

Spiderrock EXS, LLC - Held NMS Stocks and Options Order Routing Public Report

Generated on Wed Jul 20 2022 05:51:59 GMT-0500 (Central Daylight Time)

2nd Quarter, 2022

April 2022

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
5.04	0.00	86.03	13.97	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)
NASDAQ - ALL MARKETS (XNAS)	19.16	0.00	18.78	21.30	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NEW YORK STOCK EXCHANGE, INC. (XNYS)	10.52	0.00	11.20	0.03	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE ARCA (ARCX)	25.88	0.00	25.19	33.39	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATS OPTIONS EXCHANGE (BATS)	5.50	0.00	5.81	3.61	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATY OPTIONS EXCHANGE (BATY)	1.48	0.00	1.70	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGA OPTIONS EXCHANGE (EDGA)	3.68	0.00	4.21	0.01	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGX OPTIONS EXCHANGE (EDGX)	4.42	0.00	4.58	3.60	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
INVESTORS EXCHANGE (IEXG)	6.23	0.00	7.12	0.02	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE MKT LLC (XASE)	21.74	0.00	20.30	34.49	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NASDAQ OMX	0.60	0.00	0.69	0.00	0.00	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)
BX (XBOS)													

Material Aspects:

NASDAQ - ALL MARKETS (XNAS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NEW YORK STOCK EXCHANGE, INC. (XNYS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE ARCA (ARCX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE BATS OPTIONS EXCHANGE (BATS):

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CBOE BATY OPTIONS EXCHANGE (BATY):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGA OPTIONS EXCHANGE (EDGA):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGX OPTIONS EXCHANGE (EDGX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

INVESTORS EXCHANGE (IEXG):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE MKT LLC (XASE):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OMX BX (XBOS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

April 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
5.11	0.00	86.03	13.97	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)
NASDAQ - ALL MARKETS (XNAS)	20.19	0.00	18.26	23.22	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NEW YORK STOCK EXCHANGE, INC. (XNYS)	9.02	0.00	8.96	0.04	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE ARCA (ARCX)	26.09	0.00	25.71	33.88	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATS OPTIONS EXCHANGE (BATS)	6.24	0.00	7.06	3.62	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATY OPTIONS EXCHANGE (BATY)	2.13	0.00	2.66	0.02	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGA OPTIONS EXCHANGE (EDGA)	3.90	0.00	4.87	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGX OPTIONS EXCHANGE (EDGX)	4.07	0.00	4.35	3.63	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
INVESTORS EXCHANGE (IEXG)	5.30	0.00	6.62	0.01	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE MKT LLC (XASE)	21.58	0.00	20.04	33.86	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NASDAQ OMX BX (XBOS)	0.88	0.00	1.10	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

NASDAQ - ALL MARKETS (XNAS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NEW YORK STOCK EXCHANGE, INC. (XNYS):

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NYSE ARCA (ARCX):

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CBOE BATS OPTIONS EXCHANGE (BATS):

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CBOE BATY OPTIONS EXCHANGE (BATY):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGA OPTIONS EXCHANGE (EDGA):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGX OPTIONS EXCHANGE (EDGX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

INVESTORS EXCHANGE (IEXG):

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NYSE MKT LLC (XASE):

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NASDAQ OMX BX (XBOS):

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April 2022

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
89.85	0.01	86.03	13.97	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)
MIAX EMERALD, LLC (EMLD)	3.08	0.00	2.08	9.80	0.00	21.07	0.0000	4,683.75	49.3026	10,517.37	43.1040	0.00	0.0000
CBOE GLOBAL MARKETS INC. (XCBO)	9.80	0.00	8.03	4.89	0.00	3,919.54	42.6037	35,657.03	58.1681	41,791.24	58.8609	0.00	0.0000
NYSE AMEX OPTIONS (AMXO)	0.50	0.00	0.33	1.62	0.00	0.00	0.0000	7,516.41	34.4789	1,057.99	40.6919	0.00	0.0000
NYSE ARCA OPTIONS (ARCO)	45.00	0.00	47.24	39.08	0.00	0.00	0.0000	85,793.99	25.7022	186,670.69	25.8189	0.00	0.0000
CBOE BATO OPTIONS EXCHANGE (BATO)	1.77	0.00	1.67	2.75	0.00	0.00	0.0000	86,586.03	49.6764	29,433.82	65.4085	0.00	0.0000
CBOE EDGO OPTIONS EXCHANGE (EDGO)	0.44	0.00	0.42	0.64	0.00	0.00	0.0000	14,143.75	46.9892	22,127.27	55.3182	0.00	0.0000
ISE GMNI EXCHANGE (GMNI)	0.68	0.00	0.44	2.30	0.00	0.00	0.0000	4,914.64	52.8456	1,124.75	26.1570	0.00	0.0000
ISE MERCURY, LLC (MCRY)	0.52	0.00	0.40	1.32	0.00	0.00	0.0000	185.29	5.2940	59.72	59.7200	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)
MIAX PEARL, LLC (MPRL)	0.65	0.00	0.53	1.46	0.00	0.00	0.0000	16,486.24	52.0071	4,458.45	41.2819	0.00	0.0000
BOX OPTIONS EXCHANGE (XBOX)	0.93	0.00	0.89	1.31	0.00	0.00	0.0000	8,467.93	47.5726	9,201.60	60.9377	0.00	0.0000
NASDAQ OMX BX OPTIONS (XBXX)	0.69	0.00	0.73	0.55	0.00	0.00	0.0000	24,241.77	49.1719	18,898.86	82.8897	0.00	0.0000
ISE (XISE)	2.01	0.00	2.02	2.27	0.00	0.00	0.0000	20,149.23	28.2995	14,488.83	42.8664	0.00	0.0000
MIAX XMIO, LLC (XMIO)	0.50	0.00	0.52	0.49	0.00	0.00	0.0000	11,007.37	52.1676	18,505.16	61.8902	0.00	0.0000
NASDAQ OPTIONS MARKET (XNDQ)	15.71	0.00	16.98	10.67	0.00	0.00	0.0000	56,777.70	55.4470	56,057.89	73.0872	0.00	0.0000
NASDAQ OMX PHLX (XPHL)	0.82	0.00	0.87	0.66	0.00	1.44	0.0000	16,707.63	41.3555	3,462.75	41.2232	0.00	0.0000

Material Aspects:

MIAX EMERALD, LLC (EMLD):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE GLOBAL MARKETS INC. (XCBO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE AMEX OPTIONS (AMXO):

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NYSE ARCA OPTIONS (ARCO):

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CBOE BATO OPTIONS EXCHANGE (BATO):

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CBOE EDGO OPTIONS EXCHANGE (EDGO):

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ISE GMNI EXCHANGE (GMNI):

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ISE MERCURY, LLC (MCRY):

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MIAX PEARL, LLC (MPRL):

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BOX OPTIONS EXCHANGE (XBOX):

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NASDAQ OMX BX OPTIONS (XBXX):

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ISE (XISE):

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MIAX XMIO, LLC (XMIO):

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NASDAQ OPTIONS MARKET (XNDQ):

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NASDAQ OMX PHLX (XPHL):

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May 2022

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
4.52	0.01	84.57	15.43	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)
NASDAQ - ALL MARKETS (XNAS)	21.94	0.00	21.99	21.53	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NEW YORK STOCK EXCHANGE, INC. (XNYS)	8.12	0.00	8.62	0.31	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE ARCA (ARCX)	28.28	0.00	27.67	34.89	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATS OPTIONS EXCHANGE (BATS)	3.80	0.00	4.05	2.53	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATY OPTIONS EXCHANGE (BATY)	0.49	0.00	0.56	0.03	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGA OPTIONS EXCHANGE (EDGA)	3.03	0.05	3.47	0.11	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGX OPTIONS EXCHANGE (EDGX)	3.05	0.00	3.16	2.62	0.00	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)
INVESTORS EXCHANGE (IEXG)	4.31	0.00	5.02	0.16	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE MKT LLC (XASE)	25.84	0.00	24.79	35.03	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NASDAQ OMX BX (XBOS)	0.29	0.00	0.34	0.01	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

NASDAQ - ALL MARKETS (XNAS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NEW YORK STOCK EXCHANGE, INC. (XNYS):

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NYSE ARCA (ARCX):

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Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGA OPTIONS EXCHANGE (EDGA):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGX OPTIONS EXCHANGE (EDGX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

INVESTORS EXCHANGE (IEXG):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE MKT LLC (XASE):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OMX BX (XBOS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

May 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
4.17	0.06	84.57	15.43	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)
NYSE ARCA (ARCX)	28.07	0.00	29.42	35.75	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE MKT LLC (XASE)	23.13	0.00	23.26	35.13	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NASDAQ - ALL MARKETS (XNAS)	21.82	0.00	20.32	21.13	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NEW YORK STOCK EXCHANGE, INC. (XNYS)	8.09	0.00	6.34	0.16	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATS OPTIONS EXCHANGE (BATS)	5.41	0.00	6.33	2.72	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATY OPTIONS EXCHANGE (BATY)	0.87	0.03	1.05	0.03	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGA OPTIONS EXCHANGE (EDGA)	2.94	0.19	3.42	0.11	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGX OPTIONS EXCHANGE (EDGX)	3.48	0.00	3.90	2.84	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
INVESTORS EXCHANGE (IEXG)	4.01	0.00	4.98	0.12	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NASDAQ OMX BX (XBOS)	0.37	0.01	0.46	0.02	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE NATIONAL, INC. (XCIS)	0.01	0.01	0.00	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

NYSE ARCA (ARCX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE MKT LLC (XASE):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ - ALL MARKETS (XNAS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NEW YORK STOCK EXCHANGE, INC. (XNYS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE BATS OPTIONS EXCHANGE (BATS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE BATY OPTIONS EXCHANGE (BATY):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGA OPTIONS EXCHANGE (EDGA):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGX OPTIONS EXCHANGE (EDGX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

INVESTORS EXCHANGE (IEXG):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OMX BX (XBOS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE NATIONAL, INC. (XCIS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

May 2022

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
91.31	0.01	84.57	15.43	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)
CBOE GLOBAL MARKETS INC. (XCBO)	7.99	0.00	6.41	6.31	0.00	7,203.32	49.0022	52,208.07	61.4213	76,212.84	62.1132	0.00	0.0000
NYSE AMEX OPTIONS (AMXO)	1.42	0.00	0.31	7.57	0.00	0.00	0.0000	6,411.11	37.7124	1,379.39	43.1059	0.00	0.0000
NYSE ARCA OPTIONS (ARCO)	49.63	0.00	54.54	28.63	0.00	0.00	0.0000	93,843.52	26.7513	228,150.05	25.9232	0.00	0.0000
CBOE BATO OPTIONS EXCHANGE (BATO)	1.86	0.00	1.76	2.63	0.00	0.00	0.0000	78,874.42	49.2657	42,154.14	65.7631	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)
CBOE EDGO OPTIONS EXCHANGE (EDGO)	0.46	0.00	0.42	0.72	0.00	0.00	0.0000	13,703.08	50.7521	27,135.12	55.8336	0.00	0.0000
MIAX EMERALD, LLC (EMLD)	2.52	0.00	1.91	6.10	0.00	0.00	0.0000	4,966.33	48.6895	24,014.03	43.7414	0.00	0.0000
ISE GMNI EXCHANGE (GMNI)	0.67	0.00	0.50	1.67	0.00	0.00	0.0000	4,863.17	51.1913	2,360.88	25.6617	0.00	0.0000
ISE MERCURY, LLC (MCRY)	0.48	0.00	0.35	1.26	0.00	0.00	0.0000	382.47	15.9363	77.91	77.9100	0.00	0.0000
MIAX PEARL, LLC (MPRL)	0.68	0.00	0.55	1.44	0.00	0.00	0.0000	14,835.89	51.3353	7,832.85	37.4778	0.00	0.0000
BOX OPTIONS EXCHANGE (XBOX)	0.63	0.00	0.52	1.28	0.00	0.00	0.0000	10,325.04	52.1467	12,656.61	61.7396	0.00	0.0000
ISE (XISE)	1.34	0.00	1.21	2.24	0.00	0.46	0.0000	22,070.83	30.1514	19,015.98	41.7934	0.00	0.0000
MIAX XMIO, LLC (XMIO)	0.45	0.00	0.44	0.58	0.00	0.00	0.0000	10,419.67	53.7096	19,481.28	60.5009	0.00	0.0000
NASDAQ OPTIONS MARKET (XNDQ)	17.56	0.00	18.78	12.91	0.00	0.00	0.0000	46,481.79	54.4283	68,472.30	75.6600	0.00	0.0000
NASDAQ OMX PHLX (XPHL)	0.49	0.00	0.46	0.68	0.00	3.36	0.0000	12,662.73	42.6355	2,857.54	45.3578	0.00	0.0000
NASDAQ OMX BX OPTIONS (XBXO)	0.73	0.00	0.77	0.65	0.00	0.00	0.0000	28,187.62	48.1840	27,412.03	82.3184	0.00	0.0000

Material Aspects:

CBOE GLOBAL MARKETS INC. (XCBO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE AMEX OPTIONS (AMXO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE ARCA OPTIONS (ARCO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE BATO OPTIONS EXCHANGE (BATO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGO OPTIONS EXCHANGE (EDGO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

MIAX EMERALD, LLC (EMLD):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

ISE GMNI EXCHANGE (GMNI):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

ISE MERCURY, LLC (MCRY):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

MIAX PEARL, LLC (MPRL):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

BOX OPTIONS EXCHANGE (XBOX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

ISE (XISE):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

MIAX XMIO, LLC (XMIO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OPTIONS MARKET (XNDQ):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OMX PHLX (XPHL):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OMX BX OPTIONS (XBXO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

June 2022

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
6.18	0.01	81.52	18.48	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)
CBOE BATS OPTIONS EXCHANGE (BATS)	3.74	0.00	4.06	2.21	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGA OPTIONS EXCHANGE (EDGA)	3.94	0.03	4.56	0.21	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NASDAQ - ALL MARKETS (XNAS)	26.89	0.00	26.58	29.36	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NEW YORK	10.70	0.00	11.00	0.46	0.00	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)
STOCK EXCHANGE, INC. (XNYS)													
NYSE ARCA (ARCX)	24.02	0.00	23.32	32.09	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATY OPTIONS EXCHANGE (BATY)	0.62	0.00	0.72	0.03	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGX OPTIONS EXCHANGE (EDGX)	2.83	0.00	2.97	2.28	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
INVESTORS EXCHANGE (IEXG)	5.45	0.00	6.39	0.13	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE MKT LLC (XASE)	20.88	0.00	19.72	31.48	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NASDAQ OMX BX (XBOS)	0.37	0.00	0.43	0.01	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

CBOE BATS OPTIONS EXCHANGE (BATS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGA OPTIONS EXCHANGE (EDGA):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ - ALL MARKETS (XNAS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NEW YORK STOCK EXCHANGE, INC. (XNYS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE ARCA (ARCX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE BATY OPTIONS EXCHANGE (BATY):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGX OPTIONS EXCHANGE (EDGX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

INVESTORS EXCHANGE (IEXG):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE MKT LLC (XASE):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OMX BX (XBOS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept

payment for order flow for these client orders from the executing broker who is responsible for market access

June 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
5.50	0.09	81.52	18.48	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)
NYSE ARCA (ARCX)	24.74	0.00	25.66	32.20	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATS OPTIONS EXCHANGE (BATS)	5.69	0.00	6.94	2.26	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE BATY OPTIONS EXCHANGE (BATY)	1.29	0.06	1.59	0.04	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGA OPTIONS EXCHANGE (EDGA)	3.75	0.24	4.54	0.10	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
INVESTORS EXCHANGE (IEGX)	4.84	0.01	6.26	0.07	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE MKT LLC (XASE)	18.19	0.00	17.27	31.31	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NASDAQ OMX BX (XBOS)	0.52	0.02	0.66	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NYSE NATIONAL, INC. (XCIS)	0.02	0.02	0.00	0.00	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NASDAQ - ALL MARKETS (XNAS)	25.85	0.00	24.22	29.38	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
NEW YORK STOCK EXCHANGE, INC. (XNYS)	10.13	0.01	8.77	0.09	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000
CBOE EDGX OPTIONS EXCHANGE (EDGX)	3.29	0.00	3.82	2.25	0.00	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000

Material Aspects:

NYSE ARCA (ARCA):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE BATS OPTIONS EXCHANGE (BATS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE BATY OPTIONS EXCHANGE (BATY):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGA OPTIONS EXCHANGE (EDGA):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

INVESTORS EXCHANGE (IEXG):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE MKT LLC (XASE):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OMX BX (XBOS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE NATIONAL, INC. (XCIS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ - ALL MARKETS (XNAS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NEW YORK STOCK EXCHANGE, INC. (XNYS):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGX OPTIONS EXCHANGE (EDGX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

June 2022

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
88.33	0.14	81.52	18.48	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)
CBOE GLOBAL	7.28	0.00	5.24	5.97	0.00	9,675.73	48.3787	35,726.58	58.4723	47,718.56	61.0993	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)
MARKETS INC. (XCBO)													
NASDAQ OMX PHLX (XPHL)	0.46	0.00	0.48	0.45	0.00	4.83	0.0000	9,657.81	41.8087	2,248.31	43.2367	0.00	0.0000
NYSE AMEX OPTIONS (AMXO)	0.31	0.00	0.17	0.93	0.00	0.00	0.0000	5,053.06	39.4770	865.29	50.8994	0.00	0.0000
NYSE ARCA OPTIONS (ARCO)	37.36	0.00	41.12	25.63	0.00	0.75	0.0000	63,706.95	28.9445	151,637.43	26.1444	0.00	0.0000
CBOE BATO OPTIONS EXCHANGE (BATO)	2.48	0.00	2.43	3.01	0.00	0.00	0.0000	65,337.85	49.1632	29,684.89	63.5651	0.00	0.0000
CBOE EDGO OPTIONS EXCHANGE (EDGO)	0.39	0.00	0.41	0.35	0.00	0.00	0.0000	8,898.24	47.5842	17,575.53	53.4211	0.00	0.0000
MIAX EMERALD, LLC (EMLD)	3.46	0.00	2.84	6.51	0.00	0.00	0.0000	3,292.57	49.1428	14,923.10	40.9975	0.00	0.0000
ISE GMNI EXCHANGE (GMNI)	0.93	0.00	0.76	1.73	0.00	0.00	0.0000	4,280.31	52.1989	2,112.14	26.0758	0.00	0.0000
ISE MERCURY, LLC (MCRY)	0.39	0.00	0.28	0.91	0.00	0.00	0.0000	220.15	12.9500	30.82	0.0000	0.00	0.0000
MIAX PEARL, LLC (MPRL)	1.04	0.00	0.95	1.57	0.00	0.00	0.0000	12,960.34	50.8249	5,163.17	38.2457	0.00	0.0000
BOX OPTIONS EXCHANGE (XBOX)	0.94	0.00	0.46	3.10	0.00	0.00	0.0000	5,704.69	48.7580	6,838.43	60.5171	0.00	0.0000
NASDAQ OMX BX OPTIONS (XBXO)	0.91	0.00	0.98	0.69	0.00	0.00	0.0000	29,079.98	49.7094	21,650.37	85.9142	0.00	0.0000
ISE (XISE)	2.01	0.01	1.37	4.92	0.00	492.39	49.2390	15,245.63	27.5690	8,670.57	40.1415	0.00	0.0000
MIAX XMIO, LLC (XMIO)	0.36	0.00	0.38	0.31	0.00	0.00	0.0000	6,747.81	51.9062	12,229.18	61.7635	0.00	0.0000
NASDAQ OPTIONS MARKET (XNDQ)	22.56	0.00	26.58	8.02	0.00	0.00	0.0000	36,943.89	53.7757	52,228.17	75.0405	0.00	0.0000

Material Aspects:

CBOE GLOBAL MARKETS INC. (XCBO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OMX PHLX (XPHL):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE AMEX OPTIONS (AMXO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NYSE ARCA OPTIONS (ARCO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE BATO OPTIONS EXCHANGE (BATO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

CBOE EDGO OPTIONS EXCHANGE (EDGO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

MIAX EMERALD, LLC (EMLD):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

ISE GMNI EXCHANGE (GMNI):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

ISE MERCURY, LLC (MCRY):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

MIAX PEARL, LLC (MPRL):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

BOX OPTIONS EXCHANGE (XBOX):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OMX BX OPTIONS (XBXO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

ISE (XISE):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

MIAX XMIO, LLC (XMIO):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access

NASDAQ OPTIONS MARKET (XNDQ):

Note regarding Payment for Order Flow Practices The Firm, in its efforts to seek best execution, routes client orders to national securities exchanges, alternative trading systems (ATSs), including electronic communications networks (ECNs) and other market centers. The Firm may accept payment for order flow for these client orders from the executing broker who is responsible for market access