

RBCM - Held NMS Stocks and Options Order Routing Public Report

Generated on Wed Oct 18 2023 08:09:31 GMT-0400 (Eastern Daylight Time)

3rd Quarter, 2023

July 2023

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
73.58	12.82	25.64	7.69	53.85

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)
RBC Capital Markets (RBCM)	43.59	100.00	20.00	33.33	42.86	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq (XNAS)	15.38	0.00	20.00	33.33	14.29	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BZX Exchange (BATS)	10.26	0.00	10.00	33.33	9.52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CBOE EDGX (EDGX)	10.26	0.00	20.00	0.00	9.52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Arca (ARCX)	7.69	0.00	10.00	0.00	9.52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MEMX (MEMX)	7.69	0.00	20.00	0.00	4.76	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGA Exchange, Inc. (EDGA)	2.56	0.00	0.00	0.00	4.76	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Mkt Llc (XASE)	2.56	0.00	0.00	0.00	4.76	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Material Aspects:

RBC Capital Markets (RBCM):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Nasdaq (XNAS):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Cboe BZX Exchange (BATS):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

CBOE EDGX (EDGX):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

NYSE Arca (ARCX):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

MEMX (MEMX):
RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Cboe EDGA Exchange, Inc. (EDGA):
RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

NYSE Mkt Llc (XASE):
RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

July 2023

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
96.74	1.17	19.91	22.40	56.52

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)
New York Stock Exch (XNYS)	20.64	0.00	5.88	19.61	26.68	0.0000	0.0000	-23.7810	-8.9312	0.0000	0.0000	55.1002	8.8350
Nasdaq (XNAS)	15.67	0.00	8.09	19.61	17.10	0.0000	0.0000	-11.1660	-17.2741	2.9782	3.8364	-140.5997	-1.5673
NYSE Arca (ARCX)	7.91	0.00	5.88	9.15	8.29	0.0000	0.0000	-0.6030	-1.0053	2.7440	2.0670	-22.6505	-0.8025
Cboe BZX Exchange (BATS)	5.71	0.00	4.41	9.15	4.92	0.0000	0.0000	-19.2000	-30.0000	7.1120	9.9706	-18.4754	-2.6536
NYSE Mkt Llc (XASE)	5.71	0.00	1.47	9.80	5.70	0.0000	0.0000	-0.2900	-29.0000	0.2300	0.9754	0.0000	0.0000
RBC Capital Markets (RBCM)	5.42	25.00	2.21	1.31	7.77	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGA Exchange, Inc. (EDGA)	5.27	0.00	7.35	5.23	4.66	0.0000	0.0000	0.9600	7.3846	-49.1700	-30.0000	0.2480	0.1868
IEX SERVICES LLC (IEXG)	4.39	0.00	6.62	7.19	2.59	0.0000	0.0000	-6.7670	-9.4419	-2.4940	-2.8970	-25.6830	-4.2055
CBOE EDGX (EDGX)	4.25	0.00	5.15	4.58	3.89	0.0000	0.0000	-19.5000	-14.4444	0.0000	0.0000	0.0000	0.0000
MEMX (MEMX)	3.81	0.00	3.68	5.23	3.37	0.0000	0.0000	-18.0780	-29.5103	4.9408	10.4346	-0.6000	-0.2135
GTS Securities, LLC (GTSM)	2.20	0.00	0.74	0.00	3.63	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq BX (XBOS)	2.05	0.00	0.74	3.27	2.07	0.0000	0.0000	0.0000	0.0000	-1.8000	-3.5040	-0.3000	-30.0000
JP Morgan Securities LLC (JPMX)	1.61	0.00	6.62	0.00	0.52	0.0000	0.0000	-0.3150	-10.0000	0.0000	0.0000	0.0000	0.0000
UBS ATS (UBSA)	1.46	0.00	5.15	0.00	0.78	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BofA Securities Inc (BAML)	1.46	0.00	6.62	0.00	0.26	0.0000	0.0000	-0.1500	-15.0000	0.0000	0.0000	0.0000	0.0000
Level ATS (LEVL)	1.32	0.00	5.88	0.00	0.26	0.0000	0.0000	-0.4000	-20.0000	0.0000	0.0000	0.0000	0.0000

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

UBS ATS (UBSA):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

BofA Securities Inc (BAML):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Level ATS (LEVL):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Barclay's LX (BARX):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

July 2023

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	13.07	6.73	74.88	5.32

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)
RBC Capital Markets (RBCM)	53.83	100.00	0.00	53.61	11.76	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Dash Financial (DFIN)	40.85	0.00	100.00	45.56	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Chicago Stock Exchange (CHXE)	5.32	0.00	0.00	0.84	88.24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Material Aspects:

RBC Capital Markets (RBCM):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Dash Financial (DFIN):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Chicago Stock Exchange (CHXE):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

August 2023

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
51.65	4.26	2.13	4.26	89.36

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)
RBC Capital Markets (RBCM)	59.57	100.00	100.00	100.00	54.76	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exch (XNYS)	8.51	0.00	0.00	0.00	9.52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-10.6000	-10.3922
NYSE Arca (ARCX)	6.38	0.00	0.00	0.00	7.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.9000	-30.0000
Cboe BYX Exchange, Inc. (BATY)	6.38	0.00	0.00	0.00	7.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.3900	-8.6667
CBOE EDGX (EDGX)	4.26	0.00	0.00	0.00	4.76	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-1.2000	-30.0000
GTS Securities, LLC (GTSM)	4.26	0.00	0.00	0.00	4.76	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BZX Exchange (BATS)	2.13	0.00	0.00	0.00	2.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.6000	-30.0000
Citadel Connect (CDED)	2.13	0.00	0.00	0.00	2.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
XCHI (XCHI)	2.13	0.00	0.00	0.00	2.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.3000	-10.0000
Nasdaq (XNAS)	2.13	0.00	0.00	0.00	2.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-5.5500	-30.0000

Material Aspects:

RBC Capital Markets (RBCM):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

New York Stock Exch (XNYS):

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NYSE Arca (ARCX):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Cboe BYX Exchange, Inc. (BATY):

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CBOE EDGX (EDGX):

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GTS Securities, LLC (GTSM):

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Cboe BZX Exchange (BATS):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Citadel Connect (CDED):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

XCHI (XCHI):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Nasdaq (XNAS):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

August 2023

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
91.59	7.76	11.43	2.24	78.57

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)
RBC Capital Markets (RBCM)	18.78	57.89	1.79	63.64	16.10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GTS Securities, LLC (GTSM)	8.37	7.89	5.36	0.00	9.09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Citadel Connect (CDED)	6.53	0.00	0.00	0.00	8.31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBSP (UBSP)	6.33	7.89	1.79	0.00	7.01	-1.7500	-7.0000	0.0000	0.0000	0.0000	0.0000	-160.4519	-6.2659
CBOE EDGX (EDGX)	6.12	2.63	8.93	0.00	6.23	0.0000	0.0000	-0.7145	-2.4503	0.0000	0.0000	-0.3200	-0.1692
NYSE Arca (ARCX)	5.92	0.00	3.57	0.00	7.01	0.0000	0.0000	-0.0480	-30.0000	0.0000	0.0000	-14.0164	-0.5561
Nasdaq (XNAS)	5.71	0.00	7.14	0.00	6.23	0.0000	0.0000	1.2396	5.9539	0.0000	0.0000	-45.0534	-0.6255
IEX SERVICES LLC (IEXG)	4.90	0.00	8.93	9.09	4.68	0.0000	0.0000	0.0000	0.0000	-0.0030	-0.0273	-0.4160	-0.5819
Cboe BZX Exchange (BATS)	4.49	0.00	3.57	0.00	5.19	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
KNCM (KNCM)	4.49	23.68	5.36	0.00	2.60	-6.0130	-9.2579	0.0000	0.0000	0.0000	0.0000	-0.6000	-3.1579

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)
New York Stock Exch (XNYS)	3.27	0.00	3.57	0.00	3.64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGA Exchange, Inc. (EDGA)	3.06	0.00	5.36	0.00	3.12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-51.1470	-17.4123
MEMX (MEMX)	2.86	0.00	3.57	0.00	3.12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5796	1.5763
NYSE Mkt Llc (XASE)	1.84	0.00	1.79	0.00	2.08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
National Stock Exchange (XCIS)	1.63	0.00	1.79	0.00	1.82	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
JP Morgan Securities LLC (JPMX)	1.43	0.00	5.36	0.00	1.04	0.0000	0.0000	-0.0020	-0.1961	0.0000	0.0000	0.0000	0.0000
Nasdaq BX (XBOS)	1.43	0.00	5.36	0.00	1.04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BofA Securities Inc (BAML)	1.22	0.00	5.36	0.00	0.78	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Barclay's LX (BARX)	1.22	0.00	3.57	0.00	1.04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Level ATS (LEVL)	1.22	0.00	3.57	0.00	1.04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Material Aspects:

RBC Capital Markets (RBCM):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

GTS Securities, LLC (GTSM):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Citadel Connect (CDED):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

UBSP (UBSP):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

CBOE EDGX (EDGX):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

NYSE Arca (ARCX):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Nasdaq (XNAS):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

IEX SERVICES LLC (IEXG):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Cboe BZX Exchange (BATS):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

KNCM (KNCM):

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
99.02	5.46	12.28	1.74	80.52

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)
RBC Capital Markets (RBCM)	9.68	56.82	0.00	28.57	7.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Arca (ARCX)	6.82	0.00	4.04	7.14	7.70	0.0000	0.0000	-5.7000	-30.0000	0.0000	0.0000	-46.4437	-2.0712
IEX SERVICES LLC (IEXG)	6.82	0.00	6.06	0.00	7.55	0.0000	0.0000	-2.2400	-2.2885	0.0000	0.0000	0.0000	0.0000
Cboe EDGA Exchange, Inc. (EDGA)	6.70	0.00	7.07	0.00	7.24	0.0000	0.0000	-1.7400	-5.1176	0.0000	0.0000	0.0000	0.0000
Cboe BZX Exchange (BATS)	6.20	0.00	7.07	7.14	6.47	0.0000	0.0000	-2.4698	-1.7657	0.0000	0.0000	-42.9000	-3.0330
NYSE Mkt Llc (XASE)	5.96	0.00	2.02	0.00	7.09	0.0000	0.0000	-0.8860	-17.6494	0.0000	0.0000	-2.8557	-3.6203
GTS Securities, LLC (GTSM)	5.58	13.64	10.10	14.29	4.16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BYX Exchange, Inc. (BATY)	5.46	0.00	7.07	21.43	5.24	0.0000	0.0000	-1.5508	-6.4617	0.0000	0.0000	0.0000	0.0000
Nasdaq BX (XBOS)	5.46	0.00	4.04	0.00	6.16	0.0000	0.0000	-0.7500	-5.3571	0.0000	0.0000	-0.2940	-0.1953
Nasdaq (XNAS)	5.33	0.00	6.06	0.00	5.70	0.0000	0.0000	-6.1296	-29.8277	0.0000	0.0000	-181.9155	-3.4039
New York Stock Exch (XNYS)	4.22	0.00	3.03	0.00	4.78	0.0000	0.0000	-12.3750	-29.4643	0.0000	0.0000	0.0000	0.0000
CBOE EDGX (EDGX)	3.97	0.00	5.05	0.00	4.16	0.0000	0.0000	-21.2945	-28.8231	0.0000	0.0000	1.1970	0.2767
MEMX (MEMX)	3.60	0.00	5.05	0.00	3.70	0.0000	0.0000	-18.0500	-12.1141	0.0000	0.0000	-2.7000	-0.8168
UBSP (UBSP)	3.60	11.36	7.07	7.14	2.47	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-350.0000	-4.3306
KNCM (KNCM)	3.23	9.09	4.04	14.29	2.47	-0.3000	-2.7149	-0.3760	-1.1137	-0.1000	-10.0000	-165.3680	-6.3260
Nasdaq OMX PHLX (XPHL)	1.86	0.00	4.04	0.00	1.69	0.0000	0.0000	-5.7000	-15.4054	0.0000	0.0000	0.0000	0.0000
Citadel Connect (CDED)	1.74	0.00	0.00	0.00	2.16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
XCHI (XCHI)	1.49	0.00	3.03	0.00	1.39	0.0000	0.0000	-0.4000	-10.0000	0.0000	0.0000	0.0000	0.0000
Virtu Americas LLC. (VALR)	1.12	0.00	0.00	0.00	1.39	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-209.1894	-6.0335
BofA Securities Inc (BAML)	0.87	0.00	2.02	0.00	0.77	0.0000	0.0000	-0.1500	-15.0000	0.0000	0.0000	0.0000	0.0000
Barclay's LX (BARX)	0.74	0.00	1.01	0.00	0.77	0.0000	0.0000	-0.1000	-10.0000	0.0000	0.0000	0.0000	0.0000

Material Aspects:

RBC Capital Markets (RBCM):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

NYSE Arca (ARCX):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

IEX SERVICES LLC (IEXG):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

XCHI (XCHI):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Virtu Americas LLC. (VALR):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

BofA Securities Inc (BAML):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Barclay's LX (BARX):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

September 2023

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	13.67	6.89	75.09	4.35

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)
Dash Financial (DFIN)	53.50	0.00	97.74	61.59	11.90	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
RBC Capital Markets (RBCM)	38.27	100.00	0.00	31.10	28.57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Chicago Stock Exchange (CHXE)	2.85	0.00	0.00	0.34	59.52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BAY CREST PARTNERS, LLC (BAYC)	0.10	0.00	0.00	0.14	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Material Aspects:

Dash Financial (DFIN):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

RBC Capital Markets (RBCM):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

Chicago Stock Exchange (CHXE):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.

BAY CREST PARTNERS, LLC (BAYC):

RBCM routes orders to market centers, such as exchanges and alternative trading systems, that may provide rebates or charge execution fees depending on whether routed orders provide liquidity, or take liquidity from, such market center. In some cases, RBCM may receive rebates from a market center that exceed the amount of fees charged by such market center. Certain market centers may provide volume-based tiered pricing/payment schedules pursuant to which RBCM may receive incremental pricing benefits based upon the aggregate trading volume routed to the market center (including trading volume not associated with customer orders), in accordance with that market center's published fee schedule.