

| 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 | | No | | | | |
| Top five execution venues ranked in terms of trading volumes (descending order) | Legal Entity Identifier | 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 |
| JB Drax Honore (UK) Limited | 549300WYFIFDMB6POR04 | 53% | 39% | N/A | N/A | 0% |
| BOFA Securities, Inc. | 549300HN4UKV1E2R3U73 | 41% | 50% | N/A | N/A | 0% |
| Tullett Prebon (Securities) Limited | 549300BMVW85YF9FGN67 | 5% | 11% | N/A | N/A | 0% |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

| Class of Instrument | | Commodities derivatives Futures and options admitted to trading on a trading venue | | | | |
|---------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------|---------------------------------|-------------------------------|
| 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) | Legal Entity Identifier | 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 |
| BOFA Securities, Inc. | 549300HN4UKV1E2R3U73 | 91% | 21% | N/A | N/A | 0% |
| JB Drax Honore (UK) Limited | 549300WYFIFDMB6POR04 | 9% | 10% | N/A | N/A | 0% |
| Citigroup Global Markets Inc. | MBNUM2BPBDO7JBLYG310 | 0% | 52% | N/A | N/A | 0% |
| J.P. Morgan Securities LLC | ZBUT11V806EZRVTWT807 | 0% | 17% | N/A | N/A | 0% |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

| Class of Instrument | | Other instruments | | | | |
|---------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------|---------------------------------|-------------------------------|
| 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) | Legal Entity Identifier | 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, National Association | 7H6GLXDRUGQFU57RNE97 | 100% | 98% | N/A | N/A | 0% |
| BOFA Securities, Inc. | 549300HN4UKV1E2R3U73 | 0% | 2% | N/A | N/A | 0% |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

| Class of Instrument | | Securities finance Repurchase & reverse repurchase agreements | | | | |
|---------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------|---------------------------------|-------------------------------|
| Notification if <1 average trade per business day in the previous year | | No | | | | |
| Top five execution venues ranked in terms of trading volumes (descending order) | Legal Entity Identifier | 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 | K6Q0W1PS1L1O4QL9C32 | 17% | 31% | N/A | N/A | 0% |
| Barclays Bank PLC | G5GSEF7VJPS17OUK5573 | 17% | 12% | N/A | N/A | 0% |
| Nomura International PLC | DGQCSV2PHV712743539 | 12% | 9% | N/A | N/A | 0% |
| RBC Europe Limited | TXDSU46SXBWIGJ8G8E98 | 10% | 12% | N/A | N/A | 0% |
| UBS AG | BFM8T61CT2L1QCEMIK50 | 9% | 12% | N/A | N/A | 0% |

There are twenty-two (22) classes of financial instruments for the purpose of the annual quantitative disclosure. The firm does not trade in all 22 classes of financial instruments. As the firm does not facilitate transactions for retail clients, information regarding retail clients are not included in this report. The information contained in this disclosure was prepared by a third party and is believed to be accurate.