

# RBCWM - Held NMS Stocks and Options Order Routing Public Report

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1st Quarter, 2020

January 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	82.97	3.03	8.21	5.78

### 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)
G1 Execution Services, LLC	44.98	45.36	45.89	41.04	44.62								
Citadel Execution Services	29.98	30.32	33.77	28.52	25.15								
Virtu Americas, LLC	14.76	14.56	10.97	17.00	16.44	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	10.28	9.76	9.38	13.43	13.79	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

January 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	67.84	11.34	15.75	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	50.94	47.79	59.20	60.35	45.39	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
G1 Execution Services, LLC	21.18	21.21	16.10	21.41	31.44								
UBS Securities, LLC	13.97	17.03	10.60	4.59	9.80	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Execution Services	13.91	13.98	14.09	13.64	13.37								

## Material Aspects:

## January 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
99.99	24.24	21.97	50.48	3.31

## 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	59.98	27.02	75.00	69.48	56.66								
Wolverine Execution Services, LLC	23.58	55.77	15.95	12.00	15.17	3,722.75	0.2863	3,704.00	0.3700	9,272.25	0.4461	4,414.50	0.3664
Citadel Execution Services	16.44	17.21	9.05	18.52	28.17	1,070.29	0.1394	963.09	0.1923	2,227.74	0.3718	51.89	0.3052

## Material Aspects:

Citigroup:  
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.

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.

Citadel Execution Services:  
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## February 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	82.13	2.80	8.87	6.20

#### Venues

Venue - Non-directed Order Flow	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders(USD)	Net Payment Paid/Received for Market Orders(cents per hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
G1 Execution Services, LLC	46.48	46.75	48.24	43.25	46.65								
Citadel Execution Services	28.60	28.63	28.59	31.51	23.95								
Virtu Americas, LLC	15.66	15.35	16.50	16.67	17.88	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	9.27	9.26	6.68	8.57	11.52	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

#### Material Aspects:

## February 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	67.02	12.11	15.87	5.00

#### 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	49.41	45.92	55.89	61.45	42.30	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)
Americas, LLC													
G1 Execution Services, LLC	21.19	22.14	15.00	18.83	30.88								
UBS Securities, LLC	15.03	17.83	14.18	5.11	10.98	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Execution Services	14.38	14.12	14.92	14.61	15.84								

**Material Aspects:**

**February 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
99.95	23.81	22.86	50.23	3.10

**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)
Citigroup	54.52	24.47	70.81	61.20	56.93								
Wolverine Execution Services, LLC	26.15	53.63	20.14	17.09	6.20	4,424.75	0.3116	8,252.25	0.4196	10,145.50	0.3963	4,892.75	0.3688
Citadel Execution Services	19.33	21.90	9.05	21.71	36.86	2,009.24	0.1248	820.79	0.1613	3,819.00	0.3243	43.24	0.2471

**Material Aspects:**

Citigroup:  
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Wolverine Execution Services, LLC:  
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Citadel Execution Services:  
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.

## March 2020

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### 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	80.81	3.21	10.96	5.02

#### 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)
G1 Execution Services, LLC	38.86	38.37	39.51	41.46	40.57								
Citadel Execution Services	27.17	27.47	25.53	27.03	23.72								
Virtu Americas, LLC	20.67	20.53	19.57	19.89	25.31	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
UBS Securities, LLC	13.31	13.63	15.38	11.63	10.40	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

#### Material Aspects:

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## March 2020

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### Non-S&P 500 Stocks

#### Summary

Non-Directed Orders as % of All Orders	Market Orders as % of Non-Directed Orders	Marketable Limit Orders as % of Non-Directed Orders	Non-Marketable Limit Orders as % of Non-Directed Orders	Other Orders as % of Non-Directed Orders
100.00	68.98	10.33	16.00	4.68

#### 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,	36.67	33.88	43.09	43.89	38.92	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)
LLC													
G1 Execution Services, LLC	23.39	24.00	15.19	23.29	32.97								
UBS Securities, LLC	21.40	22.76	27.04	14.09	13.96	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
Citadel Execution Services	18.54	19.37	14.67	18.73	14.15								

**Material Aspects:**

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**March 2020**

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**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	16.54	17.42	64.86	1.18

**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	62.32	30.60	74.76	67.06	62.70								
Citadel Execution Services	22.33	29.31	12.33	22.98	36.51	1,378.09	0.1046	1,725.09	0.1109	5,930.19	0.2390	9.00	0.2000
Wolverine Execution Services, LLC	15.35	40.09	12.92	9.96	0.79	1,879.25	0.2504	5,561.50	0.3695	16,076.50	0.3576	3,402.50	0.3674

**Material Aspects:**

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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.