



Transaction report 2019

Equities - Shares & Depositary Receipts

Class of Instrument	Liquidity Band A+B					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Virtu Financial Ireland Limited	549300XG5LFGN1IGYC71	39.3	91.9	28.0	72.0	98.9
Instinet Europe Limited	213800MXAKR2LA1VBM44	18.6	86.8	48.4	51.6	98.6
DBS Vickers Singapore PTE Ltd.	549300O3J3YO6S614573	10.1	78.9	91.5	8.5	100.0
Linear Investments Ltd.	213800GNOS9QQ31DCK54	9.7	91.6	33.6	66.4	100.0
1st Capital Management Group GmbH	529900ISPKUVG8HSQD34	7.7	92.2	14.1	85.9	100.0

*Notice: Securities with no Liquidity Band classification are in this category listed

Class of Instrument	Liquidity Band C+D					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
M.M.Warburg & CO (AG & Co.)	MZI1VDH2BQLFZGLQDO60	24.6	89.9	58.8	41.2	100.0
Virtu Financial Ireland Limited	549300XG5LFGN1IGYC71	23.9	95.1	25.8	74.2	99.4
Linear Investments Ltd.	213800GNOS9QQ31DCK54	18.6	81.1	46.5	53.5	100.0
1st Capital Management Group GmbH	529900ISPKUVG8HSQD34	15.3	100.0	3.7	96.3	18.5
Instinet Europe Limited	213800MXAKR2LA1VBM44	10.8	89.9	27.2	72.8	86.7



Class of Instrument	Liquidity Band E+F					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Virtu Financial Ireland Limited	549300XG5LFGN1IGYC71	32.2	94.2	16.6	83.4	99.4
Linear Investments Ltd.	213800GNOS9QQ31DCK54	21.8	92.7	21.3	78.7	99.7
M.M.Warburg & CO (AG & Co.)	MZ11VDH2BQLFZGLQDO60	19.8	95.1	24.0	76.0	100.0
Instinet Europe Limited	213800MXAKR2LA1VBM44	15.4	98.8	3.8	96.2	60.5
1st Capital Management Group GmbH	529900ISPKUVG8HSQD34	7.7	95.7	7.4	92.6	98.9

Debt Instruments / Bonds

Class of Instrument	Debt instruments <397 days to maturity					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Citigroup Global Markets Ltd.	XKZZ2JZF41MRHTR1V493	24.1	100.0	2.4	97.6	100.0
J.P. Morgan Securities PLC	K6Q0W1PS1L1O4IQL9C32	17.6	100.0	6.8	93.2	100.0
DZ Bank AG	529900HNOAA1KXQJUQ27	12.6	100.0	14.3	85.7	100.0
Leonteq Securities AG	ML61HP3A4MKTTA1ZB671	12.6	100.0	83.3	16.7	100.0
Goldman Sachs International	W22LROWP2IHZNBB6K528	6.3	100.0	37.5	62.5	100.0



Class of Instrument	Debt instruments>397 days to maturity					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
1st Capital Management Group GmbH	529900ISPKUJG8HSQD34	17.2	82.4	69.4	30.6	98.8
J.P. Morgan Securities PLC	K6Q0W1PS1L1O4IQL9C32	12.7	93.3	24.8	68.5	100.0
M.M.Warburg & CO (AG & Co.)	MZI1VDH2BQLFZGLQDO60	11.4	83.6	53.3	46.7	100.0
Goldman Sachs International	W22LROWP2IHZNBB6K528	10.2	99.1	29.1	70.9	99.1
Citigroup Global Markets Ltd.	XKZZ2JZF41MRHTR1V493	8.9	100.0	31.0	69.0	100.0

Interest Rate Derivates

Class of Instrument	Interest rate derivates / Futures and options					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
M.M.Warburg & CO (AG & Co.)	MZI1VDH2BQLFZGLQDO60	95.7	100.0	4.5	95.5	100.0
J.P. Morgan Securities PLC	K6Q0W1PS1L1O4IQL9C32	4.3	77.8	22.2	77.8	100.0



Credit Derivates

Class of Instrument	Credit Derivates					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
-	-	-	-	-	-	-

Currency Derivates

Class of Instrument	Currency Derivates / Futures and Options					
Notification if <1 average trade per business day in the previous year	Yes					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
J.P. Morgan Securities PLC	K6Q0W1PS1L1O4IQL9C32	100.0	100.0	0.0	100.0	100.0

Class of Instrument	Currency Derivates / Swaps, Forwards and other Derivates					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
M.M.Warburg & CO (AG & Co.)	MZI1VDH2BQLFZGLQDO60	86.3	100.0	0.0	100.0	100.0
Commerzbank AG	851WYGNLUQLFZBSYGB56	11.8	100.0	0.0	100.0	100.0
Unicredit Bank AG	2ZCNRR8UK83OBTEK2170	1.9	100.0	0.0	100.0	100.0



Credit Derivates and Equity Derivates

Class of Instrument	Structured Finance Instruments					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
-	-	-	-	-	-	-

Class of Instrument	Equity Derivates / Futures and Options					
Notification if <1 average trade per business day in the previous year	Nein					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
M.M.Warburg & CO (AG & Co.)	MZI1VDH2BQLFZGLQDO60	86.6	100.0	34.8	65.2	100.0
J.P. Morgan Securities PLC	K6Q0W1PS1L1O4IQL9C32	13.4	91.2	18.0	82.0	100.0



Securitised Derivates

Class of Instrument	Securitised Derivates					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
-	-	-	-	-	-	-

Class of Instrument	Warrants and Certificates					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
M.M.Warburg & CO (AG & Co.)	MZI1VDH2BQLFZGLQDO60	33.0	95.9	45.3	54.7	100.0
Baader BANK AG	529900JFOPPEDUR61H13	11.5	100.0	60.0	40.0	100.0
Commerzbank AG	851WYGXLUQLFZBSYGB56	9.3	100.0	30.9	69.1	100.0
Flow Traders B.V.	549300CLJI9XDH12XV51	7.1	100.0	0.0	100.0	100.0
Deutsche Bank AG	7LTFWZYICNSX8D621K86	6.8	100.0	52.0	48.0	100.0



Commodity Derivates

Class of Instrument	Commodity derivates / Futures and Options					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
-	-	-	-	-	-	-

Class of Instrument	Commodity Derivates / Others					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
-	-	-	-	-	-	-



Contracted for differences and Exchange Traded Products (Funds, ETF)

Class of Instrument	Contract for Differences					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
-	-	-	-	-	-	-

Class of Instrument	Exchange traded products (Funds and ETF)					
Notification if <1 average trade per business day in the previous year						
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Flow Traders B.V.	549300CLJI9XDH12XV51	39.5	100.0	0.0	100.0	100.0
Commerzbank AG	851WYGNLUQLFZBSYGB56	26.7	100.0	0.3	99.7	100.0
Unicredit Bank AG	2ZCNRR8UK83OBTEK2170	18.1	100.0	0.0	100.0	100.0
Marcard, Stein und Co AG	529900CK14SGH0EXOB27	4.9	98.0	0.0	100.0	100.0
Deutsche Bank AG	7LTFWZYICNSX8D621K86	4.8	100.0	0.0	100.0	100.0



Emission Certificates

Class of Instrument	Emission Certificates					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
-	-	-	-	-	-	-

Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
-	-	-	-	-	-	-

Contracted for differences and Exchange Traded Products (Funds, ETF)

Class of Instrument	Exchange traded products (Funds and ETF)					
Notification if <1 average trade per business day in the previous year						
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Flow Traders B.V.	549300CLJI9XDH12XV51	41.5	99.5	0.5	99.5	98.5
Commerzbank AG	851WYG NLUQLFZBSYGB56	40.6	98.9	1.6	98.4	99.7
Unicredit Bank AG	2ZCNRR8UK83OBTEK2170	7.6	100.0	0.0	100.0	100.0
BNP Paribas	529900JFOPPEDUR61H13	4.3	100.0	0.0	100.0	100.0
M.M.Warburg & CO (AG & Co.)	MZI1VDH2BQLFZGLQDO60	2.5	93.3	30.6	69.4	83.7



Emission Certificates

Class of Instrument	Emission Certificates					
Notification if <1 average trade per business day in the previous year	N/A					
Top five execution venues ranked in terms of trading volumes (descending order)	LEI	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
-	-	-	-	-	-	-