

RBC Correspondent Services - Held NMS Stocks and Options Order Routing Public Report

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1st Quarter, 2023

January 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
100.00	96.45	0.46	1.86	1.22

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 Americas, LLC	36.06	34.77	42.96	69.34	84.01	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CITADEL SECURITIES LLC	35.00	35.67	29.14	16.79	11.97	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	20.82	21.29	17.40	9.72	1.81	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	8.13	8.27	10.49	4.15	2.21	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

Virtu Americas, LLC:

RBC Capital Markets LLC, does not receive compensation, rebates nor pay transaction fees for the routing of its equity order flow. RBC Capital Markets LLC does not receive incentives for equaling or exceeding an agreed upon volume threshold; RBC Capital Markets LLC is not penalized for failing to meet an agreed upon minimum order flow threshold; nor does RBC Capital Markets LLC have agreements regarding minimum amount of order flow. RBC Capital Markets LLC contracts with third party vendor, S3 Matching Technologies, LP to provide execution metrics that RBC Capital Markets LLC uses to evaluate execution quality among various markets and firms. RBC Capital Markets LLC has arranged for its market centers to remit payment for a portion of this service based on the previous year's volumes routed to each destination.

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G1 Execution Services, LLC:

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January 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
100.00	92.34	2.61	3.96	1.10

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 Americas, LLC	48.84	47.34	69.81	67.13	59.35	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CITADEL SECURITIES LLC	26.51	27.34	15.59	16.03	20.18	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	22.37	23.04	11.58	15.26	17.64	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	2.28	2.28	3.02	1.58	2.83	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

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January 2023

Options

Summary

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100.00	29.26	8.42	34.32	28.00

Venues

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Wolverine Execution Services, LLC	47.47	41.58	39.76	33.16	73.47	12,288.50	30.6630	15,907.00	30.8329	19,033.50	35.9448	11,426.25	36.3142
CITADEL SECURITIES LLC	45.58	58.42	60.21	66.66	1.91	9,094.00	13.8844	10,928.70	22.4644	23,931.45	42.8089	470.75	26.7776
Dash/IMC Financial Markets	6.96	0.00	0.03	0.17	24.63	0.00	0.0000	-2.05	-5.0000	0.00	0.0000	2,159.57	3.8710

Material Aspects:

Wolverine Execution Services, LLC:

For exchange-listed equity and index options, RBC is assessed fees and receives credits from the option market centers that may exceed the amount we are charged. RBC may receive the benefit of these credits and such payments constitute payment for order flow.

The Firm and this venue do not have any arrangements:

- A. that provide incentives to the Firm for meeting or exceeding certain volume thresholds;
- B. that provide disincentives to the Firm for failing to meet certain minimum volume thresholds;
- C. for volume-based tiered payment schedules; or
- D. for minimum amount of orders

For penny stock options orders remuneration is paid at a rate of no more than \$0.25 per contract.

For non-penny stock options orders remuneration is paid at a rate of no more than \$0.75 per contract.

CITADEL SECURITIES LLC:

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- B. that provide disincentives to the Firm for failing to meet certain minimum volume thresholds;
- C. for volume-based tiered payment schedules; or
- D. for minimum amount of orders

For penny stock options orders without price improvement remuneration is paid at a rate of no more than \$0.25 per contract.

For non-penny stock options orders without price improvement remuneration is paid at a rate of no more than \$0.70 per contract.

Dash/IMC Financial Markets:

For exchange-listed equity and index options, RBC is assessed fees and receives credits from the option market centers that may exceed the amount we are charged. RBC may receive the benefit of these credits and such payments constitute payment for order flow.

RBC Wealth is a brokerage client of Dash Financial Technologies; while Dash Financial does maintain a relationship with IMC, that relationship is not pertinent to the execution agreement between RBC Wealth and Dash.

The Firm and this venue do not have any arrangements:

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- C. for volume-based tiered payment schedules; or
- D. for minimum amount of orders

For options orders without price improvement remuneration is paid at a rate of no more than \$0.90 per contract.

February 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
100.00	96.19	0.49	2.19	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)
Virtu Americas, LLC	36.04	34.67	44.87	69.20	84.04	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CITADEL SECURITIES LLC	35.22	35.95	29.42	17.34	10.21	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	20.91	21.37	18.22	10.03	3.67	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	7.84	8.01	7.49	3.43	2.07	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

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100.00	91.73	2.61	4.49	1.16

Venues

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Virtu Americas, LLC	48.14	46.47	69.35	66.53	61.11	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CITADEL SECURITIES LLC	27.44	28.33	17.92	17.00	18.62	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	22.28	23.09	10.08	14.36	16.78	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	2.14	2.11	2.65	2.12	3.50	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

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February 2023

Options

Summary

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100.00	26.86	8.38	34.93	29.84

Venues

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Wolverine Execution Services, LLC	49.49	38.71	41.54	31.76	82.19	9,772.75	30.4371	21,839.50	33.9914	19,750.75	37.7009	6,996.25	31.4792
CITADEL SECURITIES LLC	45.49	61.29	58.46	67.90	1.39	7,545.30	14.0558	11,294.00	26.2529	23,985.70	47.7090	454.05	50.9596
Dash/IMC Financial Markets	5.02	0.00	0.00	0.34	16.42	0.00	0.0000	0.00	0.0000	0.00	0.0000	4,134.55	10.6605

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- C. for volume-based tiered payment schedules; or
- D. for minimum amount of orders

For penny stock options orders remuneration is paid at a rate of no more than \$0.25 per contract.

For non-penny stock options orders remuneration is paid at a rate of no more than \$0.75 per contract.

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March 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
100.00	96.45	0.52	2.03	1.00

Venues

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Virtu Americas, LLC	36.36	35.26	41.49	63.74	83.63	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CITADEL SECURITIES LLC	34.94	35.52	30.33	20.55	11.22	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	20.53	20.90	17.40	12.06	3.21	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	8.17	8.32	10.78	3.65	1.94	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

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100.00	91.66	2.67	4.61	1.06

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 Americas, LLC	49.79	48.10	72.68	68.83	55.81	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CITADEL SECURITIES LLC	25.87	26.82	14.70	14.62	20.21	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	21.92	22.71	8.99	14.11	20.48	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	2.41	2.36	3.63	2.45	3.51	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

Virtu Americas, LLC:

RBC Capital Markets LLC, does not receive compensation, rebates nor pay transaction fees for the routing of its equity order flow. RBC Capital Markets LLC does not receive incentives for equaling or exceeding an agreed upon volume threshold; RBC Capital Markets LLC is not penalized for failing to meet an agreed upon minimum order flow threshold; nor does RBC Capital Markets LLC have agreements regarding minimum amount of order flow. RBC Capital Markets LLC contracts with third party vendor, S3 Matching Technologies, LP to provide execution metrics that RBC Capital Markets LLC uses to evaluate execution quality among various markets and firms. RBC Capital Markets LLC has arranged for its market centers to remit payment for a portion of this service based on the previous year's volumes routed to each destination.

CITADEL SECURITIES LLC:

RBC Capital Markets LLC, does not receive compensation, rebates nor pay transaction fees for the routing of its equity order flow. RBC Capital Markets LLC does not receive incentives for equaling or exceeding an agreed upon volume threshold; RBC Capital Markets LLC is not penalized for failing to meet an agreed upon minimum order flow threshold; nor does RBC Capital Markets LLC have agreements regarding minimum amount of order flow. RBC Capital Markets LLC contracts with third party vendor, S3 Matching Technologies, LP to provide execution metrics that RBC Capital Markets LLC uses to evaluate execution quality among various markets and firms. RBC Capital Markets LLC has arranged for its market centers to remit payment for a portion of this service based on the previous year's volumes routed to each destination.

G1 Execution Services, LLC:

RBC Capital Markets LLC, does not receive compensation, rebates nor pay transaction fees for the routing of its equity order flow. RBC Capital Markets LLC does not receive incentives for equaling or exceeding an agreed upon volume threshold; RBC Capital Markets LLC is not penalized for failing to meet an agreed upon minimum order flow threshold; nor does RBC Capital Markets LLC have agreements regarding minimum amount of order flow. RBC Capital Markets LLC contracts with third party vendor, S3 Matching Technologies, LP to provide execution metrics that RBC Capital Markets LLC uses to evaluate execution quality among various markets and firms. RBC Capital Markets LLC has arranged for its market centers to remit payment for a portion of this service based on the previous year's volumes routed to each destination.

UBS Securities, LLC:

RBC Capital Markets LLC, does not receive compensation, rebates nor pay transaction fees for the routing of its equity order flow. RBC Capital Markets LLC does not receive incentives for equaling or exceeding an agreed upon volume threshold; RBC Capital Markets LLC is not penalized for failing to meet an agreed upon minimum order flow threshold; nor does RBC Capital Markets LLC have agreements regarding minimum amount of order flow. RBC Capital Markets LLC contracts with third party vendor, S3 Matching Technologies, LP to provide execution metrics that RBC Capital Markets LLC uses to evaluate execution quality among various markets and firms. RBC Capital Markets LLC has arranged for its market centers to remit payment for a portion of this service based on the previous year's volumes routed to each destination.

March 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	30.33	8.61	36.10	24.96

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)
Wolverine Execution Services, LLC	48.38	40.25	39.41	32.34	84.54	12,655.00	29.9250	25,820.50	42.3683	24,694.25	33.7976	18,208.00	36.4349
CITADEL SECURITIES LLC	48.19	59.75	60.59	67.58	1.83	9,936.85	15.8913	10,854.35	23.7883	23,065.70	44.2431	455.30	39.3178
Dash/IMC Financial Markets	3.43	0.00	0.00	0.07	13.63	0.00	0.0000	0.00	0.0000	0.00	0.0000	4,512.65	17.9387

Material Aspects:

Wolverine Execution Services, LLC:

For exchange-listed equity and index options, RBC is assessed fees and receives credits from the option market centers that may exceed the amount we are charged. RBC may receive the benefit of these credits and such payments constitute payment for order flow.

The Firm and this venue do not have any arrangements:

- A. that provide incentives to the Firm for meeting or exceeding certain volume thresholds;
- B. that provide disincentives to the Firm for failing to meet certain minimum volume thresholds;
- C. for volume-based tiered payment schedules; or
- D. for minimum amount of orders

For penny stock options orders remuneration is paid at a rate of no more than \$0.25 per contract.

For non-penny stock options orders remuneration is paid at a rate of no more than \$0.75 per contract.

CITADEL SECURITIES LLC:

For exchange-listed equity and index options, RBC is assessed fees and receives credits from the option market centers that may exceed the amount we are charged. RBC may receive the benefit of these credits and such payments constitute payment for order flow.

The Firm and this venue do not have any arrangements:

- A. that provide incentives to the Firm for meeting or exceeding certain volume thresholds;
- B. that provide disincentives to the Firm for failing to meet certain minimum volume thresholds;
- C. for volume-based tiered payment schedules; or
- D. for minimum amount of orders

For penny stock options orders without price improvement remuneration is paid at a rate of no more than \$0.25 per contract.

For non-penny stock options orders without price improvement remuneration is paid at a rate of no more than \$0.70 per contract.

Dash/IMC Financial Markets:

For exchange-listed equity and index options, RBC is assessed fees and receives credits from the option market centers that may exceed the amount we are charged. RBC may receive the benefit of these credits and such payments constitute payment for order flow.

RBC Wealth is a brokerage client of Dash Financial Technologies; while Dash Financial does maintain a relationship with IMC, that relationship is not pertinent to the execution agreement between RBC Wealth and Dash.

The Firm and this venue do not have any arrangements:

- A. that provide incentives to the Firm for meeting or exceeding certain volume thresholds;
- B. that provide disincentives to the Firm for failing to meet certain minimum volume thresholds;
- C. for volume-based tiered payment schedules; or
- D. for minimum amount of orders

For options orders without price improvement remuneration is paid at a rate of no more than \$0.90 per contract.