

RBC Capital Markets Corporation - Held NMS Stocks and Options Order Routing Public Report

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3rd Quarter, 2024

July 2024

S&P 500 Stocks

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
100.00	96.86	0.23	1.05	1.86

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)
Virtu Agency	76.40	78.87	0.00	0.00	0.00	87.32	3.9589	0.00	0.0000	0.00	0.0000	0.00	0.0000
MCAP LLC	19.53	20.17	0.00	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Knight Capital Markets	2.33	0.72	0.00	0.00	87.50	0.60	10.2759	0.00	0.0000	0.00	0.0000	0.33	10.0000
NEW YORK STOCK EXCHANGE, INC.	1.16	0.12	0.00	100.00	0.00	122.07	30.0000	0.00	0.0000	-0.18	-7.2000	0.00	0.0000
UBS Securities, LLC ATS	0.47	0.00	100.00	0.00	12.50	1.10	10.0000	0.30	7.9787	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	0.12	0.12	0.00	0.00	0.00	156.90	29.9857	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

Virtu Agency:

Net payments for purposes of Rule 606(a)(1) solely include commissions charged by VIRTU AMERICAS LLC as Subscriber for executions in the ATS. For more information about Virtu MatchIt ATS's fees, please see Virtu MatchIt ATS's Form ATS-N, Item 19 available at <https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&filenum=013-00140&owner=exclude&count=40>

Knight Capital Markets:

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 EXCHANGE, INC.:

When routing orders to this market center for execution, RBCM pays fees or receives credits in accordance with this market center's published fee schedule and may receive incremental pricing benefits if certain volume thresholds are met in accordance with such published fee schedule. The credits/rebates received by RBCM may be in excess of fees charged for the venue and the receipt of net payments from a venue would constitute payment for order flow. XNYS has a tiered pricing/payment schedule. For detailed information, please see the exchange's public website: <https://www.nyse.com/markets/nyse/trading-info#trading-fees>

UBS Securities, LLC ATS:

Net payments for purposes of Rule 606(a)(1) solely include commissions charged by UBS Securities LLC as Subscriber for executions in the ATS. For more information about UBS ATS's fees, please see UBS ATS's Form ATS-N, Item 19 available at: <https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&filenum=013-00069&owner=exclude&count=40>.

The Nasdaq Stock Market LLC:

When routing orders to this market center for execution, RBCCM pays fees or receives credits in accordance with this market center's published fee schedule and may receive incremental pricing benefits if certain volume thresholds are met in accordance with such published fee schedule. The credits/rebates received by RBCCM may be in excess of fees charged for the venue and the receipt of net payments from a venue would constitute payment for order flow. XNAS has a tiered pricing/payment schedule. For detailed information, please see the exchange's public website: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>

July 2024

Non-S&P 500 Stocks

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
100.00	51.22	11.62	37.12	0.04

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)
StoneX Financial, Inc.	19.18	37.45	0.00	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Virtu Agency	17.17	33.52	0.00	0.00	0.00	58.34	2.3907	127.84	9.2104	0.00	0.0000	0.00	0.0000
Citadel Securities	11.25	2.64	4.09	25.39	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	5.44	1.43	11.64	9.06	0.00	1.50	10.0133	241.50	8.5294	3.90	0.7646	0.00	0.0000
Investors Exchange (IEXG)	4.27	0.57	7.86	8.27	0.00	0.00	0.0000	5.30	7.6870	5.86	1.5650	0.00	0.0000
GTS SECURITIES LLC	3.80	5.06	0.63	2.95	100.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Intelligentcross	3.51	0.43	5.66	7.09	0.00	0.00	0.0000	0.00	0.0000	2.36	3.9333	0.00	0.0000
NYSE Arca, Inc.	3.51	1.14	9.12	5.02	0.00	0.00	0.0000	109.31	9.6236	-1.05	-0.4628	0.00	0.0000
UBS Securities, LLC ATS	3.43	1.93	4.40	5.22	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Goldman Sachs & Co. LLC SIGMA X2	3.00	0.36	5.97	5.71	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

StoneX Financial, Inc.:

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

Virtu Agency:

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 Corporation	72.11	91.49	48.72	72.12	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Dash/IMC Financial Markets	27.89	8.51	51.28	27.88	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

RBC Capital Markets Corporation:

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

Dash/IMC Financial Markets:

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

August 2024

S&P 500 Stocks

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
98.65	96.98	1.92	1.10	0.00

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)
Virtu Agency	84.50	87.13	0.00	0.00	0.00	79.76	3.4885	0.00	0.0000	0.00	0.0000	0.00	0.0000
GTS SECURITIES LLC	12.07	12.45	0.00	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	1.65	0.14	28.57	87.50	0.00	0.00	0.0000	0.18	2.7273	0.00	0.0000	0.00	0.0000
Cboe EDGX Exchange, Inc.	0.69	0.00	35.71	0.00	0.00	0.00	0.0000	0.19	0.9201	0.00	0.0000	0.00	0.0000
NYSE Arca, Inc.	0.69	0.00	35.71	0.00	0.00	0.00	0.0000	1.58	11.8868	0.00	0.0000	0.00	0.0000
Knight Capital Markets	0.27	0.28	0.00	0.00	0.00	0.10	1.6667	0.00	0.0000	0.00	0.0000	0.00	0.0000

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
Cboe BYX Exchange, Inc.	0.14	0.00	0.00	12.50	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

Virtu Agency:
Net payments for purposes of Rule 606(a)(1) solely include commissions charged by VIRTU AMERICAS LLC as Subscriber for executions in the ATS. For more information about Virtu Matcht ATS's fees, please see Virtu Matcht ATS's Form ATS-N, Item 19 available at <https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&filenum=013-00140&owner=exclude&count=40>

GTS SECURITIES LLC:
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.

The Nasdaq Stock Market LLC:
When routing orders to this market center for execution, RBCCM pays fees or receives credits in accordance with this market center's published fee schedule and may receive incremental pricing benefits if certain volume thresholds are met in accordance with such published fee schedule. The credits/rebates received by RBCCM may be in excess of fees charged for the venue and the receipt of net payments from a venue would constitute payment for order flow. XNAS has a tiered pricing/payment schedule. For detailed information, please see the exchange's public website: <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>

Cboe EDGX Exchange, Inc.:
When routing orders to this market center for execution, RBCCM pays fees or receives credits in accordance with this market center's published fee schedule and may receive incremental pricing benefits if certain volume thresholds are met in accordance with such published fee schedule. The credits/rebates received by RBCCM may be in excess of fees charged for the venue and the receipt of net payments from a venue would constitute payment for order flow. EDGX has a tiered pricing/payment schedule. For detailed information, please see the exchange's public website: https://markets.cboe.com/us/equities/membership/fee_schedule/edgx/

NYSE Arca, Inc.:
When routing orders to this market center for execution, RBCCM pays fees or receives credits in accordance with this market center's published fee schedule and may receive incremental pricing benefits if certain volume thresholds are met in accordance with such published fee schedule. The credits/rebates received by RBCCM may be in excess of fees charged for the venue and the receipt of net payments from a venue would constitute payment for order flow. ARCX has a tiered pricing/payment schedule. For detailed information, please see the exchange's public website: <https://www.nyse.com/markets/nyse-arca/trading-info>

Knight Capital Markets:
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.:
When routing orders to this market center for execution, RBCCM pays fees or receives credits in accordance with this market center's published fee schedule and may receive incremental pricing benefits if certain volume thresholds are met in accordance with such published fee schedule. The credits/rebates received by RBCCM may be in excess of fees charged for the venue and the receipt of net payments from a venue would constitute payment for order flow. BATY has a tiered pricing/payment schedule. For detailed information, please see the exchange's public website: https://markets.cboe.com/us/equities/membership/fee_schedule/byx/

August 2024

Non-S&P 500 Stocks

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
99.63	47.70	33.66	18.22	0.42

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)
Virtu Agency	31.52	42.58	2.37	57.16	0.00	34.57	1.9429	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC ATS	10.48	5.47	23.11	0.52	0.00	0.00	0.0000	6.76	0.6176	0.00	0.0000	0.00	0.0000
GTS SECURITIES LLC	8.91	12.62	1.75	12.65	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Global Liquidity Partners	4.33	9.07	0.00	0.00	0.00	0.38	0.3020	0.00	0.0000	0.00	0.0000	0.00	0.0000
Investors Exchange (IEXG)	3.55	1.28	7.12	2.97	0.00	0.00	0.0000	14.62	7.4903	-2.81	-2.8348	0.00	0.0000
Citadel Securities	3.48	5.67	0.00	4.26	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
MCAP LLC	3.10	6.51	0.00	0.00	0.00	15.00	0.1600	0.00	0.0000	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	3.08	2.02	4.47	3.35	0.00	0.00	0.0000	421.81	24.8367	-15.82	-4.2022	0.00	0.0000
NYSE Arca, Inc.	2.66	1.72	4.05	2.45	5.56	0.00	0.0000	124.43	22.9833	-8.20	-3.1432	14.10	30.0000
Cboe BZX Exchange, Inc.	2.61	2.07	3.77	1.94	0.00	0.00	0.0000	78.00	22.0753	-2.40	-3.9164	0.00	0.0000

Material Aspects:

Virtu Agency:
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 Securities, LLC ATS:
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GTS SECURITIES LLC:
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.

Investors Exchange (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.

Citadel Securities:
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MCAP LLC:
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The Nasdaq Stock Market LLC:

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NYSE Arca, Inc.:
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Cboe BZX Exchange, Inc.:
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August 2024

Options

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
100.00	23.37	19.59	55.67	1.37

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 Corporation	87.63	98.53	71.93	90.74	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Dash/IMC Financial Markets	11.00	1.47	28.07	9.26	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
GELP	1.37	0.00	0.00	0.00	100.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

RBC Capital Markets Corporation:

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

Dash/IMC Financial Markets:

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GELP:

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September 2024

S&P 500 Stocks

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
100.00	51.23	48.13	0.64	0.00

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)
Virtu Agency	70.06	49.15	93.23	0.00	0.00	77.95	7.7946	34.80	2.9514	0.00	0.0000	0.00	0.0000
Citadel Securities	11.68	20.31	2.64	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
GTS SECURITIES LLC	8.66	16.90	0.00	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC ATS	8.18	13.02	3.14	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	0.56	0.16	0.17	62.50	0.00	0.39	30.0000	0.00	0.0000	0.33	30.0000	0.00	0.0000
NYSE Arca, Inc.	0.24	0.31	0.00	12.50	0.00	0.39	30.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Cboe BYX Exchange, Inc.	0.16	0.00	0.17	12.50	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Investors Exchange (IEXG)	0.16	0.00	0.33	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Cboe BZX Exchange, Inc.	0.08	0.00	0.17	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Cboe EDGX Exchange, Inc.	0.08	0.00	0.00	12.50	0.00	0.00	0.0000	0.00	0.0000	0.90	30.0000	0.00	0.0000

Material Aspects:

Virtu Agency:
 Net payments for purposes of Rule 606(a)(1) solely include commissions charged by VIRTU AMERICAS LLC as Subscriber for executions in the ATS. For more information about Virtu MatchIt ATS's fees, please see Virtu MatchIt ATS's Form ATS-N, Item 19 available at <https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&filenum=013-00140&owner=exclude&count=40>

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

GTS SECURITIES LLC:

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)
GTS SECURITIES LLC	42.56	24.58	84.35	1.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Virtu Agency	39.67	52.46	7.02	77.91	0.00	40.79	3.0521	18.98	7.1803	25.83	3.2541	0.00	0.0000
Citadel Securities	5.96	7.06	3.61	8.43	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC ATS	3.49	8.22	0.00	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
MCAP LLC	2.66	6.26	0.00	0.00	0.00	1.53	0.0361	0.00	0.0000	0.00	0.0000	0.00	0.0000
Knight Capital Markets	2.43	1.07	1.60	7.23	0.00	0.27	1.3085	1.40	7.2239	1.34	2.7280	0.00	0.0000
The Nasdaq Stock Market LLC	0.65	0.09	0.80	1.20	10.00	46.80	30.0000	47.21	27.4505	-0.18	-18.0000	0.00	0.0000
Investors Exchange (IEX)	0.38	0.09	0.40	0.60	10.00	2.80	20.0000	10.50	15.9091	0.40	20.0000	3.38	8.2439
NYSE Arca, Inc.	0.38	0.00	0.40	1.00	5.00	0.00	0.0000	78.60	27.7739	0.60	30.0000	0.00	0.0000
Cboe BYX Exchange, Inc.	0.34	0.00	0.20	1.00	10.00	0.00	0.0000	-0.00	-0.0392	0.00	0.0000	0.00	0.0000

Material Aspects:

GTS SECURITIES LLC:

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

Virtu Agency:

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 Securities:

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 Securities, LLC ATS:

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.

MCAP LLC:

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.

Knight Capital Markets:

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.

The Nasdaq Stock Market LLC:

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.

Investors Exchange (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, Inc.:

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.:

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

September 2024

Options

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
100.00	38.93	23.21	37.86	0.00

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)
RBC Capital Markets Corporation	92.14	95.41	86.15	92.45	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Dash/IMC Financial Markets	7.86	4.59	13.85	7.55	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

RBC Capital Markets Corporation:

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

Dash/IMC Financial Markets:

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.