

Material Aspects:

October 2020

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 | 34.98 | 3.67 | 7.31 | 54.04 |

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) |
|---------------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| Virtu Americas LLC. (NITE) | 54.96 | 58.67 | 32.91 | 36.92 | 56.50 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Citadel Securities, LLC (CDRG) | 20.08 | 24.03 | 15.13 | 18.41 | 18.08 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 8.55 | 8.78 | 3.28 | 4.39 | 9.33 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nasdaq Stock Exchange (NSDQ) | 7.12 | 3.65 | 29.75 | 25.26 | 5.38 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| GTS Securities, LLC (GTSM) | 4.45 | 3.63 | 1.50 | 2.63 | 5.43 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| New York Stock Exchange (NYSE) | 2.32 | 0.07 | 9.05 | 8.07 | 2.54 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Cboe BZX Exchange, Inc. (BATS) | 0.82 | 0.00 | 2.52 | 1.82 | 1.10 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| CBOE EDGX Exchange, Inc. (EDGX) | 0.59 | 0.03 | 2.92 | 1.17 | 0.72 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Stifel, Nicolaus & Company, In (STFL) | 0.44 | 0.98 | 1.59 | 0.52 | 0.01 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Bofa Securities Inc (MLCO) | 0.22 | 0.02 | 0.51 | 0.32 | 0.31 | 9.3000 | 3.7744 | 81.9128 | 6.6988 | 62.0558 | 4.7208 | 691.1311 | 3.8763 |

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Options

Summary

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|--|---|---|---|--|
| 100.00 | 14.51 | 0.00 | 56.34 | 29.14 |

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) | 63.32 | 90.20 | 0.00 | 85.88 | 6.30 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Dash Financial Technologies LL (DFIN) | 27.24 | 1.79 | 0.00 | 1.20 | 90.27 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Chicago Board Options Exchange (CBOE) | 5.87 | 6.21 | 0.00 | 8.13 | 1.34 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Miami Options Exchange (MIAX) | 1.42 | 0.00 | 0.00 | 2.52 | 0.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Cboe BZX Exchange, Inc. (BATS) | 0.46 | 0.62 | 0.00 | 0.35 | 0.61 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nasdaq Options Market (XNDQ) | 0.38 | 0.29 | 0.00 | 0.55 | 0.09 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Matrix Executions, LLC (REDG) | 0.33 | 0.00 | 0.00 | 0.47 | 0.22 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nasdaq OMX PHLX (PHLX) | 0.23 | 0.00 | 0.00 | 0.25 | 0.29 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| MIAX Pearl, LLC (PEARL) | 0.20 | 0.02 | 0.00 | 0.36 | 0.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Wallachbeth Capital LLC (WBET) | 0.20 | 0.62 | 0.00 | 0.06 | 0.27 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

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|--|---|---|---|--|
| 100.00 | 22.85 | 0.74 | 1.94 | 74.47 |

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) |
|-----------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| Virtu Americas LLC. (NITE) | 44.03 | 48.85 | 40.04 | 48.56 | 42.48 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Citadel Securities, LLC (CDRG) | 31.17 | 34.68 | 28.11 | 23.41 | 30.33 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 11.25 | 11.81 | 6.53 | 6.75 | 11.24 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| GTS Securities, LLC (GTSM) | 8.32 | 4.45 | 0.78 | 1.33 | 9.77 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nasdaq Stock Exchange (NSDQ) | 1.54 | 0.15 | 7.99 | 11.57 | 1.64 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| New York Stock Exchange (NYSE) | 1.36 | 0.00 | 5.21 | 3.45 | 1.68 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| CBOE EDGX Exchange, Inc. (EDGX) | 1.17 | 0.01 | 10.28 | 4.52 | 1.35 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| ITG Inc. (ITGI) | 0.80 | 0.00 | 0.00 | 0.00 | 1.08 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Puma Capital, LLC (PUMA) (PUMA) | 0.16 | 0.01 | 0.00 | 0.04 | 0.22 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| District 8 - Chicago (NASD) | 0.10 | 0.00 | 0.00 | 0.00 | 0.14 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

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|--|---|---|---|--|
| 100.00 | 35.80 | 3.68 | 6.43 | 54.09 |

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) |
|---------------------------------------|-------------------------|-------------------|-----------------------------|---------------------------------|------------------|--|---|--|---|--|---|---|--|
| Virtu Americas LLC. (NITE) | 55.39 | 59.67 | 40.05 | 41.05 | 55.30 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Citadel Securities, LLC (CDRG) | 22.40 | 25.89 | 18.06 | 22.64 | 20.36 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| G1 Execution Services, LLC (ETMM) | 6.09 | 6.64 | 2.30 | 3.46 | 6.30 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nasdaq Stock Exchange (NSDQ) | 5.76 | 2.47 | 23.88 | 19.91 | 5.02 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| GTS Securities, LLC (GTSM) | 5.34 | 4.25 | 2.30 | 2.30 | 6.63 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| New York Stock Exchange (NYSE) | 2.27 | 0.07 | 7.89 | 6.88 | 2.78 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| ITG Inc. (ITGI) | 0.68 | 0.00 | 0.00 | 0.00 | 1.26 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Cboe BZX Exchange, Inc. (BATS) | 0.61 | 0.00 | 1.20 | 1.53 | 0.86 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| CBOE EDGX Exchange, Inc. (EDGX) | 0.53 | 0.01 | 2.33 | 1.15 | 0.67 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Stifel, Nicolaus & Company, In (STFL) | 0.33 | 0.78 | 0.88 | 0.26 | 0.01 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

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|--|---|---|---|--|
| 100.00 | 13.62 | 0.00 | 55.51 | 30.87 |

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 Financial Technologies LL (DFIN) | | | | | | | | | | | | | |
| Chicago Board Options Exchange (CBOE) | 9.76 | 2.65 | 0.00 | 11.43 | 9.49 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nasdaq OMX PHLX (PHLX) | 1.96 | 0.00 | 0.00 | 2.26 | 2.42 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| ISE Options (ISE) | 1.24 | 0.00 | 0.00 | 1.27 | 2.10 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Miami Options Exchange (MIAX) | 1.01 | 0.42 | 0.00 | 1.43 | 0.01 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nasdaq Options Market (XNDQ) | 0.71 | 1.15 | 0.00 | 0.68 | 0.45 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Cboe BZX Exchange, Inc. (BATS) | 0.52 | 0.44 | 0.00 | 0.61 | 0.28 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Cboe EDGX Options (EDGO) | 0.37 | 0.00 | 0.00 | 0.25 | 1.08 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| MIAX Pearl, LLC (PERL) | 0.30 | 0.00 | 0.00 | 0.46 | 0.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

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