William Blair Sell Side - Held NMS Stocks and Options Order Routing Public Report Generation Date: 2024-01-06 14:05:57.087 GMT -04:00 Year: 2023 Quarter: 4

October 2023				S&P 500 Stocks									
Summary			Non-Marketable Limit Orders										
Non-Directed Orders as Mari Percent of All Orders	Directed Orders	Orders	Orders										
100.00%	97.74%	1.05%	1.15%	0.06%									
Venues - Non Directed Orders													
				Non-Marketable Limit Orders		Net Payment Paid/Received	Net Payment Paid/Received for Market Orders (cents per	Net Payment Paid/Received Marketable Limit Orders	Net Payment Paid/Received Marketable Limit Orders	Net Payment Paid/Received Non-Marketable Limit Orders	Net Payment Paid/Received Non-Marketable Limit Orders	Net Payment Paid/Received	Net Payment Paid/Received Other Orders (cents per
Venue	Non-Directed Orders (%)		Marketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
Citadel Securities LLC (CDRG) Wall Street Access (VNDM)	33.57% 33.22%	33.54% 33.28%	34.48% 32.18%		40.00% 60.00%	0.0000		0	0.0000	0	0.0000	0	0.0000
Virtu Americas LLC (NITE)	33.20%	33.19%	33.33%		0.00%	0.0000	0.0000	0	0.0000	0	0.0000		0.0000
October 2023 Summary				Non-S&P 500 Stocks									
Non-Directed Orders as Mari	hat Ordars as Bassant of Non		Non-Marketable Limit Orders	Other Orders as Percent of									
Percent of All Orders 100.00%	Directed Orders 96.36%	Orders 1.66%	Orders 1.82%	Non-Directed Orders									
Venues - Non Directed Orders													
							Net Payment Paid/Received for Market Orders (cents per	Net Payment Paid/Received Marketable Limit Orders	Net Payment Paid/Received	Net Payment Paid/Received			Net Payment Paid/Received
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders (USD)			(cents per hundred shares)		Non-Marketable Limit Orders (cents per hundred shares)	Net Payment Paid/Received Other Orders (USD)	Other Orders (cents per hundred shares)
Citadel Securities LLC (CDRG)	33.68% 33.43%	33.36%	46.74% 29.35%		36.84% 42.11%	0.0000		0	0.0000	0	0.0000	0	0.0000
Virtu Americas LLC (NITE) Wall Street Access (VNDM)	33.43% 32.89%	33.45% 33.19%	29.35% 23.91%		42.11% 21.05%	0.0000		0	0.0000	0	0.0000	0	0.0000
October 2023				Option Contracts									
Summary													
Non-Directed Orders as Mari	ket Orders as Percent of Non-		Non-Marketable Limit Orders	Other Orders as Percent of									
Percent of All Orders	Directed Orders	Orders	Orders	Non-Directed Orders									
100.00%	67.74%	9.26%	18.67%	4.34%									
Venues - Non Directed Orders													
									Net Payment Paid/Received				Net Payment Paid/Received
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders (USD)	for Market Orders (cents per hundred shares)		Marketable Limit Orders (cents per hundred shares)		Non-Marketable Limit Orders (cents per hundred shares)	Net Payment Paid/Received Other Orders (USD)	Other Orders (cents per hundred shares)
National Financial Services,	, , , , , , , , , , , , , , , , , , , ,					,	,						,
LLC (NFSC)	100.00%	100.00%	100.00%	100.00%	100.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Material Aspects: Citadel Securities LLC - William Blair													
Virtu Americas LLC - William Blair di													
Wall Street Access - William Blair di National Financial Services LLC - Wi													
November 2023 Summary				S&P 500 Stocks									
		Marketable Limit Orders as	Non-Marketable Limit Orders										
Non-Directed Orders as Mari Percent of All Orders	ket Orders as Percent of Non- Directed Orders	Percent of Non-Directed Orders	as Percent of Non-Directed Orders										
100.00%	96.97%	1.17%	1.81%	0.04%									
Venues - Non Directed Orders													
							Not Daymont Daid/Rossiyad	Not Payment Paid/Received	Net Payment Paid/Received	Not Payment Paid/Persived	Not Payment Baid/Received		Net Payment Paid/Received
				Non-Marketable Limit Orders			for Market Orders (cents per	Marketable Limit Orders	Marketable Limit Orders	Non-Marketable Limit Orders	Non-Marketable Limit Orders	Net Payment Paid/Received	Other Orders (cents per
Venue Virtu Americas LLC (NITE)	Non-Directed Orders (%)	Market Orders (%) 33.98%	Marketable Limit Orders (%) 26.85%	(%) 29.34%	Other Orders (%) 75.00%	for Market Orders (USD)		(USD)	(cents per hundred shares) 0.0000	(USD)	(cents per hundred shares) 0.0000	Other Orders (USD)	hundred shares)
Citadel Securities LLC (CDRG)	33.25%	33.09%	39.81%	37.72%	25.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Wall Street Access (VNDM)	32.92%	32.93%	33.33%	32.93%	0.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
November 2023				Non-S&P 500 Stocks									
Summary		Marketable Limit Orders as	Non-Marketable Limit Orders										
Non-Directed Orders as Mari		Percent of Non-Directed	as Percent of Non-Directed	Other Orders as Percent of									
Percent of All Orders 100.00%	Directed Orders 94.45%	Orders 2.04%	Orders 3.40%										
Venues - Non Directed Orders													
- Chacy - Non Directed Orders													
				Non-Marketable Limit Orders		Net Payment Paid/Received	Net Payment Paid/Received for Market Orders (cents per		Net Payment Paid/Received Marketable Limit Orders			Net Payment Paid/Received	Net Payment Paid/Received Other Orders (cents per
Venue	Non-Directed Orders (%)		Marketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
Citadel Securities LLC (CDRG) Wall Street Access (VNDM)	34.27% 33.29%	33.77% 33.51%	54.90% 21.08%		58.33% 25.00%	0		0	0.0000 0.0000	0	0.0000 0.0000	0	0.0000
Virtu Americas LLC (NITE)	32.43%	32.72%	24.02%		16.67%	0		0	0.0000	0	0.0000		
November 2023 Summary				Option Contracts									
			Non-Marketable Limit Orders										
Non-Directed Orders as Mari Percent of All Orders	ket Orders as Percent of Non- Directed Orders	Percent of Non-Directed Orders	as Percent of Non-Directed Orders	Other Orders as Percent of Non-Directed Orders									
100.00%	67.09%	5.60%	20.61%										

Venues - Non Directed Orders

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							Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received		Net Payment Paid/Received
			N	on-Marketable Limit Orders		Net Payment Paid/Received	for Market Orders (cents per	Marketable Limit Orders	Marketable Limit Orders	Non-Marketable Limit Orders N	Ion-Marketable Limit Orders	Net Payment Paid/Received	Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%) Marketable	Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
National Financial Services,													
LLC (NFSC)	100.00%	100.00%	100.00%	100.00%	100.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000

Material Aspects:
CRadel Securities LLC - William Blair did not receive payment for order flow from CDRG for these trades.
Virtu Americas LLC - William Blair did not receive payment for order flow from NITE for these trades.
Wall Street Access - William Blair did not receive payment for order flow from VNDM for these trades.
Wall Street Access - William Blair did not receive payment for order flow from VNDM Sc for these trades.

December 2023				S&P 500 Stocks
Summary				
		Marketable Limit Orders as	Non-Marketable Limit Orders	
Non-Directed Orders as	Market Orders as Percent of Non-	Percent of Non-Directed	as Percent of Non-Directed	Other Orders as Percent of
Percent of All Orders	Directed Orders	Orders	Orders	Non-Directed Orders
100.00%	95.61%	1 12%	3 15%	0.12%

Venues - Non Directed Orders

									Net Payment Paid/Received				Net Payment Paid/Received
			Non-f	Marketable Limit Orders		Net Payment Paid/Received f	or Market Orders (cents per	Marketable Limit Orders	Marketable Limit Orders N	on-Marketable Limit Orders 1	Non-Marketable Limit Orders	Net Payment Paid/Received	Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
Citadel Securities LLC (CDRG)	38.08%	37.98%	43.14%	37.76%	72.73%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Virtu Americas LLC (NITE)	31.99%	32.00%	28.43%	33.92%	0.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Wall Street Access (VNDM)	29.94%	30.01%	28.43%	28.32%	27.27%	0	0.0000	0	0.0000	0	0.0000	0	0.0000

December 2023 Summary				Non-S&P 500 Stocks
		Marketable Limit Orders as	Non-Marketable Limit Orders	
Non-Directed Orders as	Market Orders as Percent of Non-	Percent of Non-Directed	as Percent of Non-Directed	Other Orders as Percent of
Percent of All Orders	Directed Orders	Orders	Orders	Non-Directed Orders
100.00	% 92.11%	2.11%	5.47%	0.31%

Venues - Non Directed Orders

				n-Marketable Limit Orders		Net Payment Paid/Received for	r Market Orders (cents per	Marketable Limit Orders		Non-Marketable Limit Orders	Non-Marketable Limit Orders	Net Payment Paid/Received	Net Payment Paid/Received Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
Citadel Securities LLC (CDRG)	38.66%	37.95%	46.53%	47.33%	43.33%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Virtu Americas LLC (NITE)	31.50%	32.14%	24.75%	24.24%	16.67%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Wall Street Access (VNDM)	29.81%	29.91%	28.71%	28.44%	30.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Clearpool Execution Services,													
LLC (CPEM)	0.02%	0.00%	0.00%	0.00%	6.67%	0	0.0000	0	0.0000	0	0.0000	-160	-40.0000
BOFA Securities, Inc. (MLCO)	0.01%	0.00%	0.00%	0.00%	3.33%	0	0.0000	0	0.0000	0	0.0000	-14	-27.5282

December 2023				Option Contracts					
Summary									
	Marketable Limit Orders as Non-Marketable Limit Orders								
Non-Directed Orders as	Market Orders as Percent of Non-	Percent of Non-Directed	as Percent of Non-Directed	Other Orders as Percent of					
Percent of All Orders	Directed Orders	Orders	Orders	Non-Directed Orders					
100.00%	55.20%	7.90%	19.78%	17.12%					

						Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received		Net Payment Paid/Received
			Non-Marketable Limit Orders		Net Payment Paid/Received	for Market Orders (cents per	Marketable Limit Orders	Marketable Limit Orders	Non-Marketable Limit Orders	Non-Marketable Limit Orders	Net Payment Paid/Received	Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%) Marketable Limit Or	iers (%) (%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
National Financial Services,												
LLC (NFSC)	100.00%	100.00%	00.00% 100.00%	100.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000

Masterial Assects:
Citaded Securities LLC - William Blair did not receive payment for order flow from CDRG for these trades.
Virtu Americas LLC - William Blair did not receive payment for order flow from NTE for these trades.
Virtu Americas LLC - William Blair did not receive payment for order flow from NTE for these trades.
Virtu Americas LLC - William Blair did not receive payment for order flow from MSC for these trades.
National Financial Services LLC - William Blair did not receive payment for order flow from MSC for these trades.
National Financial Services LLC - William Blair and lot not receive payment for order flow from MSC for these trades.
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MCO may pass to William Blair any execution fees and rebates incurred for routing the order to wind an additional routing fee.

Clearpool Executes puts. "William Blair any execution fees and rebates incurred for routing the orders when additional routing fee.

Clearpool Execution Sees, Ltd.: William Blair any execution fees and rebates incurred for routing the orders executed in Alternative Trading Systems. Order routing fee.

Clearpool Execution Sees, Ltd.: William Blair any execution fees and rebates incurred for routing the orders when additional routing fee.