



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)
NASDAQ Execution Services, LLC(NSDQ)	2.17	0.00	3.84	29.08	0.00	0	0	0	0	0	0	0	0
New York Stock Exchange(NYSE)	1.86	0.00	4.29	24.55	0.00	0	0	0	0	0	0	0	0
UBS Securities, LLC(UBSS)	1.47	1.51	0.45	0.82	4.35	0	0	0	0	0	0	0	0
Cboe EDGX U.S. Equities Exchange(EDGX)	0.78	0.00	0.00	10.96	0.00	0	0	0	0	0	0	0	0
Two Sigma Securities, LLC(SOHO)	0.73	0.74	0.23	0.27	3.86	0	0	0	0	0	0	0	0
State Street Global Markets, LLC(SSBS)	0.33	0.07	9.48	0.00	0.00	0	0	0	0	0	0	0	0

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	83.28	3.06	11.04	2.61

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)	40.11	44.01	25.88	14.93	56.53	0	0	0	0	0	0	0	0
National Financial Services LLC(XSTM)	21.27	23.80	38.64	0.00	0.00	0	0	0	0	0	0	0	0
VIRTU Americas LLC(NITE)	20.56	22.26	16.72	7.55	34.93	0	0	0	0	0	0	0	0
G1 Execution Services, LLC(ETMM)	6.30	7.10	4.18	2.32	0.53	0	0	0	0	0	0	0	0
NASDAQ Execution Services, LLC(NSDQ)	3.62	0.00	1.02	31.10	0.00	0	0	0	0	0	0	0	0
Cboe EDGX U.S. Equities Exchange(EDGX)	2.90	0.00	0.00	25.23	0.00	0	0	0	0	0	0	0	0
New York Stock Exchange(NYSE)	1.49	0.00	1.47	12.40	0.00	0	0	0	0	0	0	0	0
UBS Securities, LLC(UBSS)	1.27	1.35	0.90	0.39	4.00	0	0	0	0	0	0	0	0
State Street Global Markets, LLC(SSBS)	0.92	0.58	10.17	0.00	0.00	0	0	0	0	0	0	0	0
Two Sigma Securities, LLC(SOHO)	0.78	0.78	0.56	0.39	4.00	0	0	0	0	0	0	0	0

Material Aspects:

January 2020

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
100.00	65.34	4.78	29.48	0.40

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 Securities LLC(CDRG)	32.32	27.22	33.33	41.98	100.00	0	0	0	0	0	0	0	0
MORGAN STANLEY & CO. LLC(MSCO)	27.38	29.59	25.00	23.46	0.00	0	0	0	0	0	0	0	0
Susquehanna Capital Group(SUSQ)	18.25	25.44	33.33	1.23	0.00	0	0	0	0	0	0	0	0
Citigroup Global Markets, Inc.(CITI)	9.89	11.83	0.00	7.41	0.00	0	0	0	0	0	0	0	0
Wolverine Execution Services LLC(WEXX)	7.98	3.55	8.33	17.28	0.00	0	0	0	0	0	0	0	0
DASH FINANCIAL TECHNOLOGIES LLC(DASH)	4.18	2.37	0.00	8.64	0.00	0	0	0	0	0	0	0	0

Material Aspects:

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	86.33	2.48	9.00	2.18

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)
Citadel Securities LLC(CDRG)	43.44	46.10	34.32	23.49	44.19	0	0	0	0	0	0	0	0
VIRTU Americas LLC(NITE)	21.99	22.90	11.86	12.92	47.19	0	0	0	0	0	0	0	0
National Financial Services LLC(XSTM)	18.72	20.80	32.42	0.00	0.00	0	0	0	0	0	0	0	0
G1 Execution Services, LLC(ETMM)	6.56	7.10	4.45	3.61	0.75	0	0	0	0	0	0	0	0
NASDAQ Execution Services, LLC(NSDQ)	3.18	0.00	2.33	31.19	0.00	0	0	0	0	0	0	0	0
New York Stock Exchange(NYSE)	2.29	0.00	6.14	21.02	0.00	0	0	0	0	0	0	0	0
UBS Securities, LLC(UBSS)	1.51	1.53	0.64	1.20	4.12	0	0	0	0	0	0	0	0
Two Sigma Securities, LLC(SOHO)	0.87	0.87	0.85	0.33	3.75	0	0	0	0	0	0	0	0
JANE STREET CAPITAL, LLC(JNST)	0.54	0.58	0.42	0.33	0.00	0	0	0	0	0	0	0	0
Cboe EDGX U.S. Equities Exchange(EDGX)	0.51	0.00	0.00	5.09	0.00	0	0	0	0	0	0	0	0

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	80.96	3.59	12.51	2.94

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)	39.79	42.99	31.83	19.33	54.14	0	0	0	0	0	0	0	0
National Financial Services LLC(XSTM)	22.33	25.45	37.82	0.00	0.00	0	0	0	0	0	0	0	0
VIRTU Americas LLC(NITE)	20.05	21.39	15.55	10.12	35.79	0	0	0	0	0	0	0	0
G1 Execution Services, LLC(ETMM)	6.06	6.90	3.36	2.40	1.79	0	0	0	0	0	0	0	0
NASDAQ Execution Services, LLC(NSDQ)	3.66	0.00	1.16	29.21	0.00	0	0	0	0	0	0	0	0
Cboe EDGX U.S. Equities Exchange(EDGX)	2.63	0.00	0.00	21.33	0.00	0	0	0	0	0	0	0	0
New York Stock Exchange(NYSE)	1.50	0.00	2.42	11.20	0.00	0	0	0	0	0	0	0	0
UBS Securities, LLC(UBSS)	1.31	1.42	0.63	0.40	4.03	0	0	0	0	0	0	0	0
State Street Global Markets, LLC(SSBS)	0.79	0.60	6.41	0.00	0.00	0	0	0	0	0	0	0	0
Two Sigma Securities, LLC(SOHO)	0.72	0.70	0.42	0.36	4.25	0	0	0	0	0	0	0	0

Material Aspects:

February 2020

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
100.00	54.72	1.50	43.78	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)	37.08	30.20	14.29	45.87	0.00	0	0	0	0	0	0	0	0
MORGAN STANLEY & CO. LLC(MSCO)	18.33	23.14	14.29	12.84	0.00	0	0	0	0	0	0	0	0
Susquehanna Capital Group(SUSQ)	17.71	28.63	28.57	4.59	0.00	0	0	0	0	0	0	0	0
Citigroup Global Markets, Inc.(CITI)	11.67	12.94	14.29	10.09	0.00	0	0	0	0	0	0	0	0
Wolverine Execution Services LLC(WEXX)	10.21	2.75	14.29	18.81	0.00	0	0	0	0	0	0	0	0
DASH FINANCIAL TECHNOLOGIES LLC(DASH)	5.00	2.35	14.29	7.80	0.00	0	0	0	0	0	0	0	0

Material Aspects:

March 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	79.59	2.77	15.89	1.75

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)	42.35	45.77	41.77	26.89	51.52	0	0	0	0	0	0	0	0
National Financial Services LLC(XSTM)	18.19	22.58	21.91	0.02	0.00	0	0	0	0	0	0	0	0
VIRTU Americas LLC(NITE)	14.08	14.44	12.49	11.18	34.13	0	0	0	0	0	0	0	0
G1 Execution Services, LLC(ETMM)	7.07	8.09	4.65	3.49	1.52	0	0	0	0	0	0	0	0
NASDAQ Execution Services, LLC(NSDQ)	5.05	0.00	4.77	27.38	0.00	0	0	0	0	0	0	0	0
New York Stock Exchange(NYSE)	4.16	0.00	7.38	22.03	0.00	0	0	0	0	0	0	0	0
UBS Securities, LLC(UBSS)	3.97	4.51	3.29	1.65	4.57	0	0	0	0	0	0	0	0
Two Sigma Securities, LLC(SOHO)	2.07	2.33	1.82	0.51	8.26	0	0	0	0	0	0	0	0
JANE STREET CAPITAL, LLC(JNST)	1.78	2.06	1.48	0.73	0.00	0	0	0	0	0	0	0	0
Cboe EDGX U.S. Equities Exchange(EDGX)	0.96	0.00	0.00	5.32	0.00	0	0	0	0	0	0	0	0

Material Aspects:



March 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	80.42	3.03	14.76	1.79

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)	38.79	41.76	35.62	22.18	54.21	0	0	0	0	0	0	0	0
National Financial Services LLC(XSTM)	24.16	28.72	31.96	0.06	0.00	0	0	0	0	0	0	0	0
VIRTU Americas LLC(NITE)	12.96	13.24	11.90	10.68	24.15	0	0	0	0	0	0	0	0
G1 Execution Services, LLC(ETMM)	6.59	7.48	6.23	2.26	2.05	0	0	0	0	0	0	0	0
NASDAQ Execution Services, LLC(NSDQ)	3.94	0.00	3.02	25.67	0.00	0	0	0	0	0	0	0	0
UBS Securities, LLC(UBSS)	3.70	4.09	3.30	1.32	7.52	0	0	0	0	0	0	0	0
Cboe EDGX U.S. Equities Exchange(EDGX)	2.71	0.00	0.00	18.09	0.00	0	0	0	0	0	0	0	0
Two Sigma Securities, LLC(SOHO)	2.04	2.18	1.74	0.44	12.07	0	0	0	0	0	0	0	0
New York Stock Exchange(NYSE)	1.91	0.00	1.65	12.42	0.00	0	0	0	0	0	0	0	0
JANE STREET CAPITAL, LLC(JNST)	1.63	1.88	1.28	0.48	0.00	0	0	0	0	0	0	0	0

Material Aspects:

March 2020

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
100.00	58.61	3.48	37.91	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)	34.62	28.42	35.29	43.75	0.00	0	0	0	0	0	0	0	0
MORGAN STANLEY & CO. LLC(MSCO)	23.89	28.07	23.53	17.71	0.00	0	0	0	0	0	0	0	0
Susquehanna Capital Group(SUSQ)	19.43	30.18	23.53	3.13	0.00	0	0	0	0	0	0	0	0
Wolverine Execution Services LLC(WEXX)	9.31	2.11	0.00	20.83	0.00	0	0	0	0	0	0	0	0
Citigroup Global Markets, Inc.(CITI)	7.89	7.72	11.76	7.81	0.00	0	0	0	0	0	0	0	0
DASH FINANCIAL TECHNOLOGIES LLC(DASH)	4.86	3.51	5.88	6.77	0.00	0	0	0	0	0	0	0	0

Material Aspects: