

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

Generated on Fri Dec 01 2023 16:43:06 GMT-0500 (Eastern Standard Time)

1st Quarter, 2020

January 2020

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	69.47	4.05	16.56	9.92

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)	38.25	51.34	32.36	2.53	8.52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	32.92	35.58	33.14	20.80	34.48	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	6.38	0.10	7.85	22.76	22.46	-5.7102	-12.5997	220.1580	17.0147	2,654.5860	28.9523	76.1445	1.4076
Two Sigma Securities, LLC (SOHO)	6.25	8.54	6.00	0.42	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.83	0.07	5.05	13.23	34.15	-29.9829	-12.7305	3.6472	0.3441	1,144.5177	19.3793	-689.5500	-6.0568
UBS Securities LLC (UBSS)	3.19	4.29	3.18	0.31	0.31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGX Exchange, Inc. (EDGX)	2.79	0.04	4.95	15.43	0.01	-1.8550	-26.5000	-37.0173	-3.3057	906.4452	18.1878	-0.9143	-26.5014
NYSE Arca, Inc. (ARCA)	2.19	0.00	3.75	12.31	0.07	0.0000	0.0000	-83.3109	-6.6652	1,092.1958	26.6050	-0.3466	-2.7907
Cboe BZX Exchange, Inc. (BATS)	1.67	0.04	2.91	9.19	0.00	-1.8000	-30.0000	68.5351	13.6483	1,421.8790	28.8743	0.0000	0.0000
Nasdaq PHILX LLC (NQPX)	0.53	0.00	0.81	3.02	0.00	0.0000	0.0000	2.5565	8.2628	138.2940	19.4926	0.0000	0.0000

Material Aspects:

Citadel Securities LLC (CDRG):
Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Virtu Americas LLC (NITE):
Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

The Nasdaq Stock Market (NSDQ):
Firm qualified for Providing Tier 2 (a rebate of \$0.0020 per share for adding over 0.60% of the total consolidated volume and removing over 0.80% of the total consolidated volume (\$0.0029 per share for adding displayed liquidity), (2) the rebate for achieving QMM Tier 1 incentive (an incremental rebate of \$0.0001 per share), (3) Closing Cross Tier A (a fee of \$0.0008 per share for orders participating in the Closing Cross), and (4) the 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.

Two Sigma Securities, LLC (SOHO):
Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

New York Stock Exchange LLC (NYSE):
Firm qualified for Providing Tier 1 (a rebate of \$0.0020 per share for adding displayed liquidity in Tape A securities), MOC/LOC Tier 1 (a fee of \$0.0004 per share for Market-on-Close orders and a fee of \$0.0007 per share for Limit-on-Close orders), NYSE dQuote 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-Quotes last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 1 for Tape A securities (a fee of \$0.00275 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 \$30,000 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.

UBS Securities LLC (UBSS):
Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Cboe EDGX Exchange, Inc. (EDGX):
The Firm qualified for Growth Tier 1 (an incremental rebate of \$0.0003 per share for (1) adding an ADV of at least 0.10% of the total consolidated volume; or (2) achieving a Step-Up Add total consolidated volume of at least 0.05% from March 2019). 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://www.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.

NYSE Arca, Inc. (ARCA):
The Firm qualified for Tier 2A (a rebate of \$0.0031 for adding displayed in Tape A and Tape C securities and \$0.0024 for adding displayed in Tape B securities). 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://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):
The Firm qualified for Step-Up Tier 1 (an incremental rebate of \$0.0010 per share for displayed orders in Tapes A and C securities and .0005 per share for displayed orders in Tape B securities for achieving a Step-Up Add total consolidated volume of at least 0.05% from April 2019).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://www.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.

Nasdaq PHLX LLC (NQPX):
Firm qualified for the charge applicable when accessing .01% or more of the total consolidated volume and adding 5,000 shares or more (a fee of \$0.0025 per share). 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://listingcenter.nasdaq.com/rulebook/phlx/rules/phlx-equity-7> Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

January 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	56.21	6.90	23.00	13.89

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)	29.58	32.19	29.25	19.41	35.76	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Citadel Securities LLC (CDRG)	29.29	45.51	27.65	1.70	10.33	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	10.72	0.43	7.15	30.99	20.68	-110.6019	-15.2070	1,187.2586	14.9744	20,566.2219	22.2543	350.0132	1.2311
Two Sigma Securities, LLC (SOHO)	9.00	14.10	13.36	0.67	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.27	0.08	3.38	12.88	14.63	-172.1227	-12.9534	478.0565	8.3958	10,345.7748	17.8015	-618.1766	-2.2381
NYSE Arca, Inc. (ARCA)	5.27	0.02	5.77	12.26	14.67	-18.0565	-29.0999	-833.5545	-15.3514	4,576.4444	24.5667	-1,291.2916	-12.2694
UBS Securities LLC (UBSS)	4.53	7.03	6.45	0.43	0.23	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGX Exchange, Inc. (EDGX)	3.22	0.32	4.33	11.89	0.03	-34.8740	-26.5000	86.3082	1.8700	4,276.1780	15.2158	-29.2986	-26.5002
Cboe BZX Exchange, Inc. (BATS)	2.52	0.31	2.34	7.90	2.64	-35.5080	-30.0000	105.5403	6.0810	3,843.8618	24.5133	-202.1975	-4.6080
NYSE American (AMEX)	0.60	0.01	0.32	1.87	1.03	-3.2693	-5.1615	-0.6160	-0.1043	-13.6222	-0.1021	-132.3332	-4.5882

Material Aspects:

Virtu Americas LLC (NITE):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional 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 (\$0.0029 per share for adding displayed liquidity), (2) the rebate for achieving QMM Tier 1 incentive (an incremental rebate of \$0.0001 per share), (3) Closing Cross Tier A (a fee of \$0.0008 per share for orders participating in the Closing Cross), and (4) the 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.

Two Sigma Securities, LLC (SOHO):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

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 \$0.0004 per share for Market-on-Close orders and a fee of \$0.0007 per share for Limit-On-Close orders), NYSE dQuote 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-Quotes last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 1 for Tape A securities (a fee of \$0.00275 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 \$30,000 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):
The Firm qualified for Tier 2A (a rebate of \$0.0031 for adding displayed in Tape A and Tape C securities and \$0.0024 for adding displayed in Tape B securities). 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://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.

UBS Securities LLC (UBSS):
Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Cboe EDGX Exchange, Inc. (EDGX):
The Firm qualified for Growth Tier 1 (an incremental rebate of \$0.0003 per share for (1) adding an ADV of at least 0.10% of the total consolidated volume; or (2) achieving a Step-Up Add total consolidated volume of at least 0.05% from March 2019). 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.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):
The Firm qualified for Step-Up Tier 1 (an incremental rebate of \$0.0010 per share for displayed orders in Tapes A and C securities and .0005 per share for displayed orders in Tape B securities for achieving a Step-Up Add total consolidated volume of at least 0.05% from April 2019). 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://www.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.

NYSE American (AMEX):
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/publicdocs/nyse/markets/nyse-american/NYSE_America_Equities_Price_List.pdf. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

January 2020

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
31.91	7.27	12.27	28.97	51.49

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 (PHLX)	20.77	0.00	0.68	1.20	39.48	0.0000	0.0000	13.2000	25.3846	45.9500	24.8378	77,168.0500	31.8693
Citadel Securities LLC (CDRG)	20.61	33.18	35.43	36.21	6.56	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Matrix Executions, LLC (REDG)	15.97	33.36	31.59	29.44	2.21	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-907.3200	-3.9006
Dash Financial Technologies LLC (DFIN)	15.81	33.46	31.99	29.32	1.86	-588.6000	-5.0000	-1,400.8000	-5.0000	-1,758.4500	-5.0000	-905.1500	-10.0000
Cboe Exchange, Inc. (CBOE)	6.43	0.00	0.18	3.35	10.55	0.0000	0.0000	-3.0800	-6.8444	-162.1800	-16.3653	-11,604.0600	-14.2904
Nasdaq Options Market (XNAS)	5.95	0.00	0.05	0.12	11.48	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-7,852.2000	-16.5289
Cboe BZX Exchange, Inc. (BATO)	5.38	0.00	0.02	0.09	10.39	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-22,906.3500	-49.8908

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 (ARCO)	3.82	0.00	0.02	0.09	7.36	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4,395.4100	8.5853
Nasdaq ISE, LLC (XISX)	2.79	0.00	0.02	0.09	5.36	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-19,371.1900	-22.8243
Cboe C2 Exchange, Inc. (C2OX)	2.47	0.00	0.02	0.09	4.75	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-21,154.4400	-45.3783

Material Aspects:

Nasdaq PHLX LLC (PHLX):

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/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/>

Matrix Executions, LLC (REDG):

Firm not charged for orders routed by the Asset and Wealth Management division or Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms. Matrix Executions, LLC's recent reports pursuant to SEC Rule 606(a) are available at: <https://www.matrixexecutions.com/rule-606>

Dash Financial Technologies LLC (DFIN):

Firm not charged for orders routed by the Asset and Wealth Management division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms and for orders routed by the Corporate and Investment Bank. 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 did not qualify for a discounted tier. Dash Financial Technologies LLC's most recent report pursuant to SEC Rule 606(a) is available at: <https://www.dashfinancial.com/>

Cboe Exchange, Inc. (CBOE):

Firm did not qualify for tiered pricing with respect to customer order flow. 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 (XNAS):

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.

Cboe BZX Exchange, Inc. (BATO):

The Firm qualified for Step-Up Tier 1. 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.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.

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/publicdocs/nyse/markets/arca-options/NYSE_Arca_Options_Fee_Schedule. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Nasdaq ISE, LLC (XISX):

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/ise/rules/ise-options-7>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe C2 Exchange, Inc. (C2OX):

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

February 2020

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	67.23	4.26	18.05	10.46

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)	33.24	45.78	29.26	1.98	8.10	-9.7400	-0.0093	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	23.55	21.71	26.74	22.97	35.18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBS Securities LLC (UBSS)	10.12	14.23	9.48	0.71	0.20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Jane Street Capital, LLC (JNST)	8.18	11.55	7.85	0.44	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	7.16	0.01	7.46	22.33	26.84	-1.4730	-14.5697	363.9510	18.9517	3,954.5910	28.7212	12.3945	0.1321
New York Stock Exchange LLC (NYSE)	5.64	0.11	4.73	12.58	29.64	-126.6815	-10.7045	112.2685	10.6169	1,791.6765	19.0816	-1,077.4940	-6.4371
Two Sigma Securities, LLC (SOHO)	4.69	6.61	4.56	0.31	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Arca, Inc. (ARCA)	2.83	0.00	3.93	14.70	0.04	0.0000	0.0000	-6.3360	-0.5121	2,006.2511	29.7885	1.6015	13.7586
Cboe EDGX Exchange, Inc. (EDGX)	2.79	0.00	3.36	14.63	0.00	0.0000	0.0000	77.6675	13.0582	1,220.4675	18.9643	-0.6785	-26.5039
Cboe BZX Exchange, Inc. (BATS)	1.80	0.00	2.63	9.35	0.00	0.0000	0.0000	142.0480	17.1794	2,011.0687	28.8409	-0.0500	-5.0000

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Virtu Americas LLC (NITE):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

UBS Securities LLC (UBSS):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Jane Street Capital, LLC (JNST):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

The Nasdaq Stock Market (NSDQ):

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 \$0.0004 per share for Market-on-Close orders and a fee of \$0.0007 per share for Limit-on-Close orders), NYSE dQuote 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-Quotes last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 1 for Tape A securities (a fee of \$0.00275 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 \$30,000 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.

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

The Firm qualified for Tier 2A (a rebate of \$0.0031 for adding displayed in Tape A and Tape C securities and \$0.0024 for adding displayed in Tape B securities). 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://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.

The Firm qualified for Growth Tier 1 (an incremental rebate of \$0.0003 per share for (1) adding an ADV of at least 0.10% of the total consolidated volume; or (2) achieving a Step-Up Add total consolidated volume of at least 0.05% from March 2019). 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://www.cboe.com/us/equities/membership/fee_schedule/edax. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

The Firm qualified for Step-Up Tier 1 (an incremental rebate of \$0.0010 per share for displayed orders in Tapes A and C securities and .0005 per share for displayed orders in Tape B securities for achieving a Step-Up Add total consolidated volume of at least 0.05% from April 2019). 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://www.cboe.com/us/equities/membership/fees_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

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	57.02	6.81	23.21	12.96

[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)	7.14	11.46	7.64	0.39	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Two Sigma Securities, LLC (SOHO)	6.38	9.91	9.34	0.41	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	6.02	0.70	4.05	13.99	16.14	-480.5480	-11.8012	581.1800	7.6029	11,515.0641	17.4664	-1,521.3058	-4.3745
NYSE Arca, Inc. (ARCA)	5.26	0.58	5.63	12.72	12.25	-50.6764	-29.5076	-633.6647	-10.9677	5,883.8379	24.9855	-1,806.8020	-11.9604
Cboe EDGX Exchange, Inc. (EDGX)	3.79	0.56	5.93	13.18	0.02	-11.6600	-26.5000	-677.9065	-12.3308	4,228.9838	16.1753	-14.7107	-26.5010
Cboe BZX Exchange, Inc. (BATS)	2.85	0.59	3.08	8.73	2.18	-76.6380	-30.0000	-127.1239	-4.6302	4,524.0510	26.1244	-293.2865	-4.8640

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Virtu Americas LLC (NITE):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional 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 (\$0.029 per share for adding displayed liquidity), (2) the rebate for achieving QMM Tier 1 (an incremental rebate of \$0.0001 per share), (3) Closing Cross Tier B (a fee of \$0.011 per share for orders participating in the Closing Cross), and (4) the 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>

UBS Securities LLC (UBSS):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Jane Street Capital, LLC (JNST):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Two Sigma Securities, LLC (SOHO):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

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 \$0.0004 per share for Market-on-Close orders and a fee of \$0.0007 per share for Limit-on-Close orders), NYSE dQuote 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-Quotes last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 1 for Tape A securities (a fee of \$0.00275 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 \$30,000 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):

The Firm qualified for Tier 2A (a rebate of \$0.0031 for adding displayed Tape A and Tape C securities and \$0.0024 for adding displayed Tape B securities). 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://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):

The Firm qualified for Growth Tier 1 (an incremental rebate of \$0.0003 per share for (1) adding an ADV of at least 0.10% of the total consolidated volume; or (2) achieving a Step-Up Add total consolidated volume of at least 0.05% from March 2019). 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://www.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):

The Firm qualified for Step-Up Tier 1 (an incremental rebate of \$0.0010 per share for displayed orders in Tapes A and C securities and .0005 per share for displayed orders in Tape B securities for achieving a Step-Up Add total consolidated volume of at least 0.05% from April 2019). 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://www.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.

February 2020

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
42.24	7.92	13.38	30.46	48.24

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 (PHLX)	20.72	0.00	0.80	0.85	42.10	0.0000	0.0000	75.8700	25.0396	137.6200	25.6754	84,517.4200	29.6863
Citadel Securities LLC (CDRG)	18.35	25.62	29.98	30.83	6.08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Dash Financial Technologies LLC (DFIN)	12.80	25.12	23.92	22.27	1.72	-620.9500	-5.0000	-1,388.0500	-5.0000	-1,761.2500	-5.0000	-1,548.6500	-10.0000
Matrix Executions, LLC (REDG)	12.73	25.01	23.42	22.28	1.72	0.0000	0.0000	-13.4400	-0.0542	-0.0400	-0.0001	-882.6400	-3.7158
Global Execution Brokers, LP (GEBB)	11.56	24.25	21.21	20.85	0.94	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe Exchange, Inc. (CBOE)	7.46	0.00	0.17	2.86	13.61	0.0000	0.0000	-9.9000	-9.8020	-282.2900	-15.9126	-42,273.5200	-28.2143
Nasdaq Options Market (XNAS)	5.50	0.00	0.11	0.02	11.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-403.9200	-99.0000
Cboe BZX Exchange, Inc. (BATO)	4.49	0.00	0.21	0.02	9.25	0.0000	0.0000	-14.0000	-50.0000	-17.0000	-50.0000	-29,246.7000	-50.9542
NYSE Arca Options (ARCO)	3.87	0.00	0.18	0.02	7.97	0.0000	0.0000	-2.4500	-49.0000	-2.4500	-49.0000	7,464.0700	11.3908
Citigroup Global Markets (CGMI)	2.52	0.00	0.00	0.00	5.24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-5,774.1000	-11.1635

Material Aspects:

Nasdaq PHLX LLC (PHLX):

[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)
UBS Securities LLC (UBSS)	12.19	18.81	10.52	1.12	0.51	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Jane Street Capital, LLC (JNST)	10.16	15.90	8.82	0.59	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	7.86	0.61	7.92	14.30	32.52	-127.6290	-1.2911	1,176.7113	14.5736	8,770.5397	20.4998	1,352.0775	2.3219
The Nasdaq Stock Market (NSDQ)	7.29	0.25	9.31	19.33	19.04	-168.5100	-9.6030	1,636.1050	20.3787	12,437.0310	28.0702	-102.9725	-0.4855
Two Sigma Securities, LLC (SOHO)	4.38	6.81	4.38	0.29	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Arca, Inc. (ARCA)	3.84	0.00	5.57	15.45	0.02	0.0000	0.0000	723.4826	18.6080	7,438.2847	27.8195	2.8110	11.0495
Cboe EDGX Exchange, Inc. (EDGX)	2.94	0.00	4.41	11.81	0.00	0.0000	0.0000	188.4458	6.7089	3,683.4797	18.3123	-1.4526	-27.0000
Cboe BZX Exchange, Inc. (BATS)	2.66	0.00	4.07	10.68	0.00	-6.8090	-18.8458	616.4897	17.6901	8,072.4446	28.0524	-1.3775	-5.0000

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Virtu Americas LLC (NITE):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

UBS Securities LLC (UBSS):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Jane Street Capital, LLC (JNST):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 1 (a rebate of \$0.0022 per share for adding displayed liquidity in Tape A securities), Provide Tape C Tier 2 (a rebate of \$0.0023 per share for adding displayed liquidity in Tape C securities) , MOC/LOC Tier 1 (a fee of \$0.0004 per share for Market-on Close orders and a fee of \$0.0007 per share for Limit-on-Close orders), NYSE dQuote 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-Quotes last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 1 for Tape A securities (a fee of \$0.00275 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 \$30,000 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.

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 (\$0.0029 per share for adding displayed liquidity), (2) the rebate for achieving QMM Tier 1 incentive (an incremental rebate of \$0.0001 per share), (3) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (4) the cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders, and (5) the rebate provided for adding over .03% of the total consolidated volume of non-displayed liquidity for Tapes A/B (\$0.0010 per share for non-displayed adding liquidity) and Tape C (\$0.0005 per share for non-displayed adding 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: <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.

Two Sigma Securities, LLC (SOHO):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

NYSE Arca, Inc. (ARCA):
The Firm qualified for Tier 2 for Tape A and C securities (rebate of \$0.0029 per share for adding displayed liquidity), and Tape B Tier 2 (an incremental rebate of \$0.0010 per share for adding 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):
The Firm qualified for Growth Tier 1 (an incremental rebate of \$0.0003 per share for (1) adding an ADV of at least 0.10% of the total consolidated volume; or (2) achieving a Step-Up Add total consolidated volume of at least 0.05% from March 2019) and the reduced internalization fees applicable when adding an ADV of at least 10,000,000 shares (a reduced fee of \$0.00040 per share). 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.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):
The Firm qualified for Step-Up Tier 1 (an incremental rebate of \$0.0010 per share for displayed orders in Tapes A and C securities and .0005 per share for displayed orders in Tape B securities for achieving a Step-Up Add total consolidated volume of at least 0.05% from April 2019). 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://www.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.

March 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	56.10	5.96	25.21	12.73

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)
Citadel Securities LLC (CDRG)	26.58	39.14	23.73	5.14	14.93	-1.2945	-0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	18.42	14.77	19.27	18.33	34.29	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBS Securities LLC (UBSS)	11.89	19.23	12.21	1.17	0.59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	10.21	0.41	8.72	27.70	19.62	-1,131.9938	-10.6515	4,358.8418	16.0859	46,398.1366	20.7047	7.6212	0.0113
Jane Street Capital, LLC (JNST)	9.71	15.96	10.21	0.58	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Two Sigma Securities, LLC (SOHO)	6.24	10.02	8.56	0.43	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	6.02	0.44	5.10	14.03	15.15	-112.0196	-0.7674	1,920.5542	11.7920	22,826.5964	18.7816	1,463.3458	2.1891

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, Inc. (ARCA)	5.68	0.01	5.24	14.84	12.72	-42.7801	-27.1706	1,651.7658	15.8123	15,786.2343	24.9218	-3,732.5352	-10.4912
Cboe BZX Exchange, Inc. (BATS)	2.70	0.02	3.41	8.48	2.70	-31.1695	-6.1796	815.4495	12.4549	12,206.8534	25.5414	-432.0180	-4.3070
Cboe EDGX Exchange, Inc. (EDGX)	2.55	0.00	3.55	9.30	0.00	0.0000	0.0000	467.1139	7.6133	7,554.2156	15.4389	-6.6717	-27.0000

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Virtu Americas LLC (NITE):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

UBS Securities LLC (UBSS):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional 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 (\$0.0029 per share for adding displayed liquidity), (2) the rebate for achieving QMM Tier 1 incentive (an incremental rebate of \$0.0001 per share), (3) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (4) the cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders, and (5) the rebate provided for adding over .03% of the total consolidated volume of non-displayed liquidity for Tapes A/B (\$0.0010 per share for non-displayed adding liquidity) and Tape C (\$0.0005 per share for non-displayed adding 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: <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.

Jane Street Capital, LLC (JNST):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

Two Sigma Securities, LLC (SOHO):

Firm not charged for orders routed by the Asset and Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms.

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 1 (a rebate of \$0.0022 per share for adding displayed liquidity in Tape A securities), Provide Tape C Tier 2 (a rebate of \$0.0023 per share for adding displayed liquidity in Tape C securities) , MOC/LOC Tier 1 (a fee of \$0.0004 per share for Market-on-Close orders and a fee of \$0.0007 per share for Limit-on-Close orders), NYSE dQuote 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-Quotes last modified in the last 3 minutes before the scheduled close of trading), Remove Tier 1 for Tape A securities (a fee of \$0.00275 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 \$30,000 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):

The Firm qualified for Tier 2 for Tape A and C securities (rebate of \$0.0029 per share for adding displayed liquidity), and Tape B Tier 2 (an incremental rebate of \$0.0010 per share for adding 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):

The Firm qualified for Step-Up Tier 1 (an incremental rebate of \$0.0010 per share for displayed orders in Tapes A and C securities and .0005 per share for displayed orders in Tape B securities for achieving a Step-Up Add total consolidated volume of at least 0.05% from April 2019). 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.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):

The Firm qualified for Growth Tier 1 (an incremental rebate of \$0.0003 per share for (1) adding an ADV of at least 0.10% of the total consolidated volume; or (2) achieving a Step-Up Add total consolidated volume of at least 0.05% from March 2019) and the reduced internalization fees applicable when adding an ADV of at least 10,000,000 shares (a reduced fee of \$0.00040 per share). 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.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.

March 2020

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
75.30	6.79	16.93	42.91	33.38

Venues

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
Citadel Securities LLC (CDRG)	22.19	25.52	29.36	30.25	7.44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Global Execution Brokers, LP (GEBB)	16.39	24.40	23.69	23.31	2.16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Matrix Executions, LLC (REDG)	15.74	25.05	22.78	21.61	2.72	-0.4000	-0.0022	0.0000	0.0000	0.0000	0.0000	-1,966.5600	-3.7519
Dash Financial Technologies LLC (DFIN)	15.55	25.03	22.82	21.64	2.12	-904.4500	-5.0000	-1,981.7500	-5.0000	-3,512.5000	-5.0000	-361.2000	-10.0000
Nasdaq PHLX LLC (PHLX)	12.54	0.00	0.68	1.36	35.53	0.0000	0.0000	147.7200	23.0813	360.4000	24.9757	97,687.1300	25.5339
Cboe Exchange, Inc. (CBOE)	6.14	0.00	0.18	1.62	16.23	0.0000	0.0000	22.2200	17.4961	644.9700	35.8118	36,301.9100	19.0367
Citigroup Global Markets (CGMI)	5.01	0.00	0.00	0.00	15.02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-11,758.9000	-13.1640
Nasdaq Options Market (XNAS)	2.67	0.00	0.16	0.06	7.84	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-286.1100	-99.0000
NYSE Arca Options (PXSD)	2.04	0.00	0.15	0.07	5.95	0.0000	0.0000	-6.3700	-49.0000	-0.4900	-49.0000	22,675.2900	23.6260
Cboe BZX Exchange, Inc. (BATO)	1.73	0.00	0.18	0.08	4.99	0.0000	0.0000	-40.0000	-50.0000	-64.0000	-50.0000	-17,652.8000	-42.2791

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/>

Global Execution Brokers, LP (GEBB):

Firm not charged.

Matrix Executions, LLC (REDG):

Firm not charged for orders routed by the Asset and Wealth Management division or Corporate and Investment Bank division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms. Matrix Executions, LLC's recent reports pursuant to SEC Rule 606(a) are available at: <https://www.matrixexecutions.com/rule-606>

Dash Financial Technologies LLC (DFIN):

Firm not charged for orders routed by the Asset and Wealth Management division, except as noted below. Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable, for orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the broker's algorithms and for orders routed by the Corporate and Investment Bank. 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 did not qualify for a discounted tier. Dash Financial Technologies LLC's most recent report pursuant to SEC Rule 606(a) is available at: <https://www.dashfinancial.com/>

Nasdaq PHLX LLC (PHLX):

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/phlx/rules/phlx-options-7>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Cboe Exchange, Inc. (CBOE):

Firm did not qualify for tiered pricing with respect to customer order flow. 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.

Citigroup Global Markets (CGMI):

Firm not charged commission except for orders in products that typically execute in the open outcry auction (e.g., SPX, OEX, DJX) or during VIX Extended Trading Hours. Firm charged applicable exchange fees. Firm qualified for rebate applicable when volume is 5,000 contracts/month or more, except for contracts that received price improvement, with higher rebate paid for option classes that do not participate in the Penny Pilot Program than for option classes that participate in the Penny Pilot Program. Citigroup Global Markets Inc.'s recent reports pursuant to SEC Rule 606(a) are available at: <http://public.s3.com/rule606/citi>

Nasdaq Options Market (XNAS):

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.

NYSE Arca Options (PXSD):

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/publicdocs/nyse/markets/arca-options/NYSE_Arca_Options_Fee_Schedule. 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://www.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.