BE - FINAL

MEMORANDUM

To: Eric Swanson

From: OCIE Staff Attorney [redacted]

Date: November 10, 2003

Re: Examination of Madoff Execution Quality

The Staff recently initiated an investigation into the trading practices of the OTC market maker Bernard L. Madoff Investment Securities, LLC (Madoff or MADF) to determine how customer orders were handled when the market was locked[1] or crossed[2] in the Nasdaq 100 ETF (QQQ). The following is a summary of the conclusions of the Staff upon review of the documents provided by MADF regarding execution quality.

MADF produced trade execution and order data in QQQ from January 6, 2003 to January 10, 2003. The Staff has found numerous and consistent instances of bad executions[3] by MADF, resulting in some loss to the customers involved. Surprisingly, the Staff has not found a general correlation between locked or crossed markets and the quality of these executions. In general, the bad executions did occur during locked or crossed markets, but also when the market was stable. Attached are two appendices that gives a more comprehensive overview of the data provided by MADF. Appendix A shows a breakdown of all of MADF's trading, including proprietary trading, giving a list of the problem trades and comparing them to each day's overall trading by MADF. Appendix B shows a breakdown of the trading on each of the five days, giving a list of the problem trades and comparing them to each day's customer trading by MADF.[4]

I. MADF Policies and Procedures

MADF has stated that a comprehensive list of policies and procedures in regards to best executions can be found on their website. In the "Madoff's Guide to Best Execution – Nasdaq Securities"[5] (Best Ex Guide), MADF discloses that they will "instantaneously" expose lots from 100 to 3000 shares to Primex. The Best Ex Guide further states that during openings, MADF will match any executions they get proprietarily while the market is locked in the opening with unexecuted market and marketable limit orders. The Best Ex Guide also claims that "[a]s always, Madoff will never trade ahead of [a customer] order." However, as stated in the

[1] When the bid price is equal to the ask price in a security.
[2] When the bid price is greater than the ask price of a security.
[3] "Bad executions" as used in this memo means executions at a price inferior to the inside bid or ask at the time of execution.
[4] MADF's data does not mark which orders are for customers and which are for proprietary accounts. After conversations with Shana Madoff and Peter Madoff, the Staff has taken out what the Staff believes to be proprietary trading in Appendix B.
[5] Available at http://www.madoff.com/dis/display.asp?id=353&mode=1&home=1

previous memo on the MADF QQQ Executions, the Staff believes that this is not always the case.[6]

B. Unusual Market Conditions Policy

MADF has condensed their unusual market conditions policy into a "client notice" available on their website.[7] MADF fails to define unusual market conditions, but states that it is "often characterized by inordinate volumes and volatility."[8] It also states that locked and crossed markets will make an order subject to manual verification. MADF points out some of the measures it will take during unusual market conditions, including reducing the size of orders eligible for auto-ex and declining to accept new stop orders (while still honoring existing ones). Unusual markets may also lead to delays in execution reports and multiple execution prices and times for large lots outside the auto-ex size. The Staff has concluded that the vast majority of bad executions have occurred while the market is locked or crossed and thus have occurred while MADF's auto execution system is likely turned off.

II. Poor Quality of Execution

The overall quality of execution in QQQ by the MADF during the five day review period, while bad, is not as bad as the order execution quality of other subjects of this examination. Of the 2806 customer orders executed by MADF in the reviewed period, 359 or 12.8% were executed at a price worse than the inside bid or ask at the time of execution. Taken by share, 538,848 of the 1.8 million shares executed were at a price worse than the NBBO, or 29%. These numbers did vary for each of the five days reviewed, ranging from 43.6% of the shares on January 9th being disadvantaged to 12.2% on January 6th, with most days being closer to the 12.2% number.[9]

III. Loss to the Customers

The customers affected by poor execution quality seem to be almost any of MADF's numerous customers. Total loss to these customers for the five day period is almost $9,818.01. If this is an average week, then taken over a 52-week period total loss to MADF customers in QQQ alone would be over about $500,000. If a customer sent a trade to MADF in QQQ during the reviewed period, on average that order would be executed at a price $0.0027 worse than the inside bid or ask. Of all the orders that were executed at prices worse than the inside bid or ask, the average execution was $0.0182 worse than the inside bid or ask. These numbers again

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[6] *See* "Madoff Activity in QQQ" dated September 12th 2003.

[7] Available at http://www.madoff.com/letters/mvl.asp?home=1 or in the Best Ex Guide at http://www.madoff.com/dis/display.asp?id=353&mode=1&home=1

[8] MADF lists the factors used to determine whether to invoke the unusual market conditions as: 1) Price volatility, 2) Number of customer orders in the security, 3) Total number of customer orders, 4) ITS availability, and 5) Customer-chosen routing service provider availability. The decision to turn a feature off can only be done by senior management, not traders and notifies customers of such decisions electronically.

[9] On January 6, 9.4% of the orders and 12.2% of the shares were disadvantaged. On January 7, 12% of the orders and 22.7% of the shares were disadvantaged. On January 8, 13% of the orders and 17.67% of the shares were disadvantaged. On January 9, 13.5% of the orders and 43.6% of the shares were disadvantaged. On January 10, 16.8% of the orders and 37.8% of the shares were disadvantaged.

suggest that MADF and its customer brokers do not or poorly monitor the quality of executions for its customers.

IV. Gain to MADF

MADF had many executions away from the inside bid or ask. While some of these were worse than the inside bid or ask, some were better. If the sum that was paid to customers above the inside bid or ask by Heard is taken from the amount paid worse than the inside bid or ask, Heard made nearly $5,000 in this week alone from QQQ on bad executions.[10] If that number is an average figure and taken times a 52-week period, Heard made over about $250,000 on QQQ at the expense of its customers on bad executions alone.

V. 1998 Third Market Inspection Report and Conclusion

In 1998, the Staff conducted an inspection on "third market" firms (NASDAQ firms that execute orders on listed securities) to evaluate execution quality. This inspection included MADF and also analyzed how orders are treated during locked or crossed markets. In this report, the Staff found that MADF traders would execute orders received during locked or crossed markets at the price quoted on the primary exchange before the market locked.[11] At the time, the Staff recommended that MADF either execute the orders either at the locked price or wait until the NBBO unlocked and execute at that time.[12] The later seems to have been adopted by MADF. However, in light of MADF apparently having the ability to execute away from the primary market as demonstrated by the data provided at the cost to the customer, a better approach may be to require MADF and other QQQ firms to execute at an ECN if the price is better and the volume is there. As has been demonstrated, there is enough liquidity at Archipelago and other ECNs to execute proprietary orders. Instead of executing proprietary orders at the better ECN price, MADF should have to pass on the better prices to the customer.

VI. Conclusion

Based on the activity outlined in this memo, the Staff believes that there is a best execution problem with MADF. The Staff further believes that MADF and its broker customers have thus far failed to adequately monitor this behavior. Based on these conclusions, the Staff recommends that a deficiency letter be sent outlining the problem areas as well recommending that MADF execute customer orders at ECNs when it is able to do so rather than proprietarily taking that price while executing the customer at a worse ITS price.

The Staff has also discovered in conversations with the specialist in QQQ at the PHLX, Heard Trading, that many of the locked or crossed conditions are created by AMEX, the primary market for QQQs. This is due to the fact that while AMEX is changing its quote, it will continue to display the stale quote at a 100 share lot. This is supposed to be a "signal" to all ITS participants that the quote is stale. What it does, however, is create the vast majority of the locked or crossed market conditions. NYSE has recently adopted this practice as well. A further

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[10] This number does not include the amounts that MADF made legitimately on the spread between the bid and the ask.
[11] 1998 Report page 14.
[12] *Id.*

investigation of this phenomenon with AMEX and NYSE is warranted in light of the fact that it is likely remotely causing the poor executions by MADF.

APPENDIX A

MADF Best Ex Overall

Date	Share Volume	Number of Orders	Shares Disimproved	Orders Disimproved	Shares Disimp Percent	Orders Disimp Percent	Total Customer Loss	Total MADF Gain	Loss Per Share (Disadvantaged)	Average Ex
	3,489,438	4,359	859,373	783	25%	18%	$16,261.08	($6,159.60)	$0.0189	$0.0018
1/6/2003	675,511	1,042	124,016	168	18.4%	16.12%	$1,796.17	($2,368.08)	$0.0145	$0.0035
1/7/2003	634,619	903	146,576	145	23.1%	16.06%	$3,242.84	($569.81)	$0.0221	$0.0010
1/8/2003	393,142	648	71,345	105	18.15%	16.2%	$1,268.58	($1,072.79)	$0.0178	$0.0027
1/9/2003	952,177	857	267,082	158	28.05%	18.43%	$5,136.02	($1,205.78)	$0.0192	$0.0013
1/10/2003	833,989	909	250,354	207	30%	22.77%	$4,817.47	($943.14)	$0.0192	$0.0011

Appendix B

MADF Customer Execution Quality, Week of January 6, 2003

Date	Share Volume	Number of Orders	Shares Disimproved	Orders Disimproved	Shares Disimp Percent	Orders Disimp Percent	Total Customer Loss	Total MADF Gain	Loss Per Share (Disadvantaged)	Average Ex
1/10/2003	425,159	546	160,740	92	37.8%	16.8%	$3,134.18	$2,194.22	$0.0195	($0.0037)
1/6/2003	385,211	692	46,969	65	12.2%	9.4%	$613.48	($1,212.76)	$0.0131	$0.0031
1/7/2003	325,354	602	73,929	73	22.7%	12%	$1,298.64	$552.00	$0.0176	($0.0017)
1/8/2003	203,642	404	35,977	53	17.67%	13%	$816.08	$249.99	$0.0227	($0.0012)
1/9/2003	507,977	562	221,233	76	43.6%	13.5%	$3,955.63	$3,160.48	$0.0179	($0.0062)
Total	1,847,343	2,806	538,848	359	29%	12.8%	$9,818.01	$4,943.93	$0.0182	($0.0027)