

OPAL - Held NMS Stocks and Options Order Routing Public Report

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4th Quarter, 2024

October 2024

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
85.33	1.79	29.72	6.35	62.01

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)
The Nasdaq Stock Market LLC	20.30	100.00	19.09	50.53	15.52	-0.26	-0.0094	24.79	0.3828	311.11	25.3563	373.65	5.7075
Intelligentcross	14.72	0.00	31.82	2.66	8.22	0.00	0.0000	0.00	0.0000	0.00	0.0000	-0.18	-0.0105
NYSE Arca, Inc.	8.95	0.00	0.80	4.79	13.51	0.00	0.0000	-14.01	-24.9439	4.58	13.2618	242.70	7.4638
Instinet, CBX	6.42	0.00	4.77	1.60	7.90	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Level ATS	5.78	0.00	4.77	1.60	6.86	0.00	0.0000	-0.60	-10.0000	0.00	0.0000	-0.60	-10.0000
UBS Securities, LLC ATS	5.44	0.00	4.55	1.60	6.43	0.00	0.0000	-0.60	-10.0000	0.00	0.0000	-1.21	-10.0000
Goldman Sachs Execution & Clearing, L.P.	3.17	0.00	0.00	1.60	4.96	0.00	0.0000	0.00	0.0000	0.00	0.0000	-2.90	-10.0000
Citadel Securities	3.01	0.00	1.25	1.60	4.03	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
BofA Securities, Inc.	2.94	0.00	0.00	1.60	4.58	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Cboe EDGX Exchange, Inc.	2.47	0.00	0.57	0.53	3.59	0.00	0.0000	-11.19	-30.0000	-0.63	-30.0000	-167.78	-11.1264

Material Aspects:

The Nasdaq Stock Market LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

NYSE Arca, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Instinet, CBX:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Level ATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

UBS Securities, LLC ATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Citadel Securities:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.20 per 100 shares and \$0.00 per 100 shares on removing liquidity.

October 2024

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
73.61	0.98	16.38	6.35	76.28

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)
The Nasdaq Stock Market LLC	32.11	97.37	29.73	60.05	29.45	-713.66	-2.4051	-1,551.48	-1.2339	6,653.99	24.7550	35,509.40	2.9754
NYSE Arca, Inc.	16.12	0.00	3.35	7.42	19.80	0.00	0.0000	-1,177.26	-14.0654	963.50	27.8230	30,003.61	4.4968
Intelligentcross	12.08	0.00	32.96	1.13	8.66	0.00	0.0000	-0.24	-0.0028	0.00	0.0000	-2.21	-0.0252
Cboe BZX Exchange, Inc.	4.80	1.01	1.51	0.25	5.94	-7.19	-30.0000	-284.34	-25.7064	-6.67	-12.7879	-2,035.97	-20.3368
Instinet, CBX	4.49	0.00	2.55	5.73	4.87	0.00	0.0000	-7.61	-10.0000	-4.70	-10.0000	-32.50	-10.0000
Cboe EDGX Exchange, Inc.	3.69	1.42	2.40	0.94	4.22	31.29	28.3783	-1,069.59	-26.8304	7.11	4.4027	1,405.11	5.0528
Level ATS	3.02	0.00	2.38	0.97	3.37	0.00	0.0000	-9.75	-10.0000	0.00	0.0000	-29.85	-10.0000
Citadel Securities	2.80	0.00	2.47	2.66	2.93	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC ATS	2.72	0.00	2.13	0.94	3.04	0.00	0.0000	-4.91	-10.0000	-0.30	-10.0000	-9.91	-10.0000
Goldman Sachs Execution & Clearing, L.P.	2.15	0.00	0.47	0.81	2.65	0.00	0.0000	-0.40	-10.0000	0.00	0.0000	-26.23	-10.0000

Material Aspects:

The Nasdaq Stock Market LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

NYSE Arca, Inc.:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Intelligentcross:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.11 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe BZX Exchange, Inc.:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Instinet, CBX:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe EDGX Exchange, Inc.:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Level ATS:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Citadel Securities:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

UBS Securities, LLC ATS:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.15 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Goldman Sachs Execution & Clearing, L.P.:
Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

October 2024

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
100.00	1.81	22.64	24.99	50.54

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 Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(USD)	
Dash/IMC Financial Markets	86.85	100.00	100.00	97.90	75.06	2,850.40	23.2458	3,762.10	10.3035	2,305.80	31.2058	33,668.10	15.1909
Cboe EDGX Exchange, Inc.	5.24	0.00	0.00	0.22	10.27	0.00	0.0000	0.00	0.0000	-1.80	-4.0000	13,111.92	27.2994
Miami International Securities Exchange, LLC	2.73	0.00	0.00	0.00	5.40	0.00	0.0000	0.00	0.0000	-0.05	-5.0000	315.00	15.0000
BOX Exchange LLC	0.98	0.00	0.00	0.00	1.93	0.00	0.0000	0.00	0.0000	0.00	0.0000	212.30	17.9611
Nasdaq ISE, LLC	0.71	0.00	0.00	0.00	1.40	0.00	0.0000	0.00	0.0000	0.00	0.0000	254.40	19.0705

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
Cboe Exchange, Inc.	0.60	0.00	0.00	0.00	1.18	0.00	0.0000	0.00	0.0000	0.00	0.0000	-0.52	-5.2500
Nasdaq MRX, LLC	0.60	0.00	0.00	0.00	1.18	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Nasdaq PHLX LLC	0.60	0.00	0.00	0.00	1.18	0.00	0.0000	0.00	0.0000	-0.65	-5.0000	0.00	0.0000
WATS	0.40	0.00	0.00	1.59	0.00	0.00	0.0000	0.00	0.0000	-28.80	-10.0000	0.00	0.0000
NYSE ARCA OPTIONS	0.36	0.00	0.00	0.22	0.61	0.00	0.0000	0.00	0.0000	-0.76	-6.9091	27.88	34.0000

Material Aspects:

Dash/IMC Financial Markets:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$10 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Miami International Securities Exchange, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

BOX Exchange LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq ISE, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq MRX, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq PHLX LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

WATS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

NYSE ARCA OPTIONS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$75 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

November 2024

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
91.87	0.31	36.83	7.81	55.07

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)
NYSE Arca, Inc.	23.13	0.00	11.73	30.77	29.83	0.00	0.0000	-72.85	-4.4104	260.85	27.0310	1,637.23	15.3190
Intelligentcross	11.76	0.00	17.64	1.47	9.36	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
XTX Markets SAS	11.10	0.00	12.98	10.99	9.93	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Securities	9.47	0.00	10.72	10.62	8.58	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	9.16	100.00	8.00	11.36	9.10	4.51	0.9294	-274.10	-25.8167	12.60	18.6154	625.34	11.8858
Hudson River Trading (Hrt)	7.73	0.00	8.70	9.89	6.81	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Jane Street Execution Services Llc	7.73	0.00	8.78	9.16	6.81	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Cboe EDGX Exchange, Inc.	5.24	0.00	3.19	6.96	6.34	0.00	0.0000	-142.26	-30.0000	-11.30	-25.7592	-93.66	-28.4876
NEW YORK STOCK EXCHANGE, INC.	3.49	0.00	5.21	3.66	2.34	0.00	0.0000	-218.14	-30.0000	-10.66	-30.0000	-72.62	-30.0000
MEMX LLC	2.95	0.00	3.81	1.10	2.65	0.00	0.0000	-107.74	-30.0000	-2.13	-30.0000	-55.06	-30.0000

Material Aspects:

NYSE Arca, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Citadel Securities:

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The Nasdaq Stock Market LLC:

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Jane Street Execution Services Llc:

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Cboe EDGX Exchange, Inc.:

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NEW YORK STOCK EXCHANGE, INC.:

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MEMX LLC:

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November 2024

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
89.14	0.38	22.43	8.84	68.35

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)
NYSE Arca, Inc.	26.74	0.00	11.47	33.60	31.01	0.00	0.0000	-7,909.62	-16.3951	7,319.71	26.1370	25,469.00	1.8872
The Nasdaq Stock Market LLC	10.41	90.71	7.83	10.06	10.86	-414.56	-3.2173	-3,626.73	-13.5148	1,350.63	19.9958	-20,824.58	-5.9473
Citadel Securities	7.93	0.00	9.64	11.91	6.90	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
XTX Markets SAS	7.69	0.00	9.59	11.63	6.61	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Hudson River Trading (Hrt)	7.34	0.00	8.39	11.86	6.44	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Jane Street Execution Services Llc	7.32	0.00	8.42	11.86	6.41	0.00	0.0000	-10.50	-5.0000	0.00	0.0000	-20.93	-5.0000
Intelligentcross	7.06	0.00	14.09	0.54	5.63	0.00	0.0000	-2.40	-0.0290	-0.00	-0.0019	-5.84	-0.0708
Cboe EDGX Exchange, Inc.	5.69	7.10	5.44	3.49	6.05	17.77	12.9659	-4,391.22	-24.7025	190.29	16.5097	-5,760.17	-10.3805
Cboe BZX Exchange, Inc.	4.71	1.64	2.23	0.89	6.04	-12.30	-29.9977	-901.36	-25.9961	-52.32	-28.9073	-2,983.71	-20.8422
MEMX LLC	2.20	0.00	3.58	0.37	2.00	0.00	0.0000	-2,369.84	-23.2192	-8.67	-28.9935	-4,539.71	-14.4244

Material Aspects:

NYSE Arca, Inc.:
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Jane Street Execution Services Llc:
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Intelligentcross:
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Cboe EDGX Exchange, Inc.:
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Cboe BZX Exchange, Inc.:
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MEMX LLC:
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November 2024

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
100.00	0.83	19.22	16.16	63.71

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 Marketable Limit 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/IMC Financial Markets	74.25	100.00	82.74	75.46	71.14	3,297.00	22.3541	2,982.50	13.2597	2,068.30	35.4586	25,690.20	19.3963
Cboe EDGX Exchange, Inc.	14.44	0.00	0.68	0.00	22.46	0.00	0.0000	-7.04	-4.0000	0.00	0.0000	19,053.14	28.5304
NYSE ARCA OPTIONS	3.76	0.00	2.60	18.58	0.41	0.00	0.0000	12.58	1.2593	4,563.36	19.9482	-10.80	-54.0000
The NASDAQ Options Market LLC	1.19	0.00	2.60	4.24	0.00	0.00	0.0000	-78.10	-47.0482	2,855.28	14.9711	0.00	0.0000
MEMX LLC	1.06	0.00	4.92	0.69	0.00	0.00	0.0000	-71.91	-51.0000	-5.61	-51.0000	0.00	0.0000
Miami International Securities Exchange, LLC	1.06	0.00	0.29	0.00	1.57	0.00	0.0000	-1.80	-5.0000	0.00	0.0000	26.70	15.0000
BOX Exchange LLC	0.87	0.00	1.16	0.11	1.02	0.00	0.0000	27.45	15.0000	0.00	0.0000	96.30	45.0000
Nasdaq ISE, LLC	0.56	0.00	0.19	0.34	0.73	0.00	0.0000	-2.20	-44.0000	0.00	0.0000	232.00	18.9853
MIAX Emerald, LLC	0.44	0.00	0.58	0.11	0.47	0.00	0.0000	-20.90	-55.0000	-2.20	-55.0000	0.00	0.0000
Cboe Exchange, Inc.	0.43	0.00	0.58	0.00	0.47	0.00	0.0000	-3.10	-5.2500	0.00	0.0000	-9.98	-5.2500

Material Aspects:

Dash/IMC Financial Markets:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$10 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

NYSE ARCA OPTIONS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$75 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

The NASDAQ Options Market LLC:

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MEMX LLC:

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Miami International Securities Exchange, LLC:

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BOX Exchange LLC:

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Nasdaq ISE, LLC:

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MIAX Emerald, LLC:

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Cboe Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

December 2024

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
96.37	0.36	38.78	7.04	53.98

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)
NYSE Arca, Inc.	20.81	0.00	9.91	34.66	26.91	-0.88	-23.8108	-99.35	-6.6648	398.32	29.9103	1,481.72	16.2353
Intelligentcross	12.36	0.00	18.68	2.27	9.19	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CGXS	10.68	0.00	15.58	2.27	8.38	0.00	0.0000	-159.64	-10.0000	-5.95	-10.0000	-80.70	-10.0000
XTX Markets SAS	8.80	0.00	10.22	9.09	7.78	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	8.16	100.00	7.74	7.39	7.93	75.98	5.1228	-76.93	-4.5867	42.07	22.5403	157.01	5.1244
Citadel Securities	8.00	0.00	9.08	9.09	7.12	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Hudson River Trading (Hrt)	6.88	0.00	7.33	8.52	6.38	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Jane Street Execution Services Llc	6.88	0.00	7.22	9.09	6.45	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Cboe EDGX Exchange, Inc.	5.84	0.00	2.99	9.09	7.49	0.00	0.0000	-81.50	-30.0000	-6.23	-30.0000	-141.27	-12.2950
MEMX LLC	2.76	0.00	3.10	1.14	2.67	0.00	0.0000	-57.22	-30.0000	-0.91	-30.0000	-42.62	-30.0000

Material Aspects:

NYSE Arca, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

The Nasdaq Stock Market LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Citadel Securities:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Jane Street Execution Services LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.20 per 100 shares and \$0.00 per 100 shares on removing liquidity.

MEMX LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.34 per 100 shares and \$0.00 per 100 shares on removing liquidity.

December 2024

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
89.62	0.53	23.24	7.17	69.05

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)
NYSE Arca, Inc.	24.75	3.00	10.59	37.93	28.31	-172.27	-27.0709	-10,701.46	-16.3542	10,779.10	27.5246	150,540.31	7.9275
The Nasdaq Stock Market LLC	8.92	91.67	6.64	6.07	9.35	-249.50	-1.1714	-6,449.31	-21.5825	1,274.89	24.2157	7,769.90	1.9363
Citadel Securities	7.62	0.00	8.76	12.08	6.83	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
XTX Markets SAS	7.31	0.00	8.30	11.32	6.62	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Hudson River Trading (Hrt)	7.07	0.00	7.48	11.71	6.50	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Jane Street Execution Services Llc	7.04	0.00	7.49	11.74	6.46	0.00	0.0000	-5.84	-5.0000	0.00	0.0000	-4.37	-5.0000
Intelligentcross	7.02	0.00	12.83	0.72	5.78	0.00	0.0000	-8.22	-0.1161	-0.96	-1.4530	-1.74	-0.0226
CGXS	6.31	0.00	11.33	0.59	5.27	0.00	0.0000	-550.86	-10.0000	-8.98	-10.0000	-661.99	-10.0000
Cboe EDGX Exchange, Inc.	5.98	5.33	4.92	3.43	6.61	144.39	29.9530	-6,491.13	-27.2536	320.52	16.9831	1,500.72	1.3084
Cboe BZX Exchange, Inc.	4.94	0.00	2.05	0.91	6.36	0.00	0.0000	-1,229.11	-28.3463	-48.45	-23.7176	-4,630.72	-25.8835

Material Aspects:

NYSE Arca, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

The Nasdaq Stock Market LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Citadel Securities:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Jane Street Execution Services LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.00 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Intelligentcross:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.11 per 100 shares and \$0.00 per 100 shares on removing liquidity.

CGXS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.295 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

Cboe BZX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$0.22 per 100 shares and \$0.00 per 100 shares on removing liquidity.

December 2024

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
100.00	0.96	20.71	13.20	65.28

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/IMC Financial Markets	64.06	100.00	90.81	89.04	49.84	4,005.60	23.6626	3,154.10	12.4506	1,628.90	39.5076	13,369.80	11.8512
Cboe EDGX Exchange, Inc.	20.41	0.00	0.61	0.00	31.07	0.00	0.0000	-19.72	-4.0000	0.00	0.0000	21,339.90	27.3105
Miami International Securities Exchange, LLC	3.93	0.00	0.37	0.00	5.91	0.00	0.0000	-0.40	-5.0000	0.00	0.0000	281.10	15.0000
NYSE ARCA OPTIONS	1.83	0.00	0.74	7.69	1.01	0.00	0.0000	366.38	56.4530	19,581.14	61.9911	0.00	0.0000
BOX Exchange LLC	1.78	0.00	0.74	0.19	2.49	0.00	0.0000	26.70	21.5323	0.00	0.0000	88.30	33.1955
Nasdaq ISE, LLC	1.32	0.00	0.12	0.19	1.94	0.00	0.0000	-1.38	-11.5000	0.00	0.0000	182.70	15.5887
Cboe Exchange, Inc.	1.12	0.00	0.74	0.00	1.52	0.00	0.0000	-71.45	-5.2500	0.00	0.0000	-13.23	-5.2500
Nasdaq MRX, LLC	1.07	0.00	0.37	0.00	1.56	0.00	0.0000	9.35	49.2105	0.00	0.0000	-6.10	-5.0000

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
Nasdaq PHLX LLC	1.02	0.00	0.25	0.00	1.52	0.00	0.0000	-1.50	-5.0000	0.00	0.0000	0.00	0.0000
NYSE American LLC	0.79	0.00	0.49	0.00	1.05	0.00	0.0000	-12.20	-5.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

Dash/IMC Financial Markets:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe EDGX Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$10 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Miami International Securities Exchange, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

NYSE ARCA OPTIONS:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$75 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

BOX Exchange LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq ISE, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Cboe Exchange, Inc.:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq MRX, LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

Nasdaq PHLX LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.

NYSE American LLC:

Opal Securities receives rebates when providing liquidity. This includes rebates of \$80 per 100 contracts and \$0.00 per 100 contract on removing liquidity.