

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

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4th Quarter, 2022

October 2022

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	62.24	4.40	27.37	6.00

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)	31.10	42.36	40.15	7.06	16.80	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	19.92	25.40	26.35	7.11	16.79	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Jane Street Capital, LLC (JNST)	16.33	19.86	23.74	7.07	16.40	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	12.15	0.00	0.01	37.89	29.90	-0.6480	-30.0000	-1.2450	-30.0000	7,182.0588	30.4657	147.5316	2.3460
Two Sigma Securities, LLC (SOHO)	8.09	12.30	9.67	0.03	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	4.23	0.08	0.08	10.88	20.11	-12.3058	-1.4394	-4.8580	-8.5168	1,990.7796	19.3662	139.4100	1.9083
Cboe EDGX Exchange, Inc. (EDGX)	2.72	0.00	0.00	9.97	0.00	0.0000	0.0000	-2.4510	-30.0000	1,246.5182	15.7692	0.0000	0.0000
MIAX Pearl Equities (EPRL)	2.21	0.00	0.00	8.09	0.00	0.0000	0.0000	0.0000	0.0000	665.4543	28.9684	0.0000	0.0000
NYSE Arca, Inc. (ARCA)	1.84	0.00	0.00	6.74	0.00	0.0000	0.0000	-0.0060	-30.0000	1,227.0090	24.3599	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	1.41	0.00	0.00	5.16	0.00	0.0000	0.0000	-0.3960	-30.0000	784.2500	19.5359	-0.0098	-7.5385

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.

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, (2) Closing Cross Tier B, (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 and Tape C securities, (4) the rebate provided for executing ADV of at least 4 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 150% or more versus the volume of such executed orders in June 2021, (5) the rebate for achieving QMM Tier 1 incentive, (6) the rebate provided for adding a minimum of 15 million shares of midpoint liquidity per day and increasing midpoint adding ADV by 30% or more versus May 2021 midpoint adding ADV and (7) 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. A description of the 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>

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

New York Stock Exchange LLC (NYSE):
Firm qualified for Providing Tier 2, MOC/LOC Tier 1, NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close, Remove Tier 1 for Tape A securities, Remove Tier for Tape B and Tape C securities, Midpoint Liquidity Tier 2 for adding at least .015% of consolidated ADV through the midpoint for tapes A, B, and C securities combined, Non-Displayed Step-up Tier 3 for adding at least 0.02% and less than 0.04% of ADV in non-displayed limit orders and mid-point liquidity orders in all securities consolidated ADV combined and Provide Tape C Tier 2 for adding .05% of consolidated ADV of Tape C securities. The venue provided a fee cap of \$35,000 for the month for opening executions. A description of the 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>

Cboe EDGX Exchange, Inc. (EDGX):
Firm did not qualify for tiered pricing. A description of the 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/

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

NYSE Arca, Inc. (ARCA):
Firm qualified for Tier 4 for adding .20% of consolidated ADV, Mid-Point Liquidity Step-up Tier 1 for executing ADV of at least 2 million shares through midpoint versus the volume of such orders in May 2019, and Limit Non-Display Order Step Up Tier 4 for increasing ADV by .15% of limit non-displayed and mid-point liquidity orders combined over July 2020. A description of the 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

Cboe BZX Exchange, Inc. (BATS):
Firm qualified for Add/Remove Volume Tier 1. A description of the 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/

Non-S&P 500 Stocks

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non- Directed Orders	Non-Marketable Limit Orders as % of Non- Directed Orders	Other Orders as % of Non-Directed Orders
100.00	55.95	6.50	31.07	6.48

[illegible]

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
Jane Street Capital, LLC (JNST)	22.20	30.46	32.13	6.14	17.85	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	16.69	21.51	23.37	6.31	18.15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	11.18	0.07	0.18	31.72	19.95	-222.3479	-16.6118	176.2643	19.5408	26,665.3403	19.1090	853.4525	3.3584
New York Stock Exchange LLC (NYSE)	6.07	0.05	0.20	16.15	15.67	-17.4324	-2.3157	-12.7016	-3.3412	9,807.0368	17.6015	631.7827	4.8004
NYSE Arca, Inc. (ARCA)	3.88	0.02	0.06	10.47	9.39	-19.6849	-29.2582	-30.6677	-29.4400	4,651.6186	19.8373	-773.9800	-9.5146
Cboe EDGX Exchange, Inc. (EDGX)	3.15	0.00	0.04	10.15	0.00	0.0000	0.0000	-24.2580	-30.0000	3,215.4655	13.6013	0.0000	0.0000
UBS Securities LLC (UBSS)	2.41	3.95	3.08	0.01	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MIAX Pearl Equities (EPRL)	2.00	0.00	0.00	6.46	0.00	0.0000	0.0000	-1.4500	-29.0000	1,951.2940	27.5994	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	1.97	0.00	0.02	6.13	1.01	0.0000	0.0000	-5.9130	-30.0000	2,144.0318	17.2759	-64.5354	-7.4619

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. 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.

Jane Street Capital, LLC (JNST):

Firm not charged.

Virtu Americas LLC (NITE):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. 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.

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, (2) Closing Cross Tier B, (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 and Tape C securities, (4) the rebate provided for executing ADV of at least 4 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 150% or more versus the volume of such executed orders in June 2021, (5) the rebate for achieving QMM Tier 1 incentive, (6) the rebate provided for adding a minimum of 15 million shares of midpoint liquidity per day and increasing midpoint adding ADV by 30% or more versus May 2021 midpoint adding ADV and (7) 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. A description of the 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>

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 2, MOC/LOC Tier 1, NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close, Remove Tier 1 for Tape A securities, Remove Tier for Tape B and Tape C securities, Midpoint Liquidity Tier 2 for adding at least .015% of consolidated ADV through the midpoint for tapes A, B, and C securities combined, Non-Displayed Step-up Tier 3 for adding at least 0.02% and less than 0.04% of ADV in non-displayed limit orders and mid-point liquidity orders in all securities consolidated ADV combined and Provide Tape C Tier 2 for adding .05% of consolidated ADV of Tape C securities. The venue provided a fee cap of \$35,000 for the month for opening executions. A description of the 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>

NYSE Arca, Inc. (ARCA):

Firm qualified for Tier 4 for adding .20% of consolidated ADV, Mid-Point Liquidity Step-up Tier 1 for executing ADV of at least 2 million shares through midpoint versus the volume of such orders in May 2019, and Limit Non-Display Order Step Up Tier 4 for increasing ADV by .15% of limit non-displayed and mid-point liquidity orders combined over July 2020. A description of the 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

Cboe EDGX Exchange, Inc. (EDGX):

Firm did not qualify for tiered pricing. A description of the 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/

UBS Securities LLC (UBSS):
Firm not charged.

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

Cboe BZX Exchange, Inc. (BATS):
Firm qualified for Add/Remove Volume Tier 1. A description of the 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/

October 2022

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
80.97	13.31	14.56	38.36	33.77

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)	20.69	18.44	16.61	18.83	25.30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-14,759.7200	-2.9728
Citadel Securities LLC (CDRG)	15.99	22.44	21.97	22.71	3.28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Global Execution Brokers, LP (GEBB)	15.30	18.34	21.45	23.22	2.48	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Matrix Executions, LLC (RSKY)	13.25	22.31	20.08	17.59	1.80	-174.9500	-0.2523	-2.7500	-0.0012	0.0000	0.0000	-1,112.6800	-3.6202
Wolverine Execution Services, LLC (WEXX)	12.67	18.47	19.89	17.65	1.62	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq PHLX LLC (XPHO)	12.14	0.00	0.00	0.00	36.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-153,928.2204	-28.2881
Cboe Exchange, Inc. (CBOE)	5.75	0.00	0.00	0.00	17.03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-47,627.3200	-23.3875
Cboe BZX Exchange, Inc. (BATO)	1.51	0.00	0.00	0.00	4.49	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-114,351.2000	-54.8792
Nasdaq Options Market (XNDQ)	1.38	0.00	0.00	0.00	4.08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-39,157.3828	-30.9324
NYSE Arca Options (ARCO)	1.32	0.00	0.00	0.00	3.92	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-10,500.6380	-10.6019

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

Global Execution Brokers, LP (GEBB):
Firm not charged.

Matrix Executions, LLC (RSKY): Firm not charged for Wealth Management division executions cleared by Matrix Executions LLC; 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/606>

Nasdaq PHILX LLC (XPHO): Firm did not qualify for tiered pricing. Firm received marketing fees from preferred market makers pursuant to marketing fee program sponsored by exchange. A description of the 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>

Cboe Exchange, Inc. (CBOE):
Firm did not qualify for tiered pricing with respect to customer order flow. Firm received marketing fees from preferred market makers pursuant to marketing fee program sponsored by exchange. A description of the 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

Cboe BZX Exchange, Inc. (BATO):
Firm did not qualify for tiered pricing. A description of the 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/

Nasdaq Options Market (XNDQ):
 Firm did not qualify for tiered pricing. A description of the 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>

NYSE Arca Options (ARCO):
Firm did not qualify for tiered pricing. A description of the 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>

S&P 500 Stocks

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non- Directed Orders	Non-Marketable Limit Orders as % of Non- Directed Orders	Other Orders as % of Non-Directed Orders
100.00	62.71	4.34	26.80	6.15

[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)	12.88	19.47	15.08	0.05	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	11.94	0.00	0.01	37.87	29.42	-1.6650	-30.0000	-0.5580	-30.0000	7,743.6496	30.8768	400.5510	5.5947
New York Stock Exchange LLC (NYSE)	4.09	0.04	0.13	10.47	20.32	-3.1586	-0.6866	-0.7032	-2.5646	1,527.3666	19.0873	57.2578	0.6536
Cboe EDGX Exchange, Inc. (EDGX)	2.91	0.00	0.00	10.87	0.01	0.0000	0.0000	-1.6290	-30.0000	1,155.7042	15.7152	-1.3560	-30.0000
NYSE Arca, Inc. (ARCA)	2.10	0.00	0.00	7.85	0.01	0.0000	0.0000	-0.0030	-30.0000	1,346.0680	24.3195	-4.7820	-12.7895
MIAX Pearl Equities (EPRL)	1.82	0.00	0.00	6.82	0.00	0.0000	0.0000	0.0000	0.0000	450.6049	28.9527	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	1.38	0.00	0.00	5.15	0.01	0.0000	0.0000	0.0000	0.0000	893.6417	21.9998	-0.9488	-28.3224

Material Aspects:

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Firm not charged.

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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, (2) Closing Cross Tier B, (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 and Tape C securities, (4) the rebate provided for executing ADV of at least 4 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 150% or more versus the volume of such executed orders in June 2021, (5) the rebate for achieving QMM Tier 1 incentive, (6) the rebate provided for adding a minimum of 15 million shares of midpoint liquidity per day and increasing midpoint adding ADV by 30% or more versus May 2021 midpoint adding ADV, and (7) 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. A description of the 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>

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 2, MOC/LOC Tier 1, NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close, Remove Tier 1 for Tape A securities, and Remove Tier for Tape B and Tape C securities, Midpoint Liquidity Tier 2 for adding at least .015% of consolidated ADV through the midpoint for tapes A, B, and C securities combined, Non-Displayed Step-up Tier 2 for adding at least 0.04% and less than 0.08% of ADV in non-displayed limit orders and mid-point liquidity orders in all securities consolidated ADV combined, and Provide Tape C Tier 2 for adding .05% of consolidated ADV of Tape C securities. The venue provided a fee cap of \$35,000 for the month for opening executions. A description of the 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>

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NYSE Arca, Inc. (ARCA):

Firm qualified for Tier 4 for adding .20% of consolidated ADV, Mid-Point Liquidity Step-up Tier 1 for executing ADV of at least 2 million shares through midpoint versus the volume of such orders in May 2019, and Limit Non-Display Order Step Up Tier 3 for increasing ADV by .10% of limit non-displayed and mid-point liquidity orders combined over July 2020. A description of the 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

MIAX Pearl Equities (EPRL):

Firm did not qualify for tiered pricing. A description of the fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://www.miaxoptions.com/fees/pearl-equities>

Cboe BZX Exchange, Inc. (BATS):

Firm qualified for Add/Remove Volume Tier 2 and for Non-Displayed Add Volume Tier 1 for adding an ADV greater than or equal to 0.05% of the total consolidated volume as Non-Displayed orders that add liquidity for Tape A/B securities and Tape C securities or receive price improvement. A description of the 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/

November 2022

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	53.63	6.67	33.00	6.70

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)	26.94	39.77	38.30	5.70	17.26	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Jane Street Capital, LLC (JNST)	24.36	35.27	35.79	5.74	17.34	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	12.43	0.06	0.14	33.18	21.75	-126.3020	-17.8933	-121.7606	-14.5790	33,682.9534	18.4542	905.9683	2.7244
Virtu Americas LLC (NITE)	12.22	14.82	18.17	5.62	17.96	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	6.17	0.07	0.22	15.26	16.11	-129.5476	-7.5414	-7.1430	-0.8635	9,805.0801	16.7014	882.8424	4.5459
UBS Securities LLC (UBSS)	5.86	9.99	7.29	0.03	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Arca, Inc. (ARCA)	3.96	0.02	0.06	10.23	8.58	-16.9229	-29.2682	-11.3684	-29.7213	4,859.2437	20.7392	-815.0089	-11.2941
Cboe EDGX Exchange, Inc. (EDGX)	3.54	0.00	0.02	10.74	0.00	0.0000	0.0000	-4.6700	-27.3099	3,356.0199	13.9017	0.0000	0.0000
MIAX Pearl Equities (EPRL)	2.35	0.00	0.00	7.12	0.00	0.0000	0.0000	-0.2842	-29.0000	2,134.4962	27.7464	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	2.17	0.00	0.01	6.38	1.00	-0.0030	-30.0000	-1.1650	-20.6195	2,615.9173	20.2928	-61.6090	-5.1367

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. 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.

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, (2) Closing Cross Tier B, (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 and Tape C securities, (4) the rebate provided for executing ADV of at least 4 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 150% or more versus the volume of such executed orders in June 2021, (5) the rebate for achieving QMM Tier 1 incentive, (6) the rebate provided for adding a minimum of 15 million shares of midpoint liquidity per day and increasing midpoint adding ADV by 30% or more versus May 2021 midpoint adding ADV, and (7) 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. A description of the 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>

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, MOC/LOC Tier 1, NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close, Remove Tier 1 for Tape A securities, and Remove Tier for Tape B and Tape C securities, Midpoint Liquidity Tier 2 for adding at least .015% of consolidated ADV through the midpoint for tapes A, B, and C securities combined, Non-Displayed Step-up Tier 2 for adding at least 0.04% and less than 0.08% of ADV in non-displayed limit orders and mid-point liquidity orders in all securities consolidated ADV combined, and Provide Tape C Tier 2 for adding .05% of consolidated ADV of Tape C securities. The venue provided a fee cap of \$35,000 for the month for opening executions. A description of the 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>

UBS Securities LLC (UBSS):
Firm not charged.

NYSE Arca, Inc. (ARCA):
Firm qualified for Tier 4 for adding .20% of consolidated ADV, Mid-Point Liquidity Step-up Tier 1 for executing ADV of at least 2 million shares through midpoint versus the volume of such orders in May 2019, and Limit Non-Display Order Step Up Tier 3 for increasing ADV by .10% of limit non-displayed and mid-point liquidity orders combined over July 2020. A description of the 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

Cboe EDGX Exchange, Inc. (EDGX):
Firm did not qualify for tiered pricing. A description of the 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/

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

Cboe BZX Exchange, Inc. (BATS):
Firm qualified for Add/Remove Volume Tier 2 and for Non-Displayed Add Volume Tier 1 for adding an ADV greater than or equal to 0.05% of the total consolidated volume as Non-Displayed orders that add liquidity for Tape A/B securities and Tape C securities or receive price improvement. A description of the 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/

November 2022

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
86.66	13.76	15.41	41.20	29.63

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)	24.92	23.27	21.10	22.77	30.52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-6,087.8000	-1.1849

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)	20.54	28.92	27.10	26.87	4.46	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Global Execution Brokers, LP (GEBB)	19.42	23.39	25.91	27.55	2.92	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Wolverine Execution Services, LLC (WEXX)	16.52	23.06	24.56	21.55	2.30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq PHLX LLC (XPHO)	11.42	0.00	0.00	0.00	38.60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-136,652.3010	-28.0249
Cboe BZX Exchange, Inc. (BATO)	1.79	0.00	0.00	0.00	6.05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-78,319.5000	-54.9830
Nasdaq Options Market (XNDQ)	1.56	0.00	0.00	0.00	5.28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-27,610.7132	-27.4780
Cboe Exchange, Inc. (CBOE)	1.51	0.00	0.00	0.00	5.12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-58,138.3675	-26.2448
NYSE Arca Options (ARCO)	1.36	0.00	0.00	0.00	4.59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-8,096.4800	-8.4024
Matrix Executions, LLC (RSKY)	0.96	1.36	1.33	1.26	0.16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-36.8000	-1.2782

Material Aspects:

Dash Financial Technologies LLC (DFIN):

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

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>.

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 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>

Cboe BZX Exchange, Inc. (BATO):

Firm did not qualify for tiered pricing. A description of the 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/

Nasdaq Options Market (XNDQ):

Firm did not qualify for tiered pricing. A description of the 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>

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 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

NYSE Arca Options (ARCO):

Firm did not qualify for tiered pricing. A description of the 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>

Matrix Executions, LLC (RSKY):

Firm not charged for Wealth Management division executions cleared by Matrix Executions LLC; 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/606>

December 2022

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	64.80	4.09	25.58	5.54

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)	31.71	42.18	39.63	7.16	16.18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Jane Street Capital, LLC (JNST)	16.32	19.57	23.19	6.99	16.19	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC (NITE)	15.07	17.80	20.80	7.09	15.85	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Two Sigma Securities, LLC (SOHO)	13.91	20.43	16.21	0.06	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
The Nasdaq Stock Market (NSDQ)	11.75	0.00	0.06	39.24	31.21	-4.3740	-30.0000	-5.9440	-16.7578	7,321.3911	30.3924	238.5701	3.4016
New York Stock Exchange LLC (NYSE)	3.66	0.02	0.05	9.81	20.57	-5.9288	-3.5362	-0.9107	-16.8026	1,227.8605	18.6883	84.3570	1.2849
Cboe EDGX Exchange, Inc. (EDGX)	2.75	0.00	0.02	10.75	0.00	0.0000	0.0000	-2.3670	-30.0000	1,012.3592	15.7653	0.0000	0.0000
MIAX Pearl Equities (EPRL)	1.87	0.00	0.00	7.34	0.00	0.0000	0.0000	0.0000	0.0000	469.0634	28.9524	0.0000	0.0000
NYSE Arca, Inc. (ARCA)	1.76	0.00	0.02	6.87	0.00	0.0000	0.0000	-0.9870	-30.0000	1,025.0733	24.5856	0.0000	0.0000
Cboe BZX Exchange, Inc. (BATS)	1.20	0.00	0.02	4.69	0.00	0.0000	0.0000	-1.8570	-30.0000	641.2470	19.4499	-0.0015	-7.5000

Material Aspects:

Citadel Securities LLC (CDRG):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. 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.

Jane Street Capital, LLC (JNST):

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.

The Nasdaq Stock Market (NSDQ):
Firm qualified for: (1) the rebate provided for adding over 0.70% of the total consolidated volume and adding over .20% of the total consolidated volume using midpoint orders and removing 1.10% of the total consolidated volume during the month, (2) Closing Cross Tier B, (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 and Tape C securities, (4) the rebate provided for executing ADV of at least 3 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 100% or more versus the volume of such executed orders in June 2021, (5) the rebate for achieving QMM Tier 1 incentive, (6) the rebate provided for adding a minimum of 15 million shares of midpoint liquidity per day and increasing midpoint adding ADV by 30% or more versus May 2021 midpoint adding ADV, and (7) 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. A description of the 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>

Cboe EDGX Exchange, Inc. (EDGX):
Firm did not qualify for tiered pricing. A description of the 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/

NYSE Arca, Inc. (ARCA):
Firm qualified for Tier 4 for adding .20% of consolidated ADV, Mid-Point Liquidity Step-up Tier 2 for executing ADV of at least 1 million shares through midpoint versus the volume of such orders in May 2019 and Limit Non-Display Order Step Up Tier 4 for increasing ADV by .15% of limit non-displayed and mid-point liquidity orders combined over July 2020. A description of the 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

Cboe BZX Exchange, Inc. (BATS):
Firm qualified for Add/Remove Volume Tier 1. A description of the 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/

Non-S&P 500 Stocks

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non- Directed Orders	Non-Marketable Limit Orders as % of Non- Directed Orders	Other Orders as % of Non-Directed Orders
100.00	58.63	6.64	28.63	6.10

[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)
The Nasdaq Stock Market (NSDQ)	11.63	0.10	0.20	35.50	23.09	-328.5799	-11.3863	-96.1703	-19.1426	31,261.1854	16.8788	401.0586	0.9688
UBS Securities LLC (UBSS)	6.52	10.29	7.19	0.05	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exchange LLC (NYSE)	5.35	0.04	0.10	15.28	15.49	-43.8609	-3.3493	-44.6370	-13.4526	8,424.8005	16.2896	325.3858	1.6543
NYSE Arca, Inc. (ARCA)	3.64	0.03	0.07	10.71	8.99	-32.0467	-29.1997	-41.4156	-29.5509	4,791.3209	19.5229	-930.0966	-11.8037
Cboe EDGX Exchange, Inc. (EDGX)	3.13	0.00	0.02	10.94	0.00	0.0000	0.0000	-24.1470	-27.2417	2,999.2816	13.1395	0.0000	0.0000
MIAX Pearl Equities (EPRL)	2.34	0.00	0.00	8.20	0.00	0.0000	0.0000	-0.3296	-16.4800	2,088.6827	26.9675	0.0000	0.0000
Two Sigma Securities, LLC (SOHO)	2.34	3.58	3.58	0.01	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 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.

Jane Street Capital, LLC (JNST):

Firm not charged.

Virtu Americas LLC (NITE):

Firm not charged for orders routed by the Wealth Management division or the Corporate and Investment Bank division, except as noted below. 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.

The Nasdaq Stock Market (NSDQ):

Firm qualified for: (1) the rebate provided for adding over 0.70% of the total consolidated volume and adding over .20% of the total consolidated volume using midpoint orders and removing 1.10% of the total consolidated volume during the month, (2) Closing Cross Tier B, (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 and Tape C securities, (4) the rebate provided for executing ADV of at least 3 million shares through midpoint and Midpoint Extended Life Orders and increasing the executed volume of such orders by 100% or more versus the volume of such executed orders in June 2021, (5) the rebate for achieving QMM Tier 1 incentive, (6) the rebate provided for adding a minimum of 15 million shares of midpoint liquidity per day and increasing midpoint adding ADV by 30% or more versus May 2021 midpoint adding ADV, and (7) 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. A description of the fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>

UBS Securities LLC (UBSS):

Firm not charged.

New York Stock Exchange LLC (NYSE):

Firm qualified for Providing Tier 2, MOC/LOC Tier 1, NYSE d-Order Tier 1 charges applicable for Executions at the Close after the first 750,000 ADV of aggregate executions at the close, Remove Tier 1 for Tape A securities, Remove Tier for Tape B and Tape C securities, Midpoint Liquidity Tier 3 for adding at least .0075% of consolidated ADV through the midpoint for tapes A, B, and C securities combined, and Non-Displayed Step-up Tier 3 for adding at least 0.02% and less than 0.04% of ADV in non-displayed limit orders and mid-point liquidity orders in all securities consolidated ADV combined. The venue provided a fee cap of \$35,000 for the month for opening executions. A description of the 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>

NYSE Arca, Inc. (ARCA):

Firm qualified for Tier 4 for adding .20% of consolidated ADV, Mid-Point Liquidity Step-up Tier 2 for executing ADV of at least 1 million shares through midpoint versus the volume of such orders in May 2019 and Limit Non-Display Order Step Up Tier 4 for increasing ADV by .15% of limit non-displayed and mid-point liquidity orders combined over July 2020. A description of the 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

Cboe EDGX Exchange, Inc. (EDGX):

Firm did not qualify for tiered pricing. A description of the 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/

MIAX Pearl Equities (EPRL):

Firm did not qualify for tiered pricing. A description of the fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://www.miaxoptions.com/fees/pearl-equities>

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

December 2022

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
98.43	13.39	15.43	39.22	31.97

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)	24.06	23.77	21.43	23.15	26.41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-2,918.2700	-0.8807
Citadel Securities LLC (CDRG)	19.97	28.98	27.49	27.15	3.78	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Global Execution Brokers, LP (GEBB)	19.19	23.67	26.22	27.98	3.15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Wolverine Execution Services, LLC (WEXX)	16.14	23.58	24.86	21.72	1.99	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq PHLX LLC (XPHO)	11.38	0.00	0.00	0.00	35.65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-112,428.3436	-26.6719
Cboe Exchange, Inc. (CBOE)	4.34	0.00	0.00	0.00	13.57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-91,359.3325	-32.2782
Nasdaq Options Market (XNDQ)	1.52	0.00	0.00	0.00	4.76	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-40,153.9372	-36.0649
NYSE Arca Options (ARCO)	1.44	0.00	0.00	0.00	4.53	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-12,790.8500	-15.8895
Cboe BZX Exchange, Inc. (BATO)	1.30	0.00	0.00	0.00	4.09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-46,190.3500	-53.4258
BOX Options Exchange (XBOX)	0.66	0.00	0.00	0.00	2.07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7,448.7604	25.7049

Material Aspects:

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

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>.

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 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>

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 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

Nasdaq Options Market (XNDQ):

Firm did not qualify for tiered pricing. A description of the 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>

NYSE Arca Options (ARCO):

Firm did not qualify for tiered pricing. A description of the 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>

Cboe BZX Exchange, Inc. (BATO):

Firm did not qualify for tiered pricing. A description of the 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/

BOX Options Exchange (XBOX):

Firm did not qualify for tiered pricing. A description of the fees and rebates offered by this venue, including the pricing tiers offered and the pricing for each tier, is available at: <https://boxoptions.com/fee-schedule/>