

# CITY NATIONAL SECURITIES, INC. - Held NMS Stocks and Options Order Routing Public Report

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3rd Quarter, 2023

July 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	94.64	2.45	2.92	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)
Citadel Securities LLC (CDRG)	33.22	39.50	32.00	1.06	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU Americas, LLC (NITE)	20.49	24.08	32.00	0.53	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC (ETMM)	14.61	17.11	20.00	1.06	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Jane Street Capital, LLC (JNST)	14.45	17.21	16.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
New York Stock Exchange (NYSE)	7.27	0.00	0.00	47.34	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	6.37	0.00	0.00	41.49	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Two Sigma Securities, LLC (SOHO)	1.14	1.39	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX US Equities Exchange (EDGX)	0.98	0.00	0.00	6.38	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Instinet BlockCross (BLKX)	0.57	0.00	0.00	0.00	100.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
UBS Securities,	0.57	0.70	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	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 (UBSS)													

**Material Aspects:**

Citadel Securities LLC (CDRG):  
N/A

VIRTU Americas, LLC (NITE):  
N/A

G1 Execution Services, LLC (ETMM):  
N/A

Jane Street Capital, LLC (JNST):  
N/A

New York Stock Exchange (NYSE):  
N/A

NASDAQ Execution Services, LLC (NSDQ):  
N/A

Two Sigma Securities, LLC (SOHO):  
N/A

Cboe EDGX US Equities Exchange (EDGX):  
N/A

Instinet BlockCross (BLKX):  
N/A

UBS Securities, LLC (UBSS):  
N/A

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**July 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	90.28	2.57	6.51	0.64

**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 LLC (CDRG)	34.38	40.41	58.62	4.35	14.29	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU	21.10	25.48	20.69	0.48	19.05	0	0.0000	0	0.0000	0	0.0000	0	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 (NITE)													
G1 Execution Services, LLC (ETMM)	13.45	16.45	6.90	1.45	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Jane Street Capital, LLC (JNST)	12.96	15.74	10.34	1.45	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
New York Stock Exchange (NYSE)	4.43	0.00	3.45	26.09	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NYSE Arca (ARCA)	4.27	0.00	0.00	25.60	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	3.78	0.00	0.00	22.71	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX US Equities Exchange (EDGX)	2.01	0.00	0.00	12.08	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Instinet BlockCross (BLKX)	1.13	0.00	0.00	0.00	66.67	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Two Sigma Securities, LLC (SOHO)	1.05	1.32	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

**Material Aspects:**

Citadel Securities LLC (CDRG):

N/A

VIRTU Americas, LLC (NITE):

N/A

G1 Execution Services, LLC (ETMM):

N/A

Jane Street Capital, LLC (JNST):

N/A

New York Stock Exchange (NYSE):

N/A

NYSE Arca (ARCA):

N/A

NASDAQ Execution Services, LLC (NSDQ):

N/A

Cboe EDGX US Equities Exchange (EDGX):

N/A

Instinet BlockCross (BLKX):

N/A

Two Sigma Securities, LLC (SOHO):

N/A

## July 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	12.50	13.64	70.45	3.41

#### 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 LLC (CDRG)	42.73	72.73	66.67	35.71	33.33	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Wolverine Execution Services LLC (WEXX)	28.18	0.00	0.00	36.90	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Dash Financial Technologies LLC (DASH)	16.36	0.00	8.33	20.24	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Susquehanna Capital Group (SUSQ)	8.18	27.27	25.00	1.19	66.67	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Morgan Stanley & Company LLC (MSCO)	4.55	0.00	0.00	5.95	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

#### Material Aspects:

Citadel Securities LLC (CDRG):  
N/A

Wolverine Execution Services LLC (WEXX):  
N/A

Dash Financial Technologies LLC (DASH):  
N/A

Susquehanna Capital Group (SUSQ):  
N/A

Morgan Stanley & Company LLC (MSCO):  
N/A

## August 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	95.04	0.78	3.91	0.26

## 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 LLC (CDRG)	37.76	39.71	33.33	10.81	20.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU Americas, LLC (NITE)	24.47	25.43	33.33	8.11	40.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Jane Street Capital, LLC (JNST)	16.77	17.20	33.33	9.46	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC (ETMM)	14.82	15.55	0.00	6.76	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	1.61	0.00	0.00	25.68	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Two Sigma Securities, LLC (SOHO)	1.52	1.65	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
New York Stock Exchange (NYSE)	1.10	0.00	0.00	17.57	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX US Equities Exchange (EDGX)	0.85	0.00	0.00	13.51	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Members Exchange (MEMX)	0.51	0.00	0.00	8.11	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
UBS Securities, LLC (UBSS)	0.42	0.46	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

## Material Aspects:

Citadel Securities LLC (CDRG):

N/A

VIRTU Americas, LLC (NITE):

N/A

Jane Street Capital, LLC (JNST):

N/A

G1 Execution Services, LLC (ETMM):

N/A

NASDAQ Execution Services, LLC (NSDQ):

N/A

Two Sigma Securities, LLC (SOHO):

N/A

New York Stock Exchange (NYSE):

N/A

Cboe EDGX US Equities Exchange (EDGX):

N/A

Members Exchange (MEMX):

N/A

UBS Securities, LLC (UBSS):

N/A

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## August 2023

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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	89.41	2.55	7.32	0.72

#### 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 LLC (CDRG)	34.46	39.80	33.33	3.21	12.24	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU Americas, LLC (NITE)	22.78	26.18	30.30	1.92	6.12	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Jane Street Capital, LLC (JNST)	15.06	17.36	24.24	1.28	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC (ETMM)	12.34	14.43	6.06	2.56	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX US Equities Exchange (EDGX)	3.38	0.00	0.00	29.49	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Instinet BlockCross (BLXX)	2.94	0.00	0.00	0.00	81.63	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	2.50	0.00	0.00	21.79	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Two Sigma	1.69	2.05	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	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)
Securities, LLC (SOHO)													
Cboe BZX U.S (BATS)	1.40	0.00	0.00	12.18	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NYSE Arca (ARCA)	1.25	0.00	0.00	10.90	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

**Material Aspects:**

Citadel Securities LLC (CDRG):  
N/A

VIRTU Americas, LLC (NITE):  
N/A

Jane Street Capital, LLC (JNST):  
N/A

G1 Execution Services, LLC (ETMM):  
N/A

Cboe EDGX US Equities Exchange (EDGX):  
N/A

Institnet BlockCross (BLKX):  
N/A

NASDAQ Execution Services, LLC (NSDQ):  
N/A

Two Sigma Securities, LLC (SOHO):  
N/A

Cboe BZX U.S (BATS):  
N/A

NYSE Arca (ARCA):  
N/A

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**August 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	13.01	10.57	74.80	1.63

**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 LLC (CDRG)	39.87	37.50	53.85	38.52	50.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Wolverine Execution Services LLC (WEXX)	28.76	0.00	0.00	36.07	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Dash Financial Technologies LLC (DASH)	20.26	12.50	15.38	21.31	50.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Susquehanna Capital Group (SUSQ)	8.50	37.50	30.77	2.46	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Morgan Stanley & Company LLC (MSCO)	2.61	12.50	0.00	1.64	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

**Material Aspects:**

Citadel Securities LLC (CDRG):

N/A

Wolverine Execution Services LLC (WEXX):

N/A

Dash Financial Technologies LLC (DASH):

N/A

Susquehanna Capital Group (SUSQ):

N/A

Morgan Stanley & Company LLC (MSCO):

N/A

## September 2023

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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	94.55	0.94	4.23	0.28

**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 (NITE)	35.57	38.93	80.00	4.46	0.00	0	0.0000	0	0.0000	0	0.0000	0	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)
Citadel Securities LLC (CDRG)	34.58	37.41	0.00	12.50	37.50	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Jane Street Capital, LLC (JNST)	11.08	12.03	20.00	2.68	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC (ETMM)	9.65	10.82	0.00	0.89	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	4.47	0.00	0.00	44.64	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
New York Stock Exchange (NYSE)	1.88	0.00	0.00	18.75	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX US Equities Exchange (EDGX)	0.98	0.00	0.00	9.82	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Members Exchange (MEMX)	0.63	0.00	0.00	6.25	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Instinet BlockCross (BLKX)	0.45	0.00	0.00	0.00	62.50	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Two Sigma Securities, LLC (SOHO)	0.45	0.51	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

**Material Aspects:**

VIRTU Americas, LLC (NITE):  
N/A

Citadel Securities LLC (CDRG):  
N/A

Jane Street Capital, LLC (JNST):  
N/A

G1 Execution Services, LLC (ETMM):  
N/A

NASDAQ Execution Services, LLC (NSDQ):  
N/A

New York Stock Exchange (NYSE):  
N/A

Cboe EDGX US Equities Exchange (EDGX):  
N/A

Members Exchange (MEMX):  
N/A

Instinet BlockCross (BLKX):  
N/A

## September 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	87.43	2.96	9.40	0.21

#### 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 LLC (CDRG)	31.34	37.22	50.00	11.86	7.14	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU Americas, LLC (NITE)	28.08	36.61	26.92	2.12	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC (ETMM)	9.78	12.78	3.85	1.27	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Jane Street Capital, LLC (JNST)	9.51	12.29	15.38	0.42	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	7.61	0.00	0.00	35.59	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
New York Stock Exchange (NYSE)	4.08	0.00	0.00	19.07	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX US Equities Exchange (EDGX)	3.26	0.00	0.00	15.25	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Instinet BlockCross (BLKX)	2.36	0.00	0.00	0.00	92.86	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Members Exchange (MEMX)	1.18	0.00	0.00	5.51	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NYSE Arca (ARCA)	1.09	0.00	0.00	5.08	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

#### Material Aspects:

Citadel Securities LLC (CDRG):

N/A

VIRTU Americas, LLC (NITE):

N/A

G1 Execution Services, LLC (ETMM):

N/A

Jane Street Capital, LLC (JNST):

N/A

NASDAQ Execution Services, LLC (NSDQ):

N/A

New York Stock Exchange (NYSE):

N/A

Cboe EDGX US Equities Exchange (EDGX):

N/A

Instinet BlockCross (BLKX):

N/A

Members Exchange (MEMX):

N/A

NYSE Arca (ARCA):

N/A

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## September 2023

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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	24.00	12.00	64.00	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)
Citadel Securities LLC (CDRG)	53.13	58.33	50.00	52.17	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Wolverine Execution Services LLC (WEXX)	17.19	0.00	0.00	23.91	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Dash Financial Technologies LLC (DASH)	15.63	0.00	0.00	21.74	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Susquehanna Capital Group (SUSQ)	12.50	41.67	50.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Morgan Stanley & Company LLC	1.56	0.00	0.00	2.17	0.00	0	0.0000	0	0.0000	0	0.0000	0	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)
(MSCO)													

**Material Aspects:**

Citadel Securities LLC (CDRG):

N/A

Wolverine Execution Services LLC (WEXX):

N/A

Dash Financial Technologies LLC (DASH):

N/A

Susquehanna Capital Group (SUSQ):

N/A

Morgan Stanley & Company LLC (MSCO):

N/A