

JP Morgan Securities LLC - Held NMS Stocks and Options Order Routing Public Report

Generated on Fri Feb 02 2024 15:29:57 GMT-0500 (Eastern Standard Time)

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
97.62	72.06	4.29	18.31	5.34

Venues

Venue - Non-directed Order Flow	Non- Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non- Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/ Received for Market Orders(cents per hundred shares)	Net Payment Paid/ Received for Marketable Limit Orders(USD)	Net Payment Paid/ Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/ Received for Non- Marketable Limit Orders(USD)	Net Payment Paid/ Received for Non- Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/ Received for Other Orders(cents per hundred shares)
Citadel Securities LLC (CDRG)	27.07	32.13	30.85	8.94	17.52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TWO SIGMA SECURITIES, LLC (SOHO)	22.12	29.07	25.71	0.19	0.60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
VIRTU Americas LLC (NITE)	15.28	16.67	18.28	8.61	16.94	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
JANE STREET CAPITAL, LLC (JNST)	13.80	14.67	17.78	8.78	16.10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	7.67	0.00	0.00	34.44	25.88	-1.1041	-33.3565	0.0288	20.5714	3,730.7126	27.0602	195.1374	4.2063
G1 Execution Services, LLC (ETMM)	5.74	7.41	7.28	0.07	1.31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	4.89	0.05	0.10	20.19	21.65	-20.3361	-5.1751	-3.8295	-6.3402	1,811.0012	19.6478	52.9573	0.7585
NYSE Arca, Inc. (ARCA)	1.33	0.00	0.00	7.29	0.00	0.0000	0.0000	0.0000	0.0000	1,205.9288	23.0760	0.0000	0.0000
Cboe EDGX Exchange, Inc. (EDGX)	1.14	0.00	0.00	6.23	0.00	0.0000	0.0000	0.0412	13.7333	485.9091	14.1979	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	0.96	0.00	0.00	5.26	0.00	0.0000	0.0000	0.0000	0.0000	711.8194	25.6122	0.1678	25.8154

Material Aspects:

Citadel Securities LLC (CDRG):
Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

TWO SIGMA SECURITIES, LLC (SOHO):
Firm not charged.

VIRTU Americas LLC (NITE):
Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

JANE STREET CAPITAL, LLC (JNST):
Firm not charged.

The Nasdaq Stock Market (NSDQ):
Firm qualified for (1) the rebate provided for adding over 0.60% of the total consolidated volume and removing over 0.80% of the total consolidated volume and executing ADV of 350,000 or more shares through Midpoint Extended Life Orders during the month (\$0.0029 per share) for adding displayed liquidity, (2) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (3) the rebate provided for adding over 0.03% of the total consolidated volume of non-displayed liquidity, including midpoint orders, for Tape A/B securities (\$0.0010 per share) and Tape C securities (\$0.0005 per share) for adding non-displayed liquidity, (4) the rebate provided for executing ADV of at least 3 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 100% or more versus the volume of such executed orders in June 2021 (\$0.00005 per share) for adding displayed liquidity, (5) the rebate provided for adding greater than 5 million shares of midpoint liquidity and 8 million shares of non-displayed liquidity (\$0.0025 per share for adding midpoint non-displayed liquidity), and (6) a cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

G1 Execution Services, LLC (ETMM):
Firm not charged.

New York Stock Exchange LLC (NYSE):
Firm qualified for Providing Tier 2 (a rebate of \$0.0020 per share for adding displayed liquidity in Tape A securities), MidPoint Liquidity Tier 3 (a rebate of \$0.0020 per share for adding average daily volume in MPL orders that is at least 0.0075% of Tapes A, B and C consolidated average daily volume combined, excluding any liquidity added by a DMM), MOC/LOC Tier 1 (a fee of \$0.0007 per share for Market-On-Close and Limit-On-Close orders), NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close (a reduced fee of \$0.0008 per share for d-Orders last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 3 for Tape A securities (a fee of \$0.0029 per share for removing liquidity) and Tape B and Tape C securities (a fee of \$0.00285 per share for removing liquidity), and Routing Tier 1 for adding average daily volume in Tapes A, B and C combined that is at least 0.20% of Tapes A, B and C consolidated average daily volume combined (a fee of \$0.0030 per share for orders routed). The venue provided a fee cap of \$35,000 for the month for opening executions. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://www.nyse.com/markets/nyse/trading-info/fees>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

NYSE Arca, Inc. (ARCA):
Firm qualified for Tier 4 for adding .20% of consolidated ADV (a rebate of \$0.0025 for Tape A and Tape C securities and \$0.0022 for Tape B securities for adding displayed liquidity) and Limit Non-Display Order Step Up Tier 4 for increasing ADV by .02% of limit non-displayed and mid-point liquidity orders combined over July 2020 (a rebate of \$0.0004 per share for adding non-displayed liquidity). The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE_Arca_Marketplace_Fees.pdf. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe EDGX Exchange, Inc. (EDGX):
Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/edgx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe BZX Exchange, Inc. (BATS):
Firm qualified for Add/Remove Volume Tier 3 for having average daily added volume as a percentage of total consolidated volume of at least 0.25% or average added daily volume of at least 25,000,000 (an incremental rebate of \$0.0011 per share for adding displayed liquidity). The Firm achieved the aforementioned tier based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

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
99.79	68.72	6.58	18.56	6.13

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)
JANE STREET CAPITAL, LLC (JNST)	26.60	31.70	32.00	9.27	16.10	-0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Citadel Securities LLC (CDRG)	25.76	30.48	30.79	9.45	16.84	0.0000	0.0000	-1.7640	-0.0009	0.0000	0.0000	0.0000	0.0000
VIRTU Americas LLC (NITE)	24.09	28.37	27.96	9.41	16.42	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	7.58	0.14	0.35	32.29	24.14	-258.5479	-12.2226	-94.4182	-7.1254	18,158.6573	18.7116	1,368.6259	4.9178
G1 Execution Services, LLC (ETMM)	5.79	7.54	8.15	0.10	0.84	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	3.76	0.04	0.08	15.86	12.80	-53.3840	-3.3304	5.7427	2.3842	6,340.6405	18.3981	892.1929	7.1762
NYSE Arca, Inc. (ARCA)	2.79	0.03	0.03	11.26	11.04	-40.5738	-17.4151	-16.8657	-10.0415	5,570.9951	17.1892	-651.7946	-9.5533
TWO SIGMA SECURITIES, LLC (SOHO)	1.26	1.70	0.63	0.03	0.65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	1.21	0.00	0.01	6.11	1.17	-2.7947	-24.4506	-13.6115	-27.2012	3,341.0665	16.7710	-24.0772	-5.6664
Cboe EDGX Exchange, Inc. (EDGX)	1.16	0.00	0.00	6.22	0.00	-5.9014	-23.3997	-0.0237	-19.7500	2,240.4506	10.3026	0.0000	0.0000

Material Aspects:

JANE STREET CAPITAL, LLC (JNST):
Firm not charged.

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

VIRTU Americas LLC (NITE):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

The Nasdaq Stock Market (NSDQ):

Firm qualified for (1) the rebate provided for adding over 0.60% of the total consolidated volume and removing over 0.80% of the total consolidated volume and executing ADV of 350,000 or more shares through Midpoint Extended Life Orders during the month (\$0.0029 per share) for adding displayed liquidity, (2) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (3) the rebate provided for adding over 0.03% of the total consolidated volume of non-displayed liquidity, including midpoint orders, for Tape A/B securities (\$0.0010 per share) and Tape C securities (\$0.0005 per share) for adding non-displayed liquidity, (4) the rebate provided for executing ADV of at least 3 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 100% or more versus the volume of such executed orders in June 2021 (\$0.00005 per share) for adding displayed liquidity, (5) the rebate provided for adding greater than 5 million shares of midpoint liquidity and 8 million shares of non-displayed liquidity (\$0.0025 per share for adding midpoint non-displayed liquidity), and (6) a cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

G1 Execution Services, LLC (ETMM):
Firm not charged.

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 2 (a rebate of \$0.0020 per share for adding displayed liquidity in Tape A securities), MidPoint Liquidity Tier 3 (a rebate of \$0.0020 per share for adding average daily volume in MPL orders that is at least 0.0075% of Tapes A, B and C consolidated average daily volume combined, excluding any liquidity added by a DMM), MOC/LOC Tier 1 (a fee of \$0.0007 per share for Market-On-Close and Limit-On-Close orders), NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close (a reduced fee of \$0.0008 per share for d-Orders last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 3 for Tape A securities (a fee of \$0.0029 per share for removing liquidity) and Tape B and Tape C securities (a fee of \$0.00285 per share for removing liquidity), and Routing Tier 1 for adding average daily volume in Tapes A, B and C combined that is at least 0.20% of Tapes A, B and C consolidated average daily volume combined (a fee of \$0.0030 per share for orders routed). The venue provided a fee cap of \$35,000 for the month for opening executions. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://www.nyse.com/markets/nyse/trading-info/fees>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

NYSE Arca, Inc. (ARCA):
Firm qualified for Tier 4 for adding .20% of consolidated ADV (a rebate of \$0.0025 for Tape A and Tape C securities and \$0.0022 for Tape B securities for adding displayed liquidity) and Limit Non-Display Order Step Up Tier 4 for increasing ADV by .02% of limit non-displayed and mid-point liquidity orders combined over July 2020 (a rebate of \$0.0004 per share for adding non-displayed liquidity). The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE_Arca_Marketplace_Fees.pdf . Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

TWO SIGMA SECURITIES, LLC (SOHO):
Firm not charged.

Cboe BZX Exchange, Inc. (BATS):
Firm qualified for Add/Remove Volume Tier 3 for having average daily added volume as a percentage of total consolidated volume of at least 0.25% or average added daily volume of at least 25,000,000 (an incremental rebate of \$0.0011 per share for adding displayed liquidity). The Firm achieved the aforementioned tier based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe EDGX Exchange, Inc. (EDGX):
Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/edgx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

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
95.08	12.89	13.96	35.01	38.14

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)	24.69	38.57	37.12	37.39	3.67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Dash Financial Technologies LLC (DFIN)	21.81	22.48	20.81	20.71	22.96	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GLOBAL EXECUTION BROKERS, LP (GEBB)	20.11	28.69	30.20	31.59	2.99	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq PHLX LLC (XPHO)	17.98	0.00	0.00	0.00	47.19	0.0000	0.0000	-0.7602	-25.3400	0.0000	0.0000	-109,948.4477	-31.6587
Wolverine Execution Services, LLC (WEXX)	6.87	10.26	11.87	10.31	0.75	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe Exchange, Inc. (CBOE)	3.07	0.00	0.00	0.00	8.05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-105,655.3771	-46.9609

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)
Nasdaq Options Market (XNDQ)	1.72	0.00	0.00	0.00	4.51	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-46,103.0135	-82.8844
BOX OPTIONS EXCHANGE (XBOX)	1.48	0.00	0.00	0.00	3.90	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9,055.0912	10.9099
NYSE Arca Options (ARCO)	1.16	0.00	0.00	0.00	3.06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-17,179.4033	-24.4512
Cboe BZX Exchange, Inc. (BATO)	1.11	0.00	0.00	0.00	2.92	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-34,212.1170	-48.9920

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged. Citadel Securities LLC's recent reports pursuant to SEC Rule 606(a) are available at: <https://www.citadelsecurities.com/rule-605-606-statements/>

Dash Financial Technologies LLC (DFIN):

Firm not charged for orders routed by the Wealth Management or Corporate and Investment Bank division and cleared by Dash Financial Technologies LLC. However, Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Corporate and Investment Bank and cleared by the Firm following execution, Firm is charged \$.05/contract for 0-500,000 contracts, \$.04/contract for 500,001-1 million contracts, and \$.03/contract for greater than 1 million contracts. Firm qualified for the \$.03/contract discounted tier. Dash Financial Technologies LLC's most recent report pursuant to SEC Rule 606(a) is available at: <http://dash-website-static.s3-website-us-east-1.amazonaws.com/static/606.html>

GLOBAL EXECUTION BROKERS, LP (GEBB):

Firm not charged.

Nasdaq PHLX LLC (XPHO):

Firm did not qualify for tiered pricing. Firm received marketing fees from preferenced market makers pursuant to marketing fee program sponsored by exchange. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://listingcenter.nasdaq.com/rulebook/phlx/rules/phlx-options-7>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Wolverine Execution Services, LLC (WEXX):

Firm not charged. Wolverine Execution Services, LLC's recent reports pursuant to SEC Rule 606(a) are available at: <https://www.tradewex.com/Home/Rule606>.

Cboe Exchange, Inc. (CBOE):

Firm did not qualify for tiered pricing with respect to customer order flow. Firm received marketing fees from preferenced market makers pursuant to marketing fee program sponsored by exchange. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://cdn.cboe.com/resources/membership/Cboe_FeeSchedule.pdf. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Nasdaq Options Market (XNDQ):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://listingcenter.nasdaq.com/rulebook/nasdaq/rules/nasdaq-options-7>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

BOX OPTIONS EXCHANGE (XBOX):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://boxexchange.com/assets/BOX-Fee-Schedule-as-of-July-3-2023.pdf>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

NYSE Arca Options (ARCO):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://www.nyse.com/markets/arca-options/trading-info#fees>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe BZX Exchange, Inc. (BATO):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/options/membership/fee_schedule/bzx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

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
98.45	71.96	4.06	17.95	6.03

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)	26.19	30.92	29.63	9.02	17.99	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TWO SIGMA SECURITIES, LLC (SOHO)	21.12	27.86	24.52	0.20	0.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
VIRTU Americas LLC (NITE)	17.37	19.37	20.63	8.86	16.69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
JANE STREET CAPITAL, LLC (JNST)	13.19	13.85	17.50	8.64	16.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	7.80	0.00	0.00	34.90	25.68	-3.2605	-31.2308	0.0000	0.0000	5,422.2891	27.0161	127.9427	1.7835
G1 Execution Services, LLC (ETMM)	6.14	7.96	7.63	0.10	1.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	4.87	0.04	0.09	19.70	21.61	-29.9874	-7.8983	-0.6387	-2.7412	2,028.4653	19.5741	24.9460	0.3497
NYSE Arca, Inc. (ARCA)	1.30	0.00	0.00	7.29	0.00	-0.0070	-35.0000	0.0000	0.0000	1,055.8144	21.9583	0.0000	0.0000
Cboe EDGX Exchange, Inc. (EDGX)	1.08	0.00	0.00	6.06	0.00	0.0000	0.0000	0.0000	0.0000	716.5800	14.2170	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	0.94	0.00	0.00	5.23	0.00	0.0000	0.0000	0.0000	0.0000	1,161.9727	25.7889	-0.9075	-9.0659

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

TWO SIGMA SECURITIES, LLC (SOHO):

Firm not charged.

VIRTU Americas LLC (NITE):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

JANE STREET CAPITAL, LLC (JNST):

Firm not charged.

The Nasdaq Stock Market (NSDQ):

Firm qualified for (1) the rebate provided for adding over 0.60% of the total consolidated volume and removing over 0.80% of the total consolidated volume and executing ADV of 350,000 or more shares through Midpoint Extended Life Orders during the month (\$0.0029 per share) for adding displayed liquidity, (2) Closing Cross Tier B (a fee of \$0.0011 per share) for orders executing in the Closing Cross, (3) the rebate provided for adding over 0.03% of the total consolidated volume of non-displayed liquidity, including midpoint orders, for Tape A/B securities (\$0.0010 per share) and Tape C securities (\$0.0005 per share) for adding non-displayed liquidity, (4) the rebate provided for executing ADV of at least 3 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 100% or more versus the volume of such executed orders in June 2021 (\$0.00005 per share) for adding displayed liquidity, (5) the rebate provided for adding greater than 5 million shares of midpoint liquidity and 8 million shares of non-displayed liquidity (\$0.0025 per share for adding midpoint non-displayed liquidity) , and (6) a cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

G1 Execution Services, LLC (ETMM):
Firm not charged.

New York Stock Exchange LLC (NYSE):
Firm qualified for Providing Tier 2 (a rebate of \$0.0020 per share for adding displayed liquidity in Tape A securities), MOC/LOC Tier 1 (a fee of \$0.0007 per share for Market-On-Close and Limit-On-close orders), NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close (a reduced fee of \$0.0008 per share for d-Orders last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 3 for Tape A securities (a fee of \$0.0029 per share for removing liquidity) and Tape B and Tape C securities (a fee of \$0.00285 per share for removing liquidity), and Routing Tier 1 for adding average daily volume in Tapes A, B and C combined that is at least 0.20% of Tapes A, B and C consolidated average daily volume combined (a fee of \$0.0030 per share for orders routed). The venue provided a fee cap of \$35,000 for the month for opening executions. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://www.nyse.com/markets/nyse/trading-info/fees>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

NYSE Arca, Inc. (ARCA):
Firm qualified for Tier 4 for adding .20% of consolidated ADV (a rebate of \$0.0025 for Tape A and Tape C securities and \$0.0022 for Tape B securities for adding displayed liquidity) and Limit Non-Display Order Step Up Tier 4 for increasing ADV by .02% of limit non-displayed and mid-point liquidity orders combined over July 2020 (a rebate of \$0.0004 per share for adding non-displayed liquidity). The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE_Arca_Marketplace_Fees.pdf . Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe EDGX Exchange, Inc. (EDGX):
Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/edgx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe BZX Exchange, Inc. (BATS):
Firm qualified for Add/Remove Volume Tier 3 for having average daily added volume as a percentage of total consolidated volume of at least 0.25% or average added daily volume of at least 25,000,000 (an incremental rebate of \$0.0011 per share for adding displayed liquidity). The Firm achieved the aforementioned tier based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

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
99.93	66.07	6.80	20.19	6.93

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)
JANE STREET CAPITAL, LLC (JNST)	25.65	31.20	31.00	8.67	16.74	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Citadel Securities LLC (CDRG)	24.67	29.74	30.29	8.69	17.40	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
VIRTU Americas LLC (NITE)	24.12	29.23	27.79	8.62	17.07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	8.48	0.13	0.21	33.86	22.38	-312.0652	-12.4419	-26.1185	-9.3294	30,838.3320	20.0510	1,033.3395	2.6117

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)
G1 Execution Services, LLC (ETMM)	6.50	8.66	10.23	0.13	0.78	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	4.42	0.04	0.09	17.02	13.71	-36.7774	-4.5777	25.0688	5.8113	9,863.0349	16.8078	663.0216	3.5088
NYSE Arca, Inc. (ARCA)	2.87	0.03	0.05	10.55	10.30	-69.7887	-19.0258	-7.6968	-29.7749	7,926.6149	17.3792	-531.5976	-5.3996
Cboe BZX Exchange, Inc. (BATS)	1.31	0.00	0.00	6.12	1.05	-6.7845	-8.1320	-4.1558	-18.0687	5,947.9187	20.2880	-52.8771	-6.8294
Cboe EDGX Exchange, Inc. (EDGX)	1.27	0.00	0.00	6.31	0.00	-7.7740	-18.0329	-0.3236	-11.9410	4,026.5830	10.4965	0.0000	0.0000
TWO SIGMA SECURITIES, LLC (SOHO)	0.71	0.97	0.34	0.03	0.57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Material Aspects:

JANE STREET CAPITAL, LLC (JNST):
Firm not charged.

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

VIRTU Americas LLC (NITE):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

The Nasdaq Stock Market (NSDQ):

Firm qualified for (1) the rebate provided for adding over 0.60% of the total consolidated volume and removing over 0.80% of the total consolidated volume and executing ADV of 350,000 or more shares through Midpoint Extended Life Orders during the month (\$0.0029 per share) for adding displayed liquidity, (2) Closing Cross Tier B (a fee of \$0.0011 per share) for orders executing in the Closing Cross, (3) the rebate provided for adding over 0.03% of the total consolidated volume of non-displayed liquidity, including midpoint orders, for Tape A/B securities (\$0.0010 per share) and Tape C securities (\$0.0005 per share) for adding non-displayed liquidity, (4) the rebate provided for executing ADV of at least 3 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 100% or more versus the volume of such executed orders in June 2021 (\$0.00005 per share) for adding displayed liquidity, (5) the rebate provided for adding greater than 5 million shares of midpoint liquidity and 8 million shares of non-displayed liquidity (\$0.0025 per share for adding midpoint non-displayed liquidity) , and (6) a cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

G1 Execution Services, LLC (ETMM):

Firm not charged.

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 2 (a rebate of \$0.0020 per share for adding displayed liquidity in Tape A securities), MOC/LOC Tier 1 (a fee of \$0.0007 per share for Market-On-Close and Limit-On-close orders), NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close (a reduced fee of \$0.0008 per share for d-Orders last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 3 for Tape A securities (a fee of \$0.0029 per share for removing liquidity) and Tape B and Tape C securities (a fee of \$0.00285 per share for removing liquidity), and Routing Tier 1 for adding average daily volume in Tapes A, B and C combined that is at least 0.20% of Tapes A, B and C consolidated average daily volume combined (a fee of \$0.0030 per share for orders routed). The venue provided a fee cap of \$35,000 for the month for opening executions. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://www.nyse.com/markets/nyse/trading-info/fees>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

NYSE Arca, Inc. (ARCA):

Firm qualified for Tier 4 for adding .20% of consolidated ADV (a rebate of \$0.0025 for Tape A and Tape C securities and \$0.0022 for Tape B securities for adding displayed liquidity) and Limit Non-Display Order Step Up Tier 4 for increasing ADV by .02% of limit non-displayed and mid-point liquidity orders combined over July 2020 (a rebate of \$0.0004 per share for adding non-displayed liquidity). The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE_Arca_Marketplace_Fees.pdf . Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe BZX Exchange, Inc. (BATS):

Firm qualified for Add/Remove Volume Tier 3 for having average daily added volume as a percentage of total consolidated volume of at least 0.25% or average added daily volume of at least 25,000,000 (an incremental rebate of \$0.0011 per share for adding displayed liquidity). The Firm achieved the aforementioned tier based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe EDGX Exchange, Inc. (EDGX):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/edgx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

TWO SIGMA SECURITIES, LLC (SOHO):
Firm not charged.

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
88.34	7.18	8.14	20.04	64.64

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)
Nasdaq PHLX LLC (XPHO)	42.37	0.00	0.00	0.00	65.53	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-240,258.9205	-28.0505
Citadel Securities LLC (CDRG)	14.86	41.16	40.05	39.04	1.27	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Dash Financial Technologies LLC (DFIN)	14.55	22.17	20.67	20.81	10.99	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	859.8400	0.1392
GLOBAL EXECUTION BROKERS, LP (GEBB)	10.16	24.48	26.61	28.32	0.87	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Wolverine Execution Services, LLC (WEXX)	4.46	12.19	12.67	11.83	0.28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe Exchange, Inc. (CBOE)	4.31	0.00	0.00	0.00	6.67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-209,607.2819	-47.4761
BOX OPTIONS EXCHANGE (XBOX)	3.47	0.00	0.00	0.00	5.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	20,470.5770	13.1761
Nasdaq Options Market (XNDQ)	2.28	0.00	0.00	0.00	3.54	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-67,266.2074	-71.8054
Cboe BZX Exchange, Inc. (BATO)	1.96	0.00	0.00	0.00	3.03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-71,563.1436	-49.1353
NYSE Arca Options (ARCO)	1.58	0.00	0.00	0.00	2.45	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-43,801.7491	-28.9296

Material Aspects:
Nasdaq PHLX LLC (XPHO):

[illegible]

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)
JANE STREET CAPITAL, LLC (JNST)	13.70	14.37	17.74	9.00	17.90	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	7.78	0.00	0.00	33.35	23.00	-0.8853	-42.1571	0.5306	26.5300	4,899.0378	25.6985	63.9997	0.9339
G1 Execution Services, LLC (ETMM)	5.98	7.85	7.83	0.10	1.58	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.44	0.05	0.12	21.54	20.92	-22.3407	-3.7655	-1.2160	-2.6602	2,763.2335	19.4152	511.3273	4.4932
NYSE Arca, Inc. (ARCA)	1.41	0.00	0.00	7.34	0.00	0.0000	0.0000	-0.0036	-36.0000	1,377.5371	22.2882	0.0000	0.0000
Cboe EDGX Exchange, Inc. (EDGX)	1.18	0.00	0.00	6.16	0.00	0.0000	0.0000	0.0000	0.0000	701.9291	13.9414	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	1.03	0.00	0.00	5.41	0.00	0.0000	0.0000	-0.0328	-32.8000	1,041.7177	25.5074	0.0000	0.0000

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

TWO SIGMA SECURITIES, LLC (SOHO):

Firm not charged.

VIRTU Americas LLC (NITE):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

JANE STREET CAPITAL, LLC (JNST):

Firm not charged.

The Nasdaq Stock Market (NSDQ):

Firm qualified for (1) the rebate provided for adding over 0.35% of the total consolidated volume and removing over 0.75% of the total consolidated volume (\$0.0028 per share) for adding displayed liquidity, (2) Closing Cross Tier B (a fee of \$0.0011 per share) for orders executing in the Closing Cross, (3) the rebate provided for adding over 0.03% of the total consolidated volume of non-displayed liquidity, including midpoint orders, for Tape A/B securities (\$0.0010 per share) and Tape C securities (\$0.0005 per share) for adding non-displayed liquidity, (4) the rebate provided for executing ADV of at least 3 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 100% or more versus the volume of such executed orders in June 2021 (\$0.00005 per share) for adding displayed liquidity, (5) the rebate provided for adding greater than 5 million shares of midpoint liquidity and 8 million shares of non-displayed liquidity (\$0.0025 per share for adding midpoint non-displayed liquidity) , and (6) a cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

G1 Execution Services, LLC (ETMM):

Firm not charged.

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 3 (a rebate of \$0.0019 per share for adding displayed liquidity in Tape A securities), MOC/LOC Tier 1 (a fee of \$0.0007 per share for Market-On-Close and Limit-On-Close orders), NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close (a reduced fee of \$0.0008 per share for d-Orders last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 3 for Tape A securities (a fee of \$0.0029 per share for removing liquidity) and Tape B and Tape C securities (a fee of \$0.00285 per share for removing liquidity), and Routing Tier 1 for adding average daily volume in Tapes A, B and C combined that is at least 0.20% of Tapes A, B and C consolidated average daily volume combined (a fee of \$0.0030 per share for orders routed). The venue provided a fee cap of \$35,000 for the month for opening executions. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://www.nyse.com/markets/nyse/trading-info/fees>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

NYSE Arca, Inc. (ARCA):

Firm qualified for Tier 5 for adding 0.15% of consolidated ADV (a rebate of \$0.0022 for Tape A and Tape C securities and \$0.0020 for Tape B securities for adding displayed liquidity) and Limit Non-Display Order Step Up Tier 4 for increasing ADV by .02% of limit non-displayed and mid-point liquidity orders combined over July 2020 (a rebate of \$0.0004 per share for adding non-displayed liquidity). The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE_Arca_Marketplace_Fees.pdf . Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Form did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/edgx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Firm qualified for Add/Remove Volume Tier 3 for having average daily added volume as a percentage of total consolidated volume of at least 0.25% or average added daily volume of at least 25,000,000 (an incremental rebate of \$0.0011 per share for adding displayed liquidity). The Firm achieved the aforementioned tier based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Non-S&P 500 Stocks

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
99.83	65.78	6.83	20.37	7.02

[illegible]

Material Aspects:

JANE STREET CAPITAL, LLC (JNST):
Firm not charged.

VIRTU Americas LLC (NITE):
Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

Citadel Securities LLC (CDRG):
Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Except for legacy First Republic Securities Company LLC (FRSC) order flow, which merged with J.P. Morgan Securities LLC on October 1, 2023 and sits within the Wealth Management division, the Firm is charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

The Nasdaq Stock Market (NSDQ):
Firm qualified for (1) the rebate provided for adding over 0.35% of the total consolidated volume and removing over 0.75% of the total consolidated volume (\$0.0028 per share) for adding displayed liquidity, (2) Closing Cross Tier B (a fee of \$0.0011 per share) for orders executing in the Closing Cross, (3) the rebate provided for adding over 0.03% of the total consolidated volume of non-displayed liquidity, including midpoint orders, for Tape A/B securities (\$0.0010 per share) and Tape C securities (\$0.0005 per share) for adding non-displayed liquidity, (4) the rebate provided for executing ADV of at least 3 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 100% or more versus the volume of such executed orders in June 2021 (\$0.00005 per share) for adding displayed liquidity, (5) the rebate provided for adding greater than 5 million shares of midpoint liquidity and 8 million shares of non-displayed liquidity (\$0.0025 per share for adding midpoint non-displayed liquidity) , and (6) a cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

G1 Execution Services, LLC (ETMM):
Firm not charged.

New York Stock Exchange LLC (NYSE):
Firm qualified for Providing Tier 3 (a rebate of \$0.0019 per share for adding displayed liquidity in Tape A securities), MOC/LOC Tier 1 (a fee of \$0.0007 per share for Market-On-Close and Limit-On-Close orders), NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close (a reduced fee of \$0.0008 per share for d-Orders last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 3 for Tape A securities (a fee of \$0.0029 per share for removing liquidity) and Tape B and Tape C securities (a fee of \$0.00285 per share for removing liquidity), and Routing Tier 1 for adding average daily volume in Tapes A, B and C combined that is at least 0.20% of Tapes A, B and C consolidated average daily volume combined (a fee of \$0.0030 per share for orders routed). The venue provided a fee cap of \$35,000 for the month for opening executions. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://www.nyse.com/markets/nyse/trading-info/fees>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

NYSE Arca, Inc. (ARCA):
Firm qualified for Tier 5 for adding 0.15% of consolidated ADV (a rebate of \$0.0022 for Tape A and Tape C securities and \$0.0020 for Tape B securities for adding displayed liquidity) and Limit Non-Display Order Step Up Tier 4 for increasing ADV by .02% of limit non-displayed and mid-point liquidity orders combined over July 2020 (a rebate of \$0.0004 per share for adding non-displayed liquidity). The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE_Arca_Marketplace_Fees.pdf . Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe BZX Exchange, Inc. (BATS):
Firm qualified for Add/Remove Volume Tier 3 for having average daily added volume as a percentage of total consolidated volume of at least 0.25% or average added daily volume of at least 25,000,000 (an incremental rebate of \$0.0011 per share for adding displayed liquidity). The Firm achieved the aforementioned tier based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe EDGX Exchange, Inc. (EDGX):
Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/equities/membership/fee_schedule/edgx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

TWO SIGMA SECURITIES, LLC (SOHO):
Firm not charged.

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
95.06	9.52	10.76	27.21	52.51

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)
Nasdaq PHLX LLC (XPHO)	33.34	0.00	0.00	0.00	63.44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-179,131.4252	-31.9456
Citadel Securities LLC (CDRG)	21.33	44.39	42.84	42.22	1.93	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Dash Financial Technologies LLC (DFIN)	15.77	23.39	22.46	22.49	9.54	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GLOBAL EXECUTION BROKERS, LP (GEBB)	9.77	16.81	18.81	20.40	1.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Wolverine Execution Services, LLC (WEXX)	7.52	15.41	15.89	14.89	0.57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe Exchange, Inc. (CBOE)	5.97	0.00	0.00	0.00	11.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-164,319.1954	-50.6072
Nasdaq Options Market (XNDQ)	2.08	0.00	0.00	0.00	3.97	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-65,958.6035	-76.6000
BOX OPTIONS EXCHANGE (XBOX)	1.58	0.00	0.00	0.00	3.01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	10,147.7452	10.5537
NYSE Arca Options (ARCO)	1.52	0.00	0.00	0.00	2.89	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-28,810.1854	-26.8940
Cboe BZX Exchange, Inc. (BATO)	1.12	0.00	0.00	0.00	2.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-58,212.7227	-51.5426

Material Aspects:

Nasdaq PHLX LLC (XPHO):

Firm did not qualify for tiered pricing. Firm received marketing fees from preferred market makers pursuant to marketing fee program sponsored by exchange. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://listingcenter.nasdaq.com/rulebook/phlx/rules/phlx-options-7>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Citadel Securities LLC (CDRG):

Firm not charged. Citadel Securities LLC's recent reports pursuant to SEC Rule 606(a) are available at: <https://www.citadelsecurities.com/rule-605-606-statements/>

Dash Financial Technologies LLC (DFIN):

Firm not charged for orders routed by the Wealth Management or Corporate and Investment Bank division and cleared by Dash Financial Technologies LLC. However, Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Corporate and Investment Bank and cleared by the Firm following execution, Firm is charged \$.05/contract for 0-500,000 contracts, \$.04/contract for 500,001-1 million contracts, and \$.03/contract for greater than 1 million contracts. Firm qualified for the \$.03/contract discounted tier. Dash Financial Technologies LLC's most recent report pursuant to SEC Rule 606(a) is available at: <http://dash-website-static.s3-website-us-east-1.amazonaws.com/static/606.html>

GLOBAL EXECUTION BROKERS, LP (GEBB):

Firm not charged.

Wolverine Execution Services, LLC (WEXX):

Firm not charged. Wolverine Execution Services, LLC's recent reports pursuant to SEC Rule 606(a) are available at: <https://www.tradewex.com/Home/Rule606>.

Cboe Exchange, Inc. (CBOE):

Firm did not qualify for tiered pricing with respect to customer order flow. Firm received marketing fees from preferred market makers pursuant to marketing fee program sponsored by exchange. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://cdn.cboe.com/resources/membership/Cboe_FeeSchedule.pdf. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Nasdaq Options Market (XNDQ):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://listingcenter.nasdaq.com/rulebook/nasdaq/rules/nasdaq-options-7>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

BOX OPTIONS EXCHANGE (XBOX):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://boxexchange.com/assets/BOX-Fee-Schedule-as-of-July-3-2023.pdf>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

NYSE Arca Options (ARCO):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://www.nyse.com/markets/arca-options/trading-info#fees>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe BZX Exchange, Inc. (BATO):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://markets.cboe.com/us/options/membership/fee_schedule/bzx/. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.