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NYSE
U.S. EQUITY TRANSACTION COST ANALYSIS
NOVEMBER 2015 - APRIL 2016

David Reuter

Senior Vice President
Abel Noser Corp.
One Battery Park Plaza
6th Floor
New York, NY 10004
(646) 432-4054
dreuter@abelnoser.com

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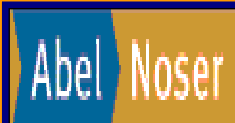
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NYSE TRANSACTION COST SUMMARY NOVEMBER 2015 - APRIL 2016

Strike Price Metric: compares the NYSE execution price with the "strike price" at which the stock was trading in the market at the time the order was placed to the exchange. The "strike price" is defined as the VWAP of the first minute from placement. Therefore if the NYSE receives an order at 10:00 am, the eventual execution price will be compared with the VWAP from 10:00 am until 10:01 am. In the period spanning November 2015 through April 2016, the NYSE executed to within -3.40 basis points of their broker placement strike. This result is 1.09 basis points lower than the Abel Noser Stock Specific Benchmark median cost of -4.49 basis points, and ranks in the 42% of the Abel Noser Universe where the 1% is the best and the 99% is the worst. NYSE has outperformed the Abel Noser Universe for Broker Placement Strike in four consecutive months, resulting in a cost savings of \$21 million dollars for clients of the NYSE during that four month time period.

Broker IVWAP: the " Broker Interval Volume Weighted Average Price," measures NYSE execution quality by comparing the NYSE execution price to the VWAP from the time the exchange received the order until the last fill of the order on trade day. In the period spanning November 2015 through April 2016, the NYSE outperformed the bIVWAP metric by +0.25 basis points. This result is 0.74 basis points lower than the Abel Noser Stock Specific Benchmark median cost of -0.49 basis points, and ranks in the 44% of the Abel Noser Universe where the 1% is the best and the 99% is the worst. NYSE has outperformed the Abel Noser Universe for Broker IVWAP in four consecutive months resulting in a cost savings of \$14 million dollars for clients of the NYSE during that four month time period.



NYSE UNITED STATES EQUITIES TRANSACTION COST ANALYSIS NOVEMBER 2015 - APRIL 2016¹

¹Data excludes orders for the close. All results are expressed in basis points.

Time Period	NYSE Dollars Executed / k	NYSE Strike Price Result	A/N Strike Price Benchmark	NYSE vs A/N Benchmark	NYSE b1VWAP Result	A/N b1VWAP Benchmark	NYSE vs A/N Benchmark
NOVEMBER 2015	\$32,447,802.25	(2.60)	(4.31)	1.71	0.50	(0.47)	0.97
DECEMBER 2015	\$36,977,618.98	(2.94)	(3.94)	1.00	0.14	(0.38)	0.52
JANUARY 2016	\$25,078,346.29	(1.96)	(3.56)	1.60	0.11	(0.44)	0.55
FEBRUARY 2016	\$25,762,344.67	(2.30)	(3.67)	1.37	0.05	(0.50)	0.55
MARCH 2016	\$35,206,313.26	(5.92)	(6.29)	0.37	0.41	(0.55)	0.96
APRIL 2016	\$34,331,104.39	(3.58)	(4.71)	1.13	0.23	(0.62)	0.85
NOVEMBER 2015 - APRIL 2016	\$189,803,529.84	(3.40)	(4.49)	1.09	0.25	(0.49)	0.74

\$20,688.58 \$14,045.46

The data below is for April 2016

Buys or Sells	% NYSE Dollars Executed	NYSE Strike Price Result	A/N Strike Price Benchmark	NYSE vs A/N Benchmark	NYSE b1VWAP Result	A/N b1VWAP Benchmark	NYSE vs A/N Benchmark
Buy	58%	(7.38)	(6.17)	(1.21)	0.00	(0.69)	0.69
Sell	42%	1.64	(2.71)	4.35	0.54	(0.51)	1.05
Grand Total	100%	(3.58)	(4.71)	1.13	0.23	(0.62)	0.85

Cap Style ²	% NYSE Dollars Executed	NYSE Strike Price Result	A/N Strike Price Benchmark	NYSE vs A/N Benchmark	NYSE b1VWAP Result	A/N b1VWAP Benchmark	NYSE vs A/N Benchmark
Large Cap	61%	(2.59)	(3.66)	1.07	(0.14)	(0.50)	0.36
Small Cap	22%	(7.33)	(8.25)	0.92	0.93	(0.77)	1.70
Mid Cap	15%	(2.88)	(4.35)	1.47	0.34	(0.90)	1.24
Grand Total	100%	(3.58)	(4.71)	1.13	0.23	(0.62)	0.85

²As defined by Standard & Poors.

Order Size ³	% NYSE Dollars Executed	NYSE Strike Price Result	A/N Strike Price Benchmark	NYSE vs A/N Benchmark	NYSE b1VWAP Result	A/N b1VWAP Benchmark	NYSE vs A/N Benchmark
Under 1%	65%	(1.77)	(2.23)	0.46	0.31	(0.84)	1.15
1 to 1.99%	10%	(8.40)	(8.84)	0.44	0.77	(0.25)	1.02
2 to 4.99%	13%	(6.18)	(6.57)	0.39	0.02	(0.12)	0.14
5 to 9.99%	7%	(17.52)	(19.70)	2.18	(1.07)	(0.25)	(0.82)
10 to 19.99%	4%	7.43	(1.81)	9.24	(0.77)	(0.15)	(0.62)
20 to 49.99%	1%	24.71	(4.91)	29.62	5.99	0.03	5.96
50% and up	0%	11.58	3.71	7.87	(0.61)	0.05	(0.66)
Grand Total	100%	(3.58)	(4.71)	1.13	0.23	(0.62)	0.85

³Your orders grouped as percentage of total market shares traded in a day.

