# **RBCM - Held NMS Stocks and Options Order Routing Public Report**

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# 2nd Quarter, 2023

# April 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
90.72	0.00	0.00	0.00	100.00

### Venues

Venue - Non-directed Order Flow	Non- Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non- Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/ Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non- Marketable Limit Orders(USD)	Net Payment Paid/ Received for Non- Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
New York Stock Exch (XNYS)	23.86	0.00	0.00	0.00	23.86	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.1404	1.4017
Nasdaq (XNAS)	13.64	0.00	0.00	0.00	13.64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BZX Exchange (BATS)	12.50	0.00	0.00	0.00	12.50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Arca (ARCX)	9.09	0.00	0.00	0.00	9.09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CBOE EDGX (EDGX)	7.95	0.00	0.00	0.00	7.95	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.6832	5.6554
IEX SERVICES LLC (IEXG)	5.68	0.00	0.00	0.00	5.68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
RBC Capital Markets (RBCM)	4.55	0.00	0.00	0.00	4.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MEMX (MEMX)	3.41	0.00	0.00	0.00	3.41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
XCHI (XCHI)	3.41	0.00	0.00	0.00	3.41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Mkt Llc (XASE)	2.27	0.00	0.00	0.00	2.27	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
National Stock Exchange (XCIS)	1.14	0.00	0.00	0.00	1.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq BX (XBOS)	1.14	0.00	0.00	0.00	1.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Goldman Sachs & Co. LLC (SGMT)	1.14	0.00	0.00	0.00	1.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Level ATS (LEVL)	1.14	0.00	0.00	0.00	1.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

# Material Aspects:

New York Stock Exch (XNYS):

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):

### 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 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.

### 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.

### 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 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.

### 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.

### 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 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 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 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.

### Goldman Sachs & Co. LLC (SGMT):

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 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 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.

# April 2023

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# 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
96.57	0.74	7.32	1.04	90.90

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)	16.27	0.00	2.02	0.00	17.74	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	12.0790	1.5009
Nasdaq (XNAS)	9.32	0.00	4.04	7.14	9.85	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-62.9390	-2.6557
NYSE Arca (ARCX)	7.32	0.00	6.06	0.00	7.57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.6770	-0.0529
Cboe BZX Exchange (BATS)	5.92	0.00	5.05	0.00	6.10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.0470	0.9556
CBOE EDGX (EDGX)	5.84	0.00	5.05	0.00	6.02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-14.4024	-0.7429
IEX SERVICES LLC (IEXG)	5.40	0.00	6.06	0.00	5.45	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-9.2620	-2.6315
NYSE Mkt Llc (XASE)	5.25	0.00	4.04	0.00	5.45	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	14.6800	8.4368
Cboe BYX Exchange, Inc. (BATY)	5.18	0.00	11.11	21.43	4.56	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-156.6020	-12.6344
MEMX (MEMX)	5.03	0.00	3.03	0.00	5.29	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8.2016	1.2576
Cboe EDGA Exchange, Inc. (EDGA)	4.96	0.00	7.07	14.29	4.72	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-64.2910	-5.5527
RBC Capital Markets (RBCM)	3.48	80.00	2.02	35.71	2.60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq BX (XBOS)	2.88	0.00	6.06	0.00	2.69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-8.9623	-2.4811
UBS ATS (UBSA)	1.48	0.00	3.03	0.00	1.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.3000	-1.0345
BofA Securities Inc (BAML)	1.41	0.00	2.02	0.00	1.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Level ATS (LEVL)	1.41	0.00	2.02	0.00	1.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.1000	-5.0000
Intelligent Cross LLC (INCR)	1.33	0.00	2.02	0.00	1.30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Barclay's LX (BARX)	1.33	0.00	2.02	0.00	1.30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Goldman Sachs & Co. LLC (SGMT)	1.26	0.00	1.01	0.00	1.30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.2000	-6.6667
Instinet CBX (ICBX)	1.26	0.00	2.02	0.00	1.22	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Matchlt(1) (VFMI)	1.11	0.00	3.03	0.00	0.98	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.2600	-13.0000
XCHI (XCHI)	1.11	0.00	5.05	0.00	0.81	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Knight Match (KNMX)	1.04	0.00	0.00	0.00	1.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Citadel Connect (CDED)	0.96	0.00	0.00	0.00	1.06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-17.5000	-0.1865

### Material Aspects:

### New York Stock Exch (XNYS):

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.

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### Cboe BZX Exchange (BATS):

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CBOE EDGX (EDGX):

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### Cboe BYX Exchange, Inc. (BATY):

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### MEMX (MEMX):

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### 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.

### RBC Capital Markets (RBCM):

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### 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 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):

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### Intelligent Cross LLC (INCR):

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 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.

### Goldman Sachs & Co. LLC (SGMT):

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.

Instinet CBX (ICBX):

### Virtu Matchlt(1) (VFMI)

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.

### 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.

# April 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	14.78	14.87	66.54	3.81

### 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)	65.59	100.00	0.00	73.93	42.50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Dash Financial (DFIN)	31.65	0.00	100.00	25.21	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Chicago Stock Exchange (CHXE)	2.57	0.00	0.00	0.57	57.50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BAY CREST PARTNERS, LLC (BAYC)	0.19	0.00	0.00	0.29	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.

### 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.

# 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
88.18	1.63	0.98	1.63	95.75

# 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)	11.76	0.00	0.00	0.00	12.29	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-21.0330	-21.4382
RBC Capital Markets (RBCM)	8.82	40.00	66.67	80.00	6.48	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
IEX SERVICES LLC (IEXG)	6.86	0.00	0.00	0.00	7.17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.2777	-0.7155
Cboe BYX Exchange, Inc. (BATY)	5.88	0.00	0.00	0.00	6.14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1275	0.9659
NYSE Arca (ARCX)	5.56	0.00	0.00	0.00	5.80	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-27.0720	-22.0492
BofA Securities Inc (BAML)	4.90	0.00	0.00	0.00	5.12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.1000	-3.3333
New York Stock Exch (XNYS)	4.90	0.00	0.00	0.00	5.12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-22.2570	-18.4201
Barclay's LX (BARX)	3.92	0.00	0.00	0.00	4.10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.2010	-20.1000
CBOE EDGX (EDGX)	3.92	0.00	0.00	0.00	4.10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-5.9880	-24.2135
Cboe BZX Exchange (BATS)	3.59	0.00	0.00	0.00	3.75	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-8.7960	-23.7794
Nasdaq BX (XBOS)	3.27	0.00	0.00	0.00	3.41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-1.9370	-24.4262
XCHI (XCHI)	2.94	0.00	0.00	0.00	3.07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.3000	-5.3957
Nasdaq OMX PHLX (XPHL)	2.94	0.00	0.00	0.00	3.07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.3060	-4.2917
UBS ATS (UBSA)	2.29	0.00	0.00	0.00	2.39	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.2000	-8.6580
Virtu Americas LLC. (VALR)	2.29	0.00	0.00	0.00	2.39	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-16.7552	-3.2569
Goldman Sachs & Co. LLC (SGMT)	2.29	0.00	0.00	0.00	2.39	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Citadel Connect (CDED)	1.96	20.00	0.00	0.00	1.71	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Level ATS (LEVL)	1.96	0.00	0.00	0.00	2.05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.2540	-8.3553
MEMX (MEMX)	1.96	0.00	0.00	0.00	2.05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-4.7294	-25.3723
BIDS TRADING L.P. (BIDS)	1.96	0.00	0.00	0.00	2.05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CS CrossFinder (CAES)	1.63	0.00	33.33	0.00	1.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Virtu Matchlt(1) (VFMI)	1.63	0.00	0.00	0.00	1.71	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBSP (UBSP)	1.31	0.00	0.00	0.00	1.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Mkt Llc (XASE)	1.31	0.00	0.00	0.00	1.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Instinet CBX (ICBX)	1.31	0.00	0.00	0.00	1.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

# Material Aspects: Nasdaq (XNAS):

### 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.

### 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 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 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 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.

### New York Stock Exch (XNYS):

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 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 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 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.

### Nasdag 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.

### Nasdag OMX PHLX (XPHL):

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 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.

### Goldman Sachs & Co. LLC (SGMT):

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):

### 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.

### CS CrossFinder (CAES):

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 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.

### Instinet CBX (ICBX):

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.

# May 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
95.56	1.72	7.90	3.95	86.44

### Venues

Venue - Non-directed Order Flow	Non- Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non- Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/ Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non- Marketable Limit Orders(USD)	Net Payment Paid/ Received for Non- Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
NYSE Mkt Llc (XASE)	11.47	0.00	4.71	7.06	12.52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.2000	5.7256
Cboe BZX Exchange (BATS)	10.92	0.00	8.24	9.41	11.45	0.0000	0.0000	-0.1588	-0.1339	0.0000	0.0000	18.6432	3.5034
New York Stock Exch (XNYS)	10.78	0.00	5.29	9.41	11.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.2000	-0.0258
Nasdaq BX (XBOS)	9.94	0.00	5.29	3.53	10.85	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-46.5182	-16.8575
National Stock Exchange (XCIS)	9.85	0.00	5.29	5.88	10.64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-15.7500	-3.0523
IEX SERVICES LLC (IEXG)	7.52	0.00	7.06	5.88	7.79	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGA Exchange, Inc. (EDGA)	7.34	0.00	7.06	4.71	7.63	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-23.5862	-3.7014
Nasdaq (XNAS)	6.64	0.00	5.29	9.41	6.77	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-30.8623	-0.2953
NYSE Arca (ARCX)	6.36	0.00	7.65	9.41	6.23	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-51.7653	-4.5605
Cboe BYX Exchange, Inc. (BATY)	3.90	0.00	12.35	3.53	3.22	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-12.6334	-7.3476

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 EDGX (EDGX)	2.74	0.00	6.47	9.41	2.15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-3.6918	-0.1616
Knight Match (KNMX)	1.49	27.03	0.00	0.00	1.18	-0.3000	-1.0345	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MEMX (MEMX)	1.39	0.00	1.18	9.41	1.07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

# Material Aspects:

### 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 sechedule.

### 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 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):

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 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 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 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 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 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 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 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 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):

# May 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	30.04	0.00	62.53	7.43

### 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)	94.59	100.00	0.00	99.49	31.43	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Chicago Stock Exchange (CHXE)	5.31	0.00	0.00	0.34	68.57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BAY CREST PARTNERS, LLC (BAYC)	0.11	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 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 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.

# June 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
76.47	11.54	0.00	3.85	84.62

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)	53.85	33.33	0.00	100.00	54.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CBOE EDGX (EDGX)	7.69	0.00	0.00	0.00	9.09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.2000	16.0000
INTL FCSTONE SECURITIES INC. (INTL)	7.69	66.67	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nasdaq (XNAS)	7.69	0.00	0.00	0.00	9.09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New York Stock Exch (XNYS)	7.69	0.00	0.00	0.00	9.09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NYSE Arca (ARCX)	3.85	0.00	0.00	0.00	4.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BIDS TRADING L.P. (BIDS)	3.85	0.00	0.00	0.00	4.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Citadel Connect (CDED)	3.85	0.00	0.00	0.00	4.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBSP (UBSP)	3.85	0.00	0.00	0.00	4.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
IEX SERVICES LLC (IEXG)	0.00	0.00	0.00	0.00	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 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.

### 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 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):

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 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 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.

# June 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
96.94	3.57	6.86	1.37	88.20

### 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)	24.97	0.00	2.00	10.00	27.99	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe BZX Exchange (BATS)	11.93	0.00	6.00	10.00	12.91	0.0000	0.0000	-0.2956	-0.9237	0.0000	0.0000	1.9200	0.8757
Nasdaq BX (XBOS)	10.56	0.00	6.00	0.00	11.51	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-22.5780	-7.2086
Nasdaq (XNAS)	7.68	7.69	8.00	10.00	7.62	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-4.5920	-1.2971
NYSE Mkt Llc (XASE)	6.72	0.00	6.00	0.00	7.15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1400	8.9167
RBC Capital Markets (RBCM)	5.62	65.38	4.00	20.00	3.11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cboe EDGA Exchange, Inc. (EDGA)	5.35	0.00	8.00	10.00	5.29	0.0000	0.0000	0.0000	0.0000	-0.4500	-30.0000	-15.0000	-5.8052
NYSE Arca (ARCX)	4.94	0.00	8.00	10.00	4.82	0.0000	0.0000	-1.8559	-1.3547	0.0000	0.0000	2.4800	0.7014
IEX SERVICES LLC (IEXG)	3.98	0.00	8.00	10.00	3.73	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	16.00	0.00	2.64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-1.0000	-0.3265
CBOE EDGX (EDGX)	2.33	0.00	6.00	10.00	2.02	0.0000	0.0000	-0.2956	-0.6569	0.0000	0.0000	7.7571	0.5437
GTS Securities, LLC (GTSM)	2.19	3.85	0.00	0.00	2.33	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MEMX (MEMX)	1.37	0.00	2.00	10.00	1.24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0752	0.0827

### Material Aspects:

### New York Stock Exch (XNYS):

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 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 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 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.

### 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.

Cboe EDGA Exchange, Inc. (EDGA):

### 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 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 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 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 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.

### 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 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.

# June 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	15.80	0.00	78.75	5.44

### Venues

Venue - Non-directed Order Flow	Non- Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non- Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/ Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non- Marketable Limit Orders(USD)	Net Payment Paid/ Received for Non- Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
RBC Capital Markets (RBCM)	92.43	100.00	0.00	94.77	36.59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Chicago Stock Exchange (CHXE)	4.12	0.00	0.00	0.84	63.41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BAY CREST PARTNERS, LLC (BAYC)	3.45	0.00	0.00	4.38	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

### Material Aspects:

RBC Capital Markets (RBCM):

### 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.