

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

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4th Quarter, 2021

October 2021

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	63.49	4.10	26.10	6.31

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)	55.35	78.32	68.23	6.80	16.17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	11.16	0.00	0.43	37.05	23.56	-0.0510	-30.0000	-44.9280	-30.0000	3,761.0034	28.4073	139.2535	3.9748
Citadel Securities LLC (CDRG)	10.16	10.62	15.07	6.73	16.47	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	7.87	7.25	11.78	6.64	16.69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.65	0.04	0.43	14.96	27.06	-12.8560	-3.8848	-40.5137	-20.5050	1,368.8885	19.2148	148.0570	1.7895
Two Sigma Securities, LLC (SOHO)	2.53	3.77	3.15	0.02	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGX Exchange, Inc. (EDGX)	2.36	0.00	0.29	9.02	0.01	0.0000	0.0000	-21.5190	-30.0000	762.6644	15.5986	-1.6170	-30.0000
MIAX Pearl Equities (EPRL)	1.79	0.00	0.10	6.85	0.00	0.0000	0.0000	-4.0950	-25.0000	611.7672	31.9547	0.0000	0.0000
NYSE Arca, Inc. (ARCA)	1.70	0.00	0.21	6.48	0.04	0.0000	0.0000	-16.3170	-30.0000	666.5375	24.1992	39.0330	23.3885
MEMX, LLC (MEMX)	1.43	0.00	0.31	5.45	0.00	0.0000	0.0000	-40.7736	-28.0000	532.7838	27.4434	0.0000	0.0000

Jane Street Capital, LLC (JNST):
Firm not charged.

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 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), (4) 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 for Tape A/B securities (\$0.0019 per share) and Tape C securities (\$0.0013 per share), 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.

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

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 \$0.0028 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/publicdocs/nyse/markets/nyse/NYSE_Price_List.pdf. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Firm not charged.

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/equities/membership/fee_schedule/edgx/. Please note the exchange's publicly available Fees Schedule URL, link and applicable rates may change without notice.

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

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 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 and applicable rates may change without notice.

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue is available at: <https://info.memxtrading.com/fee-schedule/>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Non-S&P 500 Stocks

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)

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)	48.74	78.26	65.29	6.08	18.75	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	14.57	0.70	1.77	37.00	22.43	-367.8903	-11.5488	-642.0710	-25.8969	40,253.8948	23.0573	1,691.1023	4.7938
Virtu Americas LLC (NITE)	9.03	8.86	13.85	5.99	19.53	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Citadel Securities LLC (CDRG)	8.56	8.15	12.90	5.94	19.33	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.86	0.10	0.69	14.19	13.39	-29.1286	-1.8884	-462.8090	-21.6155	8,304.1650	18.9583	305.3014	2.0498
Cboe EDGX Exchange, Inc. (EDGX)	3.99	0.00	0.70	11.78	0.01	0.0000	0.0000	-410.4660	-30.0000	2,687.3929	15.1614	-8.6070	-30.0000
NYSE Arca, Inc. (ARCA)	3.64	0.02	0.71	9.21	6.52	-13.5888	-28.4225	-228.1288	-8.7255	6,419.2233	21.9700	-438.3462	-8.9557
Two Sigma Securities, LLC (SOHO)	2.30	3.91	3.42	0.07	0.04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MEMX, LLC (MEMX)	1.66	0.00	0.57	4.84	0.00	0.0000	0.0000	-463.6042	-27.9682	1,913.3364	27.2025	-1.4000	-28.0000
MIAX Pearl Equities (EPRL)	1.65	0.00	0.10	4.90	0.00	0.0000	0.0000	-54.5250	-25.0000	1,292.0490	31.9708	0.0000	0.0000

Material Aspects:

Jane Street Capital, LLC (JNST):
Firm not charged.

The Nasdaq Stock Market (NSDQ):

Firm qualified for (1) the rebate provided for adding over 0.60% of the total consolidated volume and removing over 0.80% of the total consolidated volume (\$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), (4) 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 for Tape A/B securities (\$0.0019 per share) and Tape C securities (\$0.0013 per share), 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 Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

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 \$0.0028 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/publicdocs/nyse/markets/nyse/NYSE_Price_List.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://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):
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 tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE_Arca_Marketplace_Fees.pdf. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Two Sigma Securities, LLC (SOHO):
Firm not charged.

MEMX, LLC (MEMX):
Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue is available at: <https://info.memxtrading.com/fee-schedule/>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

MIAX Pearl Equities (EPRL):
Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue is available at: <https://www.miaxoptions.com/fees/pearl>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

October 2021

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
69.36	10.83	14.03	51.34	23.80

Venues

Venue - Non-directed Order Flow	Non- Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non- Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/ Received for Market Orders(cents per hundred shares)	Net Payment Paid/ Received for Marketable Limit Orders(USD)	Net Payment Paid/ Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/ Received for Non- Marketable Limit Orders(USD)	Net Payment Paid/ Received for Non- Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/ Received for Other Orders(cents per hundred shares)
Dash Financial Technologies LLC (DFIN)	21.82	20.12	17.48	18.32	32.57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-19,912.1400	-2.9679
Citadel Securities LLC (CDRG)	18.07	20.06	22.27	22.82	4.44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Global Execution Brokers, LP (GEBB)	17.70	19.91	21.83	22.90	3.11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Matrix Executions, LLC (RSKY)	14.52	19.95	19.40	17.87	1.95	-2,331.5900	-7.2264	-4,218.7900	-4.3645	11,381.7500	12.5668	-2,099.5800	-7.7083
Wolverine Execution Services, LLC (WEXX)	14.48	19.96	18.87	17.93	1.97	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq PHLX LLC (XPHO)	9.18	0.00	0.09	0.16	38.22	0.0000	0.0000	-114.7662	-31.7912	-358.9178	-18.8014	-79,848.8462	-29.8179
Cboe Exchange, Inc. (CBOE)	1.40	0.00	0.01	0.00	5.87	0.0000	0.0000	4.6125	30.7500	0.0000	0.0000	-40,516.7925	-31.2405
NYSE Arca Options (ARCO)	1.08	0.00	0.01	0.00	4.52	0.0000	0.0000	-54.3415	-40.8583	88.8755	55.8965	-550.9745	-1.8251

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
Nasdaq Options Market (XNDQ)	0.89	0.00	0.02	0.00	3.74	0.0000	0.0000	-217.8560	-65.4222	-69.3180	-23.1833	-15,114.7340	-31.0773
Cboe BZX Exchange, Inc. (BATO)	0.86	0.00	0.02	0.00	3.61	0.0000	0.0000	-186.6500	-52.8754	0.0000	0.0000	-21,903.5500	-53.2739

Material Aspects:

Dash Financial Technologies LLC (DFIN):

Firm not charged for orders routed by the Wealth Management 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 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 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>

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 (RSKY):

Firm not charged; however, Firm pays exchange and regulatory fees, less exchange rebates where applicable, for any orders that are routed by the Wealth Management division and cleared by the Firm following execution. Rebates received by Firm may exceed fees paid by Firm. Matrix Executions, LLC's recent reports pursuant to SEC Rule 606(a) are available at: <https://www.matrixexecutions.com/rule-606>

Wolverine Execution Services, LLC (WEXX):

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

Nasdaq PHILX LLC (XPHO):

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

Cboe Exchange, Inc. (CBOE):

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

NYSE Arca Options (ARCO):

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

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.

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.

November 2021

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	62.00	4.27	27.30	6.44

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)
Jane Street Capital, LLC (JNST)	54.10	78.06	68.94	6.32	15.74	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	11.83	0.00	0.37	37.08	26.57	-3.0900	-30.0000	-96.3720	-29.9925	7,604.0500	29.3128	458.0025	5.2833
Citadel Securities LLC (CDRG)	10.32	11.27	15.51	6.06	15.77	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	9.85	10.62	13.72	6.07	15.87	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.42	0.05	0.33	13.53	26.03	-11.6306	-3.0464	-145.1920	-26.6144	2,253.7665	19.0282	270.6250	1.9009
Cboe EDGX Exchange, Inc. (EDGX)	2.62	0.00	0.33	9.57	0.00	0.0000	0.0000	-113.4900	-30.0000	1,394.1144	15.6669	-1.2060	-30.0000
MIAX Pearl Equities (EPRL)	1.65	0.00	0.08	6.04	0.00	0.0000	0.0000	-8.7650	-25.0000	691.4068	31.7539	0.0000	0.0000
NYSE Arca, Inc. (ARCA)	1.62	0.00	0.25	5.89	0.02	0.0000	0.0000	-52.8025	-29.8910	1,149.0569	23.8084	0.3500	9.7222
MEMX, LLC (MEMX)	1.30	0.00	0.32	4.73	0.00	0.0000	0.0000	-122.2350	-29.0000	716.6771	27.1231	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	1.29	0.00	0.15	4.71	0.00	0.0000	0.0000	-43.5240	-30.0000	1,072.2700	26.3832	-0.0893	-25.5143

Material Aspects:

Jane Street Capital, LLC (JNST):
Firm not charged.

The Nasdaq Stock Market (NSDQ):

Firm qualified for (1) the rebate provided for adding over 0.60% of the total consolidated volume and removing over 0.80% of the total consolidated volume and executing ADV of 350,000 or more shares through Midpoint Extended Life Orders during the month (\$0.0029 per share for adding displayed liquidity), (2) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (3) the rebate provided for adding over 0.03% of the total consolidated volume of non-displayed liquidity, including midpoint orders, for Tape A/B securities (\$0.0010 per share) and Tape C securities (\$0.0005 per share), (4) 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 for Tape A/B securities (\$0.0019 per share) and Tape C securities (\$0.0013 per share), (5) the rebate for achieving QMM Tier 1 incentive (an incremental rebate of \$0.0001 per share for adding displayed liquidity), and (6) a cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

Virtu Americas LLC (NITE):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

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 \$0.0028 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/publicdocs/nyse/markets/nyse/NYSE_Price_List.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://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.

MIAX Pearl Equities (EPRL):
Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue is available at: <https://www.miaxoptions.com/fees/pearl>. 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 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.

MEMX, LLC (MEMX):
Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue is available at: <https://info.memxtrading.com/fee-schedule/>. 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 0.15% or average daily added volume of at least 15,000,000 (an incremental rebate of \$0.0009 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://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.

November 2021

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	51.55	6.61	34.49	7.35

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)
Jane Street Capital, LLC (JNST)	47.79	78.00	64.41	5.74	17.75	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	14.63	0.14	1.50	36.70	24.86	-582.8688	-12.0438	-1,686.3111	-26.4043	70,278.1124	23.9747	2,706.8385	4.2593
Citadel Securities LLC (CDRG)	9.90	11.12	15.01	5.44	17.71	-0.9785	-0.0002	-1.8500	-0.0010	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	9.63	10.65	14.18	5.44	18.02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.59	0.08	1.01	13.00	13.61	-49.2320	-1.5540	-1,096.7976	-23.7201	17,862.3919	18.4273	1,188.0030	3.7398
Cboe EDGX Exchange, Inc. (EDGX)	4.14	0.00	0.98	11.81	0.02	0.0000	0.0000	-1,142.0234	-29.8251	6,083.5376	15.3751	-16.6410	-30.0000
NYSE Arca, Inc. (ARCA)	3.67	0.01	0.93	8.93	7.12	-27.7254	-29.2585	-771.7555	-13.2679	9,984.6914	22.3599	-778.5788	-8.8048

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)
MEMX, LLC (MEMX)	1.62	0.00	1.03	4.52	0.00	0.0000	0.0000	-1,780.0900	-28.9672	3,824.4466	26.4545	-8.4071	-29.0000
Cboe BZX Exchange, Inc. (BATS)	1.60	0.00	0.76	4.29	0.91	-1.2480	-30.0000	-717.4140	-28.2180	3,319.0711	24.9718	-100.1995	-7.5256
MIAX Pearl Equities (EPRL)	1.43	0.00	0.19	4.13	0.00	0.0000	0.0000	-74.9150	-24.0652	2,633.0328	32.0805	0.0000	0.0000

Material Aspects:

Jane Street Capital, LLC (JNST):
Firm not charged.

The Nasdaq Stock Market (NSDQ):

Firm qualified for (1) the rebate provided for adding over 0.60% of the total consolidated volume and removing over 0.80% of the total consolidated volume and executing ADV of 350,000 or more shares through Midpoint Extended Life Orders during the month (\$0.0029 per share for adding displayed liquidity), (2) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (3) the rebate provided for adding over 0.03% of the total consolidated volume of non-displayed liquidity, including midpoint orders, for Tape A/B securities (\$0.0010 per share) and Tape C securities (\$0.0005 per share), (4) 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 for Tape A/B securities (\$0.0019 per share) and Tape C securities (\$0.0013 per share), (5) the rebate for achieving QMM Tier 1 incentive (an incremental rebate of \$0.0001 per share for adding displayed liquidity), and (6) a cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

Virtu Americas LLC (NITE):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

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 \$0.0028 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/publicdocs/nyse/markets/nyse/NYSE_Price_List.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://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):

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 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.

MEMX, LLC (MEMX):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue is available at: <https://info.memxtrading.com/fee-schedule/>. 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 0.15% or average daily added volume of at least 15,000,000 (an incremental rebate of \$0.0009 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://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.

MIAX Pearl Equities (EPRL):

A description of the current fees and rebates offered by this venue is available at: <https://www.miaxoptions.com/fees/pearl>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

November 2021

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
72.00	10.89	14.04	54.04	21.03

Venues

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
Dash Financial Technologies LLC (DFIN)	19.94	20.33	17.50	18.57	24.69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-14,017.9100	-2.1220
Citadel Securities LLC (CDRG)	19.03	20.42	22.63	23.32	5.01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Global Execution Brokers, LP (GEBB)	18.71	20.35	22.32	23.29	3.68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Wolverine Execution Services, LLC (WEXX)	15.27	20.28	19.12	18.30	2.30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Matrix Executions, LLC (RSKY)	13.84	18.62	18.31	16.31	2.04	-2,565.2200	-5.2033	-6,073.4800	-3.7246	11,399.0400	8.1178	-1,315.9800	-3.3466
Nasdaq PHLX LLC (XPHO)	9.38	0.00	0.07	0.21	44.07	0.0000	0.0000	-352.7722	-42.8122	-859.6960	-26.8823	-126,769.2426	-30.6805
Cboe Exchange, Inc. (CBOE)	1.37	0.00	0.01	0.00	6.51	0.0000	0.0000	5.3550	29.7500	0.0000	0.0000	-59,119.0225	-30.1055
NYSE Arca Options (ARCO)	0.91	0.00	0.01	0.00	4.31	0.0000	0.0000	-77.5450	-70.4955	270.9980	74.4500	5,012.6160	8.5809
Cboe BZX Exchange, Inc. (BATO)	0.79	0.00	0.02	0.00	3.78	0.0000	0.0000	-101.9500	-55.1081	0.0000	0.0000	-38,616.8000	-56.1087
Nasdaq Options Market (XNDQ)	0.76	0.00	0.01	0.00	3.61	0.0000	0.0000	-109.8520	-66.5770	0.0000	0.0000	-20,480.9900	-28.9026

Material Aspects:

Dash Financial Technologies LLC (DFIN):

Firm not charged for orders routed by the Wealth Management 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 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 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>

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.

Wolverine Execution Services, LLC (WEXX):

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

Matrix Executions, LLC (RSKY):

[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)
Two Sigma Securities, LLC (SOHO)	2.66	3.86	3.35	0.04	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGX Exchange, Inc. (EDGX)	2.47	0.00	0.31	10.11	0.00	0.0000	0.0000	-43.0620	-30.0000	1,313.3034	15.6309	0.0000	0.0000
MIAX Pearl Equities (EPRL)	1.62	0.00	0.06	6.67	0.00	0.0000	0.0000	-4.4625	-25.0000	569.3400	31.9258	0.0000	0.0000
NYSE Arca, Inc. (ARCA)	1.51	0.00	0.30	6.16	0.00	0.0000	0.0000	-35.5170	-28.6682	1,051.5675	24.2390	9.7925	25.0000

Material Aspects:

Jane Street Capital, LLC (JNST):
Firm not charged.

The Nasdaq Stock Market (NSDQ):

Firm qualified for (1) the rebate provided for adding over 0.60% of the total consolidated volume and removing over 0.80% of the total consolidated volume and executing ADV of 350,000 or more shares through Midpoint Extended Life Orders during the month (\$0.0029 per share for adding displayed liquidity), (2) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (3) the rebate provided for adding over 0.03% of the total consolidated volume of non-displayed liquidity, including midpoint orders, for Tape A/B securities (\$0.0010 per share) and Tape C securities (\$0.0005 per share), (4) 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 for Tape A/B securities (\$0.0019 per share) and Tape C securities (\$0.0013 per share), (5) the rebate for achieving QMM Tier 1 incentive (an incremental rebate of \$0.0001 per share for adding displayed liquidity), and (6) a cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders. The Firm achieved the aforementioned tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

Virtu Americas LLC (NITE):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

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 \$0.0028 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.

UBS Securities LLC (UBSS):

Firm not charged.

Two Sigma Securities, LLC (SOHO):

Firm not charged.

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://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.

MIAX Pearl Equities (EPRL):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue is available at: <https://www.miaxoptions.com/fees/pearl>. 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 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.

December 2021

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	55.78	6.21	31.22	6.79

Venues

Venue - Non-Directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for 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)	48.05	74.75	61.13	5.07	14.03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	13.60	0.06	1.21	38.63	21.33	-379.1922	-13.7441	-1,115.8767	-23.7333	64,997.6196	24.9410	1,143.0789	2.2853
Citadel Securities LLC (CDRG)	8.66	9.63	13.88	4.77	13.77	-2.5000	-0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	7.26	7.41	10.52	4.82	14.24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.57	0.05	0.72	14.40	14.72	-63.8772	-3.2663	-489.7233	-25.6905	12,517.2504	17.1633	833.6252	2.6810
UBS Securities LLC (UBSS)	5.19	4.14	7.22	4.76	13.97	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGX Exchange, Inc. (EDGX)	3.87	0.00	0.85	12.23	0.03	0.0000	0.0000	-654.5666	-29.8510	4,626.5131	15.2892	-3.3210	-30.0000
NYSE Arca, Inc. (ARCA)	3.74	0.01	0.81	10.10	7.87	-16.6430	-29.1114	-441.3039	-14.0964	9,200.3939	21.7321	-811.5128	-9.6954
Two Sigma Securities, LLC (SOHO)	2.43	3.95	3.40	0.05	0.04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MIAX Pearl Equities (EPRL)	1.63	0.00	0.26	5.17	0.00	0.0000	0.0000	-93.6350	-25.0000	1,979.2625	32.0957	0.0000	0.0000

Material Aspects:

Jane Street Capital, LLC (JNST):
Firm not charged.

The Nasdaq Stock Market (NSDQ):

Firm qualified for (1) the rebate provided for adding over 0.60% of the total consolidated volume and removing over 0.80% of the total consolidated volume and executing ADV of 350,000 or more shares through Midpoint Extended Life Orders during the month (\$0.0029 per share for adding displayed liquidity), (2) Closing Cross Tier B (a fee of \$0.0011 per share for orders participating in the Closing Cross), (3) the rebate provided for adding over 0.03% of the total consolidated volume of non-displayed liquidity, including midpoint orders, for Tape A/B securities (\$0.0010 per share) and Tape C securities (\$0.0005 per share), (4) 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 for Tape A/B securities (\$0.0019 per share) and Tape C securities (\$0.0013 per share), (5) the rebate for achieving QMM Tier 1 incentive (an incremental rebate of \$0.0001 per share for adding displayed liquidity), and (6) a cap of \$35,000 for opening cross charges from Market-On-Open and Limit-On-Open orders for adding one million shares of liquidity, on average, during the month. 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.

Citadel Securities LLC (CDRG):
Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0005 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

Virtu Americas LLC (NITE):
Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. Firm charged a fee of \$0.0010 per share executed for any orders routed by the Wealth Management division on behalf of its clients for handling by the broker's algorithms.

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 \$0.0028 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/publicdocs/nyse/markets/nyse/NYSE_Price_List.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.

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://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):
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 tiers based on its aggregated order flow for the month, i.e., not limited to the held, non-directed order flow that is the subject of this report. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE_Arca_Marketplace_Fees.pdf. Please note the exchange's publicly available Fees Schedule URL link and applicable rates may change without notice.

Two Sigma Securities, LLC (SOHO):
Firm not charged.

MIAX Pearl Equities (EPRL):
A description of the current fees and rebates offered by this venue is available at: <https://www.miaxoptions.com/fees/pearl>. 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
72.62	11.67	13.48	52.67	22.17

Venues

Venue - Non-directed Order Flow	Non- Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non- Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/ Received for Market Orders(cents per hundred shares)	Net Payment Paid/ Received for Marketable Limit Orders(USD)	Net Payment Paid/ Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/ Received for Non- Marketable Limit Orders(USD)	Net Payment Paid/ Received for Non- Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/ Received for Other Orders(USD)	Net Payment Paid/ Received for Other Orders(cents per hundred shares)
Dash Financial Technologies LLC (DFIN)	19.25	19.30	17.12	18.60	21.84	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-13,952.7300	-3.0172

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)	18.40	21.02	21.93	22.56	5.03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Global Execution Brokers, LP (GEBB)	17.97	19.39	21.75	22.89	3.34	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Matrix Executions, LLC (RSKY)	15.22	20.92	19.91	17.90	3.01	-3,532.4900	-6.8987	-7,233.8900	-4.6597	5,895.1900	4.2158	-2,101.8000	-4.4084
Wolverine Execution Services, LLC (WEXX)	14.72	19.37	19.19	17.88	2.05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq PHLX LLC (XPHO)	10.29	0.00	0.07	0.17	46.00	0.0000	0.0000	-184.0500	-37.8704	-533.7500	-18.5330	-128,392.8600	-27.4769
Cboe Exchange, Inc. (CBOE)	1.69	0.00	0.00	0.00	7.63	0.0000	0.0000	60.9300	41.1689	0.0000	0.0000	-57,259.2450	-33.5434
NYSE Arca Options (ARCO)	0.89	0.00	0.01	0.00	4.02	0.0000	0.0000	4.1080	2.2326	0.0000	0.0000	4,548.2545	7.6167
Cboe BZX Exchange, Inc. (BATO)	0.80	0.00	0.02	0.00	3.59	0.0000	0.0000	-67.5500	-74.2308	0.0000	0.0000	-43,731.4000	-54.1908
Nasdaq Options Market (XNDQ)	0.77	0.00	0.00	0.00	3.49	0.0000	0.0000	-49.9900	-70.4085	0.0000	0.0000	-19,662.0800	-22.6663

Material Aspects:

Dash Financial Technologies LLC (DFIN):

Firm not charged for orders routed by the Wealth Management 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 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 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>

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 (RSKY):

Firm not charged; however, Firm pays exchange and regulatory fees, less exchange rebates where applicable, for any orders that are routed by the Wealth Management division and cleared by the Firm following execution. Rebates received by Firm may exceed fees paid by Firm. Matrix Executions, LLC's recent reports pursuant to SEC Rule 606(a) are available at: <https://www.matrixexecutions.com/rule-606>

Wolverine Execution Services, LLC (WEXX):

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

Nasdaq PHLX LLC (XPHO):

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

Cboe Exchange, Inc. (CBOE):

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

NYSE Arca Options (ARCO):

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

Cboe BZX Exchange, Inc. (BATO):

Firm did not qualify for tiered pricing. A description of the current fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: https://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.

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.