

NORTHERN TRUST SECURITIES LLP (LEI: 549300EF8AZLRG0UC208)

For the period 1 January 2019 to 31 December 2019

Information on the identity of execution venues and on the quality of execution under Commission Delegated Regulation (EU) 2017/576 of 8 June 2016 ('RTS 28')

a) Overview of NTS LLP's execution arrangements in 2019

Northern Trust Securities LLP ('NTS LLP') is a MiFID Investment Firm authorised and regulated by the Financial Conduct Authority. NTS LLP provides agency brokerage services to institutional clients in equity and equity-like financial instruments (e.g. exchange traded funds) and debt instruments. NTS LLP provides the MiFID investment services of execution of orders on behalf of clients, and reception and transmission of orders in relation to one or more financial instruments. NTS LLP only provides investment services to Professional clients and Eligible counterparties and does not provide any services to Retail clients.

During 2019, and as in previous years, NTS LLP executed the majority of the client orders it received by transmitting or placing all or part of the client order with one or more external brokers (the 'Order transmission destinations' or 'external brokers') who then executed the order or placement on one or more organised trading venues (e.g. regulated market, multilateral trading facility or third country equivalent).

NTS LLP also utilises its membership of a selection of EU multilateral trading facilities to allow it to execute client orders in exchange traded products and debt instruments directly on these venues rather than accessing them through another broker. These predominately request-for-quote ('RFQ') trading platforms, allow NTS LLP to interact with a range of dealers, market makers and liquidity providers in an organised trading venue rather than over-the-counter, and allow us to seek competing quotes from a range of liquidity providers at the same time.

Finally, NTS LLP also executed client orders in both equity, and when available, debt instruments, using its "off-book trading" membership of the London Stock Exchange, either by executing a client order away from the exchange's order book and then bringing it under the rules of the exchange through an "Off-book, On Exchange" trade report, or by executing transactions away from the exchange's order book (e.g. by way of a request-for-quote) with other members of the London Stock Exchange who act as market makers in London Stock Exchange listed or traded instruments.

The external brokers used by NTS LLP in 2019 were selected, and subsequently monitored, as in previous years, in accordance with the principles described in section 6 of The Northern Trust EMEA Order Execution Policy¹. The primary objectives of NTS LLP when selecting external brokers are to ensure (a) access to the widest range of possible execution venues, (b) the ability of the external broker to manage complex orders and contribute to the overall performance of NTS LLP when executing client orders, such as through the provision of algorithmic trading strategies and program trading functionality, and (c) their ability to provide NTS LLP's traders with as much direct and near real-time control over the execution of the client order or placement as possible, ideally through the use of direct electronic access arrangements, smart order routers and algorithmic trading strategies. NTS LLP did not, as a matter of course, transmit any client orders to an external broker within the meaning of Article 26(4) of Regulation (EU) No 600/2014 ('transmission of orders') and therefore retained full responsibility for best execution to its clients.

As a result of the execution arrangements in use by NTS LLP throughout 2019, around 95% of client orders in equity and equity-like instruments were executed on organised trading venues (e.g. regulated markets and

¹ See further: <https://www.northerntrust.com/documents/legal/mifid/nt-order-execution-policy.pdf>

multilateral trading facilities) in the UK and EU, and where appropriate to the instrument, third country equivalents. The remaining client orders were executed with EU systematic internalisers or third country investment firms that perform a similar function; and a very small percentage of client orders were executed on an over-the-counter, off-exchange, basis. NTS LLP's execution arrangements were therefore considered to satisfy the requirements and expectations of both The Northern Trust EMEA Order Execution Policy and MiFID II, in particular the trading obligation for shares imposed by Article 23 of MiFIR², which requires the majority of transactions executed by MiFID Investment Firms to be carried out on an organised trading venue.

NTS LLP therefore provides the following information on execution venues for each class of financial instrument, and where necessary sub-class of financial instrument, in which we executed client orders in 2019:

- (a) The identity of the top five execution venues (i.e. trading venues and counterparties) where client orders were executed in 2019; as required by Article 27(6) of Directive 2014/65/EU.
- (b) The identity of the top five receiving firms (i.e. external brokers) to which client orders were transmitted in 2019; as required by Article 65(6) Commission Delegated Regulation (EU) 2017/565.

² Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012

b) Top Five Execution Venues in 2019

The following data tables have been prepared in accordance with the requirements of Article 27(6) of MiFID II and Article 3(1) of RTS 28 and show the top five venues on which client orders were executed in 2019 by NTS LLP for each class of financial instrument.

Class of instrument		(a) Equities - Shares and 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 year		No							
Rank	MIC	Operator LEI	Execution Venue Name	% of VOLUME traded in class	% of ORDERS executed in class	% of PASSIVE orders*	% of AGGRESSIVE orders*	% of DIRECTED orders	
1	XLON	213800D1E4B9WTVWWD28	London Stock Exchange - Regulated Market	24.25%	5.70%	60.55%	39.45%	0.00%	
2	TRQM	2138006SKBMJUE2HV03	Turquoise MTF - Plato	8.94%	6.06%	85.43%	14.57%	0.00%	
3	XPOS	213800EEC95PRUCEUP63	ITG POSIT MTF - Dark	6.67%	2.99%	85.19%	14.81%	0.00%	
4	BATP	254900ERRPSKE7UZHZ711	Cboe Europe Equities MTF - BXE Periodic Auction Book	6.54%	6.95%	82.55%	17.45%	0.00%	
5	CHID	254900ERRPSKE7UZHZ711	Cboe Europe Equities MTF - CXE Reference Price Book	5.68%	5.94%	84.64%	15.36%	0.00%	
~	Remaining execution venues			47.92%	72.36%	61.69%	38.31%	0.00%	
Total				100%	100%	66%	34%	0%	

Class of instrument		(a) Equities - Shares and 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 year		No							
Rank	MIC	Operator LEI	Execution Venue Name	% of VOLUME traded in class	% of ORDERS executed in class	% of PASSIVE orders*	% of AGGRESSIVE orders*	% of DIRECTED orders	
1	XLON	213800D1E4B9WTVWWD28	London Stock Exchange - Regulated Market	19.93%	4.99%	67.53%	32.47%	0.00%	
2	XHKG	213800YTVSXYQN17BW16	Hong Kong Exchanges and Clearing Limited	12.44%	0.68%	49.34%	50.66%	0.00%	
3	XPOS	213800EEC95PRUCEUP63	ITG POSIT MTF - Dark	6.25%	1.83%	89.43%	10.57%	0.00%	
4	BATP	254900ERRPSKE7UZHZ711	Cboe Europe Equities MTF - BXE Periodic Auction Book	4.61%	4.31%	86.10%	13.90%	0.00%	
5	TRQM	2138006SKBMJUE2HV03	Turquoise MTF - Plato	4.38%	2.89%	86.73%	13.27%	0.00%	
~	Remaining execution venues			52.39%	85.29%	55.93%	44.07%	0.00%	
Total				100%	100%	57%	43%	0%	

Class of instrument		(a) Equities - Shares and 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 year		No							
Rank	MIC	Operator LEI	Execution Venue Name	% of VOLUME traded in class	% of ORDERS executed in class	% of PASSIVE orders*	% of AGGRESSIVE orders*	% of DIRECTED orders	
1	XHKG	213800YTVSXYQN17BW16	Hong Kong Exchanges and Clearing Limited	25.55%	4.97%	57.07%	42.93%	0.00%	
2	XLON	213800D1E4B9WTVWWD28	London Stock Exchange - Regulated Market	19.45%	1.43%	57.07%	42.93%	0.00%	
3	XIDX	Not available	Indonesia Stock Exchange	9.65%	0.36%	57.67%	42.33%	0.00%	
4	XTKS	353800279ADEFKNTV65	Tokyo Stock Exchange	6.54%	15.28%	71.66%	28.34%	0.00%	
5	MISX	253400M5M1222KPNWEB7	Moscow Exchange - All Markets	5.68%	0.01%	72.00%	28.00%	0.00%	
~	Remaining execution venues			33.13%	77.96%	50.26%	49.74%	0.00%	
Total				100%	100%	54%	46%	0%	

Class of instrument		(b) Debt Instruments (i) Bonds							
Notification if < 1 average trade per business day in year		No							
Rank	MIC	Operator LEI	Execution Venue Name	% of VOLUME traded in class	% of ORDERS executed in class	% of PASSIVE orders*	% of AGGRESSIVE orders*	% of DIRECTED orders	
1	BMTF	549300ROEJDDAXM6LU05	Bloomberg Multilateral Trading Facility	82.71%	72.06%	n/a	n/a	0.00%	
2	HSBC	MP6I5ZYZBEU3UPYFY54	HSBC Bank plc - SI	3.72%	1.92%	n/a	n/a	0.00%	
3	XOFF	549300EF8AZLRG0UC208	Off-Exchange Transactions - Listed Instruments	3.33%	16.49%	n/a	n/a	0.00%	
4	JEFS	S5THZMDUJCTQZBTRV198	Jefferies International Limited - SI	2.22%	1.40%	n/a	n/a	0.00%	
5	JPSI	K6Q0W1PS1L1O4IQL9C32	J.P. Morgan Securities plc - SI	1.46%	2.04%	n/a	n/a	0.00%	
~	Remaining execution venues			6.55%	6.11%	n/a	n/a	0.00%	
Total				100%	100%	n/a	n/a	0%	

Class of instrument			(k) Exchange Traded Products (Exchange Traded Funds, Exchange Traded Notes and Exchange Traded Commodities)						
Notification if < 1 average trade per business day in year			No						
Rank	MIC	Operator LEI	Execution Venue Name	% of VOLUME traded in class	% of ORDERS executed in class	% of PASSIVE orders*	% of AGGRESSIVE orders*	% of DIRECTED orders	
1	BMTF	549300ROEJDDAXM6LLU05	Bloomberg Multilateral Trading Facility	52.39%	24.13%	80.46%	19.54%	0.00%	
2	XSES	549300IQ650PPXM76X03	Singapore Exchange	16.99%	3.48%	81.01%	18.99%	0.00%	
3	XASX	549300USWUR0S7VMM6868	Australian Securities Exchange (ASX) - All Markets	9.96%	4.99%	57.30%	42.70%	0.00%	
4	XJSE	213800MZ1VUQEBWRFO39	Johannesburg Stock Exchange	2.42%	0.27%	73.61%	26.39%	0.00%	
5	XHKG	213800YTVSXYQN17BW16	Hong Kong Exchanges and Clearing Limited	2.23%	0.66%	61.45%	38.55%	0.00%	
~	Remaining execution venues			16.01%	66.46%	61.58%	38.42%	0.00%	
Total				100%	100%	63%	37%	0%	

IMPORTANT NOTES – TOP FIVE EXECUTION VENUES

NOTE 1: 'PASSIVE' and 'AGGRESSIVE' order values for classes of instrument (a) Equity - Shares and Depository Receipts and (k) Exchange Traded Products are determined based upon an assumption that for the purposes of Article 2 of Commission Delegated Regulation (EU) 2017/576 ('RTS 28') where an order is transmitted to a broker for execution rather than directly to a trading venue these values can be calculated using the execution price of each transaction instead of the order or placement itself on the basis of the following:

- (1) A transaction will be considered to be 'PASSIVE' where the execution price for that transaction is:
- (a) for a BUY order, at a price equal to or less than the prevailing primary market MID at the time of execution; or,
 - (b) for a SELL order, at a price equal to or greater than the prevailing market MID at the time of execution.
- (2) A transaction will be considered to be 'AGGRESSIVE' where the execution price for that transaction is:
- (a) for a BUY order, at a price greater than the prevailing primary market MID at the time of execution; or,
 - (b) for a SELL order, at a price less than the prevailing market MID at the time of execution.

NOTE 2: 'PASSIVE' and 'AGGRESSIVE' order values for class of instrument (b) Debt Instruments are not considered to be applicable due to the market structure for this class of instrument which is primarily based upon a 'request-for-quote' model rather than the 'order book' model more common in other classes of instrument, consequently values are not reported.

c) Top Five Order Transmission Destinations in 2019

The following data tables have been prepared in accordance with the requirements of Article 65(6) of Commission Delegated Regulation (EU) 2017/565 (the 'MiFID Org Regulation') in order to be consistent with the technical standards under Article 3(1) of RTS 28 and show the top five order transmission destinations (i.e. brokers) to which client orders were transmitted for execution in 2019 by NTS LLP for each class of financial instrument.

Class of instrument				(a) Equities - Shares and 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 year				No				
Rank	Broker Code	Broker LEI	Broker Name	% of VOLUME traded in class	% of ORDERS executed in class	% of PASSIVE orders*	% of AGGRESSIVE orders*	% of DIRECTED orders
1	ITGL	213800EEC95PRUCEUP63	Virtu ITG Europe Limited - London	43.56%	40.93%	62.84%	37.16%	0.00%
2	GSEU	W22LROWP2IHZNBB6K528	Goldman Sachs International	19.93%	21.54%	66.84%	33.16%	0.00%
3	AESE	DL6FFRRLF74S01HE2M14	Credit Suisse Securities (Europe) Limited - EMEA DMA	12.87%	15.68%	66.45%	33.55%	0.00%
4	EXBN	969500UP76J52A9OXU27	Exane SA	6.76%	9.90%	79.39%	20.61%	0.00%
5	LBRX	213800U6KUF87S1KCC03	Liberum Capital Limited - T-REX	6.48%	3.98%	85.35%	14.65%	0.00%
~	Remaining execution venues			10.40%	7.97%	63.62%	36.38%	0.00%
Total				100%	100%	66%	34%	0%

Class of instrument				(a) Equities - Shares and 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 year				No				
Rank	Broker Code	Broker LEI	Broker Name	% of VOLUME traded in class	% of ORDERS executed in class	% of PASSIVE orders*	% of AGGRESSIVE orders*	% of DIRECTED orders
1	ITGL	213800EEC95PRUCEUP63	Virtu ITG Europe Limited - London	15.96%	25.61%	67.78%	32.22%	0.00%
2	NTRC	3CHSO99JSPHD9HGNYJ46	Northern Trust Securities, Inc.	14.18%	20.48%	49.21%	50.79%	0.00%
3	GSEU	W22LROWP2IHZNBB6K528	Goldman Sachs International	11.23%	18.79%	66.41%	33.59%	0.00%
4	MSET	4PQUHN3JPF6FNF3BB653	Morgan Stanley & Co. International plc - Electronic Trading	7.87%	4.34%	63.74%	36.26%	0.00%
5	LBRX	213800U6KUF87S1KCC03	Liberum Capital Limited - T-REX	7.72%	2.83%	91.17%	8.83%	0.00%
~	Remaining execution venues			43.03%	27.96%	64.26%	35.74%	0.00%
Total				100%	100%	57%	43%	0%

Class of instrument				(a) Equities - Shares and 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 year				No				
Rank	Broker Code	Broker LEI	Broker Name	% of VOLUME traded in class	% of ORDERS executed in class	% of PASSIVE orders*	% of AGGRESSIVE orders*	% of DIRECTED orders
1	MEEX	549300GX4FPMFF91RJ37	Macquarie Capital (Europe) Limited - Electronic Trading	27.37%	25.56%	51.36%	48.64%	0.00%
2	CLET	213800VZMAGVIL2UA72	CLSA (UK) - Electronic Trading	12.19%	15.65%	47.03%	52.97%	0.00%
3	ARDN	213800KRNTZFOY1DA806	Arden Partners plc	8.54%	0.05%	76.47%	23.53%	0.00%
4	MSET	4PQUHN3JPF6FNF3BB653	Morgan Stanley & Co. International plc - Electronic Trading	7.00%	11.48%	61.68%	38.32%	0.00%
5	NTRC	3CHSO99JSPHD9HGNYJ46	Northern Trust Securities, Inc.	5.02%	14.70%	56.93%	43.07%	0.00%
~	Remaining execution venues			39.87%	32.55%	57.58%	42.42%	0.00%
Total				100%	100%	54%	46%	0%

Class of instrument				(b) Debt Instruments (i) Bonds				
Notification if < 1 average trade per business day in year				No				
Rank	MIC	Operator LEI	Execution Venue Name	% of VOLUME traded in class	% of ORDERS executed in class	% of PASSIVE orders*	% of AGGRESSIVE orders*	% of DIRECTED orders
1	N/A	Not applicable	Not applicable	0.00%	0.00%	n/a	n/a	0.00%
2	N/A	Not applicable	Not applicable	0.00%	0.00%	n/a	n/a	0.00%
3	N/A	Not applicable	Not applicable	0.00%	0.00%	n/a	n/a	0.00%
4	N/A	Not applicable	Not applicable	0.00%	0.00%	n/a	n/a	0.00%
5	N/A	Not applicable	Not applicable	0.00%	0.00%	n/a	n/a	0.00%
~	Remaining execution venues			0.00%	0.00%	n/a	n/a	0.00%
Total				0%	0%	n/a	n/a	0%



Class of instrument				(k) Exchange Traded Products (Exchange Traded Funds, Exchange Traded Notes and Exchange Traded Commodities)				
Notification if < 1 average trade per business day in year				No				
Rank	Broker Code	Broker LEI	Broker Name	% of VOLUME traded in class	% of ORDERS executed in class	% of PASSIVE orders*	% of AGGRESSIVE orders*	% of DIRECTED orders
1	FLOW	549300CLJ9XDH12XV51	Flow Traders B.V.	17.15%	7.15%	81.03%	18.97%	0.00%
2	MEEEX	549300GX4FPMFF91RJ37	Macquarie Capital (Europe) Limited - Electronic Trading	14.90%	7.75%	70.97%	29.03%	0.00%
3	JANE	549300ZHBHX8M31RP142	Jane Street Financial Limited	9.11%	11.36%	84.17%	15.83%	0.00%
4	CETF	851WYGNLUQLFZBSYGB56	Commerzbank AG - Equity	9.07%	15.83%	77.50%	22.50%	0.00%
5	CLET	213800VZMAGVILU2UA72	CLSA (UK) - Electronic Trading	7.85%	7.01%	75.02%	24.98%	0.00%
~	Remaining execution venues			41.93%	50.92%	60.14%	39.86%	0.00%
Total				100%	100%	63%	37%	0%

IMPORTANT NOTES – TOP FIVE ORDER TRANSMISSION DESTINATIONS

NOTE 1: 'PASSIVE' and 'AGGRESSIVE' order values for classes of instrument (a) Equity - Shares and Depository Receipts and (k) Exchange Traded Products are determined based upon an assumption that for the purposes of Article 2 of Commission Delegated Regulation (EU) 2017/576 ('RTS 28') where an order is transmitted to a broker for execution rather than directly to a trading venue these values can be calculated using the execution price of each transaction instead of the order or placement itself on the basis of the following:

- (1) A transaction will be considered to be '**PASSIVE**' where the execution price for that transaction is:
 - (a) for a BUY order, at a price equal to or less than the prevailing primary market MID at the time of execution; or,
 - (b) for a SELL order, at a price equal to or greater than the prevailing market MID at the time of execution.
- (2) A transaction will be considered to be '**AGGRESSIVE**' where the execution price for that transaction is:
 - (a) for a BUY order, at a price greater than the prevailing primary market MID at the time of execution; or,
 - (b) for a SELL order, at a price less than the prevailing market MID at the time of execution.

NOTE 2: 'PASSIVE' and 'AGGRESSIVE' order values for class of instrument (b) Debt Instruments are not considered to be applicable due to the market structure for this class of instrument which is primarily based upon a 'request-for-quote' model rather than the 'order book' model more common in other classes of instrument, consequently values are not reported.

d) Information on the quality of execution

The following information is provided in accordance with the requirements of Article 3(3) of RTS 28 and summarises the analysis and conclusions drawn from the monitoring of the quality of execution obtained on the execution venues and through the brokers used by NTS LLP in 2019. Unless otherwise stated the information covers all classes of financial instrument.

(a) An explanation of the relative importance the firm gave to the execution factors of price, costs, speed, likelihood of execution or any other consideration including qualitative factors when assessing the quality of execution;

In 2019, NTS LLP continued to view the execution price achieved as the most significant execution factor when assessing the quality of execution. As an agency broker executing orders on behalf of institutional clients, we also considered the availability of sufficient liquidity and the speed and likelihood of execution on potential execution venues as an important factor; in this respect potential opportunities for block trading or trading at large-in-scale sizes were a key factor considered. Finally, we always consider any order handling instructions provided by the client as an important factor when assessing the quality of execution because such instructions can influence the execution strategy employed by NTS LLP's traders and also potentially restrict our ability to choose alternative strategies. Consequently the vast majority of client orders were executed on multiple execution venues across a range of lit and dark venues and market segments.

For equity and equity-like instruments, it was most likely that those execution venues were one of a range of multilateral trading facilities, or the primary regulated market for the financial instrument in question. For the more illiquid equities and certain exchange traded funds, market makers trading under the rules of the London Stock Exchange and Systematic Internalisers, or their third country equivalents, were also relevant execution venues. For instruments with a primary listing outside of the UK and EU, the primary markets for the instruments in question were the main execution venues used by our brokers; however we also used alternative trading systems when available to ensure access to as much liquidity as possible.

For debt instruments the range of trading venues in the EU continues to be small and focused on a specialised group of request-for-quote based trading venues, and sell-side dealers acting as systematic internalisers. Over-the-counter executions remain a valid and necessary execution method and while NTS LLP aimed to primarily execute orders in 2019 on trading venues and with systematic internalisers, we also sought to expand the number of relationships maintained with sell-side dealers in order to expand access to liquidity. A number of these relationships involve over-the-counter executions; however all were viewed as allowing NTS LLP to execute client orders in debt instrument in the most effective manner possible in order to achieve the best possible result for our clients in this asset class.

(b) A description of any close links, conflicts of interests, and common ownerships with respect to any execution venues used to execute orders;

NTS LLP does not have any close links, conflicts of interests or common ownerships with any trading venue on which a client order was executed in 2019.

NTS LLP is affiliated with the broker, Northern Trust Securities, Inc. ('NTSI'), through the common ownership of The Northern Trust Company. NTS LLP transmits client orders in US-listed financial instruments and financial instruments traded on other markets in the Americas to NTSI for execution on local trading venues. NTS LLP does not have any other close links, conflicts of interests or common ownerships with any other broker through which a client order was executed in 2019.

(c) A description of any specific arrangements with any execution venues regarding payments made or received, discounts, rebates or non-monetary benefits received;

NTS LLP does not receive any payments, discounts, rebates or non-monetary benefits from the execution venues on which client orders were executed in 2019.

In 2019 NTS LLP continued to receive commission rebates from certain third country brokers as payment from the client for the services provided by NTS LLP in bringing about the execution of the client's order. These are paid to NTS LLP by the third country broker from commissions paid by the client to that broker, because NTS LLP is not able to directly settle the transaction(s) in the local market and must therefore give-up the order and client relationship for settlement. All such commission rebates are pre-agreed with the client. NTS LLP did not maintain any arrangements which constitute payment for order flow.

(d) An explanation of the factors that led to a change in the list of execution venues listed in the firm's execution policy, if such a change occurred;

As an agency broker the list of execution venues in The Northern Trust EMEA Order Execution Policy is primarily determined by (a) client orders and the financial instruments and range of potential execution venues on which they are traded, (b) the range of execution venues supported by our panel of external brokers and (c) changes in market infrastructure, such as those arising in the UK and EU following the implementation of MiFID II.

In 2019, client orders were executed by NTS LLP and its panel of external brokers on over 250 different execution venues across all classes of instrument, compared to just over 200 in 2018. The majority of the new venues used were not considered to be material changes to NTS LLP's execution arrangements and were predominately used as a result of order and instrument specific considerations. Similarly NTS LLP ceased to use a small number of venues to execute client orders that were used in 2018. As with the new venues, these changes were mainly linked to order and instrument specific considerations at the time the orders in question were executed, and they do not represent a material change to NTS LLP's execution arrangements.

Finally, it is worth noting that the percentage of client orders executed on an over-the-counter basis in 2019 (i.e. execution away from a trading venue), remained both very low and broadly consistent with the percentage seen in 2018 despite a general increase in trading volumes by NTS LLP in 2019. In order to ensure compliance with the MiFIR Trading Obligation for Shares, NTS LLP has employed a range of measures in its execution arrangements, which include "Off-book, On-exchange" transactions through our membership of the London Stock Exchange. These measures are described more fully in Appendix 1 of the Northern Trust EMEA Order Execution Policy.

(e) An explanation of how order execution differs according to client categorisation, where the firm treats categories of clients differently and where it may affect the order execution arrangements;

NTS LLP does not differentiate between categories of clients when executing their orders. To the extent that orders from different clients are comparable they are generally executed in the order in which they were received unless it is possible to aggregate the orders to the advantage of all clients concerned, whereupon they will be executed concurrently.

(f) An explanation of whether other criteria were given precedence over immediate price and cost when executing retail client orders and how these other criteria were instrumental in delivering the best possible result in terms of the total consideration to the client;

Not applicable, NTS LLP does not provide investment services to Retail clients.

(g) An explanation of how the investment firm has used any data or tools relating to the quality of execution, including any data published under Delegated Regulation (EU) 2017/575;

Throughout 2019, and in accordance with the best execution obligation under Article 27 of MiFID II, NTS LLP measured the performance of client orders through the use of third party transaction cost analysis ('TCA') tools, and where available, the TCA reports provided by the brokers to which client orders were transmitted. NTS LLP deployed a new TCA tool in 2019 which allows for the measurement of execution performance using multiple performance metrics for orders, placements and executions at the same time, rather than the singular static performance metric offered by the previous system. This new tool has been well received by our clients and further strengthened the systems and controls for monitoring best execution and our broker panel as described in The Northern Trust EMEA Order Execution Policy and informing our order execution arrangements more generally.

NTS LLP did not specifically make use of any data published under Delegated Regulation (EU) 2017/575 ('RTS 27') by execution venues, and continued to rely upon its execution performance and transaction cost analysis tools.

(h) Where applicable, an explanation of how the investment firm has used output of a consolidated tape provider established under Article 65 of Directive 2014/65/EU.

NTS LLP did not use a consolidated tape provider established under Article 65 of Directive 2014/65/EU in 2019.

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