

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

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4th Quarter, 2024

October 2024

S&P 500 Stocks

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
99.77	96.87	1.47	1.61	0.05

Venues

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
Virtu Agency	69.77	72.03	0.00	0.00	0.00	47.24	1.5491	0.00	0.0000	0.00	0.0000	0.00	0.0000
NEW YORK STOCK EXCHANGE, INC.	11.29	11.51	6.25	2.86	0.00	-8.15	-25.1621	1.29	30.0000	0.00	0.0000	0.00	0.0000
NYSE Arca, Inc.	8.99	8.90	12.50	11.43	0.00	-5.99	-23.1469	0.39	7.3585	-0.20	-3.3333	0.00	0.0000
Citadel Securities	2.95	3.04	0.00	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Investors Exchange (IEXG)	1.89	1.38	15.62	20.00	0.00	-2.72	-11.9859	0.62	7.4879	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	1.01	0.48	25.00	11.43	0.00	-1.74	-30.7302	1.12	5.2497	0.00	0.0000	0.00	0.0000
Cboe BZX Exchange, Inc.	0.51	0.29	6.25	8.57	0.00	-0.96	-23.8781	0.30	10.9890	0.00	0.0000	0.00	0.0000
Cboe BYX Exchange, Inc.	0.46	0.14	0.00	20.00	0.00	0.50	20.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Goldman Sachs & Co. LLC SIGMA X2	0.46	0.43	3.12	0.00	0.00	0.01	8.5714	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC ATS	0.46	0.43	3.12	0.00	0.00	0.01	8.5714	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>

NEW YORK STOCK 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. 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>

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>

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.

Investors Exchange (IEXG):
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. IEXG has a tiered pricing/payment schedule. For detailed information, please see the exchange's public website: <https://iextrading.com/trading/fees/>

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 BZX 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. BATS 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/bzx/
Information reflecting the BATS's tiered pricing/payment schedule, as applicable to RBC

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/

Goldman Sachs & Co. LLC SIGMA X2:
Net payments for purposes of Rule 606(a)(1) solely include commissions charged by GOLDMAN SACHS & CO. LLC as Subscriber for executions in the ATS. For more information about SIGMA X2 ATS's fees, please see SIGMA X2 ATS's Form ATS-N, Item 19 available at <https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&filenum=013-00121&owner=exclude&count=40>

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>.

October 2024

Non-S&P 500 Stocks

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non- Directed Orders	Non-Marketable Limit Orders as % of Non- Directed Orders	Other Orders as % of Non-Directed Orders
99.83	52.68	17.58	29.74	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	51.94	61.59	20.54	53.40	0.00	105.65	4.1404	54.66	4.3409	53.66	2.2181	0.00	0.0000
GTS SECURITIES LLC	15.45	12.56	41.71	5.05	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Securities	11.18	13.59	6.44	9.73	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Canaccord Genuity Securities	7.57	0.04	2.48	23.92	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC ATS	4.29	7.27	0.99	0.95	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
StoneX Financial, Inc.	1.70	0.00	8.66	0.59	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
MCAP LLC	1.65	3.14	0.00	0.00	0.00	10.71	0.1084	0.00	0.0000	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	0.89	0.45	1.98	1.02	0.00	15.16	24.3626	9.35	1.0804	-1.28	-4.3105	0.00	0.0000
Investors Exchange (IEXG)	0.72	0.25	2.23	0.66	0.00	0.89	7.8177	14.43	3.6351	1.26	4.6667	0.00	0.0000
NYSE Arca, Inc.	0.65	0.21	1.98	0.66	0.00	0.90	15.0000	4.59	0.7602	29.40	18.7452	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.

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.

Citadel Securities:
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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.

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.

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.

The Nasdaq Stock Market LLC:

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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.

October 2024

Options

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
100.00	48.16	18.13	32.58	1.13

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	94.62	100.00	84.38	95.65	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Dash/IMC Financial Markets	4.25	0.00	15.62	4.35	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
GELP	1.13	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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November 2024

S&P 500 Stocks

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
98.12	98.02	0.41	1.03	0.55

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	55.02	56.14	0.00	0.00	0.00	125.05	5.9663	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Securities	19.14	19.46	16.67	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
GTS SECURITIES LLC	13.67	13.95	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	9.02	9.21	0.00	0.00	0.00	0.20	0.0126	0.00	0.0000	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	1.09	0.42	33.33	33.33	37.50	0.22	4.7368	0.00	0.0000	0.00	0.0000	0.72	30.0000
NYSE Arca, Inc.	0.41	0.21	0.00	13.33	12.50	0.04	3.4803	0.00	0.0000	0.00	0.0000	0.57	30.0000
Intelligentcross	0.34	0.35	0.00	0.00	0.00	0.20	4.6143	0.00	0.0000	0.00	0.0000	0.00	0.0000
Investors Exchange (IEXG)	0.34	0.14	16.67	13.33	0.00	0.14	10.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Cboe BYX Exchange, Inc.	0.21	0.00	0.00	20.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Cboe BZX Exchange, Inc.	0.14	0.00	16.67	6.67	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

Virtu Agency:
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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>

Intelligentcross:
Net payments for purposes of Rule 606(a)(1) solely include commissions charged by INTELLIGENT CROSS LLC as Subscriber for executions in the ATS. For more information about IntelligentCross ATS's fees, please see IntelligentCross ATS's Form ATS-N, Item 19 available at <https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&filenum=013-00116&owner=include&count=40>

Investors Exchange (IEXG):
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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/

Cboe BZX 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. BATS 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/bzx/
Information reflecting the BATS's tiered pricing/payment schedule, as applicable to RBC

November 2024

Non-S&P 500 Stocks

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non- Directed Orders	Non-Marketable Limit Orders as % of Non- Directed Orders	Other Orders as % of Non-Directed Orders
99.60	34.19	31.17	33.86	0.79

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	49.80	16.21	48.85	85.74	0.00	88.67	3.4629	117.79	6.4766	111.45	2.0797	0.00	0.0000
Citadel Securities	29.62	44.57	33.55	11.59	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC ATS	9.11	26.18	0.51	0.00	0.00	0.81	0.0125	0.70	0.0610	0.00	0.0000	0.00	0.0000
GTS SECURITIES LLC	3.18	5.07	4.64	0.00	0.00	0.00	0.0000	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)
Canaccord Genuity Securities	1.36	3.98	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	0.80	0.59	1.10	0.34	18.18	144.52	29.6134	145.90	27.2622	0.00	0.0000	5.46	17.5000
MCAP LLC	0.64	1.84	0.05	0.00	0.00	5.81	0.0687	0.00	0.0000	0.00	0.0000	0.00	0.0000
Cboe BYX Exchange, Inc.	0.60	0.00	1.33	0.38	7.27	0.00	0.0000	7.87	22.5268	18.23	17.0332	0.30	30.0000
NYSE Arca, Inc.	0.59	0.13	0.97	0.34	16.36	236.10	18.8729	50.23	10.7716	0.00	0.0000	5.76	20.2746
Investors Exchange (IEXG)	0.57	0.17	1.19	0.34	3.64	6.80	13.0518	29.93	11.1695	-3.87	-0.9621	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.

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.

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:

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.

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.

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.

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.

November 2024

Options

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non- Directed Orders	Non-Marketable Limit Orders as % of Non- Directed Orders	Other Orders as % of Non-Directed Orders
100.00	39.84	20.32	38.25	1.59

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	95.22	100.00	94.12	94.79	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Dash/IMC Financial Markets	3.19	0.00	5.88	5.21	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
GELP	1.59	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:
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.

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

December 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
37.50	0.00	55.56	44.44	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)
NYSE Arca, Inc.	44.44	0.00	40.00	50.00	0.00	0.00	0.0000	0.30	18.7500	0.72	30.0000	0.00	0.0000
Cboe EDGX Exchange, Inc.	22.22	0.00	20.00	25.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
The Nasdaq Stock Market LLC	22.22	0.00	20.00	25.00	0.00	0.00	0.0000	1.20	30.0000	0.00	0.0000	0.00	0.0000
Cboe BZX Exchange, Inc.	11.11	0.00	20.00	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

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>

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/

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 BZX 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. BATS 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/bzx/
 Information reflecting the BATS's tiered pricing/payment schedule, as applicable to RBC

December 2024

Non-S&P 500 Stocks

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
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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
99.80	54.84	25.48	16.81	2.88

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)
Citadel Securities	32.78	39.68	28.38	22.51	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Virtu Agency	18.21	5.37	25.10	52.79	0.00	77.06	8.2246	43.94	3.8478	0.00	0.0000	0.00	0.0000
GTS SECURITIES LLC	16.97	21.43	18.92	2.39	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC ATS	7.16	12.88	0.39	0.00	0.00	0.20	0.0281	0.60	10.0000	0.00	0.0000	0.00	0.0000
Knight Capital Markets	6.13	5.49	11.70	0.80	0.00	3.01	3.4175	76.54	8.2792	25.90	10.0000	0.00	0.0000
MCAP LLC	5.96	10.81	0.13	0.00	0.00	12.67	0.0463	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE Arca, Inc.	1.61	0.79	1.31	2.79	12.79	6.02	16.2994	53.97	18.2998	-2.48	-0.7396	0.00	0.0000
The Nasdaq Stock Market LLC	1.61	0.85	1.31	2.79	11.63	1.82	3.2687	138.38	21.7012	-2.41	-6.8558	0.00	0.0000
Investors Exchange (IEXG)	1.57	0.31	2.63	2.39	11.63	0.00	0.0000	38.22	17.6047	-2.68	-5.5074	0.00	0.0000
Cboe EDGX Exchange, Inc.	1.21	0.61	0.92	1.79	11.63	1.87	6.1701	3.30	30.0000	-0.56	-27.0000	0.00	0.0000

Material Aspects:

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.

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.

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.

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.

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.

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.

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.

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.

Cboe EDGX 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.

December 2024

Options

Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non- Directed Orders	Non-Marketable Limit Orders as % of Non- Directed Orders	Other Orders as % of Non-Directed Orders
100.00	47.64	9.44	42.06	0.86

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)
RBC Capital Markets Corporation	91.85	100.00	63.64	90.82	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Dash/IMC Financial Markets	6.87	0.00	36.36	8.16	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
GELP	0.86	0.00	0.00	0.00	100.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE Chicago, Inc.	0.43	0.00	0.00	1.02	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.

GELP:

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.