

Quantitative Data on the Execution of Client Orders for the year ending 31 December 2018

Class of Instrument	Equity Derivatives - Options and Futures admitted to trading on a trading venue.	
Notification if <1 average trade per business day in the previous year	N	
Top five investment firms ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
Morgan Stanley & Co. International PLC (4PQUHN3JPFGFNF3BB653)	93.0 %	99.2 %
Oppenheimer & Co Inc (254900VH02JQR2L8XD64)	7.0 %	0.8 %

Class of Instrument	Equity Derivatives - Swaps and other Equity Derivatives	
Notification if <1 average trade per business day in the previous year	N	
Top five investment firms ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
Morgan Stanley & Co. International PLC (4PQUHN3JPFGFNF3BB653)	39.1 %	44.0 %
Merrill Lynch International (GGDZP1UYGU9STUHRDP48)	13.6 %	16.2 %
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	8.7 %	7.5 %
UBS Limited (REYPIEJN7XZHSUI0N355)	7.6 %	10.9 %
Citigroup Global Markets Limited (XKZZ2JZF41MRHTR1V493)	4.8 %	6.1 %

Class of Instrument	Exchange traded products	
Notification if <1 average trade per business day in the previous year	N	
Top five investment firms ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
Morgan Stanley & Co. International PLC (4PQUHN3JPFGFNF3BB653)	24.0 %	43.3 %
UBS Limited (REYPIEJN7XZHSUI0N355)	21.0 %	18.6 %
Merrill Lynch International (GGDZP1UYGU9STUHRDP48)	17.6 %	12.4 %
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	12.1 %	8.1 %
Citigroup Global Markets Limited (XKZZ2JZF41MRHTR1V493)	9.7 %	7.3 %

Note: there were no passive orders, aggressive orders or directed orders during the period, so these columns have not been included in the tables above.

Class of Instrument	Equities - Shares & Depository Receipts: (i) Tick size liquidity bands 5 and 6 (from 2,000 trades per day)	
Notification if <1 average trade per business day in the previous year	N	
Top five investment firms ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
Morgan Stanley & Co. International PLC (4PQUHN3JPFQFN3BB653)	39.1 %	32.3 %
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	23.8 %	29.5 %
UBS Limited (REYPIEJN7XZHSUI0N355)	6.3 %	8.6 %
Goldman Sachs International LTD - London (W22LROWP2IHZNBB6K528)	5.5 %	3.8 %
Renaissance Macro Securities LLC (5493004JBM7TRGGJL532)	3.3 %	3.1 %
Remaining Investment Firms	22.0 %	22.8 %
Totals	100%	100%

Class of Instrument	Equities - Shares & Depository Receipts: (ii) Tick size liquidity bands 3 and 4 (from 80 to 1,999 trades per day)	
Notification if <1 average trade per business day in the previous year	N	
Top five investment firms ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
Morgan Stanley & Co. International PLC (4PQUHN3JPFQFN3BB653)	39.8 %	37.8 %
Merrill Lynch International (GGDZP1UYGU9STUHRDP48)	16.6 %	16.4 %
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	10.4 %	12.9 %
UBS Limited (REYPIEJN7XZHSUI0N355)	10.3 %	12.2 %
Citigroup Global Markets Limited (XKZZ2JZF41MRHTR1V493)	6.4 %	7.9 %
Remaining Investment Firms	16.5 %	12.9 %
Totals	100 %	100 %

Class of Instrument	Equities - Shares & Depository Receipts: (iii) Tick size liquidity bands 1 and 2 (from 0 to 79 trades per day)	
Notification if <1 average trade per business day in the previous year	N	
Top five investment firms ranked in terms of trading volumes (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
Morgan Stanley & Co. International PLC (4PQUHN3JPFQFN3BB653)	32.5 %	33.6 %
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	12.3 %	16.2 %
UBS Limited (REYPIEJN7XZHSUI0N355)	11.8 %	15.9 %
Goldman Sachs International LTD - London (W22LROWP2IHZNBB6K528)	8.2 %	5.7 %
Citigroup Global Markets Limited (XKZZ2JZF41MRHTR1V493)	6.9 %	7.1 %
Remaining Investment Firms	28.3 %	21.4 %
Totals	100 %	100 %

Note: there were no passive orders, aggressive orders or directed orders during the period, so these columns have not been included in the tables above.

Summary of Analysis and Conclusions on Execution Quality for the year ending 31 December 2018

This summary of the analysis and the conclusions we have drawn from our regular monitoring of execution quality in respect of client orders in 2018 has been produced in order to comply with COBS 11.2A.34.

When assessing the quality of execution of client orders in 2018, we primarily considered how the execution of such orders aligned with our best execution policy, for each class of financial instruments. The top five investment firms in terms of trading volume with which we placed client orders for 2018, set out per class of financial instruments, have made the relevant list because they provided best execution for our client orders, in line with our best execution policy.

Execution of client orders is undertaken in accordance with our best execution policy, since we are obliged to seek the best possible result for our client in relation to each trade. What constitutes the best possible result however may vary depending on the situation, and this may not always equate to obtaining the best price or the lowest cost. We therefore consider and assess the relative importance of the relevant execution factors (such as price, costs, speed and likelihood of execution) in respect of each class of financial instruments in which we trade. Although we have a general approach to prioritising execution factors when executing client orders, this may vary depending on the class of financial instruments or trading strategies to be applied in specific situations. In addition, there may be situations where this prioritisation needs to be adjusted, for example due to exceptional circumstances such as volatile markets, credit events and geo-political events.

Generally, the first execution factor we consider is the probability of execution. The priority here is to assess which brokers are capable of executing the order on the required terms. In normal market conditions however this is a relatively straightforward exercise that will produce a range of equally ranked execution options for further consideration under the remaining execution factors.

Following this, and assuming a range of execution options exist, the highest priority factor is to obtain the best result for the client in terms of the total consideration for the trade, defined as the total price obtained minus any costs or fees. This will either be the highest total price or the lowest total price (net of costs and fees) depending on the direction of the trade. This analysis will include the implicit costs of the trade, such as slippage and market impact.

Typically, for securities traded on a regulated market (such as equities) where there is significant liquidity, monitoring will be undertaken against a suitable benchmark. For this purpose, we primarily use the relevant intraday market high and low prices using Bloomberg data. We will seek to identify and deal with exceptions outside tolerance levels. Where any exceptions or outliers are identified, these are discussed with the trader and portfolio manager in the first instance, if required, and if necessary the executing broker may also be contacted to obtain further information on why the price of execution (or other factors, as identified) did not meet the expected standards. Where immediate remedial action can be taken this is done.

We track the performance of each execution broker used on an ongoing basis, and the results of this analysis are periodically escalated to the management committee. This is distinct from the daily checks that are done at trade level, as this analysis groups all trading done through a particular broker to allow comparison of the performance between one broker and another.

Brokers may have been added if there was a demand for their services within the firm, such as in respect of a particular type of financial instrument, and they were assessed as being able to provide best execution for our client. Similarly, brokers may have been removed if they did not provide best execution for our client on an ongoing basis. Brokers may on occasion be removed for other reasons, for example because they are not being used, because the costs of maintaining an active relationship with them are too high, regulatory issues or concerns about the solvency of the broker, or because they have ceased trading or merged with another broker, or otherwise altered their service as to no longer be useful to us.