

Charles Schwab - Held NMS Stocks and Options Order Routing Public Report

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3rd Quarter, 2022

July 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
99.64	58.68	4.29	27.59	9.43

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	30.22	29.83	27.76	28.26	39.48	225,737.37	10.0000	31,684.15	10.0045	164,532.80	32.9998	45,567.10	10.2829
Virtu Americas, LLC	23.91	25.52	25.05	16.93	33.80	231,131.61	9.9910	29,917.19	10.0000	91,133.94	32.9998	30,990.04	8.8920
G1 Execution Services, LLC	19.00	16.65	17.97	26.34	12.60	138,488.76	10.0000	18,209.93	10.0000	163,673.71	32.7824	29,999.51	15.1764
JANEST	14.29	20.98	20.84	2.35	4.57	187,360.30	10.0064	24,285.77	10.0000	17,536.30	31.3019	14,468.24	10.5574
UBS Securities, LLC	8.67	4.50	5.42	18.48	7.41	31,449.19	9.9998	20,523.46	10.0358	98,207.83	30.5528	20,276.02	17.3303
Two Sigma Securities, LLC	2.94	2.01	2.17	5.54	1.56	17,642.90	9.9999	2,548.91	10.0035	33,010.98	31.8842	4,140.67	16.1980
The Nasdaq Stock Market	0.49	0.49	0.65	0.54	0.25	0.00	0.0000	-14.58	-0.0913	3,042.21	32.5000	0.00	0.0000
Members Exchange (MEMX)	0.26	0.00	0.03	0.87	0.17	0.00	0.0000	0.00	0.0000	4,268.40	35.0000	399.08	34.7806
Cboe EDGX Exchange, Inc.	0.22	0.01	0.12	0.68	0.18	-10.00	-0.2801	-1,534.45	-28.4245	3,341.70	30.3383	0.00	0.0000

Material Aspects:

CITADEL SECURITIES LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Virtu Americas, LLC:

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The Nasdaq Stock Market:

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0033 per share. Schwab is charged for removing liquidity from this venue up to \$0.0030.

Members Exchange (MEMX):

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0037 per share. Schwab is charged for removing liquidity from this venue up to \$0.0029. Schwab has an ownership interest in the Members Exchange.

Cboe EDGX Exchange, Inc.:

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0033 per share. Schwab is charged for removing liquidity from this venue up to \$0.0030.

July 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
99.38	54.95	6.43	29.07	9.55

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	29.28	28.03	27.04	28.09	41.63	804,808.49	10.0000	230,496.36	10.0240	558,641.35	27.3799	131,883.99	7.9604
Virtu Americas, LLC	23.42	24.61	24.74	16.90	35.51	785,849.36	10.0000	207,125.58	9.9973	301,300.39	27.4757	82,272.99	6.6935
G1 Execution Services, LLC	19.81	17.83	17.98	26.69	11.48	485,289.28	10.0000	124,569.75	10.0000	587,530.63	27.0921	76,940.40	13.6014
JANEST	14.39	22.12	20.73	2.22	2.71	640,720.01	10.0045	168,048.13	10.0000	54,261.57	26.5723	22,690.19	10.6801
UBS Securities, LLC	9.05	4.85	5.32	18.44	7.11	149,258.10	9.9845	103,450.04	9.9963	363,234.99	26.5097	60,386.79	14.9817

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Two Sigma Securities, LLC	2.99	2.11	2.11	5.44	1.16	60,809.40	9.9979	20,926.25	10.5805	105,298.23	26.7966	8,786.89	13.6186
The Nasdaq Stock Market	0.50	0.43	1.22	0.57	0.17	0.00	0.0000	-3,291.23	-4.5399	9,850.90	24.9501	-5,815.24	-3.5871
Cboe EDGX Exchange, Inc.	0.32	0.03	0.85	0.81	0.13	-0.10	-0.0017	-9,982.77	-12.8189	8,918.76	13.6585	0.00	0.0000
Members Exchange (MEMX)	0.26	0.00	0.01	0.85	0.09	0.00	0.0000	0.00	0.0000	14,661.06	32.5418	635.62	34.2983

Material Aspects:

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July 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
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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	13.29	6.41	52.42	27.88

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	30.49	27.28	28.46	29.32	34.66	1,012,222.23	54.0291	1,085,874.10	58.9643	1,140,730.48	49.5768	149,759.33	6.9086
Wolverine Execution Services, LLC	24.87	23.38	23.50	24.78	26.08	1,024,153.65	59.7366	921,048.98	63.0907	1,479,446.41	60.0036	927,639.74	51.0189
Global Execution Brokers LP	23.52	25.50	25.39	24.88	19.58	1,072,215.94	56.5817	902,250.38	59.3113	1,283,321.79	60.5234	656,281.39	49.4947
Dash/IMC Financial Markets	19.95	22.24	20.79	19.43	19.67	1,127,726.89	55.4861	686,467.86	55.7612	1,014,190.18	55.2307	815,340.41	48.2724
Morgan Stanley & Co., LLC	1.17	1.60	1.87	1.59	0.01	84,932.95	69.5146	98,419.84	78.0330	85,334.93	67.9786	664.31	92.0097

Material Aspects:

CITADEL SECURITIES LLC:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Wolverine Execution Services, LLC:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Global Execution Brokers LP:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Dash/IMC Financial Markets:

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Morgan Stanley & Co., LLC:

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August 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
99.67	59.05	4.46	27.96	8.53

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	29.50	29.23	26.70	27.65	38.84	241,014.49	10.0000	38,839.79	10.0018	201,873.73	32.9984	41,969.94	10.2036
Virtu Americas, LLC	23.63	25.44	24.77	16.79	32.97	247,311.96	9.9902	37,201.53	10.0000	109,452.67	32.9976	28,551.53	8.9236
G1 Execution Services, LLC	20.31	17.72	18.96	27.89	14.15	161,834.92	10.0000	24,329.46	10.0000	223,051.64	32.7754	31,603.28	15.1751
JANEST	14.83	21.48	21.37	2.83	4.70	211,569.96	10.0042	32,322.46	10.0000	24,069.41	31.5518	14,825.05	10.6367
UBS Securities, LLC	8.19	4.08	4.89	17.62	7.49	29,708.48	9.7079	19,262.78	9.9114	114,503.36	30.3163	20,158.44	17.5076
Two Sigma Securities, LLC	2.92	2.03	2.17	5.36	1.50	20,177.31	10.0000	3,039.48	10.0228	34,453.05	31.7912	3,957.40	15.6955
Members Exchange (MEMX)	0.23	0.00	0.02	0.79	0.12	0.00	0.0000	0.00	0.0000	4,351.31	35.0000	274.55	34.4073
Cboe EDGX Exchange, Inc.	0.22	0.02	0.57	0.61	0.14	-64.91	-1.2221	-2,360.39	-27.2503	3,543.88	30.5099	0.00	0.0000
The Nasdaq Stock Market	0.16	0.00	0.56	0.46	0.08	0.00	0.0000	-0.15	-0.0198	2,600.84	32.5000	0.00	0.0000

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August 2022

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Venues

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CITADEL SECURITIES LLC	28.73	27.17	26.01	27.64	41.58	953,876.86	10.0000	281,827.51	10.0002	752,752.60	28.2206	173,823.65	7.8739
Virtu Americas, LLC	23.44	24.62	24.35	16.63	36.73	944,360.70	9.9897	267,082.94	9.9989	403,625.39	28.0443	111,255.05	6.6825
G1 Execution Services, LLC	20.75	18.85	18.39	27.84	11.33	622,197.16	10.0000	167,873.03	10.0000	828,621.53	27.6963	97,592.44	13.6688
JANEST	14.55	22.77	21.06	2.83	2.53	808,800.54	10.0079	228,044.27	10.0000	89,780.77	27.3362	27,608.54	10.8416
UBS Securities, LLC	8.61	4.40	4.80	17.56	6.52	147,179.90	9.6616	110,100.54	9.7328	438,193.02	26.3381	73,917.65	15.1129
Two Sigma Securities, LLC	3.00	2.15	2.11	5.36	1.04	77,708.96	9.9988	22,374.58	10.0113	142,108.58	27.7228	10,355.30	13.1796
Cboe EDGX Exchange, Inc.	0.37	0.03	1.64	0.77	0.11	-371.22	-5.4030	-15,395.27	-14.7123	11,130.32	12.5414	0.00	0.0000
The Nasdaq Stock Market	0.29	0.00	1.63	0.57	0.10	0.00	0.0000	-5,166.53	-11.5759	11,160.72	24.4459	-10,052.69	-12.0808
Members Exchange (MEMX)	0.25	0.00	0.01	0.79	0.08	0.00	0.0000	0.00	0.0000	17,886.58	32.7117	791.19	33.7707

Material Aspects:

CITADEL SECURITIES LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Virtu Americas, LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

G1 Execution Services, LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

JANEST:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

UBS Securities, LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Two Sigma Securities, LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Cboe EDGX Exchange, Inc.:

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0033 per share. Schwab is charged for removing liquidity from this venue up to \$0.0030.

The Nasdaq Stock Market:

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0033 per share. Schwab is charged for removing liquidity from this venue up to \$0.0030.

Members Exchange (MEMX):

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0037 per share. Schwab is charged for removing liquidity from this venue up to \$0.0029. Schwab has an ownership interest in the Members Exchange.

August 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
100.00	12.36	5.98	49.45	32.21

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	30.65	27.26	29.06	29.60	33.84	1,264,105.17	53.9710	1,340,329.58	58.9522	1,356,563.85	50.0516	134,982.44	5.0806
Wolverine Execution Services, LLC	24.95	23.73	23.70	24.74	25.98	1,286,585.95	59.8522	1,107,842.29	64.1318	1,806,659.60	60.2727	1,096,619.86	50.7877
Global Execution Brokers LP	23.11	25.13	25.06	24.59	19.70	1,311,546.54	56.9080	1,001,008.73	58.0883	1,658,613.20	61.4891	775,573.33	50.2870

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)
Dash/IMC Financial Markets	20.19	22.29	20.27	19.48	20.47	1,250,042.44	54.4574	742,748.49	52.6322	1,199,001.68	54.6525	944,033.68	48.8973
Morgan Stanley & Co., LLC	1.10	1.59	1.92	1.59	0.01	108,982.95	69.2553	127,108.46	75.6206	94,855.14	70.2511	1,211.56	95.5489

Material Aspects:

CITADEL SECURITIES LLC:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Wolverine Execution Services, LLC:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Global Execution Brokers LP:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Dash/IMC Financial Markets:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker. In connection with Dash's handling of Charles Schwab's retail equity option orders, Dash has arrangements with multiple unaffiliated liquidity providers, including IMC, designed to facilitate liquidity provision and price improvement opportunities. Pursuant to these arrangements, Dash routes Charles Schwab's retail equity option orders to exchanges and preferences the liquidity providers consistent with exchange sponsored programs which are described in the fee schedules of the options exchanges. It is noted that these liquidity providers provide Dash with remuneration in connection with Schwab's retail equity options orders, including reciprocal order flow consideration or payment per contract in return for Schwab retail equity options orders that Dash routes or directs.

Morgan Stanley & Co., LLC:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

September 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
99.73	59.28	4.57	28.25	7.90

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)
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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	29.89	29.74	27.29	28.02	39.23	237,480.11	10.0000	36,772.31	10.0011	177,952.39	32.9979	42,732.70	10.3529
Virtu Americas, LLC	23.69	25.64	25.17	16.82	32.77	255,269.43	9.9912	35,712.56	9.9932	94,141.02	32.9801	29,156.05	9.1446
G1 Execution Services, LLC	20.20	17.49	19.11	27.82	13.95	155,721.68	10.0000	22,366.76	10.0000	192,475.71	32.7955	31,483.35	14.9100
JANEST	14.74	21.26	21.42	2.75	4.89	203,422.17	10.0082	29,758.84	10.0000	21,390.62	31.7484	15,205.02	10.6268
UBS Securities, LLC	8.15	3.96	4.91	17.71	7.34	33,611.04	9.9903	16,395.37	10.1592	110,351.50	30.7859	18,872.39	17.1938
Two Sigma Securities, LLC	2.82	1.90	2.06	5.24	1.49	18,532.94	10.0000	3,425.50	10.0075	32,449.44	31.7406	3,445.11	15.3285
Members Exchange (MEMX)	0.21	0.00	0.02	0.70	0.12	0.00	0.0000	0.00	0.0000	3,685.52	35.0000	269.60	34.5521
Cboe EDGX Exchange, Inc.	0.18	0.02	0.02	0.53	0.14	-214.32	-4.2161	-1,732.70	-29.1049	2,957.53	30.4217	0.00	0.0000
The Nasdaq Stock Market	0.12	0.00	0.01	0.40	0.07	0.00	0.0000	0.00	0.0000	2,237.92	32.5000	0.00	0.0000

Material Aspects:

CITADEL SECURITIES LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Virtu Americas, LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

G1 Execution Services, LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

JANEST:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

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Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

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Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Members Exchange (MEMX):

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0037 per share. Schwab is charged for removing liquidity from this venue up to \$0.0029. Schwab has an ownership interest in the Members Exchange.

Cboe EDGX Exchange, Inc.:

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0033 per share. Schwab is charged for removing liquidity from this venue up to \$0.0030.

The Nasdaq Stock Market:

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0033 per share. Schwab is charged for removing liquidity from this venue up to \$0.0030.

September 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
99.48	55.32	6.67	28.65	9.36

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	29.02	27.73	26.61	27.96	41.64	922,274.71	10.0000	262,138.56	10.0168	667,896.46	28.2414	147,742.73	8.2867
Virtu Americas, LLC	23.48	24.74	24.69	16.78	35.61	900,456.93	9.9868	241,830.08	9.9980	342,861.27	28.2063	91,044.94	7.0394
G1 Execution Services, LLC	20.65	18.68	18.56	27.84	11.73	587,223.03	10.0000	153,017.07	10.0000	724,068.95	28.5044	88,694.96	13.5840
JANEST	14.93	22.54	21.02	2.70	3.07	770,051.68	10.0059	206,842.49	10.0000	71,881.09	27.9243	27,751.56	10.6111
UBS Securities, LLC	8.35	4.27	4.74	17.62	6.64	161,569.76	9.9787	102,254.82	10.0517	407,355.73	27.6875	73,817.66	15.3008
Two Sigma Securities, LLC	2.83	2.00	1.99	5.22	1.03	68,840.74	9.9984	20,254.20	10.0036	112,685.88	28.1507	9,303.97	13.3503
Cboe EDGX Exchange, Inc.	0.30	0.04	1.18	0.67	0.10	-319.69	-5.9147	-16,812.19	-16.1586	14,502.74	14.1598	0.00	0.0000
The Nasdaq Stock Market	0.24	0.00	1.20	0.51	0.10	0.00	0.0000	-8,382.51	-15.6352	7,955.53	23.6259	-11,702.80	-14.8876
Members Exchange (MEMX)	0.21	0.00	0.01	0.70	0.08	0.00	0.0000	0.00	0.0000	12,586.12	32.9150	597.58	34.7655

Material Aspects:

CITADEL SECURITIES LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

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G1 Execution Services, LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

JANEST:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

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Two Sigma Securities, LLC:

Schwab receives payment for listed equity order flow routed to market makers. For marketable orders the payment rate is \$0.001 per share or less, for non-marketable orders the rate is \$0.0033 per share or less, and for extended hours orders the rate is \$0.0006 per share or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Cboe EDGX Exchange, Inc.:

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0033 per share. Schwab is charged for removing liquidity from this venue up to \$0.0030.

The Nasdaq Stock Market:

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0033 per share. Schwab is charged for removing liquidity from this venue up to \$0.0030.

Members Exchange (MEMX):

For Non-Marketable Limit orders that added liquidity, and which subsequently executed, Schwab receives a credit up to \$0.0037 per share. Schwab is charged for removing liquidity from this venue up to \$0.0029. Schwab has an ownership interest in the Members Exchange.

September 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
100.00	12.37	5.69	47.50	34.43

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	30.87	27.66	29.27	29.56	34.09	1,158,227.47	51.2764	1,218,487.56	55.6512	1,127,886.17	47.8438	50,372.06	1.9487
Wolverine Execution Services, LLC	24.69	23.56	23.71	24.60	25.38	1,223,918.25	58.4866	965,042.71	60.8527	1,540,967.19	59.9120	1,045,476.83	49.3121
Global Execution Brokers LP	22.69	24.77	24.85	24.29	19.36	1,224,068.96	55.7855	887,430.35	55.3512	1,425,884.48	60.9177	686,758.25	48.9993
Dash/IMC Financial Markets	20.76	22.53	20.45	20.04	21.16	1,310,003.54	54.0188	675,321.72	51.1633	1,080,667.13	53.9607	935,707.70	48.0436
Morgan Stanley & Co., LLC	1.00	1.47	1.72	1.50	0.00	99,722.27	70.2245	119,322.36	74.8605	76,725.36	72.1422	818.64	92.1892

Material Aspects:

CITADEL SECURITIES LLC:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Wolverine Execution Services, LLC:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Global Execution Brokers LP:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.

Dash/IMC Financial Markets:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker. In connection with Dash's handling of Charles Schwab's retail equity option orders, Dash has arrangements with multiple unaffiliated liquidity providers, including IMC, designed to facilitate liquidity provision and price improvement opportunities. Pursuant to these arrangements, Dash routes Charles Schwab's retail equity option orders to exchanges and preferences the liquidity providers consistent with exchange sponsored programs which are described in the fee schedules of the options exchanges. It is noted that these liquidity providers provide Dash with remuneration in connection with Schwab's retail equity options orders, including reciprocal order flow consideration or payment per contract in return for Schwab retail equity options orders that Dash routes or directs.

Morgan Stanley & Co., LLC:

Schwab receives payment for multi-listed option order flow routed to market makers. For non-complex marketable orders the payment rate is \$1.49 per contract or less (for classes in the penny interval program the rate is \$0.51 per contract or less). For complex orders the payment rate is \$0.93 per contract or less (for classes in the penny interval program the rate is \$0.43 per contract or less). For non-marketable orders the payment rate is \$0.98 per contract or less. All market makers pay the same rate to Schwab for any given order flow type. Schwab does not negotiate payment as a condition for sending more order flow to a market maker.