THRIVENT INVESTMENT MANAGEMENT - Held NMS Stocks and Options Order Routing Public Report

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2nd Quarter, 2022

Note: Thrivent Investment Management, Inc. does not engage in any material arrangements, including any internalization or payment for order flow arrangements, for each of the venues listed below.

April 2022

S&P 500 Stocks

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 | 98.06 | 0.77 | 1.12 | 0.05 |

| Venue - | Non- | Market | Marketable | Non- | Other | Net Deursent | Not Doum out Dr. 1/ | Net Doumont Dot! | Net Doumont Del-1/ | Net Doursent Double | Net Payment Paid/ | Net Deument | Net Doumont Dat 1/ |
|--|--------------------------------|---------------|-----------------------------------|---|---------------|---|---|--|--|---|---|--|--|
| Venue - Non-directed Order Flow | Non- Directed Orders (%) | Orders (%) | Marketable Limit Orders (%) | Mon- Marketable Limit Orders (%) | 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) | 35.12 | 37.61 | 6.78 | 3.80 | 33.33 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| VIRTU Americas, LLC (NITE) | 20.88 | 22.40 | 8.47 | 1.30 | 16.67 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 20.68 | 22.16 | 5.08 | 2.13 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 15.00 | 16.12 | 3.39 | 1.02 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 4.00 | 0.00 | 27.12 | 56.86 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 2.29 | 0.00 | 49.15 | 28.94 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Two Sigma Securities, LLC (SOHO) | 1.17 | 1.27 | 0.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| UBS Securities, LLC (UBSS) | 0.43 | 0.46 | 0.00 | 0.00 | 16.67 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Cboe EDGX US Equities Exchange (EDGX) | 0.28 | 0.00 | 0.00 | 4.17 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Members Exchange (MEMX) | 0.12 | 0.00 | 0.00 | 1.76 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Non-S&P 500 Stocks

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 | 99.13 | 0.38 | 0.47 | 0.02 |

| 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) | 37.15 | 37.89 | 19.20 | 4.57 | 0.78 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 22.03 | 22.52 | 7.20 | 0.38 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| VIRTU Americas, LLC (NITE) | 21.70 | 22.15 | 7.20 | 1.33 | 3.13 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 15.05 | 15.38 | 7.20 | 0.38 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Two Sigma Securities, LLC (SOHO) | 1.40 | 1.43 | 0.80 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NYSE Arca (ARCA) | 0.69 | 0.00 | 43.20 | 33.90 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| UBS Securities, LLC (UBSS) | 0.63 | 0.64 | 0.80 | 0.00 | 1.56 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 0.43 | 0.00 | 5.60 | 26.29 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 0.37 | 0.00 | 7.20 | 21.71 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Instinet BlockCross (BLKX) | 0.36 | 0.00 | 0.00 | 0.00 | 94.53 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

April 2022

Options

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 | 80.00 | 7.50 | 12.50 | 0.00 |

| 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) | 43.90 | 43.75 | 33.33 | 50.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Susquehanna Capital Group (SUSQ) | 24.39 | 28.13 | 33.33 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Dash Financial Technologies LLC (DASH) | 17.07 | 18.75 | 0.00 | 16.67 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wolverine Execution Services LLC (WEXX) | 14.63 | 9.38 | 33.33 | 33.33 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

S&P 500 Stocks

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 | 98.69 | 0.46 | 0.76 | 0.09 |

| 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) | 36.96 | 38.17 | 10.81 | 4.17 | 25.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| VIRTU Americas, LLC (NITE) | 21.75 | 22.46 | 10.81 | 1.25 | 31.25 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 18.74 | 19.38 | 5.41 | 1.67 | 6.25 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 17.51 | 18.15 | 1.35 | 1.04 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 1.98 | 0.00 | 31.08 | 58.13 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Two Sigma Securities, LLC (SOHO) | 1.19 | 1.23 | 0.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 1.07 | 0.00 | 40.54 | 27.71 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| UBS Securities, LLC (UBSS) | 0.60 | 0.60 | 0.00 | 0.00 | 18.75 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Cboe EDGX US Equities Exchange (EDGX) | 0.12 | 0.00 | 0.00 | 3.96 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Members Exchange (MEMX) | 0.07 | 0.00 | 0.00 | 2.08 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Non-S&P 500 Stocks

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 | 98.73 | 0.49 | 0.64 | 0.15 |

| 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) | 38.41 | 39.20 | 28.57 | 7.31 | 13.25 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| VIRTU Americas, LLC (NITE) | 22.05 | 22.52 | 18.01 | 1.91 | 11.45 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 18.57 | 19.02 | 11.80 | 1.59 | 1.81 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 17.10 | 17.55 | 6.21 | 1.11 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Two Sigma Securities, LLC (SOHO) | 1.02 | 1.05 | 0.00 | 0.16 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| UBS Securities, LLC (UBSS) | 0.64 | 0.65 | 0.00 | 0.00 | 2.41 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 0.56 | 0.00 | 3.73 | 28.30 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NYSE Arca (ARCA) | 0.51 | 0.00 | 26.09 | 20.19 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 0.47 | 0.00 | 5.59 | 23.37 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Instinet BlockCross (BLKX) | 0.36 | 0.00 | 0.00 | 0.00 | 71.08 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

May 2022

Options

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 | 93.44 | 3.28 | 3.28 | 0.00 |

| 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) | 39.34 | 38.60 | 0.00 | 100.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Susquehanna Capital Group (SUSQ) | 31.15 | 29.82 | 100.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Dash Financial Technologies LLC (DASH) | 24.59 | 26.32 | 0.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Morgan Stanley & Company LLC (MSCO) | 3.28 | 3.51 | 0.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wolverine Execution Services LLC (WEXX) | 1.64 | 1.75 | 0.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

June 2022

S&P 500 Stocks

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 | 98.22 | 0.60 | 0.84 | 0.34 | | |

| 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) | 34.74 | 35.52 | 25.35 | 5.61 | 29.09 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 21.51 | 22.11 | 9.86 | 1.98 | 7.27 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| VIRTU Americas, LLC (NITE) | 19.75 | 20.22 | 5.63 | 0.99 | 32.73 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 19.70 | 20.30 | 4.23 | 2.31 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 1.35 | 0.00 | 7.04 | 56.44 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Two Sigma Securities, LLC (SOHO) | 1.13 | 1.17 | 0.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 0.75 | 0.00 | 46.48 | 21.12 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| UBS Securities, LLC (UBSS) | 0.71 | 0.68 | 1.41 | 0.00 | 10.91 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Cboe EDGX US Equities Exchange (EDGX) | 0.21 | 0.00 | 0.00 | 8.91 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Instinet BlockCross (BLKX) | 0.08 | 0.00 | 0.00 | 0.00 | 20.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Non-S&P 500 Stocks

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 | 99.07 | 0.41 | 0.44 | 0.08 | | |

| 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) | 35.27 | 36.05 | 26.47 | 4.96 | 6.18 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 21.97 | 22.51 | 20.59 | 0.34 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 19.43 | 19.90 | 21.57 | 0.51 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| VIRTU Americas, LLC (NITE) | 19.30 | 19.73 | 14.71 | 1.71 | 6.18 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Two Sigma Securities, LLC (SOHO) | 1.05 | 1.07 | 0.98 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| UBS Securities, LLC (UBSS) | 0.73 | 0.74 | 0.98 | 0.00 | 1.12 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 0.57 | 0.00 | 0.98 | 30.77 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 0.49 | 0.00 | 0.98 | 26.32 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Instinet BlockCross (BLKX) | 0.49 | 0.00 | 0.00 | 0.00 | 86.52 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NYSE Arca (ARCA) | 0.48 | 0.00 | 12.75 | 23.93 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

June 2022

Options

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 | 84.00 | 4.00 | 12.00 | 0.00 |

| 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) | 58.62 | 71.43 | 100.00 | 14.29 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Dash Financial Technologies LLC (DASH) | 24.14 | 23.81 | 0.00 | 28.57 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Susquehanna Capital Group (SUSQ) | 6.90 | 4.76 | 0.00 | 14.29 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wolverine Execution Services LLC (WEXX) | 6.90 | 0.00 | 0.00 | 28.57 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Morgan Stanley & Company LLC (MSCO) | 3.45 | 0.00 | 0.00 | 14.29 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |