

OBERWEIS SECURITIES, INC. - Held NMS Stocks and Options Order Routing Public Report

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1st Quarter, 2020

January 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	98.11	0.00	1.89	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)	53.45	53.98	0.00	33.33	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU Americas LLC (NITE)	32.76	33.63	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC (ETMM)	6.03	6.19	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
State Street Global Markets, LLC (SSBS)	4.31	4.42	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	1.72	0.00	0.00	66.67	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Two Sigma Securities, LLC (SOHO)	0.86	0.88	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
UBS Securities, LLC (UBSS)	0.86	0.88	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

Material Aspects:

Citadel Securities LLC (CDRG):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

VIRTU Americas LLC (NITE):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

G1 Execution Services, LLC (ETMM):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

State Street Global Markets, LLC (SSBS):

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NASDAQ Execution Services, LLC (NSDQ):

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Two Sigma Securities, LLC (SOHO):

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UBS Securities, LLC (UBSS):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

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	73.93	11.79	13.93	0.36

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)	49.69	58.64	55.81	10.71	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU Americas LLC (NITE)	26.25	31.36	16.28	14.29	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC (ETMM)	5.31	7.27	0.00	0.00	100.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	5.31	0.00	0.00	30.36	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX U.S (EDGX)	5.00	0.00	0.00	28.57	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
State Street Global Markets, LLC (SSBS)	4.38	0.91	27.91	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe BZX U.S (ZBAT)	1.56	0.00	0.00	8.93	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
New York Stock Exchange (NYSE)	1.25	0.00	0.00	7.14	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
UBS Securities, LLC	1.25	1.82	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	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)
(UBSS)													

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New York Stock Exchange (NYSE):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

UBS Securities, LLC (UBSS):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

January 2020

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
100.00	33.79	7.13	59.08	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)	36.31	26.25	34.38	42.29	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
MORGAN STANLEY & CO. LLC (MSCO)	17.83	23.13	12.50	15.41	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Susquehanna Capital Group (SUSQ)	17.20	37.50	28.13	4.30	0.00	0	0.0000	0	0.0000	0	0.0000	0	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)
Wolverine Execution Services LLC (WEXX)	12.10	1.88	9.38	18.28	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Citigroup Global Markets, Inc. (CITI)	10.83	10.63	9.38	11.11	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
DASH FINANCIAL TECHNOLOGIES LLC (DASH)	5.73	0.63	6.25	8.60	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

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MORGAN STANLEY & CO. LLC (MSCO):

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Wolverine Execution Services LLC (WEXX):

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Citigroup Global Markets, Inc. (CITI):

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DASH FINANCIAL TECHNOLOGIES LLC (DASH):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

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	91.67	0.64	6.41	1.28

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)	52.83	55.56	100.00	8.33	100.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU Americas LLC (NITE)	27.67	29.17	0.00	16.67	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC	8.81	9.72	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	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)
(ETMM)													
NASDAQ Execution Services, LLC (NSDQ)	2.52	0.00	0.00	33.33	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
New York Stock Exchange (NYSE)	1.89	0.00	0.00	25.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
UBS Securities, LLC (UBSS)	1.89	2.08	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX U.S (EDGX)	1.26	0.00	0.00	16.67	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Two Sigma Securities, LLC (SOHO)	1.26	1.39	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
State Street Global Markets, LLC (SSBS)	1.26	1.39	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
JANE STREET CAPITAL, LLC (JNST)	0.63	0.69	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

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Cboe EDGX U.S (EDGX):

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Two Sigma Securities, LLC (SOHO):

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State Street Global Markets, LLC (SSBS):

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JANE STREET CAPITAL, LLC (JNST):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

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	84.62	3.71	10.34	1.33

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)	49.62	55.08	35.71	16.67	50.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU Americas LLC (NITE)	31.20	32.62	64.29	10.42	50.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC (ETMM)	5.37	6.15	0.00	2.08	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX U.S (EDGX)	3.32	0.00	0.00	27.08	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	2.56	0.00	0.00	20.83	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
UBS Securities, LLC (UBSS)	2.56	2.77	0.00	2.08	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
State Street Global Markets, LLC (SSBS)	1.53	1.85	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
New York Stock Exchange (NYSE)	1.28	0.00	0.00	10.42	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe BZX U.S (ZBAT)	1.28	0.00	0.00	10.42	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
JANE STREET CAPITAL, LLC (JNST)	1.02	1.23	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

Material Aspects:

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State Street Global Markets, LLC (SSBS):

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New York Stock Exchange (NYSE):

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Cboe BZX U.S (ZBAT):

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JANE STREET CAPITAL, LLC (JNST):

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February 2020

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
100.00	35.45	3.29	61.27	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)	40.89	32.45	50.00	45.25	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Susquehanna Capital Group (SUSQ)	14.95	26.49	14.29	8.37	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
MORGAN STANLEY & CO. LLC (MSCO)	14.02	21.85	21.43	9.13	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Citigroup Global Markets, Inc. (CITI)	12.85	10.60	14.29	14.07	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Wolverine Execution Services LLC (WEXX)	11.21	1.32	0.00	17.49	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
DASH FINANCIAL TECHNOLOGIES LLC (DASH)	6.07	7.28	0.00	5.70	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

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DASH FINANCIAL TECHNOLOGIES LLC (DASH):

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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	87.44	2.05	10.00	0.51

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)	51.11	56.13	50.00	15.22	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU Americas LLC (NITE)	16.46	15.95	25.00	15.22	100.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC (ETMM)	9.09	10.26	12.50	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
UBS Securities, LLC (UBSS)	5.41	6.27	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
State Street Global Markets, LLC (SSBS)	4.42	5.13	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
JANE STREET CAPITAL, LLC (JNST)	3.19	3.70	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	3.19	0.00	0.00	28.26	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX U.S (EDGX)	2.95	0.00	0.00	26.09	0.00	0	0.0000	0	0.0000	0	0.0000	0	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)
Two Sigma Securities, LLC (SOHO)	2.46	2.56	12.50	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
New York Stock Exchange (NYSE)	1.72	0.00	0.00	15.22	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

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[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

Cboe EDGX U.S (EDGX):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

Two Sigma Securities, LLC (SOHO):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

New York Stock Exchange (NYSE):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

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	74.07	7.12	18.34	0.48

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)	51.57	60.67	55.74	21.32	50.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
VIRTU Americas LLC (NITE)	18.43	20.38	31.15	7.61	50.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NASDAQ Execution Services, LLC (NSDQ)	7.42	0.00	0.00	33.50	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
G1 Execution Services, LLC (ETMM)	6.07	7.17	3.28	3.55	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Cboe EDGX U.S (EDGX)	3.93	0.00	0.00	17.77	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
UBS Securities, LLC (UBSS)	3.71	4.62	4.92	0.51	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
NYSE Arca (ARCA)	2.58	0.00	0.00	11.68	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
State Street Global Markets, LLC (SSBS)	2.25	2.87	3.28	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
JANE STREET CAPITAL, LLC (JNST)	1.69	2.07	1.64	0.51	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Two Sigma Securities, LLC (SOHO)	1.57	2.23	0.00	0.00	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

Material Aspects:

Citadel Securities LLC (CDRG):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

VIRTU Americas LLC (NITE):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

NASDAQ Execution Services, LLC (NSDQ):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

G1 Execution Services, LLC (ETMM):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

Cboe EDGX U.S (EDGX):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

UBS Securities, LLC (UBSS):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

NYSE Arca (ARCA):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

State Street Global Markets, LLC (SSBS):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

JANE STREET CAPITAL, LLC (JNST):

[Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

Two Sigma Securities, LLC (SOHO):
 [Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

March 2020

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
100.00	16.40	3.44	79.76	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)	45.16	37.88	44.00	46.59	66.67	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Wolverine Execution Services LLC (WEXX)	16.50	2.27	4.00	19.97	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
MORGAN STANLEY & CO. LLC (MSCO)	13.40	17.42	24.00	12.23	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Citigroup Global Markets, Inc. (CITI)	9.68	6.82	0.00	10.68	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Susquehanna Capital Group (SUSQ)	9.31	32.58	28.00	3.72	33.33	0	0.0000	0	0.0000	0	0.0000	0	0.0000
DASH FINANCIAL TECHNOLOGIES LLC (DASH)	5.96	3.03	0.00	6.81	0.00	0	0.0000	0	0.0000	0	0.0000	0	0.0000

Material Aspects:

Citadel Securities LLC (CDRG):
 [Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

Wolverine Execution Services LLC (WEXX):
 [Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

MORGAN STANLEY & CO. LLC (MSCO):
 [Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

Citigroup Global Markets, Inc. (CITI):
 [Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

Susquehanna Capital Group (SUSQ):
 [Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]

DASH FINANCIAL TECHNOLOGIES LLC (DASH):
 [Insert discussion of the material aspects of the relationship with this venue pursuant to rule 606(a)(1)(iv).]