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

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# 2nd Quarter, 2020

# April 2020

# 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	75.98	3.81	14.22	5.99

#### 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 Execution Services	31.66	32.51	25.12	28.52	32.47	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Virtu Americas, LLC	29.06	28.11	31.71	33.35	29.32	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	26.06	25.89	27.89	26.69	25.61	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	13.22	13.49	15.28	11.45	12.60	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

#### Material Aspects:

# April 2020

## 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	64.49	10.37	20.05	5.08

#### 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	40.93	38.16	48.10	46.67	38.83	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Execution Services	21.38	22.16	14.84	22.44	20.67	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	19.68	20.33	14.58	19.15	23.96	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	18.01	19.36	22.48	11.73	16.55	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

#### Material Aspects:

# April 2020

## 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	20.47	17.59	60.70	1.24

#### 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)
Citigroup Global Markets Inc.	58.59	20.94	58.68	71.00	71.24	1,727.74	28.2218	3,610.61	14.9917	9,660.20	7.1253	149.76	7.8491
Wolverine Execution Services, LLC	27.21	65.37	26.78	14.69	16.34	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Execution Services	14.20	13.69	14.54	14.31	12.42	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects: Citigroup Global Markets Inc.: 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.

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# May 2020

# 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	78.36	3.79	12.45	5.40

### 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 Execution Services	34.71	35.10	28.74	33.60	35.74	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	31.27	30.39	39.67	34.80	30.05	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Virtu Americas, LLC	29.73	29.84	28.42	29.17	30.36	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	4.29	4.67	3.17	2.43	3.84	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

### Material Aspects:

# May 2020

### 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	64.78	9.11	20.76	5.35

Venues

Venue - Non- directed Order Flow	Directed Ord	arket Marketable rders 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)
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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	54.63	50.89	63.38	63.06	52.32	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Execution Services	17.81	19.99	12.02	13.80	16.90	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	16.05	15.22	13.88	17.20	25.35	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	11.51	13.90	10.72	5.94	5.43	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

#### Material Aspects:

# May 2020

# 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	17.26	19.76	61.97	1.00

#### 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)
Citigroup Global Markets Inc.	57.08	23.55	54.26	67.24	61.82	1,197.35	26.1601	4,608.70	17.0201	10,010.07	7.4512	144.10	7.8486
Wolverine Execution Services, LLC	28.12	56.38	35.43	18.17	12.73	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Execution Services	14.80	20.07	10.31	14.59	25.45	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

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Citadel Execution Services:

# June 2020

# 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	82.41	3.34	9.36	4.88

#### Venues

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 Execution Services	39.76	38.91	36.60	43.31	49.56	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	29.88	30.24	36.60	28.57	21.87	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Virtu Americas, LLC	25.37	25.88	23.40	20.67	27.11	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	4.98	4.97	3.40	7.45	1.46	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

## Material Aspects:

# June 2020

## 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	70.76	6.44	15.87	6.93

### Venues

Venue - Non- directed Order Flow	Directed Ord Orders (%) (%	arket Marketable Iders 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)
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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	51.76	48.63	64.79	57.51	58.44	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	18.73	17.77	16.92	22.28	22.12	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Execution Services	18.60	20.25	13.48	15.69	13.17	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	10.92	13.36	4.81	4.52	6.27	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

#### Material Aspects:

# June 2020

# 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	12.04	23.64	62.14	2.17

### Venues

Venue - Non-directed Order Flow	Non- Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non- Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/ Received for Market Orders(cents per hundred shares)	Net Payment Paid/ Received for Marketable Limit Orders(USD)	Net Payment Paid/ Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/ Received for Non- Marketable Limit Orders(USD)	Net Payment Paid/ Received for Non- Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/ Received for Other Orders(cents per hundred shares)
Citigroup Global Markets Inc.	69.79	31.10	67.12	78.35	68.52	2,096.13	31.1831	2,651.41	10.7123	9,078.01	10.2805	172.35	5.6085
Wolverine Execution Services, LLC	17.24	43.14	23.34	10.37	3.70	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Execution Services	12.97	25.75	9.54	11.28	27.78	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

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