

NASDAQ Execution Services, LLC(NSDQ)	6.16	0.00	11.54	65.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
New York Stock Exchange(NYSE)	2.33	0.00	0.00	25.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Two Sigma Securities, LLC(SOHO)	0.79	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UBS Securities, LLC(UBSS)	0.47	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cboe EDGX US Equities Exchange(EDGX)	0.14	0.00	0.00	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Members Exchange(MEMX)	0.09	0.00	0.00	1.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Material Aspects:

October 2022

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	93.73	3.14	3.14	0

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)	34.44	37.16	34.78	3.17	0.00	0	0	0	0	0	0	0	0
VIRTU Americas, LLC(NITE)	23.28	25.21	26.09	0.00	0.00	0	0	0	0	0	0	0	0
G1 Execution Services, LLC(ETMM)	22.21	23.89	21.74	3.17	0.00	0	0	0	0	0	0	0	0
Jane Street Capital, LLC(JNST)	11.48	12.31	17.39	0.00	0.00	0	0	0	0	0	0	0	0
NASDAQ Execution Services, LLC(NSDQ)	2.58	0.00	0.00	38.10	0.00	0	0	0	0	0	0	0	0
New York Stock Exchange(NYSE)	2.04	0.00	0.00	30.16	0.00	0	0	0	0	0	0	0	0
Instinet BlockCross(BLKX)	0.97	0.00	0.00	0.00	100.00	0	0	0	0	0	0	0	0
NYSE Arca(ARCA)	0.75	0.00	0.00	11.11	0.00	0	0	0	0	0	0	0	0
Cboe EDGX US Equities Exchange(EDGX)	0.75	0.00	0.00	11.11	0.00	0	0	0	0	0	0	0	0
Two Sigma Securities, LLC(SOHO)	0.75	0.84	0.00	0.00	0.00	0	0	0	0	0	0	0	0

Material Aspects:

UBS Securities, LLC(UBSS)	0.35	0.38	1.85	0.00	0.00	0	0	0	0	0	0	0	0
Cboe EDGX US Equities Exchange(EDGX)	0.13	0.00	0.00	0.77	0.00	0	0	0	0	0	0	0	0
Members Exchange(MEMX)	0.13	0.00	0.00	0.77	0.00	0	0	0	0	0	0	0	0

Material Aspects:

November 2022

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	86.05	11.1	2.85	0

Venues

Venue - Non-directed Order Flow	Non-Directed 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)	33.58	36.99	31.78	1.16	0.00	0	0	0	0	0	0	0

VIRTU Americas, LLC(NITE)	24.04	26.26	24.30	1.16	0.00	0	0	0	0	0	0	0	0
G1 Execution Services, LLC(ETMM)	19.93	21.23	24.30	1.16	0.00	0	0	0	0	0	0	0	0
Jane Street Capital, LLC(JNST)	12.82	14.04	13.08	0.00	0.00	0	0	0	0	0	0	0	0
NASDAQ Execution Services, LLC(NSDQ)	2.81	0.00	6.54	26.74	0.00	0	0	0	0	0	0	0	0
New York Stock Exchange(NYSE)	2.34	0.00	0.00	29.07	0.00	0	0	0	0	0	0	0	0
NYSE Arca(ARCA)	2.06	0.00	0.00	25.58	0.00	0	0	0	0	0	0	0	0
Cboe EDGX US Equities Exchange(EDGX)	0.84	0.00	0.00	10.47	0.00	0	0	0	0	0	0	0	0
Two Sigma Securities, LLC(SOHO)	0.75	0.80	0.00	1.16	0.00	0	0	0	0	0	0	0	0
UBS Securities, LLC(UBSS)	0.56	0.68	0.00	0.00	0.00	0	0	0	0	0	0	0	0

Material Aspects:

November 2022

Option Contracts

Summary

Jane Street Capital, LLC(JNST)	9.58	10.74	0.00	0.00	0.00	0	0	0	0	0	0	0	0
NASDAQ Execution Services, LLC(NSDQ)	5.98	0.00	3.70	66.13	0.00	0	0	0	0	0	0	0	0
NYSE Arca(ARCA)	1.58	0.00	0.00	17.74	0.00	0	0	0	0	0	0	0	0
Two Sigma Securities, LLC(SOHO)	0.94	1.05	0.00	0.00	0.00	0	0	0	0	0	0	0	0
UBS Securities, LLC(UBSS)	0.58	0.65	0.00	0.00	0.00	0	0	0	0	0	0	0	0
New York Stock Exchange(NYSE)	0.43	0.00	0.00	4.84	0.00	0	0	0	0	0	0	0	0
INTL Trading, Inc.(INTL)	0.36	0.32	3.70	0.00	0.00	0	0	0	0	0	0	0	0

Material Aspects:

December 2022

Option Contracts

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
0	0	0	0	0

Venues

