July 2023

S&P 500 Stocks Summary

Total Non-Directed Orders	Non-Directed Orders as % of All Orders	Total Market Orders		Market Orders as % of Non-Directed Orders	Total Marketable Limit Orders	Marketable Orders as % Non-Directo Orders	6 of
15	100.00		7	46.67		1	6.67

Venue - Non- directed Order Flow	Non-Directed Orders	Non-Directe Orders(%)	d Market Orders	Market Ord	ers(%)	Marketable Limit Orders	
VIRTU Americas, LLC(NITE)		9	56.25	2	28.57		1
Jane Street Capital, LLC(JNST)		3	18.75	3	42.86	i	0
Citadel Securities LLC(CDRG)		2	12.50	2	28.57	,	0
UBS Securities, LLC (UBSS)		1	6.25	0	0.00)	0
National Financial Services LLC(XSTM)		1	6.25	0	0.00	r	0

July 2023

Non-S&P 500 Stocks Summary

Total Non-Directed Orders	Non-Directed Orders as % of All Orders	Total Market Orders	Market Orders as % of Non-Directed Orders	Total Marketable Limit Orders	Marketable Lir Orders as % of Non-Directed Orders	_
85	100.00	74	87.06		0	0.00

Venue - Non- directed Order Flow	Non-Directed Orders	Non-Directe Orders(%)		Market Orders	Market Orders(%)	Marketable Limit Orders
National Financial Services LLC(XSTM) Citadel Securities		41	27.15	0	0.00	0
LLC(CDRG) New York Stock		28	18.54	28	37.84	0
Exchange(NYSE) G1 Execution		25	16.56	0	0.00	0
Services, LLC (ETMM)		18	11.92	18	24.32	0
VIRTU Americas, LLC(NITE)		18	11.92	14	18.92	0
Jane Street Capital, LLC(JNST) Cboe EDGX US		13	8.61	13	17.57	0
Equities Exchange (EDGX)		4	2.65	0	0.00	0

Members					
Exchange(MEMX)	2	1.32	0	0.00	0
Instinet BlockCross					
(BLKX)	1	0.66	0	0.00	0
Two Sigma					
Securities, LLC					
(SOHO)	1	0.66	1	1.35	0

July 2023

Option Contracts

Summary

Total Non-Directed Orders	Non-Directed Orders as % of All Orders	Total Market Orders	Market Orders % of Non-Dire Orders		Marketable Li Orders as % o Non-Directed Orders	f
0	0.00)	0	0.00	0	0.00

Venues

Venue - Non-

directed Order Non-Directed Non-Directed Marketable Limit
Flow Orders Orders(%) Market Orders Market Orders(%) Orders

August 2023

S&P 500 Stocks

Summary

Total Non-Directed Orders	Non-Directed Orders as % of All Orders	Total Market Orders	Market Orders as % of Non-Directed Orders	Total Marketable Limit Orders	Marketable Lii Orders as % of Non-Directed Orders	-
15	100.00	1	.0 66.6	7	0	0.00

Venues

Venue - Non- directed Order Flow VIRTU Americas,	Non-Directed Orders	Non-Directed Orders(%)	l Market Orders	Market Orde	rs(%)	Marketable Limit Orders	
LLC(NITE)		9	50.00	4	40.00		0
Citadel Securities		2	46.67	2	20.00		^
LLC(CDRG) National Financial		3	16.67	3	30.00		0
Services LLC(XSTM)		3	16.67	0	0.00		0
G1 Execution Services, LLC							
(ETMM)		2	11.11	2	20.00		0
Jane Street Capital,		_					
LLC(JNST)		1	5.56	1	10.00		0

August 2023

Non-S&P 500 Stocks Summary

Total Non-Directed Orders	Non-Directed Orders as % of All Orders	Total Market Orders		Market Orders as % of Non-Directed Orders	Total Marketable Limit Orders	Marketable Lii Orders as % of Non-Directed Orders	_
62	100.00		49	79.03		2	3.23

Venues

Venue - Non- directed Order Flow	Non-Directed Orders	Non-Directe Orders(%)	d	Market Orders	Market Orders(%)	Marketable Limit Orders
VIRTU Americas, LLC(NITE)		19	25.68	9	19.15	1
Citadel Securities		18	24.32	16	34.04	1
LLC(CDRG) G1 Execution		10	24.32	10	34.04	1
Services, LLC (ETMM)		11	14.86	11	. 23.40	0
National Financial		4.4	44.06		0.00	0
Services LLC(XSTM) Jane Street Capital,		11	14.86	0	0.00	0
LLC(JNST)		10	13.51	10	21.28	0
NASDAQ Execution Services, LLC			5 44		0.00	
(NSDQ) Two Sigma		4	5.41	0	0.00	0
Securities, LLC (SOHO)		1	1.35	1	2.13	0

August 2023

Option Contracts

Summary

Total Non-Directed Orders	Non-Directed Orders as % of All Orders	Total Market Orders	Market Orders as % of Non-Directed Orders		Marketable I Orders as % Non-Directed Orders	of
3	100.00)	0 0.0	00	1	33.33

Venues

Venue - Non- directed Order Flow	Non-Directed Orders	Non-Directe Orders(%)	d Market Orders	Market Order	s(%)	Marketable Limit Orders	
Citadel Securities LLC(CDRG) Dash Financial		2	66.67	0	0.00		1
Technologies LLC (DASH)		1	33.33	0	0.00	(0

September 2023

S&P 500 Stocks

Summary

Total Non-Directed Orders	Non-Directed Orders as % of All Orders	Total Market Orders		Market Orders as % of Non-Directed Orders	Total Marketable Limit Orders	Marketable Li Orders as % o Non-Directed Orders	f
7	100.00		3	42.86		0	0.00

Venue - Non- directed Order Flow VIRTU Americas,	Non-Directed Orders	Non-Directed Orders(%)	d Market Orders	Market Orders	Marketable Lim (%) Orders	it
LLC(NITE)		4	57.14	0	0.00	0

G1 Execution					
Services, LLC					
(ETMM)	2	28.57	2	66.67	0
Citadel Securities					
LLC(CDRG)	1	14.29	1	33.33	0

September 2023

Non-S&P 500 Stocks Summary

Total Non-Directed Orders	Non-Directed Orders as % of All Orders	Total Market Orders	Market Orders % of Non-Direct Orders		Marketable Lin Orders as % of Non-Directed Orders	_
43	100.00	30	0 6	59.77	0	0.00

Venue - Non- directed Order Flow New York Stock	Non-Directed Orders	Non-Directed Orders(%)	d	Market Orders	Market Orders(%)	Marketable Limit Orders
Exchange(NYSE)		20	28.99	0	0.00	0
Citadel Securities LLC(CDRG)		17	24.64	16	53.33	0
VIRTU Americas,			2	10	33.33	· ·
LLC(NITE)		13	18.84	7	23.33	0
National Financial Services LLC(XSTM) Choe EDGX US		6	8.70	0	0.00	0
Equities Exchange (EDGX)		4	5.80	0	0.00	0

G1 Execution					
Services, LLC					
(ETMM)	3	4.35	3	10.00	0
Jane Street Capital,					
LLC(JNST)	3	4.35	3	10.00	0
NASDAQ Execution					
Services, LLC					
(NSDQ)	2	2.90	0	0.00	0
Two Sigma					
Securities, LLC					
(SOHO)	1	1.45	1	3.33	0

September 2023

Option Contracts

Summary

Total No Orders	n-Directed	Non-Directed Orders as % of All Orders	Total Market Orders	Market Ord % of Non-D Orders		Total Marketable Limit Orders	Marketable Li Orders as % o Non-Directed Orders	f
	0	0.0	0	0	0.00)	0	0.00

Venues

 Venue - Non-directed Order
 Non-Directed
 Non-Directed
 Market Orders
 Market Orders(%)
 Market Orders(%)
 Orders

SECURITIES MANAGEMENT & RESEARCH -Held NMS Stocks and Options Order Routing Public Report Generated on Tue Oct 10 2023 09:18:15 GMT-4 EDT

3rd Quarter, 2023

	Non-Mark	etable		
	Limit Orde	ers as %		Other Orders as %
	of Non-Di	rected		of Non-Directed
Total Non-Marketable Limit Orders	Orders	T	otal Other Orders	Orders
	7	46.67	0	0.00

Marketable Limit Orders(%)		-Marketable it Orders	Non-Marketable Limit Orders(%)	Other Orders	Other Orders(%)	Net Payment Paid/Received for Market Orders (USD)
	100.00	6	85.72	L 0	0.00	0
	0.00	0	0.00	0	0.00	0
	0.00	0	0.00	0	0.00	0
	0.00	1	14.29	9 0	0.00	0
	0.00	0	0.00) 1	100.00	0

Non-Marketable
Limit Orders as % Other Orders as % of Non-Directed
Total Non-Marketable Limit Orders

Orders

Total Other Orders

11 12.94

Orders

Orders

0 0.00

Marketable Limit Orders(%)		Narketable Orders	Non-Marketable Limit Orders(%)	Other Orders	Other Orders(%)	Net Payment Paid/Received for Market Orders (USD)
	0.00	0	0.00	41	97.62	0
	0.00	0	0.00	0	0.00	0
	0.00	25	71.43	0	0.00	0
	0.00	0	0.00	0	0.00	0
	0.00	4	11.43	0	0.00	0
	0.00	0	0.00	0	0.00	0
	0.00	4	11.43	0	0.00	0

0.00	2	5.71	0	0.00	0
0.00	0	0.00	1	2.38	0
0.00	0	0.00	0	0.00	0

Non-Marketable
Limit Orders as %
of Non-Directed
Orders

Total Non-Marketable Limit Orders

0 0.00 0.00 0 0.00

Net Payment
Paid/Received for
Non-Marketable
Marketable Limit Orders(%)
Non-Marketable
Limit Orders

Non-Marketable
Limit Orders

Non-Marketable
Limit Orders

Other Orders

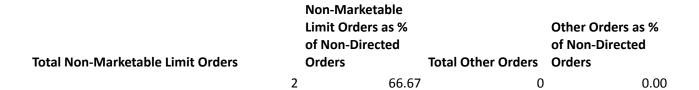
Other Orders(%)
USD)

	Non-Wark	etable		
	Limit Orde	rs as %	Other (Orders as %
	of Non-Dir	ected	of Non	-Directed
Total Non-Marketable Limit Orders	Orders	Total Other	Orders Orders	
	5	33.33	0	0.00

Marketable Limit Orders(%)	Non-Marketable Limit Orders		Non-Marketable Limit Orders(%)	Other Orders	Other Orders		Net Payment Paid/Received for Market Orders (USD)	
	0.00	5	100.00	C)	0.00		0
	0.00	0	0.00	C)	0.00		0
	0.00	0	0.00	3	3	100.00		0
	0.00	0	0.00	C)	0.00		0
	0.00	0	0.00	C)	0.00		0

	Non-Mark	etable		
	Limit Orde	Other Ord	lers as %	
	of Non-Di	of Non-Di	rected	
Total Non-Marketable Limit Orders	Orders	Total Oth	er Orders Orders	
	11	17.74	0	0.00

Marketable Limit Orders(%)	Non-Marketable Limit Orders	Non-Marketable Limit Orders(%)	Other Orders	Other Orders(%)	Net Payment Paid/Received for Market Orders (USD)
50.00	9	64.29	0	0.00	0
50.00	1	7.14	0	0.00	0
0.00	0	0.00	0	0.00	0
0.00	0	0.00	11	100.00	0
0.00	0	0.00	0	0.00	0
0.00	4	28.57	0	0.00	0
0.00	0	0.00	0	0.00	0



Marketable Limit Orders(%)		Non-Marketable Limit Orders		Non-Marketable Limit Orders(%)	Other Orders		Other Orders(%)	Net Payment Paid/Received for Market Orders (USD)	
	100.00		1	50.00		0	0.00		0
	0.00		1	50.00		0	0.00		0
Total Non-Marketable Limit Orders		Non-Marketable Limit Orders as % of Non-Directed Orders		Total Other Orders	Other Orders a of Non-Directe Orders				
	4	57.	14	0		0.00			
		Non-Marketable		Non-Marketable				Net Payment Paid/Received for Market Orders	
Marketable Limit Orders(%)		Limit Orders		Limit Orders(%)	Other Orders		Other Orders(%)	(USD)	
	0.00		4	100.00		0	0.00		0

0.00	0	0.00	0	0.00	0
0.00	0	0.00	0	0.00	0

Non-Marketable
Limit Orders as %
of Non-Directed
Total Non-Marketable Limit Orders

13 30.23 0 0.00

Marketable Limit Orders(%)		Marketable Orders	Non-Marketable Limit Orders(%)	Other Orders	Other Orders(%)	Net Payment Paid/Received for Market Orders (USD)
	0.00	20	60.61	0	0.00	0
	0.00	1	3.03	0	0.00	0
	0.00	6	18.18	0	0.00	0
	0.00	0	0.00	6	100.00	0
	0.00	4	12.12	0	0.00	0

0.00	0	0.00	0	0.00	0
0.00	0	0.00	0	0.00	0
0.00	2	6.06	0	0.00	0
0.00	0	0.00	0	0.00	0

	Non-Mark	etable				
	Limit Orders as %			Other Orders as %		
	of Non-Dir	ected	of N	of Non-Directed		
Total Non-Marketable Limit Orders	Orders	Total Other	Orders Orde	ers		
	0	0.00	0	0.00		

					Net Payment
					Paid/Received for
	Non-Marketable	Non-Marketable			Market Orders
Marketable Limit Orders(%)	Limit Orders	Limit Orders(%)	Other Orders	Other Orders(%)	(USD)

Market Orders	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)	
0	C)	0	0	1	0	0	0	
0	C)	0	0		0	0	0	
0	C)	0	0		0	0	0	
0	C)	0	0		0	0	0	
0	C)	0	0	1	0	0	0	

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(cent per hundred shares)		Net Payment Paid/Received fo Other Orders(cei per hundred) shares)	
0	()	0	0	0	0	0
0	()	0	0	0	0	0
0	()	0	0	0	0	0
0	()	0	0	0	0	0
0	()	0	0	0	0	0
0	()	0	0	0	0	0
0	()	0	0	0	0	0

0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

Net Payment Paid/Received for **Market Orders** (cents per hundred Marketable Limit shares)

Net Payment Paid/Received for 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) shares)

Net Payment Paid/Received for Other Orders(cents per hundred

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)	
0	0	C	0	0	0	0	
0	0	C	0	0	0	0	
0	0	C	0	0	0	0	
0	0	C	0	0	0	0	
0	0	C	0	0	0	0	

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)	F	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	Pa O pe	let Payment aid/Received for other Orders(cent er hundred hares)	
0		0	0	0		0	0		0
0		0	0	0		0	0		0
0		0	0	0		0	0		0
				_					•
0		0	0	0		0	0		0
0		0	0	0		0	0		0
0		0	0	0		0	0		0
0		0	0	0		0	0		0

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)	•	per hundred	Net Payment Paid/Received for Other Orders(USD)	Net Payment Paid/Received for Other Orders(cents per hundred shares)
0		0	0	0	0 0	0
0		0	0	0	0 0	0

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 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)
0		0	0 0	0	0	0

0	0	0	0	0	0	0
0	0	0	0	0	0	0

Net Payment

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)	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)	
0	0	0	0	0	0	0)
0	0	0	0	0	0	0)
0	0	0	0	0	0	0)
0	0	0	0	0	0	0	į
	_	_	_			_	
0	0	0	0	0	0	0)

0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

Net Payment Paid/Received for **Market Orders** (cents per hundred Marketable Limit shares)

Net Payment Paid/Received for 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) shares)

Net Payment Paid/Received for Other Orders(cents per hundred