

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

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4th Quarter, 2020

October 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	60.41	5.41	26.93	7.24

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)
Jane Street Capital, LLC (JNST)	27.21	41.79	26.42	1.88	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Citadel Securities LLC (CDRG)	22.37	29.55	22.74	7.80	16.44	-6.6420	-0.0051	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	11.91	0.00	10.31	36.00	22.99	-0.2640	-30.0000	736.0995	21.6572	10,268.6624	28.5477	377.9531	4.6895
Virtu Americas LLC (NITE)	8.95	9.00	9.50	6.81	16.04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBS Securities LLC (UBSS)	8.74	8.69	9.19	6.76	16.21	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Two Sigma Securities, LLC (SOHO)	7.14	10.92	7.56	0.52	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.54	0.05	4.05	12.04	28.27	-21.3766	-5.2309	356.8808	11.6980	5,974.8451	17.3908	691.5478	3.2942
Cboe EDGX Exchange, Inc. (EDGX)	3.88	0.00	5.03	13.42	0.00	0.0000	0.0000	204.7164	8.7060	2,880.5920	14.6562	-0.7128	-27.0000
NYSE Arca, Inc. (ARCA)	2.26	0.00	2.87	7.79	0.05	0.0000	0.0000	-298.3780	-13.7124	1,615.5714	22.6406	1.2360	6.7065
Cboe BZX Exchange, Inc. (BATS)	2.00	0.00	2.33	6.98	0.00	0.0000	0.0000	130.9391	16.3674	2,233.6012	26.3121	-0.0140	-10.7692

Material Aspects:

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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (3) the rebate provided for executing ADV of at least 1 million shares through midpoint and Midpoint Extended Life Orders and increasing the volume of such orders by 10% or more versus the volume of such orders in April 2019 (\$0.0019 per share for Tape A/B securities and \$0.0013 per share for Tape C securities for adding midpoint liquidity), (4) 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, and (5) 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.

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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers algorithms.

New York Stock Exchange LLC (NYSE):
Firm qualified for Providing Tier 3 (a rebate of \$0.0018 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 d-Quote 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 \$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.

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.

NYSE Arca, Inc. (ARCA):
Firm qualified for Tier 3 (a rebate of \$0.0025 for adding displayed liquidity in Tape A and Tape C securities and \$0.0022 for adding displayed liquidity 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):
Firm qualified for Add/Remove Volume Tier 2 for having average daily added volume as a percentage of total consolidated volume of at least 0.10% (an incremental rebate of \$0.0007 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 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	51.95	7.58	31.97	8.50

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)	24.13	41.32	27.90	1.64	0.03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Citadel Securities LLC (CDRG)	20.62	29.13	22.10	7.28	17.46	-16.6295	-0.0033	-2.1445	-0.0011	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	14.59	0.05	9.56	37.20	23.15	-263.4242	-12.5533	4,284.9786	15.8929	44,438.4251	23.5544	801.4489	2.0047
Virtu Americas LLC (NITE)	8.68	8.52	8.96	6.44	17.82	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBS Securities LLC (UBSS)	8.17	7.90	7.52	6.34	17.28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Two Sigma Securities, LLC (SOHO)	7.70	13.00	10.19	0.55	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	6.27	0.07	4.09	14.26	16.11	-110.4652	-5.9766	807.4938	6.7260	14,562.8808	15.6760	1,145.9379	3.7308
NYSE Arca, Inc. (ARCA)	4.05	0.01	3.45	10.06	6.65	-24.2136	-29.1309	-196.1301	-3.0324	5,154.0396	21.6625	-1,403.8309	-13.0396
Cboe EDGX Exchange, Inc. (EDGX)	3.97	0.00	4.29	11.40	0.02	0.0000	0.0000	85.0741	1.1879	4,799.0284	13.7144	-8.5995	-27.0000
Cboe BZX Exchange, Inc. (BATS)	1.82	0.00	1.94	4.83	1.48	-2.7000	-30.0000	-132.8733	-4.6611	2,911.8863	24.1471	-258.8447	-4.8603

Material Aspects:

Jane Street Capital, LLC (JNST):

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New York Stock Exchange LLC (NYSE):
Firm qualified for Providing Tier 3 (a rebate of \$0.0018 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 \$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 3 (a rebate of \$0.0025 for adding displayed liquidity in Tape A and Tape C securities and \$0.0022 for adding displayed liquidity 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 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 2 for having average daily added volume as a percentage of total consolidated volume of at least 0.10% (an incremental rebate of \$0.0007 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 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
78.47	8.88	20.24	48.54	22.35

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)	28.33	33.38	34.11	34.78	6.99	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Global Execution Brokers, LP (GEBB)	27.78	33.27	34.19	34.61	4.98	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Matrix Executions, LLC (RSKY)	24.92	33.35	31.67	30.37	3.61	0.0000	0.0000	-1.0000	-0.0008	0.0000	0.0000	-1,267.0400	-3.2821
Nasdaq PHLX LLC (PHLX)	5.53	0.00	0.01	0.14	24.49	0.0000	0.0000	16.1800	36.7727	219.5950	30.1228	52,508.1400	28.1264
Citigroup Global Markets Inc. (SBSH)	2.77	0.00	0.00	0.00	12.41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-10,759.5000	-10.9361
Dash Financial Technologies LLC (DFIN)	2.76	0.00	0.00	0.00	12.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-47,168.4900	-3.6375

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
Cboe Exchange, Inc. (CBOE)	2.31	0.00	0.00	0.00	10.33	0.0000	0.0000	46.9975	33.3316	0.0000	0.0000	25,380.7300	12.5218
Nasdaq PHLX LLC (XPHO)	2.21	0.00	0.02	0.10	9.63	0.0000	0.0000	21.1650	57.2027	256.7750	39.2023	27,069.4650	31.2360
Cboe BZX Exchange, Inc. (BATO)	1.78	0.00	0.00	0.00	7.98	0.0000	0.0000	-26.5000	-50.0000	0.0000	0.0000	-46,573.3000	-50.4182
NYSE Arca Options (ARCO)	1.61	0.00	0.00	0.00	7.21	0.0000	0.0000	-4.9550	-49.5500	0.0000	0.0000	23,685.4970	23.1319

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged, Citadel Securities LLCs 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 (RSKY):

Firm not charged for orders routed by the Asset and Wealth Management division or Corporate and Investment Bank division, except as noted below. Matrix Executions, LLCs recent reports pursuant to SEC Rule 606(a) are available at: <https://www.matrixexecutions.com/rule-606>

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.

Citigroup Global Markets Inc. (SBSH):

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/>

Dash Financial Technologies LLC (DFIN):

Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable. 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 LLCs 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>.

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 PHLX LLC (XPHO):

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 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.

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.pdf. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

November 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	60.92	5.23	25.40	8.44

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)	28.91	39.22	28.28	8.62	15.54	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Jane Street Capital, LLC (JNST)	24.93	38.14	23.33	1.87	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	11.00	0.00	10.09	34.48	20.36	-0.5680	-10.7985	1,063.4484	24.2194	9,625.2944	28.3373	255.6191	2.3772
UBS Securities LLC (UBSS)	9.86	10.13	10.13	7.14	15.93	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	9.41	9.68	9.86	6.83	14.99	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	6.59	0.19	4.88	13.52	33.10	-147.7627	-5.6525	589.5507	14.2017	5,886.4213	17.5765	611.1864	1.8706
Cboe EDGX Exchange, Inc. (EDGX)	3.38	0.00	5.32	12.21	0.01	0.0000	0.0000	169.2254	6.4189	2,556.2622	15.0128	-4.5576	-27.0000
NYSE Arca, Inc. (ARCA)	2.29	0.00	3.23	8.34	0.07	0.0000	0.0000	-487.6895	-14.8523	1,806.6230	23.8426	-23.9405	-26.2333
Cboe BZX Exchange, Inc. (BATS)	1.87	0.00	2.71	6.82	0.00	0.0000	0.0000	183.7155	19.3723	2,019.5050	25.9067	-0.0155	-5.0000
Two Sigma Securities, LLC (SOHO)	1.76	2.64	2.17	0.17	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (3) the rebate provided for executing ADV of at least 1 million shares through midpoint and Midpoint Extended Life Orders and increasing the volume of such orders by 10% or more versus the volume of such orders in April 2019 (\$0.0019 per share for Tape A/B securities and \$0.0013 per share for Tape C securities for adding midpoint liquidity), (4) 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, and (5) 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.

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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers algorithms.

New York Stock Exchange LLC (NYSE):
Firm qualified for Providing Tier 3 (a rebate of \$0.0018 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), Adding Tier 2 for Tape C securities (a rebate of \$0.0023 per share for adding displayed liquidity in Tape C securities), 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 \$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.

Cboe EDGX Exchange, Inc. (EDGX):
Firm subject to reduced internalization fees for adding and removing displayed liquidity (a reduced fee of \$0.00040 on internalization). 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/edgx/. 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 3 (a rebate of \$0.0025 for adding displayed liquidity in Tape A and Tape C securities and \$0.0022 for adding displayed liquidity 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):
Firm qualified for Add/Remove Volume Tier 2 for having average daily added volume as a percentage of total consolidated volume of at least 0.10% (an incremental rebate of \$0.0007 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.

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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers algorithms.

November 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	51.18	7.54	31.79	9.49

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)
Citadel Securities LLC (CDRG)	25.88	38.34	27.15	7.84	17.95	-18.3035	-0.0024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Jane Street Capital, LLC (JNST)	21.37	37.22	24.08	1.60	0.02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	14.60	0.03	10.37	36.40	23.68	-147.4003	-14.0706	7,160.7854	20.6810	59,079.0697	23.5380	3,268.2108	5.1029

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)	9.71	10.16	9.75	6.56	17.75	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
VIRTU Americas LLC (NITE)	9.30	9.77	9.91	6.21	16.60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	6.77	0.24	5.10	14.56	17.20	-162.9736	-2.6262	1,692.7646	12.4928	19,911.7422	16.1155	1,639.4206	3.4397
Cboe EDGX Exchange, Inc. (EDGX)	4.18	0.00	4.55	12.06	0.02	0.0000	0.0000	544.3070	8.1012	6,480.6697	14.5302	-65.4426	-27.0000
NYSE Arca, Inc. (ARCA)	4.01	0.01	3.45	10.08	5.68	-5.5110	-29.0818	401.5404	7.2258	6,952.3498	22.4071	-1,983.3816	-12.5587
Two Sigma Securities, LLC (SOHO)	2.53	4.23	3.83	0.25	0.03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	1.65	0.00	1.81	4.44	1.07	-0.0600	-30.0000	191.6464	9.8131	3,473.1065	25.1085	-235.1366	-4.7482

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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (3) the rebate provided for executing ADV of at least 1 million shares through midpoint and Midpoint Extended Life Orders and increasing the volume of such orders by 10% or more versus the volume of such orders in April 2019 (\$0.0019 per share for Tape A/B securities and \$0.0013 per share for Tape C securities for adding midpoint liquidity), (4) 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, and (5) 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.

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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers algorithms.

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 3 (a rebate of \$0.0018 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), Adding Tier 2 for Tape C securities (a rebate of \$0.0023 per share for adding displayed liquidity in Tape C securities), 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 \$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.

Cboe EDGX Exchange, Inc. (EDGX):

Firm subject to reduced internalization fees for adding and removing displayed liquidity (a reduced fee of \$0.00040 on internalization). 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/edgx/. 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 3 (a rebate of \$0.0025 for Tape A and Tape C securities and \$0.0022 for Tape B securities 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://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 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers algorithms

Cboe BZX Exchange, Inc. (BATS):
Firm qualified for Add/Remove Volume Tier 2 for having average daily added volume as a percentage of total consolidated volume of at least 0.10% (an incremental rebate of \$0.0007 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 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
70.93	8.95	21.12	49.43	20.50

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)	29.27	33.41	34.48	35.02	8.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Global Execution Brokers, LP (GEBB)	28.74	33.38	34.81	35.18	5.04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Matrix Executions, LLC (RSKY)	24.99	33.21	30.55	29.72	4.28	0.0000	0.0000	-0.0400	0.0000	-0.2800	-0.0002	-1,769.3200	-3.5024
Nasdaq PHLX LLC (XPHO)	5.93	0.00	0.09	0.08	28.72	0.0000	0.0000	220.6050	18.5538	416.2200	31.1542	68,760.5050	23.1996
Dash Financial Technologies LLC (DFIN)	3.86	0.00	0.00	0.00	18.83	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-28,812.8500	-3.5418
Citigroup Global Markets Inc. (SBSH)	1.93	0.00	0.00	0.00	9.43	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-9,013.9000	-11.3918
Cboe Exchange, Inc. (CBOE)	1.56	0.00	0.00	0.00	7.62	0.0000	0.0000	9.8675	18.6179	5.3725	48.8409	32,372.7000	18.7411
Nasdaq Options Market (XNDQ)	1.45	0.00	0.04	0.00	7.04	0.0000	0.0000	-86.9820	-34.6542	0.9900	19.8000	-30,543.8860	-34.7769
NYSE Arca Options (ARCO)	1.24	0.00	0.01	0.00	6.04	0.0000	0.0000	4.8315	10.2798	-3.4750	-34.7500	17,091.4100	17.2799
Cboe BZX Exchange, Inc. (BATO)	1.03	0.00	0.02	0.00	5.00	0.0000	0.0000	-28.0000	-50.0000	-6.0000	-50.0000	-34,017.9000	-52.8885

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

Matrix Executions, LLC (RSKY):
Firm not chartered for orders routed by the Asset and Wealth Management division or Corporate and Investment Bank division, except as noted below. Matrix Executions, LLCs recent reports pursuant to SEC Rule 606(a) are available at: <https://www.matrixexecutions.com/rule-606>

Nasdaq PHLX LLC (XPHO):
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.

Dash Financial Technologies LLC (DFIN): Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable. 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 LLCs 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>

Citigroup Global Markets Inc. (SBSH):
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/>

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 (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.

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.pdf
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.

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	63.73	5.09	23.46	7.71

Venues

[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)	9.99	10.18	10.43	7.35	16.10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	9.73	10.00	9.93	7.12	15.33	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	9.36	0.00	9.16	31.95	18.42	-0.0690	-30.0000	937.6764	21.5362	8,164.7133	27.4283	252.8432	2.8397
New York Stock Exchange LLC (NYSE)	6.10	0.07	4.80	13.98	32.89	-22.9299	-3.8604	392.4497	10.5630	4,043.8965	17.5606	58.6678	0.2860
Cboe EDGX Exchange, Inc. (EDGX)	3.56	0.00	5.73	13.96	0.00	0.0000	0.0000	6.3473	0.1965	2,305.2099	15.0310	0.0000	0.0000
NYSE Arca, Inc. (ARCA)	2.11	0.00	2.99	8.38	0.00	0.0000	0.0000	-179.3215	-8.2482	1,708.3979	24.1785	-0.8100	-30.0000
Two Sigma Securities, LLC (SOHO)	1.90	2.63	2.37	0.31	0.47	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	1.54	0.00	2.39	6.05	0.00	0.0000	0.0000	141.1758	14.2333	1,344.4886	25.6455	-0.0120	-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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 (a rebate of \$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, and (4) 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.

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 3 (a rebate of \$0.0018 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 d-Quote 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), and 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). 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.

Cboe EDGX Exchange, Inc. (EDGX):

Firm subject to reduced internalization fees for adding and removing displayed liquidity (a reduced fee of \$0.00040 on internalization). 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/edgx/. 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 3 (a rebate of \$0.0025 for Tape A and Tape C securities and \$0.0022 for Tape B securities 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://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 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers algorithms.

Cboe BZX Exchange, Inc. (BATS):
Firm qualified for Add/Remove Volume Tier 2 for having average daily added volume as a percentage of total consolidated volume of at least 0.20% (an incremental rebate of \$0.0007 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.

December 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	51.22	7.91	31.47	9.39

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)	26.10	38.10	27.87	8.28	18.59	-2.2500	-0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Jane Street Capital, LLC (JNST)	21.40	37.08	22.76	1.81	0.30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	15.01	0.12	9.64	37.92	24.20	-450.6936	-12.4097	8,712.9245	17.8599	85,923.5123	22.3533	4,457.9434	4.7198
UBS Securities LLC (UBSS)	10.12	10.23	11.69	7.08	18.41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	9.86	10.16	11.87	6.65	17.28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.76	0.11	3.80	12.85	14.41	-177.1956	-5.1717	1,474.9253	11.3380	19,303.0045	16.9138	1,725.6768	3.9803
Cboe EDGX Exchange, Inc. (EDGX)	4.04	0.00	3.93	11.86	0.01	0.0000	0.0000	233.3880	2.8558	7,228.9786	14.1439	-34.9056	-27.0000
NYSE Arca, Inc. (ARCA)	3.54	0.01	2.87	9.05	4.96	-24.7715	-29.1292	300.2418	4.9018	8,725.8367	21.5093	-1,787.0684	-11.5873

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)
Two Sigma Securities, LLC (SOHO)	2.64	4.19	3.98	0.43	0.46	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	1.53	0.00	1.59	4.07	1.38	-0.8810	-28.6971	36.5443	1.5331	3,270.9705	23.6196	-245.1709	-4.4651

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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 (a rebate of \$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, and (4) 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.

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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers algorithms.

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 3 (a rebate of \$0.0018 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), and 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). 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.

Cboe EDGX Exchange, Inc. (EDGX):

Firm subject to reduced internalization fees for adding and removing displayed liquidity (a reduced fee of \$0.00040 on internalization). 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/edgx/. 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 3 (a rebate of \$0.0025 for Tape A and Tape C securities and \$0.0022 for Tape B securities 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://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 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 any orders routed by the Asset and Wealth Management division on behalf of its institutional clients for handling by the brokers algorithms.

Cboe BZX Exchange, Inc. (BATS):

Firm qualified for Add/Remove Volume Tier 2 for having average daily added volume as a percentage of total consolidated volume of at least 0.20% (an incremental rebate of \$0.0007 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.

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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
67.66	9.05	21.17	48.59	21.19

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)	28.91	33.23	34.26	35.00	7.60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Global Execution Brokers, LP (GEBB)	28.09	33.51	34.46	34.68	4.34	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Matrix Executions, LLC (RSKY)	25.30	33.26	31.21	30.22	4.72	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq PHLX LLC (XPHO)	5.86	0.00	0.05	0.10	27.41	0.0000	0.0000	306.0050	31.2569	775.3550	46.1796	85,725.3550	28.4293
Dash Financial Technologies LLC (DFIN)	4.01	0.00	0.00	0.00	18.96	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-40,888.2400	-7.9811
Nasdaq Options Market (XNDQ)	1.67	0.00	0.01	0.00	7.88	0.0000	0.0000	-126.5240	-54.5362	-86.1640	-84.4745	-21,548.7620	-31.6842
Citigroup Global Markets Inc. (SBSH)	1.65	0.00	0.00	0.00	7.78	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Arca Options (ARCO)	1.65	0.00	0.01	0.00	7.80	0.0000	0.0000	3.3385	6.2991	0.0000	0.0000	8,877.3005	16.0504
Cboe BZX Exchange, Inc. (BATO)	1.50	0.00	0.00	0.00	7.10	0.0000	0.0000	-52.0000	-50.0000	-21.5000	-50.0000	-28,801.8500	-56.1308
Cboe Exchange, Inc. (CBOE)	1.36	0.00	0.00	0.00	6.41	0.0000	0.0000	21.2850	24.7500	0.0000	0.0000	12,413.4325	10.1891

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged. Citadel Securities LLCs 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 (RSKY):

Firm not charged. Matrix Executions, LLC's recent reports pursuant to SEC Rule 606(a) are available at: <https://www.matrixexecutions.com/rule-606>

Nasdaq PHLX LLC (XPHO):

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.

Dash Financial Technologies LLC (DFIN):

Firm charged commission plus exchange, regulatory, market data, and clearing fees, less exchange rebates where applicable. 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>.

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.

Citigroup Global Markets Inc. (SBSH):

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>

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.pdf. 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.

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.