

CITY NATIONAL SECURITIES, INC. - Held NMS Stocks and Options Order Routing Public Report

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4th Quarter, 2023

October 2023

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 | 90.59 | 0.75 | 8.16 | 0.50 |

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) | 27.63 | 35.78 | 33.33 | 2.97 | 14.29 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| VIRTU Americas, LLC (NITE) | 18.56 | 23.44 | 33.33 | 2.54 | 42.86 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 15.57 | 20.25 | 0.00 | 2.12 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 14.43 | 18.31 | 16.67 | 2.97 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 11.86 | 0.00 | 0.00 | 48.73 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 7.22 | 0.00 | 16.67 | 29.24 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Cboe EDGX US Equities Exchange (EDGX) | 2.37 | 0.00 | 0.00 | 9.75 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Two Sigma Securities, LLC (SOHO) | 1.34 | 1.66 | 0.00 | 0.42 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Instinet BlockCross (BLKX) | 0.31 | 0.00 | 0.00 | 0.00 | 42.86 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Members | 0.31 | 0.00 | 0.00 | 1.27 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

| 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) |
|---------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| Exchange (MEMX) | | | | | | | | | | | | | |

Material Aspects:

Citadel Securities LLC (CDRG):
N/A

VIRTU Americas, LLC (NITE):
N/A

Jane Street Capital, LLC (JNST):
N/A

G1 Execution Services, LLC (ETMM):
N/A

New York Stock Exchange (NYSE):
N/A

NASDAQ Execution Services, LLC (NSDQ):
N/A

Cboe EDGX US Equities Exchange (EDGX):
N/A

Two Sigma Securities, LLC (SOHO):
N/A

Institnet BlockCross (BLKX):
N/A

Members Exchange (MEMX):
N/A

October 2023

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 | 85.97 | 3.51 | 10.16 | 0.36 |

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) | 25.12 | 33.80 | 25.93 | 4.89 | 2.78 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

| 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) |
|---------------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| VIRTU Americas, LLC (NITE) | 19.44 | 26.76 | 22.22 | 1.88 | 2.78 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 13.76 | 18.87 | 18.52 | 1.50 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 13.76 | 18.87 | 25.93 | 0.75 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 12.61 | 0.00 | 0.00 | 49.25 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Cboe EDGX US Equities Exchange (EDGX) | 4.04 | 0.00 | 0.00 | 15.79 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Instinet BlockCross (BLKX) | 3.18 | 0.00 | 0.00 | 0.00 | 91.67 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 2.60 | 0.00 | 3.70 | 9.77 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NYSE Arca (ARCA) | 1.73 | 0.00 | 0.00 | 6.77 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Cboe BZX U.S (BATS) | 1.44 | 0.00 | 0.00 | 5.64 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC (CDRG):

N/A

VIRTU Americas, LLC (NITE):

N/A

G1 Execution Services, LLC (ETMM):

N/A

Jane Street Capital, LLC (JNST):

N/A

NASDAQ Execution Services, LLC (NSDQ):

N/A

Cboe EDGX US Equities Exchange (EDGX):

N/A

Instinet BlockCross (BLKX):

N/A

New York Stock Exchange (NYSE):

N/A

NYSE Arca (ARCA):

N/A

Cboe BZX U.S (BATS):

N/A

October 2023

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 | 26.53 | 24.49 | 48.98 | 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) | 57.14 | 69.23 | 58.33 | 54.55 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wolverine Execution Services LLC (WEXX) | 18.68 | 0.00 | 0.00 | 25.76 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Dash Financial Technologies LLC (DASH) | 14.29 | 0.00 | 0.00 | 19.70 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Susquehanna Capital Group (SUSQ) | 9.89 | 30.77 | 41.67 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC (CDRG):

N/A

Wolverine Execution Services LLC (WEXX):

N/A

Dash Financial Technologies LLC (DASH):

N/A

Susquehanna Capital Group (SUSQ):

N/A

November 2023

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 |
|--|---|---|---|--|
|--|---|---|---|--|

| 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 | 89.10 | 2.13 | 8.24 | 0.53 |

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) | 27.43 | 35.82 | 50.00 | 1.10 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| VIRTU Americas, LLC (NITE) | 19.91 | 25.67 | 33.33 | 1.10 | 5.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 14.60 | 19.40 | 0.00 | 0.00 | 5.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 12.61 | 16.72 | 16.67 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 9.73 | 0.00 | 0.00 | 48.35 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 4.87 | 0.00 | 0.00 | 24.18 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Cboe EDGX US Equities Exchange (EDGX) | 4.20 | 0.00 | 0.00 | 20.88 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Instinet BlockCross (BLKX) | 3.98 | 0.00 | 0.00 | 0.00 | 90.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Two Sigma Securities, LLC (SOHO) | 0.88 | 1.19 | 0.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Members Exchange (MEMX) | 0.66 | 0.00 | 0.00 | 3.30 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC (CDRG):
N/A

VIRTU Americas, LLC (NITE):
N/A

G1 Execution Services, LLC (ETMM):
N/A

Jane Street Capital, LLC (JNST):
N/A

NASDAQ Execution Services, LLC (NSDQ):
N/A

New York Stock Exchange (NYSE):
N/A

Cboe EDGX US Equities Exchange (EDGX):
N/A

Institet BlockCross (BLKX):
N/A

Two Sigma Securities, LLC (SOHO):
N/A

Members Exchange (MEMX):
N/A

November 2023

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 | 70.47 | 11.86 | 17.00 | 0.67 |

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) | 22.11 | 33.65 | 34.69 | 5.26 | 1.92 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 16.17 | 25.71 | 24.49 | 2.63 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| VIRTU Americas, LLC (NITE) | 14.03 | 21.90 | 22.45 | 1.58 | 3.85 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 12.54 | 0.00 | 0.00 | 40.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 9.90 | 15.87 | 18.37 | 0.53 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Institet BlockCross (BLKX) | 8.09 | 0.00 | 0.00 | 0.00 | 94.23 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 6.77 | 0.00 | 0.00 | 21.58 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Cboe EDGX US Equities Exchange | 6.11 | 0.00 | 0.00 | 19.47 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

| 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) |
|----------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| (EDGX) | | | | | | | | | | | | | |
| Members Exchange (MEMX) | 2.31 | 0.00 | 0.00 | 7.37 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Two Sigma Securities, LLC (SOHO) | 0.66 | 1.27 | 0.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC (CDRG):
N/A

G1 Execution Services, LLC (ETMM):
N/A

VIRTU Americas, LLC (NITE):
N/A

New York Stock Exchange (NYSE):
N/A

Jane Street Capital, LLC (JNST):
N/A

Instinet BlockCross (BLKX):
N/A

NASDAQ Execution Services, LLC (NSDQ):
N/A

Cboe EDGX US Equities Exchange (EDGX):
N/A

Members Exchange (MEMX):
N/A

Two Sigma Securities, LLC (SOHO):
N/A

November 2023

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 | 3.90 | 10.39 | 84.42 | 1.30 |

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) | 49.57 | 33.33 | 50.00 | 49.52 | 100.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wolverine Execution Services LLC (WEXX) | 26.50 | 0.00 | 12.50 | 28.57 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Dash Financial Technologies LLC (DASH) | 15.38 | 0.00 | 0.00 | 17.14 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Susquehanna Capital Group (SUSQ) | 5.98 | 66.67 | 37.50 | 1.90 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Morgan Stanley & Company LLC (MSCO) | 2.56 | 0.00 | 0.00 | 2.86 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC (CDRG):

N/A

Wolverine Execution Services LLC (WEXX):

N/A

Dash Financial Technologies LLC (DASH):

N/A

Susquehanna Capital Group (SUSQ):

N/A

Morgan Stanley & Company LLC (MSCO):

N/A

December 2023

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 | 92.50 | 1.50 | 4.91 | 1.09 |

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) | 27.72 | 30.97 | 45.45 | 5.26 | 37.50 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

| 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) |
|---------------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| VIRTU Americas, LLC (NITE) | 21.25 | 24.34 | 27.27 | 3.51 | 12.50 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 19.05 | 22.57 | 18.18 | 0.88 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 17.09 | 20.21 | 9.09 | 1.75 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 6.72 | 0.00 | 0.00 | 48.25 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Cboe EDGX US Equities Exchange (EDGX) | 2.69 | 0.00 | 0.00 | 19.30 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 2.56 | 0.00 | 0.00 | 18.42 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Instinet BlockCross (BLKX) | 0.98 | 0.00 | 0.00 | 0.00 | 50.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Two Sigma Securities, LLC (SOHO) | 0.98 | 1.18 | 0.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| UBS Securities, LLC (UBSS) | 0.61 | 0.74 | 0.00 | 0.00 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC (CDRG):
N/A

VIRTU Americas, LLC (NITE):
N/A

G1 Execution Services, LLC (ETMM):
N/A

Jane Street Capital, LLC (JNST):
N/A

NASDAQ Execution Services, LLC (NSDQ):
N/A

Cboe EDGX US Equities Exchange (EDGX):
N/A

New York Stock Exchange (NYSE):
N/A

Instinet BlockCross (BLKX):
N/A

Two Sigma Securities, LLC (SOHO):
N/A

UBS Securities, LLC (UBSS):

N/A

December 2023

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 | 79.52 | 5.56 | 13.15 | 1.77 |

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) | 24.80 | 33.76 | 41.86 | 4.60 | 6.67 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 18.45 | 27.23 | 16.28 | 1.53 | 1.67 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| VIRTU Americas, LLC (NITE) | 15.02 | 20.38 | 20.93 | 1.15 | 15.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Jane Street Capital, LLC (JNST) | 11.59 | 16.56 | 18.60 | 1.15 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| New York Stock Exchange (NYSE) | 10.38 | 0.00 | 0.00 | 39.46 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Cboe EDGX US Equities Exchange (EDGX) | 5.04 | 0.00 | 0.00 | 19.16 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NASDAQ Execution Services, LLC (NSDQ) | 4.94 | 0.00 | 0.00 | 18.77 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Instinet BlockCross (BLKX) | 4.64 | 0.00 | 0.00 | 0.00 | 76.67 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Members Exchange (MEMX) | 2.52 | 0.00 | 0.00 | 9.58 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| NYSE Arca (ARCA) | 0.71 | 0.00 | 0.00 | 2.68 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC (CDRG):

N/A

G1 Execution Services, LLC (ETMM):
N/A

VIRTU Americas, LLC (NITE):
N/A

Jane Street Capital, LLC (JNST):
N/A

New York Stock Exchange (NYSE):
N/A

Cboe EDGX US Equities Exchange (EDGX):
N/A

NASDAQ Execution Services, LLC (NSDQ):
N/A

Instinet BlockCross (BLKX):
N/A

Members Exchange (MEMX):
N/A

NYSE Arca (ARCA):
N/A

December 2023

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 | 0.00 | 22.54 | 77.46 | 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) | 39.00 | 0.00 | 52.94 | 36.14 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wolverine Execution Services LLC (WEXX) | 30.00 | 0.00 | 0.00 | 36.14 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Dash Financial Technologies LLC (DASH) | 24.00 | 0.00 | 29.41 | 22.89 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Morgan Stanley & Company LLC (MSCO) | 4.00 | 0.00 | 5.88 | 3.61 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Susquehanna Capital Group (SUSQ) | 3.00 | 0.00 | 11.76 | 1.20 | 0.00 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC (CDRG):
N/A

Wolverine Execution Services LLC (WEXX):
N/A

Dash Financial Technologies LLC (DASH):
N/A

Morgan Stanley & Company LLC (MSCO):
N/A

Susquehanna Capital Group (SUSQ):
N/A