

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 BYX Exchange, Inc. (BATY)	12.76	0.00	53.08	21.74	6.88	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-1.5000	-0.7355
Nasdaq (XNAS)	10.40	0.00	0.00	15.22	11.97	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-57.1150	-0.9203
NYSE Arca (ARCX)	9.31	0.00	0.00	6.52	10.94	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.7000	0.1119
New York Stock Exch (XNYS)	8.74	0.00	1.90	4.35	10.04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-28.5568	-1.9410
Cboe BZX Exchange (BATS)	6.32	0.00	4.27	6.52	6.74	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-1.2038	-0.3751
CBOE EDGX (EDGX)	6.26	0.00	2.37	4.35	7.02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-15.8982	-1.4354
Cboe EDGA Exchange, Inc. (EDGA)	6.09	0.00	3.79	13.04	6.33	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-41.8920	-2.8131
IEX SERVICES LLC (IEXG)	5.69	6.90	1.90	4.35	6.26	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-1.9755	-1.8939
National Stock Exchange (XCIS)	3.85	0.00	2.84	10.87	3.85	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-1.2000	-0.3606
NYSE Mkt Llc (XASE)	3.51	0.00	2.37	4.35	3.71	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.2600	1.5688
Nasdaq BX (XBOS)	3.39	0.00	6.64	0.00	3.09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2100	0.1589
MEMX (MEMX)	2.24	0.00	0.95	4.35	2.41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-5.3316	-2.0438
RBC Capital Markets (RBCM)	2.07	79.31	0.00	2.17	0.83	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq OMX PHLX (XPHL)	2.07	0.00	2.84	0.00	2.06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-6.8820	-9.4442
XCHI (XCHI)	1.44	0.00	2.37	0.00	1.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-1.9440	-8.2303
UBS ATS (UBSA)	1.26	0.00	0.95	0.00	1.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.1000	-1.1111
CS CrossFinder (CAES)	1.26	0.00	0.95	0.00	1.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.1000	-1.6667
Barclay's LX (BARX)	1.26	0.00	1.42	0.00	1.31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.1000	-10.0000
BofA Securities Inc (BAML)	1.26	0.00	1.42	0.00	1.31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Level ATS (LEVL)	1.21	0.00	1.42	0.00	1.24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Material Aspects:

Cboe BYX Exchange, Inc. (BATY):

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)
National Stock Exchange (XCIS)	5.71	0.00	0.00	0.00	5.88	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BZX Exchange (BATS)	2.86	0.00	0.00	0.00	2.94	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGA Exchange, Inc. (EDGA)	2.86	0.00	0.00	0.00	2.94	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GTS Securities, LLC (GTSM)	2.86	0.00	0.00	0.00	2.94	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Material Aspects:

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.

Cboe BYX Exchange, Inc. (BATY):

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.

National Stock Exchange (XCIS):

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 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.

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
99.78	0.72	0.10	0.01	99.17

Venues

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
NYSE Arca (ARCX)	24.21	6.15	0.00	20.00	24.36	0.0000	0.0000	0.0000	0.0000	-7.3500	-35.0000	-23.8651	-0.4847
Cboe BZX Exchange (BATS)	15.34	5.83	0.00	0.00	15.43	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	85.5479	5.6670
Nasdaq BX (XBOS)	13.82	2.59	4.44	0.00	13.91	0.0000	0.0000	-0.0209	-0.4180	0.0000	0.0000	-140.0370	-15.1784
IEX SERVICES LLC (IEXG)	12.65	4.21	2.22	0.00	12.73	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-5.7732	-0.8514
Nasdaq (XNAS)	7.41	6.80	0.00	0.00	7.42	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	15.5080	0.8688
NYSE Mkt Llc (XASE)	6.30	0.32	6.67	0.00	6.35	0.0000	0.0000	-0.0263	-2.6300	0.0000	0.0000	85.4248	12.3686
National Stock Exchange (XCIS)	4.73	2.27	4.44	0.00	4.75	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-193.5038	-14.5539
Cboe EDGA Exchange, Inc. (EDGA)	4.55	4.21	4.44	20.00	4.55	0.0000	0.0000	0.0000	0.0000	-0.0888	-0.8638	-219.7942	-9.0594
Cboe BYX Exchange, Inc. (BATY)	3.36	3.56	40.00	20.00	3.31	0.0000	0.0000	-0.6533	-1.6332	0.0000	0.0000	-88.5280	-7.1783
New York Stock Exch (XNYS)	2.80	4.53	4.44	20.00	2.79	0.0000	0.0000	-0.1874	-3.7480	0.0000	0.0000	25.3182	1.3622
CBOE EDGX (EDGX)	2.06	7.12	0.00	0.00	2.02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.5646	0.1195

Material Aspects:

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 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.

Nasdaq BX (XBOS):

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):

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)
Chicago Stock Exchange (CHXE)	0.91	0.00	0.00	1.24	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34381 (3438)	0.61	0.00	0.00	0.83	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
127653 (1276)	0.30	0.00	0.00	0.41	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BAY CREST PARTNERS, LLC (BAYC)	0.15	0.00	0.00	0.21	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Material Aspects:

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.

127653 (1276):

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.

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
98.87	2.86	0.00	0.57	96.57

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)
Nasdaq (XNAS)	10.29	0.00	0.00	0.00	10.65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-115.8690	-25.5392
IEX SERVICES LLC (IEXG)	8.00	0.00	0.00	0.00	8.28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.7200	-1.4143
NYSE Arca (ARCX)	8.00	0.00	0.00	0.00	8.28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-39.3640	-24.9898
Cboe BZX Exchange (BATS)	7.43	0.00	0.00	0.00	7.69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-24.2820	-22.2159

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
MEMX (MEMX)	7.43	0.00	0.00	0.00	7.69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-16.9712	-16.9086
New York Stock Exch (XNYS)	5.71	0.00	0.00	0.00	5.92	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-25.3040	-21.7314
CBOE EDGX (EDGX)	5.14	0.00	0.00	0.00	5.33	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-11.0688	-22.9453
EPRL (EPRL)	5.14	0.00	0.00	0.00	5.33	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-7.0675	-20.6230
RBC Capital Markets Corporatio (RBCD)	5.14	20.00	0.00	100.00	4.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Mkt Llc (XASE)	4.57	0.00	0.00	0.00	4.73	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.0360	-0.1998
National Stock Exchange (XCIS)	3.43	0.00	0.00	0.00	3.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq OMX PHLX (XPHL)	3.43	0.00	0.00	0.00	3.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-3.0000	-14.3678
RBC CAPITAL MARKETS, LLC (GELP)	3.43	0.00	0.00	0.00	3.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BYX Exchange, Inc. (BATY)	3.43	0.00	0.00	0.00	3.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1500	2.5000
Cboe EDGA Exchange, Inc. (EDGA)	2.86	0.00	0.00	0.00	2.96	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3200	5.3333
Nasdaq BX (XBOS)	2.86	0.00	0.00	0.00	2.96	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-7.2000	-30.0000
Barclay's LX (BARX)	2.29	0.00	0.00	0.00	2.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Level ATS (LEVL)	1.71	0.00	0.00	0.00	1.78	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Material Aspects:

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.

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 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.

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
99.91	0.05	0.37	0.07	99.51

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 (ARCX)	24.60	0.00	5.43	5.88	24.69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.7860	0.2636
Nasdaq BX (XBOS)	17.14	0.00	3.26	0.00	17.21	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-44.3060	-9.4076
Cboe BZX Exchange (BATS)	15.02	16.67	8.70	0.00	15.06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	15.1880	1.8256
IEX SERVICES LLC (IEXG)	12.87	0.00	4.35	0.00	12.92	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.0600	-0.0144
NYSE Mkt Llc (XASE)	7.39	0.00	3.26	0.00	7.41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	20.8362	2.8152
National Stock Exchange (XCIS)	5.44	0.00	3.26	0.00	5.46	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-66.1402	-6.8530
Nasdaq (XNAS)	4.88	0.00	4.35	0.00	4.89	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.8000	0.0119
Cboe EDGA Exchange, Inc. (EDGA)	4.63	0.00	4.35	17.65	4.63	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-37.9830	-1.7052
Cboe BYX Exchange, Inc. (BATY)	3.49	0.00	7.61	23.53	3.46	0.0000	0.0000	-0.0696	-0.5800	0.0000	0.0000	-10.9820	-2.5680
New York Stock Exch (XNYS)	1.66	0.00	6.52	5.88	1.64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-7.5730	-0.3903
CBOE EDGX (EDGX)	1.08	0.00	6.52	11.76	1.05	0.0000	0.0000	-3.7092	-2.0248	0.0720	0.0755	5.7454	0.2248

Material Aspects:

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 BX (XBOS):

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.

IEX SERVICES LLC (IEXG):

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)	0.53	0.00	0.00	0.00	8.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Chicago Stock Exchange (CHXE)	0.13	0.00	0.00	0.17	0.00	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.

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.