

Order-to-Trade Ratio Calculation Methodology

Formulas for Non-MM Category:

$$OTR_{Nbr} = \frac{\sum Orders}{\sum Trades} - 1$$

$$OTR_{Vol} = \frac{\sum Order Volume}{\sum Trade Volume} - 1$$

Where,

- With respect to the numerator all single orders not having order capacity set to market making are counted in accordance with the method described below.
- With respect to the denominator, all trades executed in the central limit order book not having trading capacity set to market making are counted. Where no trades have taken place, the ratio is equal to the numerator.

Formulas for MM Category:

$$MM_OTR_{Nbr} = \frac{\sum MM Orders/Quotes}{\sum MM Trades} - 1$$

$$MM_OTR_{Vol} = \frac{\sum MM Order/Quote Volume}{\sum MM Trade Volume} - 1$$

Where,

- With respect to the numerator and futures contracts, all single orders and mass quotes having order capacity set to market making are counted in accordance with the method described below.
- With respect to the numerator and option contracts, all mass quotes are counted in accordance with the method described below.
- With respect to the denominator and futures contracts, all trades executed in the central limit order book having trading capacity set to market making are counted.
- With respect to the denominator and option contracts, all trades executed from mass quotes are counted.
- Where no trades have taken place, the ratio is equal to the numerator.

Order Counting Method

All explicit order/quote entries, changes and cancellations sent by the member throughout the trading day are counted depending on the order type as detailed in the table below. For the avoidance of doubt this means that the generation of implied orders and the triggering of stop orders are not counted. Similarly automatic cancellations as the result of cancel on disconnect functionality or in connection to a trading halt or suspension are not counted.

Type of order	Count
Limit – enter or cancel	1
Limit – change	2 (Counted as cancel/replace)
Stop – enter	1 (Only counted when entered, not when triggered)
Immediate (FOK, IOC)	1 (If whole order is filled) 2 (If whole or part of order is cancelled)
Iceberg/reserve	1 (Same as limit)
Market-to-limit – enter	1 (Only counted when entered, not conversion to limit if only part is filled)
Quote – add or delete	Per symbol, 2 (1 for the bid, 1 for the ask)
Re-Quote	Per symbol, 4 (cancel/replace for each side)
At open/close	1 (Only counted when entered, not when triggered)
Combination order – enter or cancel	1 (Only count explicit order)
Combination order – modify	2 (Explicit cancel/replace)

Example Calculation:

Series	Event	ID	Size	Leaves Volume	Order _{Vol} Count	Order _{Nbr} Count	Trade _{Vol} Count	Trade _{Nbr} Count
OMXS30 Dec17 1700 Calls	Enter Order	1	50	50	50	1	0	0
OMXS30 Dec17 1640 Calls	Enter Order	2	75	75	75	1	0	0
OMXS30 Dec17 1700 Calls	Cancel Order	1	50	0	50	1	0	0
OMXS30 Dec17 1640 Calls	Partial Fill (Passive)	2	25	50	0	0	25	1
OMXS30 Dec17 1640 Calls	Change Order	2	75	75	125 (50 delete + 75 add)	1+1	0	0
OMXS30 Mar18 1500 Calls	Enter & Fill Order	3	100	0	100	1	100	1

Sub-Class	Σ Orders	Σ Trades	OTR _{Nbr}	Σ Order Volume	Σ Trade Volume	OTR _{Vol}
OMXS30 Index Options	6	2	2	400	125	2.2

Maximum Order-to-Trade Ratios

Effective 2 January, 2018 the below maximum ratios are applied per sub-class. The maximum ratios are assigned based on the sub-asset class. With respect to combinations, the activity is counted against the sub-class of the first leg, e.g. an order for an OMXS30 futures spread is counted against the OMXS30 index futures class.

Sub-Asset Class	Max OTR _{Nbr}	Max OTR _{Vol}	Max MM_OTR _{Nbr}	Max MM_OTR _{Vol}
Index Futures	150,000	5,000,000	1,500,000	50,000,000
Index Options	15,000	2,000,000	15,000,000	1,500,000,000
Stock Options	15,000	2,000,000	10,000,000	1,500,000,000
Stock Futures	150	50,000	1,500,000	100,000,000