

Top 5 Brokers ranked in terms of volume (descending order) for retail

Equities-Shares Depository Receipts band 5-6						
Class of Instrument	Equities-Shares Depository Receipts band 5-6					
Notification if <1 average trade per business day in the previous year	N					
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders	
FLTWFTYCNXB021K86 Deutsche Bank Aktiengesellschaft	75,4%	79,6%	N/A	N/A	0,0%	
BFM8T61CT1LQCEMIK50 UBS AG	13,8%	14,6%	N/A	N/A	0,0%	
S49300GSLGN1G1C71 Virtu Financial Ireland Limited	10,7%	5,7%	N/A	N/A	0,0%	
9588001MGPWXX7NYMAR72 Credit Suisse Securities	0,1%	0,0%	N/A	N/A	0,0%	
S49300QJINCVVUAE15 RBC Dominion Securities INC.	0,0%	0,1%	N/A	N/A	0,0%	

Equities-Shares Depository Receipts band 3-4						
Class of Instrument	Equities-Shares Depository Receipts band 3-4					
Notification if <1 average trade per business day in the previous year	N					
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders	
S49300GSLGN1G1C71 Virtu Financial Ireland Limited	83,7%	79,7%	N/A	N/A	0,0%	
BFM8T61CT1LQCEMIK50 UBS AG	7,7%	6,3%	N/A	N/A	0,0%	
FLTWFTYCNXB021K86 Deutsche Bank Aktiengesellschaft	4,2%	8,5%	N/A	N/A	0,0%	
S49300QJINCVVUAE15 RBC Dominion Securities INC.	2,6%	5,4%	N/A	N/A	0,0%	
FXDSL463XBWIG8S858 RBC Europe Limited	1,8%	0,2%	N/A	N/A	0,0%	

Equities-Shares Depository Receipts band 1-2						
Class of Instrument	Equities-Shares Depository Receipts band 1-2					
Notification if <1 average trade per business day in the previous year	N					
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders	
S49300GSLGN1G1C71 Virtu Financial Ireland Limited	71,3%	80,3%	N/A	N/A	0,0%	
S49300QJINCVVUAE15 UBS AG	25,1%	10,0%	N/A	N/A	0,0%	
S49300QJINCVVUAE15 RBC Dominion Securities INC.	2,1%	8,2%	N/A	N/A	0,0%	
FLTWFTYCNXB021K86 Deutsche Bank Aktiengesellschaft	1,1%	1,5%	N/A	N/A	0,0%	
MBNUM2BP0078LVE310 Citigroup Global Markets Inc.	0,3%	0,0%	N/A	N/A	0,0%	

Debt Instruments-Bonds						
Class of Instrument	Debt Instruments-Bonds					
Notification if <1 average trade per business day in the previous year	Y					
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders	
BFM8T61CT1LQCEMIK50 UBS AG	63,7%	85,1%	N/A	N/A	0,0%	
S49300GSLGN1G1C71 Virtu Financial Ireland Limited	26,4%	10,4%	N/A	N/A	0,0%	
9588001MGPWXX7NYMAR72 Credit Suisse Securities	9,3%	1,5%	N/A	N/A	0,0%	
FLTWFTYCNXB021K86 Deutsche Bank Aktiengesellschaft	0,5%	3,0%	N/A	N/A	0,0%	

Structured Finance Instruments						
Class of Instrument	Structured Finance Instruments					
Notification if <1 average trade per business day in the previous year	N					
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders	
BFM8T61CT1LQCEMIK50 UBS AG	37,1%	94,9%	N/A	N/A	0,0%	
S49300DHEX8M31RP142 Jane Street Financial Limited	23,5%	0,4%	N/A	N/A	0,0%	
9588001MGPWXX7NYMAR72 Credit Suisse Securities	18,0%	0,3%	N/A	N/A	0,0%	
FXDSL463XBWIG8S858 RBC Europe Limited	8,7%	0,1%	N/A	N/A	0,0%	
9XZZ2J241MRHFLV493 Citigroup Global Markets Limited	6,2%	0,1%	N/A	N/A	0,0%	

Equity Derivatives-Options and Futures						
Class of Instrument	Equity Derivatives-Options and Futures					
Notification if <1 average trade per business day in the previous year	N					
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders	
BFM8T61CT1LQCEMIK50 UBS AG	99,9%	99,4%	N/A	N/A	0	
FLTWFTYCNXB021K86 Deutsche Bank Aktiengesellschaft	0,0%	0,4%	N/A	N/A	0	
S49300GSLGN1G1C71 Virtu Financial Ireland Limited	0,0%	0,2%	N/A	N/A	0	

Securitized Derivatives-Warrants and Certificate Derivatives						
Class of Instrument	Securitized Derivatives-Warrants and Certificate Derivatives					
Notification if <1 average trade per business day in the previous year	Y					
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders	
S49300GSLGN1G1C71 Virtu Financial Ireland Limited	98,3%	86,0%	N/A	N/A	0,0%	
BFM8T61CT1LQCEMIK50 UBS AG	1,3%	4,7%	N/A	N/A	0,0%	
FLTWFTYCNXB021K86 Deutsche Bank Aktiengesellschaft	0,4%	7,0%	N/A	N/A	0,0%	
S49300QJINCVVUAE15 RBC Dominion Securities INC.	0,0%	2,3%	N/A	N/A	0,0%	

Securitized Derivatives-Other Securitized Derivatives						
Class of Instrument	Securitized Derivatives-Other Securitized Derivatives					
Notification if <1 average trade per business day in the previous year	Y					
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders	
FLTWFTYCNXB021K86 Deutsche Bank Aktiengesellschaft	84,9%	68,6%	N/A	N/A	0,0%	
BFM8T61CT1LQCEMIK50 UBS AG	12,9%	27,0%	N/A	N/A	0,0%	
S49300GSLGN1G1C71 Virtu Financial Ireland Limited	1,8%	0,7%	N/A	N/A	0,0%	
S49300QJINCVVUAE15 RBC Dominion Securities INC.	0,4%	2,2%	N/A	N/A	0,0%	
FXDSL463XBWIG8S858 RBC Europe Limited	0,0%	1,5%	N/A	N/A	0,0%	

Exchange traded products-Exchange traded funds						
Class of Instrument	Exchange traded products-Exchange traded funds					
Notification if <1 average trade per business day in the previous year	N					
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders	
FLTWFTYCNXB021K86 Deutsche Bank Aktiengesellschaft	32,9%	47,4%	N/A	N/A	0,0%	
BFM8T61CT1LQCEMIK50 UBS AG	27,4%	44,3%	N/A	N/A	0,0%	
S49300DHEX8M31RP142 Jane Street Financial Limited	15,9%	0,3%	N/A	N/A	0,0%	
S49300CJ18XD41ZK5V1 Flow Traders B.V.	10,6%	0,8%	N/A	N/A	0,0%	
S49300GSLGN1G1C71 Virtu Financial Ireland Limited	2,7%	5,0%	N/A	N/A	0,0%	

Other Instruments - Other Instruments						
Class of Instrument	Other Instruments - Other Instruments					
Notification if <1 average trade per business day in the previous year	Y					
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders	
S49300GSLGN1G1C71 Virtu Financial Ireland Limited	95,4%	98,8%	N/A	N/A	0	
BFM8T61CT1LQCEMIK50 UBS AG	4,6%	1,2%	N/A	N/A	0	

Top 5 Brokers ranked in terms of volume (descending order) for professionals

Class of Instrument	Equities-Shares Depository Receipts band 5-6				
Notification if <1 average trade per business day in the previous year	N				
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
BFM8T61CT2L1QCEMIK50 UBS AG	46,5%	58,3%	N/A	N/A	0,0%
7LTFWZYICNSX8D621K86 Deutsche Bank Aktiengesellschaft	46,0%	38,0%	N/A	N/A	0,0%
549300XG5LFGN1IGYC71 Virtu Financial Ireland Limited	7,5%	3,7%	N/A	N/A	0,0%

Class of Instrument	Equities-Shares Depository Receipts band 3-4				
Notification if <1 average trade per business day in the previous year	N				
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
549300XG5LFGN1IGYC71 Virtu Financial Ireland Limited	84,0%	87,3%	N/A	N/A	0,0%
7LTFWZYICNSX8D621K86 Deutsche Bank Aktiengesellschaft	9,2%	6,0%	N/A	N/A	0,0%
BFM8T61CT2L1QCEMIK50 UBS AG	5,7%	5,8%	N/A	N/A	0,0%
549300QJX6CVVUXLE15 RBC Dominion Securities INC.	1,1%	0,9%	N/A	N/A	0,0%

Class of Instrument	Equities-Shares Depository Receipts band 1-2				
Notification if <1 average trade per business day in the previous year	N				
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
549300XG5LFGN1IGYC71 Virtu Financial Ireland Limited	91,3%	95,6%	N/A	N/A	0,0%
BFM8T61CT2L1QCEMIK50 UBS AG	6,5%	3,6%	N/A	N/A	0,0%
7LTFWZYICNSX8D621K86 Deutsche Bank Aktiengesellschaft	1,4%	0,8%	N/A	N/A	0,0%
MBNUM2BPBDO7JBLYG310 Citigroup Global Markets Inc.	0,9%	0,0%	N/A	N/A	0,0%

Class of Instrument	Structured Finance Instruments				
Notification if <1 average trade per business day in the previous year	Y				
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
959800TMGPWX7NYM4R72 Credit Suisse Securities	97,6%	95,0%	N/A	N/A	0,0%
GGDZP1UYGU95TUHRDP48 Merrill Lynch International	2,4%	5,0%	N/A	N/A	0,0%

Class of Instrument	Equity Derivatives-Options and Futures				
Notification if <1 average trade per business day in the previous year	N				
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
BFM8T61CT2L1QCEMIK50 UBS AG	100,0%	100,0%	N/A	N/A	0,0%

Class of Instrument	Securitized Derivatives-Warrants and Certificate Derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
7LTFWZYICNSX8D621K86 Deutsche Bank Aktiengesellschaft	100,0%	100,0%	N/A	N/A	0,0%

Class of Instrument	Exchange traded products-Exchange traded funds				
Notification if <1 average trade per business day in the previous year	N				
Top 5 Brokers ranked in terms of volume (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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
7LTFWZYICNSX8D621K86 Deutsche Bank Aktiengesellschaft	70,3%	62,9%	N/A	N/A	0,0%
BFM8T61CT2L1QCEMIK50 UBS AG	29,7%	37,1%	N/A	N/A	0,0%