

NORTHERN TRUST CAPITAL MARKETS: SECURITIES LENDING

For the period 1 January 2018 to 31 December 2018

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 Northern Trust Capital Markets' securities lending execution arrangements in 2018

Northern Trust Capital Markets is comprised of a number of Northern Trust entities that provide trading and execution services on behalf of institutional clients, including foreign exchange, institutional brokerage, securities lending and transition management services. Northern Trust Capital Markets' Securities Lending services are provided in the UK and EU/EEA by The Northern Trust Company, London branch ('TNTC') and Northern Trust Global Services SE ('NTGS SE') (herein collectively 'Northern Trust Capital Markets').

TNTC is authorised in the UK as a non-EEA credit institution, and in the UK it is authorised by the Prudential Regulation Authority and authorised and regulated by the Financial Conduct Authority. TNTC provides the MiFID investment service of execution of orders on behalf of clients for Securities Financing Transactions in equity and debt financial instruments to institutional clients.

NTGS SE is authorised in Luxembourg as an EU credit institution, and it is authorised by the Commission de Surveillance du Secteur Financier (CSSF) and the European Central Bank (ECB) and subject to the prudential supervision of the CSSF, ECB and the Central Bank of Luxembourg (BCL). NTGS SE provides the MiFID investment service of reception and transmission of orders on behalf of clients for Securities Financing Transactions in equity and debt financial instruments to institutional clients.

Northern Trust Capital Markets only provides securities lending services to Professional clients and Eligible counterparties and does not provide the services to Retail clients.

During 2018, TNTC executed the majority of the client orders in Securities Financing Transactions that it received using its membership of the EquiLend MTF. The EquiLend MTF is authorised and regulated as an organised trading venue under MiFID II and it provides the securities lending market with an electronic platform for the negotiation and processing of securities lending transactions. Additionally, TNTC also executed client orders away from the systems of an organised trading venue on an over-the-counter ('OTC') basis by negotiating transactions directly with counterparties via telephone or electronic communications.

During 2018, NTGS SE did not execute any client orders itself and instead arranged transactions in securities lending transactions by transmitting the client orders for Securities Financing Transactions that it received to TNTC for execution as described in the previous paragraph.

The EquiLend MTF is a joint venture of various securities lending agents and securities borrowers in which Northern Trust has an equity interest, and it provides the securities lending market with a common electronic platform for the negotiation and processing of securities lending transactions. EquiLend is authorised and regulated in the EU/EEA as a multilateral trading facility and therefore constitutes an organised trading venue for the purposes of RTS 28. Due to the limited range of organised trading venues (e.g. regulated markets and multilateral trading facilities) in the UK and EU that (a) support securities lending transactions, and (b) have sufficient liquidity available for trading, the use of 'over-the-counter' transactions in 2018 remained an essential component of Northern Trust Capital Markets' execution arrangements.

Northern Trust Capital Markets therefore provides the following information on execution venues for each class of financial instrument in which we executed client orders in 2018:

1. In respect of orders given by clients of The Northern Trust Company ('TNTC'):
 - (a) The identity of the top five execution venues (i.e. trading venues and counterparties) where client orders were executed in 2018; as required by Article 27(6) of Directive 2014/65/EU.
2. In respect of orders given by clients of Northern Trust Global Services SE ('NTGS'):
 - (a) The identity of the top five receiving firms (i.e. external brokers) to which client orders were transmitted in 2018; as required by Article 65(6) Commission Delegated Regulation (EU) 2017/565.

b) Top Five Execution Venues in 2018
i. The Northern Trust Company – Securities Financing Transactions

The following data tables have been prepared in accordance with the requirements of Article 27(6) of MiFID II and Article 3(2) of RTS 28 and show the top five venues on which client securities financing orders were executed in 2018 by TNTC for each class of financial instrument.

Class of instrument			(a) Equities - Shares and Depositary Receipts: All Tick Size Bands		
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
1	EQLD	213800BUOJT8E71MBB36	Equilend MTF	97.50%	94.04%
2	XOFF	549300EF8AZLRG0UC208	Off-Exchange Transactions - Listed Instruments	2.50%	5.96%
3	N/A	N/A	N/A	0.00%	0.00%
4	N/A	N/A	N/A	0.00%	0.00%
5	N/A	N/A	N/A	0.00%	0.00%
~	Remaining venues			0.00%	0.00%
Total				100%	100%

Class of instrument			(b) Debt Instruments		
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
1	EQLD	213800BUOJT8E71MBB36	Equilend MTF	97.57%	69.82%
2	XOFF	549300EF8AZLRG0UC208	Off-Exchange Transactions - Listed Instruments	2.43%	30.18%
3	N/A	N/A	N/A	0.00%	0.00%
4	N/A	N/A	N/A	0.00%	0.00%
5	N/A	N/A	N/A	0.00%	0.00%
~	Remaining venues			0.00%	0.00%
Total				100%	100%

ii. Northern Trust Global Services SE – Securities Financing Transactions

NTGS SE did not execute any securities financing orders directly with an execution venue in 2018. Please refer to section c) ii. below for details of the order transmission destinations used in 2018.

c) Top Five Order Transmission Destinations in 2018

i. The Northern Trust Company – Securities Financing Transactions

TNTC did not transmit any securities financing orders to another firm for execution in 2018. Please refer to section b.) above for details of the execution venues used in 2018.

ii. Northern Trust Global Services SE – Securities Financing Transactions

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(2) of RTS 28 and show the top five order transmission destinations (i.e. brokers) to which client securities financing orders were transmitted for execution in 2018 by NTGS SE for each class of financial instrument.

Class of instrument		(a) Equities - Shares and Depositary Receipts: All Tick Size Bands		
Notification if < 1 average trade per business day in year		No		
Rank	Broker LEI	Broker Name	% of VOLUME traded in class	% of ORDERS executed in class
1	6PTKHDJ8HDUF78PFWH30	The Northern Trust Company	100.00%	100.00%
2	N/A	N/A	0.00%	0.00%
3	N/A	N/A	0.00%	0.00%
4	N/A	N/A	0.00%	0.00%
5	N/A	N/A	0.00%	0.00%
~	Remaining venues		0.00%	0.00%
Total			100%	100%

Class of instrument		(b) Debt Instruments		
Notification if < 1 average trade per business day in year		No		
Rank	Broker LEI	Broker Name	% of VOLUME traded in class	% of ORDERS executed in class
1	6PTKHDJ8HDUF78PFWH30	The Northern Trust Company	100.00%	100.00%
2	N/A	N/A	0.00%	0.00%
3	N/A	N/A	0.00%	0.00%
4	N/A	N/A	0.00%	0.00%
5	N/A	N/A	0.00%	0.00%
~	Remaining venues		0.00%	0.00%
Total			100%	100%

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 Northern Trust Capital Markets, for client securities financing orders executed in 2018 by both TNTC and NTGS SE for each class 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;

Where a borrower shows demand for a particular security (or basket of securities), there are a significant number of factors that influence whether a loan is possible (or maintainable), and the rate of return we are able to achieve on any given transaction. These include:

- 1) Client lending parameters - acceptable borrowers, borrower limits
- 2) Collateral criteria – both non-cash and cash collateral reinvestment guidelines
- 3) Value of loan
- 4) Term of the transaction
- 5) Manufactured dividend rate
- 6) Jurisdiction and netting of borrower
- 7) Jurisdiction and netting status of client lender
- 8) Credit risk criteria and limits (determined by Lender, borrower, or agent lender)
- 9) Transaction charges
- 10) Portfolio stability (recall of lender sales)
- 11) Client minimum spread requirements

The factors listed above will largely determine whether or not loans are feasible and some will influence the rate a borrower is willing to pay to borrow the securities. We will not enter into any loan that would breach either lender imposed restrictions or our own risk parameters.

The Northern Trust lending program works on the basis that trading teams should not make arbitrary decisions on whom to allocate loans to at point of trade. We maintain an automated loan allocation process to impartially determine which lending client's assets will be loaned in response to a borrower request when there are multiple lenders eligible to participate.

The allocation system takes into consideration factors such as security availability, unrealized opportunities, and existing loan allocations. Northern Trust implemented this allocation system in an effort to provide an objective methodology that requires minimal, if any, discretionary involvement in the allocation of lending opportunities, which is intended to support the fair and impartial allocation of lending opportunities among our clients.

On occasions it is necessary for trading teams to override the automatic allocation process to allow a loan to be transacted. This occurs only in a very limited number of circumstances and overrides are monitored and reviewed regularly to ensure appropriate action has been taken.

For certain types of lending arrangements (such as exclusives) the loan allocation system is not relevant to the execution of loans. These arrangements are explained in more detail in the Securities Lending "Confidence through transparency" document available on Passport or upon request.

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

The EquiLend MTF is a joint venture of various securities lending agents and securities borrowers in which Northern Trust has an equity interest, and it provides the securities lending market with a common electronic platform for the negotiation and processing of securities lending transactions. Equilend is authorised and regulated in the EU/EEA as a multilateral trading facility and therefore constitutes an organised trading venue for the purposes of RTS 28.

You are not charged a fee for using the Equilend platform. Rather, the fees charged by Equilend for participation in its platform and the cost of purchasing or licensing lending-related products are paid by us. The fees for participation in the platform include an initiation fee and an annual fee that is structured on a tiered basis.

Northern Trust Capital Markets does not have any further close links, conflicts of interests or common ownerships with any trading venue on which a client order was executed in 2018.

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

Northern Trust Capital Markets does not receive any payments, discounts, rebates or non-monetary benefits from the execution venues on which client orders were executed in 2018.

(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;

There were no changes to the executions venues listed in the Northern Trust Order Execution Policy that were applicable to the Northern Trust Capital Markets Securities Lending business in 2018.

(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;

Northern Trust Capital Markets does not differentiate between categories of clients when executing their orders.

(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, Northern Trust Capital Markets 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;

Northern Trust Capital Markets did not make use of any data published under Delegated Regulation (EU) 2017/575 ('RTS 27') by execution venues in relation to assessment of the quality of execution for securities financing transactions.

(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.

Northern Trust Capital Markets did not use a consolidated tape provider established under Article 65 of Directive 2014/65/EU in 2018.

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This communication is not an offer to engage in transactions in specific financial instruments; does not constitute investment advice, does not constitute a personal recommendation and has been prepared without regard to the individual financial circumstances, needs or objectives of individual investors.

The Northern Trust Company, incorporated with limited liability in the U.S. as an Illinois banking corporation under number 2016; registered office: 50 South LaSalle Street, Chicago Illinois 60603, USA; UK establishment number: BR001960 and UK office at 50 Bank Street, Canary Wharf, London E14 5NT.

Northern Trust Global Services SE, registered in Luxembourg under number B232281. Registered office: 6 rue Lou Hemmer, L-1748 Senningerberg, Grand-Duché de Luxembourg.

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