

William Blair Sell Side - Held NMS Stocks and Options Order Routing Public Report

Generation Date: 2023-04-27 15:24:56.930 GMT -0400

Year: 2023 Quarter: 1

January 2023 S&P 500 Stocks

| Non-Directed Orders as Percent of All Orders | Market Orders as Percent of Non-Directed Orders | Marketable Limit Orders as Percent of Non-Directed Orders | Non-Marketable Limit Orders as Percent of Non-Directed Orders | Other Orders as Percent of Non-Directed Orders |
|--|---|---|---|--|
| 100.00% | 98.14% | 0.30% | 1.52% | 0.04% |

Venues - Non Directed Orders

| Venue | 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 Marketable Limit Orders (USD) | Net Payment Paid/Received Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Non-Marketable Limit Orders (USD) | Net Payment Paid/Received Non-Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Other Orders (USD) | Net Payment Paid/Received Other Orders (cents per hundred shares) |
|-------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|---|--|---|--|---|--|--|---|
| Citadel Securities LLC (CDRG) | 34.52% | 34.36% | 45.83% | 42.15% | 33.33% | 0.0000 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Virtu Americas LLC (NITE) | 34.27% | 34.24% | 37.50% | 36.36% | 0.00% | 0.0000 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wall Street Access (VNDM) | 31.22% | 31.40% | 16.67% | 21.49% | 66.67% | 0.0000 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

January 2023 Non-S&P 500 Stocks

| Non-Directed Orders as Percent of All Orders | Market Orders as Percent of Non-Directed Orders | Marketable Limit Orders as Percent of Non-Directed Orders | Non-Marketable Limit Orders as Percent of Non-Directed Orders | Other Orders as Percent of Non-Directed Orders |
|--|---|---|---|--|
| 100.00% | 96.68% | 0.45% | 2.81% | 0.06% |

Venues - Non Directed Orders

| Venue | 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 Marketable Limit Orders (USD) | Net Payment Paid/Received Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Non-Marketable Limit Orders (USD) | Net Payment Paid/Received Non-Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Other Orders (USD) | Net Payment Paid/Received Other Orders (cents per hundred shares) |
|-------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|---|--|---|--|---|--|--|---|
| Citadel Securities LLC (CDRG) | 34.60% | 34.52% | 40.91% | 35.14% | 83.33% | 0.0000 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Virtu Americas LLC (NITE) | 34.05% | 33.94% | 38.64% | 37.68% | 0.00% | 0.0000 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wall Street Access (VNDM) | 31.36% | 31.54% | 20.45% | 27.17% | 16.67% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

January 2023 Option Contracts

| Non-Directed Orders as Percent of All Orders | Market Orders as Percent of Non-Directed Orders | Marketable Limit Orders as Percent of Non-Directed Orders | Non-Marketable Limit Orders as Percent of Non-Directed Orders | Other Orders as Percent of Non-Directed Orders |
|--|---|---|---|--|
| 100.00% | 65.50% | 8.26% | 25.78% | 0.47% |

Venues - Non Directed Orders

| Venue | 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 Marketable Limit Orders (USD) | Net Payment Paid/Received Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Non-Marketable Limit Orders (USD) | Net Payment Paid/Received Non-Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Other Orders (USD) | Net Payment Paid/Received Other Orders (cents per hundred shares) |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|---|--|---|--|---|--|--|---|
| National Financial Services LLC (NFSC) | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC - William Blair did not receive payment for order flow from CDRG for these trades.
 Virtu Americas LLC - William Blair did not receive payment for order flow from NITE for these trades.
 Wall Street Access - William Blair did not receive payment for order flow from VNDM for these trades.
 National Financial Services LLC - William Blair did not receive payment for order flow from NFSC for these trades.

February 2023 S&P 500 Stocks

| Non-Directed Orders as Percent of All Orders | Market Orders as Percent of Non-Directed Orders | Marketable Limit Orders as Percent of Non-Directed Orders | Non-Marketable Limit Orders as Percent of Non-Directed Orders | Other Orders as Percent of Non-Directed Orders |
|--|---|---|---|--|
| 100.00% | 98.45% | 0.17% | 1.33% | 0.05% |

Venues - Non Directed Orders

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Year: 2023 Quarter: 1

| Venue | 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 Marketable Limit Orders (USD) | Net Payment Paid/Received Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Non-Marketable Limit Orders (USD) | Net Payment Paid/Received Non-Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Other Orders (USD) | Net Payment Paid/Received Other Orders (cents per hundred shares) |
|-------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|---|--|---|--|---|--|--|---|
| Citadel Securities LLC (CDRG) | 34.01% | 33.96% | 33.33% | 36.52% | 75.00% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wall Street Access (VNDM) | 33.34% | 33.40% | 33.33% | 30.43% | 0.00% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Virtu Americas LLC (NITE) | 32.64% | 32.64% | 33.33% | 33.04% | 25.00% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

February 2023 Non-S&P 500 Stocks

Summary

| Non-Directed Orders as Percent of All Orders | Market Orders as Percent of Non-Directed Orders | Marketable Limit Orders as Percent of Non-Directed Orders | Non-Marketable Limit Orders as Percent of Non-Directed Orders | Other Orders as Percent of Non-Directed Orders |
|--|---|---|---|--|
| 100.00% | 96.30% | 0.51% | 3.03% | 0.15% |

Venues - Non Directed Orders

| Venue | 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 Marketable Limit Orders (USD) | Net Payment Paid/Received Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Non-Marketable Limit Orders (USD) | Net Payment Paid/Received Non-Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Other Orders (USD) | Net Payment Paid/Received Other Orders (cents per hundred shares) |
|-------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|---|--|---|--|---|--|--|---|
| Virtu Americas LLC (NITE) | 33.65% | 33.61% | 33.33% | 35.85% | 18.75% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Citadel Securities LLC (CDRG) | 33.35% | 33.31% | 31.48% | 33.33% | 62.50% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wall Street Access (VNDM) | 33.00% | 33.08% | 35.19% | 30.82% | 18.75% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

February 2023 Option Contracts

Summary

| Non-Directed Orders as Percent of All Orders | Market Orders as Percent of Non-Directed Orders | Marketable Limit Orders as Percent of Non-Directed Orders | Non-Marketable Limit Orders as Percent of Non-Directed Orders | Other Orders as Percent of Non-Directed Orders |
|--|---|---|---|--|
| 100.00% | 61.06% | 14.49% | 22.70% | 1.76% |

Venues - Non Directed Orders

| Venue | 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 Marketable Limit Orders (USD) | Net Payment Paid/Received Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Non-Marketable Limit Orders (USD) | Net Payment Paid/Received Non-Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Other Orders (USD) | Net Payment Paid/Received Other Orders (cents per hundred shares) |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|---|--|---|--|---|--|--|---|
| National Financial Services LLC (NFSC) | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC - William Blair did not receive payment for order flow from CDRG for these trades.
 Virtu Americas LLC - William Blair did not receive payment for order flow from NITE for these trades.
 Wall Street Access - William Blair did not receive payment for order flow from VNDM for these trades.
 National Financial Services LLC - William Blair did not receive payment for order flow from NFSC for these trades.

March 2023 S&P 500 Stocks

Summary

| Non-Directed Orders as Percent of All Orders | Market Orders as Percent of Non-Directed Orders | Marketable Limit Orders as Percent of Non-Directed Orders | Non-Marketable Limit Orders as Percent of Non-Directed Orders | Other Orders as Percent of Non-Directed Orders |
|--|---|---|---|--|
| 100.00% | 96.74% | 0.31% | 2.21% | 0.74% |

Venues - Non Directed Orders

| Venue | 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 Marketable Limit Orders (USD) | Net Payment Paid/Received Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Non-Marketable Limit Orders (USD) | Net Payment Paid/Received Non-Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Other Orders (USD) | Net Payment Paid/Received Other Orders (cents per hundred shares) |
|-------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|---|--|---|--|---|--|--|---|
| Citadel Securities LLC (CDRG) | 34.09% | 33.92% | 47.62% | 41.33% | 28.00% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wall Street Access (VNDM) | 33.42% | 33.57% | 19.05% | 27.33% | 38.00% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Virtu Americas LLC (NITE) | 32.49% | 32.50% | 33.33% | 31.33% | 34.00% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

March 2023 Non-S&P 500 Stocks

Summary

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| Non-Directed Orders as Percent of All Orders | Market Orders as Percent of Non-Directed Orders | Marketable Limit Orders as Percent of Non-Directed Orders | Non-Marketable Limit Orders as Percent of Non-Directed Orders | Other Orders as Percent of Non-Directed Orders |
|--|---|---|---|--|
| 100.00% | 93.99% | 1.52% | 4.29% | 0.21% |

Venues - Non Directed Orders

| Venue | 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 Marketable Limit Orders (USD) | Net Payment Paid/Received Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Non-Marketable Limit Orders (USD) | Net Payment Paid/Received Non-Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Other Orders (USD) | Net Payment Paid/Received Other Orders (cents per hundred shares) |
|-------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|---|--|---|--|---|--|--|---|
| Citadel Securities LLC (CDRG) | 34.56% | 33.93% | 54.40% | 40.68% | 47.06% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Wall Street Access (VNDM) | 33.48% | 33.74% | 20.00% | 32.49% | 35.29% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |
| Virtu Americas LLC (NITE) | 31.96% | 32.33% | 25.60% | 26.84% | 17.65% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

March 2023

Option Contracts

Summary

| Non-Directed Orders as Percent of All Orders | Market Orders as Percent of Non-Directed Orders | Marketable Limit Orders as Percent of Non-Directed Orders | Non-Marketable Limit Orders as Percent of Non-Directed Orders | Other Orders as Percent of Non-Directed Orders |
|--|---|---|---|--|
| 100.00% | 63.47% | 9.43% | 23.39% | 3.71% |

Venues - Non Directed Orders

| Venue | 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 Marketable Limit Orders (USD) | Net Payment Paid/Received Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Non-Marketable Limit Orders (USD) | Net Payment Paid/Received Non-Marketable Limit Orders (cents per hundred shares) | Net Payment Paid/Received Other Orders (USD) | Net Payment Paid/Received Other Orders (cents per hundred shares) |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|---|--|---|--|---|--|--|---|
| National Financial Services LLC (NFSC) | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 | 0 | 0.0000 |

Material Aspects:

Citadel Securities LLC - William Blair did not receive payment for order flow from CDRG for these trades.

Virtu Americas LLC - William Blair did not receive payment for order flow from NITE for these trades.

Wall Street Access - William Blair did not receive payment for order flow from VNDM for these trades.

National Financial Services LLC - William Blair did not receive payment for order flow from NFSC for these trades