

Class of Instrument Notification if <1 average trade per business day in the previous year Top five execution venues ranked in terms of trading volumes (descending order)	Counterparty				
	Debt instruments - bonds				
	N				
	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 Securitites PLC - K6Q0W1PS1L1O4IQL9C32	36.63%	31.76%	0.00%	100.00%	0.00%
Goldman Sachs International - W22LROWP2IHZNBB6K528	22.66%	24.35%	0.00%	100.00%	0.00%
Societe Generale International Limited - OIKLU6X1B10WK7X42C15	8.41%	4.47%	0.00%	100.00%	0.00%
HSBC Bank PLC - MP6ISZYZBEU3UXPYFY54	7.39%	15.75%	0.00%	100.00%	0.00%
Barclays Bank PLC - G5GSEF7VJP5I7OUK5573	7.00%	6.40%	0.00%	100.00%	0.00%

Class of Instrument Notification if <1 average trade per business day in the previous year Top five execution venues ranked in terms of trading volumes (descending order)	Counterparty				
	Debt instruments - money market instruments				
	N				
	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
Nomura International Plc - DGQCSV2PHVF7I2743539	38.45%	33.86%	0.00%	100.00%	0.00%
HSBC Bank PLC - MP6ISZYZBEU3UXPYFY54	21.28%	16.93%	0.00%	100.00%	0.00%
J.P. Morgan Securitites PLC - K6Q0W1PS1L1O4IQL9C32	16.12%	14.02%	0.00%	100.00%	0.00%
Morgan Stanley & Co. International PLC - 4PQUHN3JPFQFN3BB653	11.72%	17.99%	0.00%	100.00%	0.00%
Goldman Sachs International - W22LROWP2IHZNBB6K528	9.07%	12.96%	0.00%	100.00%	0.00%

Class of Instrument Notification if <1 average trade per business day in the previous year Top five execution venues ranked in terms of trading volumes (descending order)	Counterparty				
	Interest Rate Derivatives - Futures and options admitted to trading on a trading venue				
	N				
	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 Securitites PLC - K6Q0W1PS1L1O4IQL9C32	59.22%	54.43%	0.00%	100.00%	100.00%
Barclays Bank PLC - G5GSEF7VJP5I7OUK5573	25.08%	32.12%	0.00%	100.00%	100.00%
Morgan Stanley & Co. International PLC - 4PQUHN3JPFQFN3BB653	7.99%	8.34%	0.00%	100.00%	100.00%
Goldman Sachs International - W22LROWP2IHZNBB6K528	5.91%	3.35%	0.00%	100.00%	100.00%
Societe Generale International Limited - OIKLU6X1B10WK7X42C15	1.70%	1.56%	0.00%	100.00%	100.00%

Class of Instrument Notification if <1 average trade per business day in the previous year Top five execution venues ranked in terms of trading volumes (descending order)	Venue				
	Interest Rate Derivatives - Futures and options admitted to trading on a trading venue				
	N				
	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
Board of Trade of the City of Chicago, Inc. - 549300EX04Q2QBFQTQ27	50.20%	39.50%	0.00%	100.00%	100.00%
EUREX Frankfurt Aktiengesellschaft - 529900UT4DG0LGS9007	26.13%	25.83%	0.00%	100.00%	100.00%
ASX - 549300ZD7BBOVZVHK49	6.65%	10.55%	0.00%	100.00%	100.00%
The Montreal Exchange - 5493004XJK1P32XQLA57	5.79%	7.98%	0.00%	100.00%	100.00%
ICE Futures Europe - 549300UF4R84F48NCH34	5.54%	5.96%	0.00%	100.00%	100.00%

Class of Instrument Notification if <1 average trade per business day in the previous year Top five execution venues ranked in terms of trading volumes (descending order)	Counterparty				
	Interest Rate Derivatives - Swaps, forwards, and other interest rate derivatives				
	N				
	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 Securitites PLC - K6Q0W1PS1L1O4IQL9C32	36.02%	33.94%	0.00%	100.00%	0.00%
Goldman Sachs International - W22LROWP2IHZNBB6K528	28.41%	26.63%	0.00%	100.00%	0.00%
UBS - BFM8T61CT2L1QCCEMIK50	10.63%	9.05%	0.00%	100.00%	0.00%
Morgan Stanley & Co. International PLC - 4PQUHN3JPFQFN3BB653	7.24%	10.02%	0.00%	100.00%	0.00%
HSBC Bank PLC - MP6ISZYZBEU3UXPYFY54	5.22%	5.40%	0.00%	100.00%	0.00%

Class of Instrument Notification if <1 average trade per business day in the previous year	Venue				
	Interest Rate Derivatives - Swaps, forwards, and other interest rate derivatives				
	N				

Top five execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
TRADEWEB LLC - 5493009DYKOCXWBRCS24	42.70%	58.86%	0.00%	100.00%	0.00%

Counterparty	Credit derivatives - Other credit derivatives				
Class of Instrument					
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Barclays Bank PLC - G5GSEF7VJP5I7OUK5573	27.35%	39.71%	0.00%	100.00%	0.00%
Morgan Stanley & Co. International PLC - 4PQUHN3JPFQFN3BB653	22.40%	20.92%	0.00%	100.00%	0.00%
Goldman Sachs International - W22LROWP2IHZNBB6K528	16.30%	16.18%	0.00%	100.00%	0.00%
J.P. Morgan Securitites PLC - K6Q0W1PS1L104IQL9C32	13.42%	12.42%	0.00%	100.00%	0.00%
Credit Suisse	12.99%	7.19%	0.00%	100.00%	0.00%

Venue	Credit derivatives - Other credit derivatives				
Class of Instrument					
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
TRADEWEB LLC - 5493009DYKOCXWBRCS24	89.90%	85.25%	0.00%	100.00%	0.00%

Counterparty	Currency derivatives - Futures and options admitted to trading on a trading venue				
Class of Instrument					
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
J.P. Morgan Securitites PLC - K6Q0W1PS1L104IQL9C32	48.17%	47.34%	0.00%	100.00%	100.00%
Barclays Bank PLC - G5GSEF7VJP5I7OUK5573	34.60%	39.61%	0.00%	100.00%	100.00%
Goldman Sachs International - W22LROWP2IHZNBB6K528	8.29%	5.36%	0.00%	100.00%	100.00%
Morgan Stanley & Co. International PLC - 4PQUHN3JPFQFN3BB653	5.97%	5.63%	0.00%	100.00%	100.00%
Societe Generale International Limited - 0IKLU6X1B10WK7X42C15	2.53%	1.77%	0.00%	100.00%	100.00%

Venue	Currency derivatives - Futures and options admitted to trading on a trading venue				
Class of Instrument					
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Chicago Mercantile Exchange Inc. - SNZ2OJFK8MNNLQOF39	99.87%	99.75%	0.00%	100.00%	100.00%
Singapore Exchange (SIMEX)	0.11%	0.18%			
ICE Futures US Currencies	0.02%	0.07%	0.00%	100.00%	100.00%

Counterparty	Currency derivatives - Swaps, forwards and other currency derivatives				
Class of Instrument					
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
JPMorgan Chase Bank NA - 7H6GLXDRUGQF57RNE97	18.6%	20.46%	0.00%	100.00%	0.00%
Goldman Sachs International - W22LROWP2IHZNBB6K528	10.7%	17.72%	0.00%	100.00%	0.00%
Standard Chart	9.3%	12.42%	0.00%	100.00%	0.00%
COEX	9.3%	1.60%	0.00%	100.00%	0.00%
Barclays Bank PLC - G5GSEF7VJP5I7OUK5573	9.0%	9.51%	0.00%	100.00%	0.00%

Venue	Currency derivatives - Swaps, forwards and other currency derivatives				
Class of Instrument					

Notification if <1 average trade per business day in the previous year	N				
Top five execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Thomson Reuters LLC - 549300WQWDFSMQ8I087	87.26%	96.04%	0.00%	100.00%	0.00%

Counterparty					
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 execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
J.P. Morgan Securitites PLC - K6Q0W1PS1L1O4IQL9C32	55.32%	46.71%	0.00%	100.00%	100.00%
Barclays Bank PLC - G5GSEF7VJP5I7OUK5573	22.62%	64.60%	0.00%	100.00%	100.00%
Morgan Stanley & Co. International PLC - 4PQUHN3JPFQFN3BB653	12.15%	55.67%	0.00%	100.00%	100.00%
Goldman Sachs International - W22LROWP2IHZNBB6K528	7.36%	23.97%	0.00%	100.00%	100.00%
Societe Generale International Limited - 0IKLU6X1B10WK7X42C15	1.60%	53.38%	0.00%	100.00%	100.00%

Venue					
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 execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Chicago Mercantile Exchange Inc. - SNZ2OJLFK8MNNLQOF39	47.62%	21.72%	0.00%	100.00%	100.00%
EUREX Frankfurt Aktiengesellschaft - 529900UT4D0GLG5R9007	17.32%	19.63%	0.00%	100.00%	100.00%
Hong Kong Futures Exchange Limited	7.06%	7.41%	0.00%	100.00%	100.00%
Osaka Exchange	6.34%	3.76%	0.00%	100.00%	100.00%
ICE Futures Europe Financials	5.15%	5.31%	0.00%	100.00%	100.00%

Counterparty					
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 execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Morgan Stanley & Co. International PLC - 4PQUHN3JPFQFN3BB653	41.73%	91.67%	0.00%	100.00%	0.00%
J.P. Morgan Securitites PLC - K6Q0W1PS1L1O4IQL9C32	36.93%	6.30%	0.00%	100.00%	0.00%
Goldman Sachs International - W22LROWP2IHZNBB6K528	20.21%	1.87%	0.00%	100.00%	0.00%
Barclays Bank PLC - G5GSEF7VJP5I7OUK5573	1.12%	0.14%	0.00%	100.00%	0.00%
HSBC Bank PLC - MP6ISZYZBEU3UXPFYF54	0.01%	0.01%	0.00%	100.00%	0.00%

Counterparty					
Class of Instrument	Securitized Derivatives - Warrants and Certificate Derivatives				
Notification if <1 average trade per business day in the previous year	Y				
Top five execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
J.P. Morgan Securitites PLC - K6Q0W1PS1L1O4IQL9C32	35.62%	29.09%	0.00%	100.00%	0.00%
HSBC Bank PLC - MP6ISZYZBEU3UXPFYF54	25.41%	49.09%	0.00%	100.00%	0.00%
Societe Generale International Limited - 0IKLU6X1B10WK7X42C15	15.39%	5.45%	0.00%	100.00%	0.00%
Morgan Stanley & Co. International PLC - 4PQUHN3JPFQFN3BB653	10.73%	7.27%	0.00%	100.00%	0.00%
Citi	9.04%	5.45%	0.00%	100.00%	0.00%

Counterparty					
Class of Instrument	Commodities derivatives and emission allowances 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 execution venues 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	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
J.P. Morgan Securitites PLC - K6Q0W1PS1L1O4IQL9C32	38.14%	40.74%	0.00%	100.00%	100.00%
Morgan Stanley & Co. International PLC - 4PQUHN3JPFQFN3BB653	28.55%	21.23%	0.00%	100.00%	100.00%
Barclays Bank PLC - G5GSEF7VJP5I7OUK5573	23.51%	27.67%	0.00%	100.00%	100.00%
Goldman Sachs International - W22LROWP2IHZNBB6K528	4.61%	4.79%	0.00%	100.00%	100.00%

Optiver	3.41%	2.97%	0.00%	100.00%	100.00%
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Venue						
Class of Instrument Notification if <1 average trade per business day in the previous year Top five execution venues ranked in terms of trading volumes (descending order)	Commodities derivatives and emission allowances Derivatives - Options and Futures admitted to trading on a trading venue					
	N					
	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	
Board of Trade of the City of Chicago, Inc. - 549300EX04Q2QBFQTQ27	26.50%	19.77%	0.00%	100.00%	100.00%	
New York Mercantile Exchange, Inc. - 5493008GFNDTXFPHWI47	21.70%	18.34%	0.00%	100.00%	100.00%	
COMEX	20.30%	9.75%	0.00%	100.00%	100.00%	
ICE Futures Europe - 549300UF4R84F48NCH34	16.35%	15.73%	0.00%	100.00%	100.00%	
THE LONDON METAL EXCHANGE - 213800NB8G5VRT1DXC91	8.58%	8.95%	0.00%	100.00%	100.00%	

Counterparty						
Class of Instrument Notification if <1 average trade per business day in the previous year Top five execution venues ranked in terms of trading volumes (descending order)	Commodities derivatives and emission allowances Derivatives - Other commodities derivatives and emission allowances derivatives					
	N					
	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 Securitites PLC - K6Q0W1PS1L1O4IQL9C32	56.76%	61.46%	0.00%	100.00%	0.00%	
Macquarie Bank Limited - 4ZHCH4KYZG2WVRT8631	28.58%	26.87%	0.00%	100.00%	0.00%	
Morgan Stanley & Co. International PLC - 4PQUHN3JPFGFNF3BB653	14.67%	11.67%	0.00%	100.00%	0.00%	

Counterparty						
Class of Instrument Notification if <1 average trade per business day in the previous year Top five execution venues ranked in terms of trading volumes (descending order)	Equity					
	Y					
	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 Securitites PLC - K6Q0W1PS1L1O4IQL9C32	62.35%	95.59%	0.00%	100.00%	0.00%	
Morgan Stanley & Co. International PLC - 4PQUHN3JPFGFNF3BB653	37.39%	3.78%	0.00%	100.00%	0.00%	
Goldman Sachs International - W22LROWP2IHZNBB6K528	0.27%	0.63%	0.00%	100.00%	0.00%	