.39**	5.45
SPRD AB	0.19	**0.25**

Trading “odd” prices

- As shown by the previous examples “odd” prices can be present in the market, both in the outright as well as the strategy order book.
- These prices will be submitted to the market as part of the order book and are tradable.
- An “odd” price can be traded by inserting:
  - A market order (will not be validated);
  - A limit order with ‘crossing’ price → a buy order with a limit exceeding the “odd” offer price in the order book or a sell order with a limit below the “odd” bid price in the order book (the limit orders have to comply with the PBTS threshold);

    Note: These orders might result in having resting orders in the order book!
  - An immediate or cancel order with the “odd” price as the limit.
- If an “odd” price is traded that price will be submitted as last, no rounding takes place.

Price calculation

- Execution of explicit strategy order.
  - If explicit strategy orders are executed against each other prices for the single legs need to be calculated. For this calculation the lowest tick will be used at all levels.

- Uncrossing price calculation
  - During the uncrossing for all calculations the lowest tick will be used at all levels.
  - As a result MOO orders can be limited at a € 0.01 tick price above the threshold.
  - Such orders are part of the order book and are tradable.

API message

- API messages have been created in order to facilitate this new functionality.
- The tick size above and below the premium thresholds as well as the value of the threshold will be disseminated through standing data in API 10.
- Although at the start the PBTS threshold will be the same for all individual equity option classes, in the future this level could vary per class.
- ISVs and member developers are therefore advised to take these messages into account.