



|   |      |      |      |       |      |   |   |   |   |   |   |   |   |
|---|------|------|------|-------|------|---|---|---|---|---|---|---|---|
| <b>Two Sigma Securities, LLC(SOHO)</b>      | 2.33 | 2.62 | 2.99 | 0.27  | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>New York Stock Exchange(NYSE)</b>        | 2.23 | 0.00 | 0.00 | 18.87 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>UBS Securities, LLC(UBSS)</b>            | 2.14 | 2.21 | 2.99 | 1.35  | 3.13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>JANE STREET CAPITAL, LLC(JNST)</b>       | 1.79 | 2.02 | 2.99 | 0.00  | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>Cboe EDGX US Equities Exchange(EDGX)</b> | 1.34 | 0.00 | 0.00 | 11.32 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Material Aspects:



|   |      |      |      |       |      |   |   |   |   |   |   |   |   |
|---|------|------|------|-------|------|---|---|---|---|---|---|---|---|
| <b>Cboe EDGX US<br/>Equities<br/>Exchange(EDGX)</b> | 2.48 | 0.00 | 0.00 | 28.40 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>JANE STREET<br/>CAPITAL,<br/>LLC(JNST)</b>       | 1.81 | 1.92 | 1.98 | 0.99  | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>UBS Securities,<br/>LLC(UBSS)</b>                | 1.77 | 1.87 | 4.95 | 0.25  | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>New York Stock<br/>Exchange(NYSE)</b>            | 0.99 | 0.00 | 0.99 | 11.11 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Material Aspects:

April 2020

Option Contracts

Summary

| Non-Directed Orders as % of All Orders | Market Orders as % of Non-Directed Orders | Marketable Limit Orders as % of Non-Directed Orders | Non-Marketable Limit Orders as % of Non-Directed Orders | Other Orders as % of Non-Directed Orders |
|--|---|---|---|--|
| 100.00                                 | 15.15                                     | 0.00  | 66.67   | 18.18                                    |

Venues

| Venue - Non-directed Order Flow        | Non-Directed Orders(%) | Market Orders(%) | Marketable Limit Orders(%) | Non-Marketable Limit Orders(%) | Other Orders(%) | Net Payment Paid/Received for Market Orders(USD) | Net Payment Paid/Received for Market Orders(cents per hundred shares) | Net Payment Paid/Received for Marketable Limit Orders(USD) | Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares) | Net Payment Paid/Received for Non-Marketable Limit Orders(USD) | Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares) | Net Payment Paid/Received for Other Orders(USD) | Net Payment Paid/Received for Other Orders(cents per hundred shares) |
|--|------------------------|------------------|----------------------------|--------------------------------|-----------------|--|---|--|---|--|---|---|--|
| Citadel Securities LLC(CDRG)           | 54.55                  | 20.00            | 0.00                       | 59.09                          | 66.67           | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Susquehanna Capital Group(SUSQ)        | 12.12                  | 60.00            | 0.00                       | 0.00                           | 16.67           | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Citigroup Global Markets, Inc.(KEXP)   | 9.09                   | 0.00             | 0.00                       | 9.09                           | 16.67           | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Morgan Stanley & Company LLC(MSCO)     | 9.09                   | 20.00            | 0.00                       | 9.09                           | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Wolverine Execution Services LLC(WEXX) | 9.09                   | 0.00             | 0.00                       | 13.64                          | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Dash Financial Technologies LLC(DASH)  | 6.06                   | 0.00             | 0.00                       | 9.09                           | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |

Material Aspects:



|   |      |      |      |      |      |   |   |   |   |   |   |   |   |
|---|------|------|------|------|------|---|---|---|---|---|---|---|---|
| <b>G1 Execution Services, LLC(ETMM)</b> | 4.68 | 5.90 | 2.50 | 0.40 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>Two Sigma Securities, LLC(SOHO)</b>  | 2.30 | 2.71 | 5.00 | 0.60 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>JANE STREET CAPITAL, LLC(JNST)</b>   | 1.81 | 2.29 | 0.00 | 0.20 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>UBS Securities, LLC(UBSS)</b>        | 1.52 | 1.70 | 0.00 | 1.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Material Aspects:





|   |      |      |      |       |      |   |   |   |   |   |   |   |   |
|---|------|------|------|-------|------|---|---|---|---|---|---|---|---|
| <b>NASDAQ Execution Services, LLC(NSDQ)</b> | 2.89 | 0.00 | 4.00 | 28.73 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>Two Sigma Securities, LLC(SOHO)</b>      | 2.62 | 2.76 | 1.33 | 1.66  | 2.94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>JANE STREET CAPITAL, LLC(JNST)</b>       | 1.84 | 2.04 | 0.00 | 0.55  | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>UBS Securities, LLC(UBSS)</b>            | 1.49 | 1.55 | 1.33 | 0.28  | 8.82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>New York Stock Exchange(NYSE)</b>        | 1.22 | 0.00 | 0.00 | 12.43 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Material Aspects:

May 2020

Option Contracts

Summary

| Non-Directed Orders as % of All Orders | Market Orders as % of Non-Directed Orders | Marketable Limit Orders as % of Non-Directed Orders | Non-Marketable Limit Orders as % of Non-Directed Orders | Other Orders as % of Non-Directed Orders |
|--|---|---|---|--|
| 100.00                                 | 15.38                                     | 7.69  | 76.92   | 0.00                                     |

Venues

| Venue - Non-directed Order Flow        | Non-Directed Orders(%) | Market Orders(%) | Marketable Limit Orders(%) | Non-Marketable Limit Orders(%) | Other Orders(%) | Net Payment Paid/Received for Market Orders(USD) | Net Payment Paid/Received for Market Orders(cents per hundred shares) | Net Payment Paid/Received for Marketable Limit Orders(USD) | Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares) | Net Payment Paid/Received for Non-Marketable Limit Orders(USD) | Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares) | Net Payment Paid/Received for Other Orders(USD) | Net Payment Paid/Received for Other Orders(cents per hundred shares) |
|--|------------------------|------------------|----------------------------|--------------------------------|-----------------|--|---|--|---|--|---|---|--|
| Citadel Securities LLC(CDRG)           | 53.85                  | 0.00             | 50.00                      | 65.00                          | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Wolverine Execution Services LLC(WEXX) | 23.08                  | 0.00             | 0.00                       | 30.00                          | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Susquehanna Capital Group(SUSQ)        | 11.54                  | 50.00            | 50.00                      | 0.00                           | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Morgan Stanley & Company LLC(MSCO)     | 7.69                   | 50.00            | 0.00                       | 0.00                           | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Dash Financial Technologies LLC(DASH)  | 3.85                   | 0.00             | 0.00                       | 5.00                           | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |

Material Aspects:



|  |      |      |      |      |       |   |   |   |   |   |   |   |   |
|--|------|------|------|------|-------|---|---|---|---|---|---|---|---|
| <b>Two Sigma Securities, LLC(SOHO)</b> | 2.39 | 2.66 | 0.00 | 0.44 | 15.56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>JANE STREET CAPITAL, LLC(JNST)</b>  | 2.14 | 2.59 | 0.00 | 0.44 | 0.00  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>UBS Securities, LLC(UBSS)</b>       | 1.90 | 2.22 | 2.78 | 0.44 | 2.22  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Material Aspects:



|   |      |      |      |       |      |   |   |   |   |   |   |   |   |
|---|------|------|------|-------|------|---|---|---|---|---|---|---|---|
| <b>NASDAQ Execution Services, LLC(NSDQ)</b> | 2.59 | 0.00 | 0.72 | 19.66 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>JANE STREET CAPITAL, LLC(JNST)</b>       | 2.26 | 2.57 | 1.45 | 0.60  | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>New York Stock Exchange(NYSE)</b>        | 2.12 | 0.00 | 1.45 | 15.95 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>UBS Securities, LLC(UBSS)</b>            | 1.84 | 2.06 | 1.45 | 0.60  | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Material Aspects:

June 2020

Option Contracts

Summary

| Non-Directed Orders as % of All Orders | Market Orders as % of Non-Directed Orders | Marketable Limit Orders as % of Non-Directed Orders | Non-Marketable Limit Orders as % of Non-Directed Orders | Other Orders as % of Non-Directed Orders |
|--|---|---|---|--|
| 100.00                                 | 38.30                                     | 0.00  | 61.70   | 0.00                                     |

Venues

| Venue - Non-directed Order Flow        | Non-Directed Orders(%) | Market Orders(%) | Marketable Limit Orders(%) | Non-Marketable Limit Orders(%) | Other Orders(%) | Net Payment Paid/Received for Market Orders(USD) | Net Payment Paid/Received for Market Orders(cents per hundred shares) | Net Payment Paid/Received for Marketable Limit Orders(USD) | Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares) | Net Payment Paid/Received for Non-Marketable Limit Orders(USD) | Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares) | Net Payment Paid/Received for Other Orders(USD) | Net Payment Paid/Received for Other Orders(cents per hundred shares) |
|--|------------------------|------------------|----------------------------|--------------------------------|-----------------|--|---|--|---|--|---|---|--|
| Citadel Securities LLC(CDRG)           | 50.75                  | 30.77            | 0.00                       | 63.41                          | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Susquehanna Capital Group(SUSQ)        | 17.91                  | 46.15            | 0.00                       | 0.00                           | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Citigroup Global Markets, Inc.(KEXP)   | 13.43                  | 15.38            | 0.00                       | 12.20                          | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Wolverine Execution Services LLC(WEXX) | 11.94                  | 0.00             | 0.00                       | 19.51                          | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |
| Dash Financial Technologies LLC(DASH)  | 5.97                   | 7.69             | 0.00                       | 4.88                           | 0.00            | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  |

Material Aspects: