

OPAL - Held NMS Stocks and Options Order Routing Public Report

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3rd Quarter, 2024

July 2024

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 |
|--|---|---|---|--|
| 76.91 | 11.12 | 25.19 | 8.50 | 55.22 |

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) |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| The Nasdaq Stock Market LLC | 49.26 | 100.00 | 50.14 | 50.81 | 38.38 | -4.23 | -0.0259 | 245.23 | 1.2684 | 612.22 | 23.7346 | 1,469.82 | 4.8990 |
| NYSE Arca, Inc. | 11.78 | 0.00 | 0.45 | 0.54 | 21.05 | 0.00 | 0.0000 | -4.73 | -30.0000 | -0.01 | -30.0000 | -106.16 | -1.7017 |
| Instinet, CBX | 4.96 | 0.00 | 4.90 | 4.57 | 6.08 | 0.00 | 0.0000 | -0.05 | -10.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 |
| Level ATS | 3.45 | 0.00 | 4.99 | 4.57 | 3.27 | 0.00 | 0.0000 | -1.15 | -10.0000 | 0.00 | 0.0000 | -1.20 | -10.0000 |
| Cboe EDGX Exchange, Inc. | 3.33 | 0.00 | 0.45 | 0.54 | 5.75 | 0.00 | 0.0000 | -8.70 | -30.0000 | 1.12 | 11.1940 | -292.76 | -13.3392 |
| UBS Securities, LLC ATS | 3.24 | 0.00 | 4.81 | 4.57 | 2.98 | 0.00 | 0.0000 | -0.93 | -10.0000 | -0.01 | -10.0000 | -4.40 | -10.0000 |
| BIDS TRADING L.P. | 2.40 | 0.00 | 3.99 | 0.54 | 2.44 | 0.00 | 0.0000 | -0.17 | -17.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 |
| Goldman Sachs Execution & Clearing, L.P. | 2.22 | 0.00 | 0.54 | 4.03 | 3.18 | 0.00 | 0.0000 | -0.40 | -10.0000 | 0.00 | 0.0000 | -1.50 | -10.0000 |
| BofA Securities, Inc. | 2.12 | 0.00 | 0.54 | 4.03 | 3.02 | 0.00 | 0.0000 | -0.24 | -12.0000 | 0.00 | 0.0000 | -0.24 | -12.0000 |
| Instinct X | 1.85 | 0.00 | 4.17 | 0.54 | 1.36 | 0.00 | 0.0000 | -0.36 | -12.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 |

Material Aspects:

The Nasdaq Stock Market LLC:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

NYSE Arca, Inc.:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Instinet, CBX:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Level ATS:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe EDGX Exchange, Inc.:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.20 per 100 shares and \$0.00 per 100 shares on removing liquidity.

UBS Securities, LLC ATS:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

BIDS TRADING L.P.:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Instinct X:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

July 2024

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 |
|--|---|---|---|--|
| 60.49 | 1.12 | 15.72 | 5.53 | 77.62 |

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) |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| The Nasdaq Stock Market LLC | 28.22 | 98.86 | 25.77 | 43.29 | 26.62 | -1,442.99 | -3.7995 | -214.38 | -0.2076 | 4,815.06 | 20.6421 | -1,907.69 | -0.2000 |
| NYSE Arca, Inc. | 10.73 | 0.00 | 1.55 | 0.54 | 13.47 | 0.00 | 0.0000 | -283.36 | -27.0145 | -0.18 | -0.6880 | 7,416.27 | 1.9659 |
| Instinet, CBX | 10.45 | 0.00 | 8.31 | 4.48 | 11.46 | 0.00 | 0.0000 | -19.90 | -10.0000 | -1.62 | -10.0000 | -54.75 | -10.0000 |
| Level ATS | 5.99 | 0.00 | 7.49 | 4.24 | 5.89 | 0.00 | 0.0000 | -5.62 | -10.0000 | -0.20 | -10.0000 | -15.48 | -10.0000 |
| Cboe BZX Exchange, Inc. | 5.51 | 0.38 | 1.11 | 0.46 | 6.83 | -5.42 | -25.8000 | -90.02 | -26.6736 | -1.63 | -5.9956 | -1,917.70 | -16.7733 |
| UBS Securities, LLC ATS | 5.30 | 0.00 | 7.28 | 4.32 | 5.05 | 0.00 | 0.0000 | -5.15 | -10.0000 | -0.30 | -10.0000 | -11.46 | -10.0000 |
| Goldman Sachs Execution & Clearing, L.P. | 4.41 | 0.00 | 0.98 | 4.24 | 5.18 | 0.00 | 0.0000 | -2.17 | -10.0000 | -0.63 | -10.0000 | -32.52 | -10.0000 |

| 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) |
|---------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| BofA Securities, Inc. | 4.16 | 0.00 | 0.95 | 4.09 | 4.87 | 0.00 | 0.0000 | -0.72 | -12.0000 | -0.13 | -12.0000 | -6.37 | -12.0000 |
| Cboe EDGX Exchange, Inc. | 3.38 | 0.76 | 0.76 | 0.31 | 4.16 | -4.80 | -28.2353 | -109.74 | -22.8140 | 0.68 | 3.9040 | -1,738.26 | -17.5026 |
| BIDS TRADING L.P. | 3.02 | 0.00 | 6.14 | 0.46 | 2.61 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 |

Material Aspects:

The Nasdaq Stock Market LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

NYSE Arca, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Instinet, CBX:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Level ATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe BZX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

UBS Securities, LLC ATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.15 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Goldman Sachs Execution & Clearing, L.P.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

BofA Securities, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

BIDS TRADING L.P.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

July 2024

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 |
|--|---|---|---|--|
| 56.82 | 0.20 | 13.25 | 50.89 | 35.53 |

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) |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| NYSE ARCA OPTIONS | 15.03 | 0.00 | 7.96 | 25.65 | 2.41 | 0.00 | 0.0000 | -172.62 | -7.6788 | 11,141.42 | 19.0598 | 0.00 | 0.0000 |
| Dash/IMC Financial Markets | 14.83 | 100.00 | 11.94 | 14.12 | 16.51 | 711.00 | 22.2049 | 4,251.00 | 26.7712 | 2,452.10 | 37.7188 | 29,405.10 | 25.4202 |
| Cboe EDGX Exchange, Inc. | 11.21 | 0.00 | 3.98 | 2.85 | 25.97 | 0.00 | 0.0000 | -89.08 | -4.0000 | -136.64 | -4.0000 | 4,391.92 | 24.3050 |
| Miami International Securities Exchange, LLC | 7.65 | 0.00 | 1.00 | 1.17 | 19.48 | 0.00 | 0.0000 | -7.80 | -5.0000 | -88.85 | -5.0000 | 546.90 | 15.0000 |
| The NASDAQ Options Market LLC | 6.86 | 0.00 | 8.96 | 11.14 | 0.00 | 0.00 | 0.0000 | -1,495.28 | -45.3940 | -5,137.46 | -41.4813 | 0.00 | 0.0000 |
| WATS | 6.53 | 0.00 | 14.43 | 9.07 | 0.00 | 0.00 | 0.0000 | -236.80 | -10.0000 | -331.20 | -10.0000 | 0.00 | 0.0000 |
| BOX Exchange LLC | 5.54 | 0.00 | 5.47 | 3.76 | 7.98 | 0.00 | 0.0000 | -65.10 | -4.1203 | 361.65 | 8.8575 | 51.20 | 8.1529 |
| Nasdaq ISE, LLC | 3.82 | 0.00 | 3.98 | 3.11 | 4.64 | 0.00 | 0.0000 | -341.80 | -38.5344 | -813.61 | -39.2290 | 35.60 | 14.7107 |
| Cboe BZX Exchange, Inc. | 3.30 | 0.00 | 6.47 | 4.79 | 0.00 | 0.00 | 0.0000 | -640.40 | -52.1498 | -3,588.90 | -53.3665 | 0.00 | 0.0000 |
| Cboe C2 Exchange, Inc. | 3.16 | 0.00 | 4.98 | 3.24 | 2.41 | 0.00 | 0.0000 | -1,203.33 | -56.8144 | -3,897.78 | -49.3953 | -41.76 | -26.7692 |

Material Aspects:

NYSE ARCA OPTIONS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$75 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Dash/IMC Financial Markets:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$10 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Miami International Securities Exchange, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

The NASDAQ Options Market LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

WATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

BOX Exchange LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq ISE, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe BZX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe C2 Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

August 2024

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 |
|--|---|---|---|--|
| 85.22 | 5.05 | 16.00 | 10.18 | 68.81 |

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) |
|---------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| The Nasdaq Stock Market LLC | 55.47 | 100.00 | 83.63 | 85.35 | 41.17 | -1.08 | -0.0090 | 115.83 | 0.4945 | 1,482.40 | 27.8069 | 11,649.49 | 14.9804 |
| NYSE Arca, Inc. | 18.82 | 0.00 | 1.62 | 0.75 | 26.86 | 0.00 | 0.0000 | 18.99 | 12.1068 | 3.24 | 11.0934 | 339.76 | 1.8551 |
| Instinet, CBX | 5.34 | 0.00 | 1.14 | 1.05 | 7.35 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | -0.66 | -10.0000 |
| Cboe EDGX Exchange, Inc. | 2.92 | 0.00 | 0.48 | 0.15 | 4.14 | 0.00 | 0.0000 | -6.30 | -30.0000 | 0.00 | 0.0000 | -183.72 | -27.4241 |
| BIDS TRADING L.P. | 2.50 | 0.00 | 1.05 | 0.00 | 3.38 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 |
| MEMX LLC | 1.54 | 0.00 | 0.38 | 1.35 | 1.95 | 0.00 | 0.0000 | -1.33 | -30.0000 | 0.98 | 15.0000 | -144.29 | -30.0000 |
| Cboe BZX Exchange, Inc. | 1.35 | 0.00 | 0.48 | 0.15 | 1.86 | 0.00 | 0.0000 | -3.80 | -30.0000 | 0.80 | 16.0000 | -69.75 | -28.8088 |
| Level ATS | 1.32 | 0.00 | 1.24 | 1.05 | 1.48 | 0.00 | 0.0000 | -0.20 | -10.0000 | 0.00 | 0.0000 | -1.20 | -10.0000 |
| UBS Securities, LLC ATS | 1.25 | 0.00 | 1.24 | 1.20 | 1.37 | 0.00 | 0.0000 | -0.40 | -10.0000 | 0.00 | 0.0000 | -0.50 | -10.0000 |
| NEW YORK STOCK EXCHANGE, INC. | 1.19 | 0.00 | 0.86 | 0.60 | 1.46 | 0.00 | 0.0000 | -9.33 | -30.0000 | 0.60 | 12.0000 | 4.61 | 6.0267 |

Material Aspects:

The Nasdaq Stock Market LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

NYSE Arca, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Instinet, CBX:

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Cboe EDGX Exchange, Inc.:

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BIDS TRADING L.P.:

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MEMX LLC:

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Cboe BZX Exchange, Inc.:

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Level ATS:

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UBS Securities, LLC ATS:

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NEW YORK STOCK EXCHANGE, INC.:

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August 2024

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 |
|--|---|---|---|--|
| 68.84 | 1.15 | 12.67 | 5.56 | 80.61 |

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) |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| The Nasdaq Stock Market LLC | 22.72 | 97.89 | 22.47 | 26.45 | 21.43 | -799.92 | -2.0567 | -384.82 | -0.4511 | 4,937.01 | 21.4861 | 17,664.72 | 1.9840 |
| Instinet, CBX | 9.07 | 0.00 | 8.49 | 6.45 | 9.47 | 0.00 | 0.0000 | -46.11 | -10.0000 | -18.98 | -10.0000 | -84.95 | -10.0000 |
| Level ATS | 7.41 | 0.00 | 7.77 | 5.36 | 7.60 | 0.00 | 0.0000 | -13.67 | -10.0000 | -16.62 | -10.0000 | -67.88 | -10.0000 |
| NYSE Arca, Inc. | 7.22 | 0.00 | 1.70 | 2.46 | 8.52 | 0.00 | 0.0000 | -434.07 | -20.0584 | -6.28 | -3.0166 | 142.50 | 0.0396 |
| UBS Securities, LLC ATS | 6.88 | 0.00 | 7.43 | 5.36 | 7.00 | 0.00 | 0.0000 | -11.50 | -10.0000 | -21.09 | -10.0000 | -29.63 | -10.0000 |
| Goldman Sachs Execution & Clearing, L.P. | 5.90 | 0.00 | 2.61 | 5.25 | 6.54 | 0.00 | 0.0000 | -14.49 | -10.0000 | -9.72 | -10.0000 | -49.90 | -10.0000 |
| Cboe BZX Exchange, Inc. | 5.35 | 1.06 | 1.34 | 1.26 | 6.32 | -9.13 | -30.0000 | -116.75 | -26.9827 | 4.65 | 11.6130 | -2,575.15 | -19.2346 |
| BofA Securities, Inc. | 5.28 | 0.00 | 1.58 | 4.21 | 6.01 | 0.00 | 0.0000 | -4.28 | -12.0000 | -1.85 | -12.0000 | -11.07 | -14.5644 |
| NEW YORK STOCK EXCHANGE, INC. | 2.94 | 0.26 | 1.13 | 1.75 | 3.35 | -9.60 | -9.3204 | -67.93 | -29.3730 | -4.56 | -15.0993 | -43.38 | -2.7800 |
| Cboe EDGX Exchange, Inc. | 2.91 | 0.79 | 1.03 | 0.82 | 3.39 | -6.14 | -29.2417 | -243.00 | -25.0216 | -2.25 | -20.9110 | -1,407.61 | -17.7659 |

Material Aspects:

The Nasdaq Stock Market LLC:

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Instinet, CBX:

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Level ATS:

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NYSE Arca, Inc.:

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UBS Securities, LLC ATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.15 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Goldman Sachs Execution & Clearing, L.P.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe BZX Exchange, Inc.:

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BofA Securities, Inc.:

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NEW YORK STOCK EXCHANGE, INC.:

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Cboe EDGX Exchange, Inc.:

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August 2024

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 |
|--|---|---|---|--|
| 99.98 | 0.00 | 29.91 | 21.34 | 48.73 |

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) |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| Dash/IMC Financial Markets | 87.30 | 0.00 | 98.13 | 97.38 | 76.27 | 2,039.20 | 22.6402 | 5,360.00 | 13.3433 | 1,227.90 | 23.3708 | 41,675.10 | 18.1885 |
| Cboe EDGX Exchange, Inc. | 3.91 | 0.00 | 0.21 | 0.00 | 7.89 | 0.00 | 0.0000 | -1.72 | -4.0000 | 0.00 | 0.0000 | 8,796.48 | 29.3392 |
| Miami International Securities Exchange, LLC | 2.21 | 0.00 | 0.00 | 0.00 | 4.54 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | 176.40 | 15.0000 |
| BOX Exchange LLC | 1.57 | 0.00 | 0.07 | 0.00 | 3.23 | 0.00 | 0.0000 | 3.15 | 15.0000 | 0.00 | 0.0000 | 315.20 | 19.6020 |

| 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) |
|---------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| NYSE ARCA OPTIONS | 1.03 | 0.00 | 0.21 | 2.52 | 0.85 | 0.00 | 0.0000 | -2.24 | -3.5000 | 99.10 | 21.6376 | -201.96 | -54.0000 |
| Nasdaq ISE, LLC | 0.64 | 0.00 | 0.00 | 0.00 | 1.32 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | 522.85 | 28.9347 |
| Nasdaq MRX, LLC | 0.58 | 0.00 | 0.00 | 0.00 | 1.19 | 0.00 | 0.0000 | -0.03 | -3.0000 | 0.00 | 0.0000 | -1.10 | -5.0000 |
| Nasdaq PHLX LLC | 0.56 | 0.00 | 0.00 | 0.00 | 1.15 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | -18.95 | -5.0000 |
| MIAX Emerald, LLC | 0.46 | 0.00 | 0.00 | 0.00 | 0.93 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | -88.00 | -25.0000 |
| Cboe C2 Exchange, Inc. | 0.43 | 0.00 | 0.07 | 0.00 | 0.85 | 0.00 | 0.0000 | -20.52 | -45.6000 | -7.20 | -45.0000 | -27.12 | -15.7674 |

Material Aspects:

Dash/IMC Financial Markets:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$10 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Miami International Securities Exchange, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

BOX Exchange LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

NYSE ARCA OPTIONS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$75 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq ISE, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq MRX, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq PHLX LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

MIAX Emerald, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe C2 Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

September 2024

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 |
|--|---|---|---|--|
| 75.08 | 7.91 | 20.76 | 10.31 | 61.05 |

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) |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| The Nasdaq Stock Market LLC | 56.36 | 98.62 | 80.16 | 80.95 | 38.56 | -1.63 | -0.0205 | 48.52 | 0.4304 | 604.96 | 26.7964 | 898.53 | 5.6521 |
| NYSE Arca, Inc. | 10.77 | 0.00 | 0.00 | 0.00 | 17.65 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | 94.22 | 3.2209 |
| Instinet, CBX | 4.36 | 0.00 | 1.97 | 1.32 | 6.26 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | -1.00 | -10.0000 |
| Level ATS | 3.96 | 0.00 | 1.97 | 0.26 | 5.72 | 0.00 | 0.0000 | -0.10 | -10.0000 | 0.00 | 0.0000 | -0.30 | -10.0000 |
| UBS Securities, LLC ATS | 3.76 | 0.00 | 1.84 | 0.53 | 5.45 | 0.00 | 0.0000 | -0.20 | -10.0000 | 0.00 | 0.0000 | -0.40 | -10.0000 |
| Goldman Sachs Execution & Clearing, L.P. | 2.97 | 0.00 | 0.00 | 0.26 | 4.83 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | -0.50 | -10.0000 |
| BofA Securities, Inc. | 2.86 | 0.00 | 0.00 | 0.26 | 4.65 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | -0.12 | -12.0000 |
| NEW YORK STOCK EXCHANGE, INC. | 1.99 | 0.00 | 0.39 | 1.59 | 2.86 | 0.00 | 0.0000 | -1.70 | -34.0000 | 0.84 | 12.0000 | -6.55 | -11.9091 |
| Citadel Securities | 1.75 | 0.00 | 0.00 | 0.26 | 2.82 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 |
| Cboe EDGX Exchange, Inc. | 1.55 | 0.69 | 0.53 | 0.00 | 2.28 | -0.90 | -30.0000 | -1.80 | -30.0000 | 0.00 | 0.0000 | -29.00 | -30.0000 |

Material Aspects:

The Nasdaq Stock Market LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

NYSE Arca, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Instinet, CBX:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Level ATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

UBS Securities, LLC ATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

NEW YORK STOCK EXCHANGE, INC.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Citadel Securities:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

September 2024

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 |
|--|---|---|---|--|
| 53.80 | 1.73 | 12.57 | 5.19 | 80.53 |

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) |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| The Nasdaq Stock Market LLC | 29.91 | 98.87 | 34.91 | 40.29 | 26.98 | -953.60 | -2.9811 | 308.45 | 0.3557 | 4,384.03 | 23.4744 | 8,204.58 | 0.8964 |
| NYSE Arca, Inc. | 10.44 | 0.00 | 0.96 | 1.50 | 12.72 | 0.00 | 0.0000 | -104.58 | -19.4158 | -0.69 | -2.0111 | -155.93 | -0.0639 |
| Instinet, CBX | 8.45 | 0.00 | 7.37 | 5.18 | 9.01 | 0.00 | 0.0000 | -10.90 | -10.0000 | -5.30 | -10.0000 | -41.16 | -10.0000 |
| Cboe BZX Exchange, Inc. | 8.36 | 0.68 | 1.18 | 0.53 | 10.15 | -5.10 | -30.0000 | -55.94 | -22.5563 | 5.07 | 16.0000 | -2,599.29 | -19.9091 |
| Level ATS | 5.39 | 0.00 | 6.60 | 4.58 | 5.37 | 0.00 | 0.0000 | -4.56 | -10.0000 | -3.10 | -10.0000 | -16.10 | -10.0000 |
| UBS Securities, LLC ATS | 5.10 | 0.00 | 6.23 | 4.65 | 5.06 | 0.00 | 0.0000 | -9.75 | -10.0000 | -11.50 | -10.0000 | -13.48 | -10.0000 |
| Cboe EDGX Exchange, Inc. | 4.39 | 0.45 | 0.87 | 0.38 | 5.29 | -1.82 | -10.7706 | -66.94 | -28.6492 | -1.65 | -30.0000 | -1,270.04 | -17.1737 |
| Goldman Sachs Execution & Clearing, L.P. | 4.16 | 0.00 | 1.73 | 4.65 | 4.59 | 0.00 | 0.0000 | -5.98 | -10.0000 | -3.20 | -10.0000 | -21.08 | -10.0000 |
| BofA Securities, Inc. | 3.82 | 0.00 | 1.12 | 4.13 | 4.31 | 0.00 | 0.0000 | -1.34 | -12.0000 | -1.02 | -12.0000 | -2.78 | -12.0000 |
| NEW YORK STOCK EXCHANGE, INC. | 2.32 | 0.00 | 0.99 | 1.43 | 2.64 | 0.00 | 0.0000 | -23.93 | -29.9943 | -0.30 | -30.0000 | -37.67 | -4.5201 |

Material Aspects:

The Nasdaq Stock Market LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

NYSE Arca, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Instinet, CBX:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe BZX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Level ATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

UBS Securities, LLC ATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.15 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Goldman Sachs Execution & Clearing, L.P.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

BofA Securities, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

NEW YORK STOCK EXCHANGE, INC.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

September 2024

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 | 0.36 | 28.28 | 20.45 | 50.79 |

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 Marketable Limit Orders(cents per hundred shares) | Net Payment Paid/Received for Marketable Limit Orders(USD) | Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares) | Net Payment Paid/Received for Non-Marketable Limit Orders(USD) | Net Payment Paid/Received for Other Orders(USD) | Net Payment Paid/Received for Other Orders(cents per hundred shares) | |
|--|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|--|----------|
| Dash/IMC Financial Markets | 82.48 | 100.00 | 95.77 | 95.61 | 69.86 | 1,317.40 | 22.5621 | 5,101.80 | 15.0172 | 762.20 | 18.7827 | 25,489.40 | 16.2484 |
| Cboe EDGX Exchange, Inc. | 4.36 | 0.00 | 0.53 | 0.00 | 8.30 | 0.00 | 0.0000 | -6.40 | -4.0000 | -0.60 | -4.0000 | 7,691.44 | 26.8819 |
| Miami International Securities Exchange, LLC | 2.87 | 0.00 | 0.00 | 0.00 | 5.59 | 0.00 | 0.0000 | -0.15 | -5.0000 | 0.00 | 0.0000 | 112.50 | 15.0000 |
| BOX Exchange LLC | 1.97 | 0.00 | 0.00 | 0.00 | 3.88 | 0.00 | 0.0000 | 0.15 | 15.0000 | 0.00 | 0.0000 | 352.10 | 33.9210 |
| NYSE ARCA OPTIONS | 1.70 | 0.00 | 0.42 | 3.80 | 1.53 | 0.00 | 0.0000 | -3.58 | -4.3659 | 256.90 | 19.7160 | -173.74 | -42.5833 |
| Cboe C2 Exchange, Inc. | 0.84 | 0.00 | 0.21 | 0.00 | 1.53 | 0.00 | 0.0000 | -26.88 | -48.0000 | 0.00 | 0.0000 | -28.60 | -11.0000 |
| MIAIX Emerald, LLC | 0.84 | 0.00 | 0.11 | 0.00 | 1.53 | 0.00 | 0.0000 | -25.30 | -55.0000 | -1.65 | -55.0000 | -10.00 | -25.0000 |
| Nasdaq ISE, LLC | 0.84 | 0.00 | 0.00 | 0.00 | 1.65 | 0.00 | 0.0000 | 0.00 | 0.0000 | 0.00 | 0.0000 | 77.88 | 16.8579 |
| Nasdaq MRX, LLC | 0.84 | 0.00 | 0.11 | 0.00 | 1.53 | 0.00 | 0.0000 | 3.09 | 30.9000 | 0.00 | 0.0000 | -0.18 | -3.0000 |

| 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) |
|---------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| Cboe Exchange, Inc. | 0.81 | 0.00 | 0.11 | 0.00 | 1.53 | 0.00 | 0.0000 | -0.84 | -5.2500 | 0.00 | 0.0000 | 0.00 | 0.0000 |

Material Aspects:

Dash/IMC Financial Markets:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$10 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Miami International Securities Exchange, LLC:

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BOX Exchange LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

NYSE ARCA OPTIONS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$75 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe C2 Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

MIAX Emerald, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq ISE, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq MRX, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe Exchange, Inc.:

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