

INFORMATION MEMORANDUM

February 9, 1998

TO: The Commission

FROM: The Office of Compliance Inspections and Examinations
("Office") *WAX*

SUBJECT: Inspection of eight third market firms.

PRIOR COMMISSION ACTION: As a result of the order handling rules, this inspection was commenced to evaluate execution quality of retail-sized orders in the third market.

OTHER DIVISIONS CONSULTED: Division of Market Regulation (concur)
Office of Economic Analysis

RESPONSIBLE STAFF: Lori A. Richards
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Personal Privacy



Personal Privacy



Third Market Inspection

I. Introduction

The Staff conducted an inspection of third market firms¹ that execute retail order flow. The purpose of the inspection was to evaluate the execution quality of retail orders in the third market in light of the Commission's recent order handling rules emphasizing the duty of best execution.² As discussed below, the Staff made findings concerning execution quality, including the likelihood of price improvement, executions inferior to the national best bid or offer ("NBBO"), and trading ahead of customer market orders. In addition, the Staff examined each firm's trade reporting practices.

The Staff analyzed the trading records of Bernard L. Madoff Investment Securities ("Madoff"),
Examination Material, Deliberative Process

Examination Material, Deliberative Process
Examination Material, Deliberative Process Corp.
Examination Material, Deliberative Process obtained price improvement information from
Examination Material, Deliberative Process⁴ These eight third market firms executed over 492 million shares of retail orders in listed securities for the month of January 1997.⁵ This represents 4.2% of the New York Stock Exchange, Inc. ("NYSE") share volume and 10.6% of the NYSE trade volume for orders executed in January 1997.

II. Summary of Findings

The Staff found significant differences among the firms regarding overall, 1/8 point, and 1/4 point price improvement rates and order execution methodology. In addition, the Staff found trades executed outside the NBBO and a large number of trade reporting errors by certain firms.

¹ Third market firms are NASD member firms that execute exchange-listed securities orders for broker-dealers' retail order flow ("order-routing firms").

² See Securities Exchange Act Release No. 37619 (August 29, 1996), 61 FR 48290 (September 12, 1996) ("Order Handling Rules Release").

³ Examination Material, Deliberative Process
Examination Material, Deliberative Process

⁴ Examination Material, Deliberative Process
Examination Material, Deliberative Process

⁵ Of the 492 million shares executed by the eight firms examined, Examination Material, Deliberative Process Madoff executed 194 million shares (39%).
Examination Material, Deliberative Process

First, price improvement statistics for January 1997 provided to the Staff by each firm (and generally confirmed by Staff's calculations) indicate that the rate of overall price improvement for public customer market orders varies widely from firm to firm. These statistics indicate that some firms offer price improvement for up to 18% of their retail customer orders; whereas several firms do not provide price improvement opportunities at all. The failure to provide price improvement opportunities results in inferior prices for public customer orders whose orders are routed to those firms. The Staff determined that there is no correlation between inferior price improvement rates and the amount each firm paid for its order flow.

Second, the Staff found that the quality of executions for public customer orders varies significantly depending on the firm executing the orders. [REDACTED]

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[REDACTED] Madoff provides new high/low protection for a few of its customers, and the remaining firms do not provide new high/low protection. New high/low protection can result in price improvement for orders received in 1/8 point markets. [REDACTED] which executed over 240 million shares for the month of January 1997, provided no price improvement for orders received in 1/8 point markets. In addition, the handling of marketable limit orders varies widely from firm to firm. The Staff found that some firms provide significant price improvement opportunities for marketable limit orders. However, most firms execute marketable limit orders at the limit price, regardless of potential price improvement opportunities.

Examination Material

Third, the Staff found market orders that were filled at prices inferior to the NBBO at order execution time and inferior to the NBBO at order receipt time. Finally, the Staff found significant trade reporting problems at three of the eight firms reviewed.

As a result of the inspection's findings, the Staff will:

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2. Recommend that order routing firms consider whether their customer's marketable limit orders receive price improvement in making order routing decisions. Best execution examinations will query how order

6 Several firms will not execute an order if the execution would create a new high/low in the security for the trading day. As a result, some orders are executed at the previous high or low for the trading day, resulting in price improvement. This practice is referred to as "new high/low protection" or "out of range protection."

routing firms consider how all types of orders are handled, including marketable limit orders;

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5. Refer to the NASD the Staff's findings concerning potential trade reporting violations by Madoff, Examination Material [redacted]
6. Send deficiency letters to Madoff, Examination Material [redacted] outlining the above mentioned findings and recommendations.

III. Price Improvement

A. Background

In the recently adopted order handling rules, the Commission expanded its position on the importance of the duty owed by a broker-dealer to obtain best execution for customer orders. The Commission emphasized that the "scope...of best execution must evolve as changes occur in the market that give rise to improved executions for customer orders, including opportunities to trade at more advantageous prices."⁸ The ability of customer orders to receive advantageous prices, or price improvement, is an important factor in determining whether a broker-dealer is fulfilling its best execution obligations.⁹ Therefore, the Commission stated its belief that broker-dealers, before deciding which market to route their retail orders, must carefully evaluate price improvement opportunities in other markets. "In conducting the requisite evaluation of its internal order handling procedures, a broker-dealer must regularly and rigorously examine execution quality likely to be obtained from the different markets or market makers trading a security."¹⁰ If any "material differences" exist between price

⁷ See deficiency letters at Attachment F.

⁸ Order Handling Rules Release at 48323.

⁹ Price improvement is defined by the Commission "as the difference between execution price and the best quotations prevailing in the market at the time the order arrived at the market or market maker." Order Handling Rules Release at 48323 note 357.

¹⁰ Id.

improvement or execution quality opportunities found among the various markets, then these "material differences" must be considered important factors in a broker-dealer's order routing decision. In addition, a broker-dealer must consider how price improvement opportunities and execution quality vary from market to market for different types of customer orders. In light of this guidance, the Staff undertook this inspection to review price improvement opportunities and execution qualities at third market firms.

The Staff evaluated each third market firm's price improvement methodology and rates of improving customer orders. The Staff requested data from the six third market firms reviewed that attempt to provide price improvement. The Staff found that, in general, third market firms only provide price improvement statistics to order routing firms for orders received when the NBBO spread is greater than the minimum variation (i.e., greater than 1/8 point). To provide a more comprehensive measure of order execution quality by each third market firm, however, the Staff independently calculated overall price improvement statistics regardless of the NBBO spread. In addition, the Staff calculated price improvement statistics when the spread was 1/8 point and when the spread was greater than 1/8 point for each third market firm.

The orders included in each firm's price improvement statistics are post-opening market orders. Marketable limit orders are not included in the statistics because some firms do not provide price improvement opportunities for these orders.¹¹ Those firms that provide price improvement opportunities for marketable limit orders employ the same price improvement methodology to marketable limit orders as they do for market orders. The Staff also calculated price improvement, where possible, from the trade data obtained from each firm.¹² The Staff's calculations were consistent with the firm's aggregate price improvement data provided to the Staff. The findings are set forth below.

B. Findings

The Staff found that the prevalence of and methodology for obtaining price improvement for public customer orders routed to the third market varies widely from firm to firm. Two firms -- Examination Material -- do not attempt price improvement in any manner. Examination Material attempts price improvement in greater than 1/8 point markets for

¹¹ Examination Material provide price improvement opportunities for marketable limit orders. Madoff and Examination Material while providing price improvement opportunities to market orders, do not provide price improvement opportunities for marketable limit orders. Most firms that provide price improvement opportunities will guarantee executions for up to 5,000 shares regardless of the quoted size.

¹² The Staff calculated overall price improvement statistics for Madoff Examination Material. Examination Material the trade data for Examination Material did not include order entry NBBO information necessary to calculate price improvement. Examination Material do not provide price improvement. As stated previously, the Staff did not examine Examination Material but did obtain certain aggregate price improvement information.

only one of its customers.¹³ [redacted] use the NYSE quotation, not the NBBO, to price orders.¹⁴ Madoff, [redacted] attempt price improvement in securities when the quoted market is 1/4 point or greater; however, each firm's methodology for attempting to improve orders varies significantly. In addition, some firms provide new high/low protection that results in significant 1/8 point price improvement rates.

1. Price Improvement Statistics Provided by Firm

a. Overall Price Improvement

The Staff obtained price improvement data from each firm. Overall price improvement statistics for January 1997 varied significantly from firm to firm. As stated previously, [redacted] provide no price improvement. Price improvement statistics provided to the Staff by each firm indicate that the percentage of post-opening market orders receiving price improvement can vary from 18% to 5.5%. [redacted] provides price improvement in greater than 1/8 point markets for only one of its customers. [redacted] overall price improvement for all post-opening market orders for [redacted] was 8.9%. Price improvement for its remaining customers was 2.4%.

[redacted] price improved approximately 18% of their post-opening market orders. Madoff and [redacted] price improved approximately 11% of their post-opening market orders and [redacted] price improved approximately 5% of its post-opening market orders (See Chart 1). The percentage of shares (as opposed to orders) associated with post-opening market orders that were improved ranged from [redacted] to [redacted]. [redacted] Madoff improved 9.6% of its shares and [redacted]

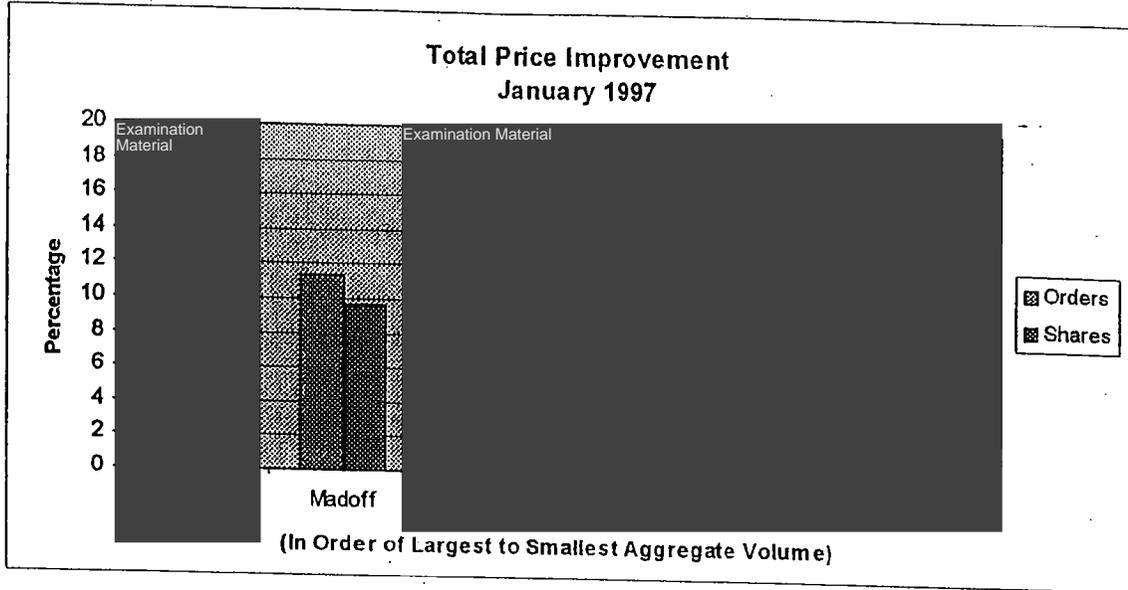
All eight firms reviewed by the Staff pay for order flow.¹⁵ In addition, [redacted] provides certain broker-dealer customers a percentage of its profits.¹⁶ The Staff found [redacted]

¹⁴ The failure to price orders by reference to the NBBO raises best execution concerns and could inflate each firm's price improvement statistics.

¹⁵ At the time of the Staff's review, Madoff pays \$.01 for market orders and only executes orders in approximately the 500 most actively traded NYSE-listed securities. [redacted]

no significant correlation between the amount paid for order flow and the overall rates of price improvement.

Chart 1



b. Price Improvement in 1/8 Point Markets

The Staff found that new high/low protection can result in significant differences in execution quality. For instance, [REDACTED]

Examination Material

[REDACTED] Madoff provides new high/low protection for only a few of its customers. As a result, Madoff's price improvement rate in 1/8 point markets is significantly less than [REDACTED]

Examination Material

The new high/low methodology varies from firm to firm. [REDACTED]

Examination Material, Deliberative Process

Examination Material, Deliberative Process

Madoff provides new high/low protection for a few of its customers. If an execution would create a new high/low for the day, Madoff's system stops the execution for one minute. If there is an execution on the primary exchange during the one minute period, the system executes the trade at that price. After one minute, the order is executed at the new high/low. However, Madoff stated that several of its customers have instructed Madoff not to create the new high/low for the day and therefore benefit from new high/low protection. These customers' orders are executed only after a confirming execution on the primary market.

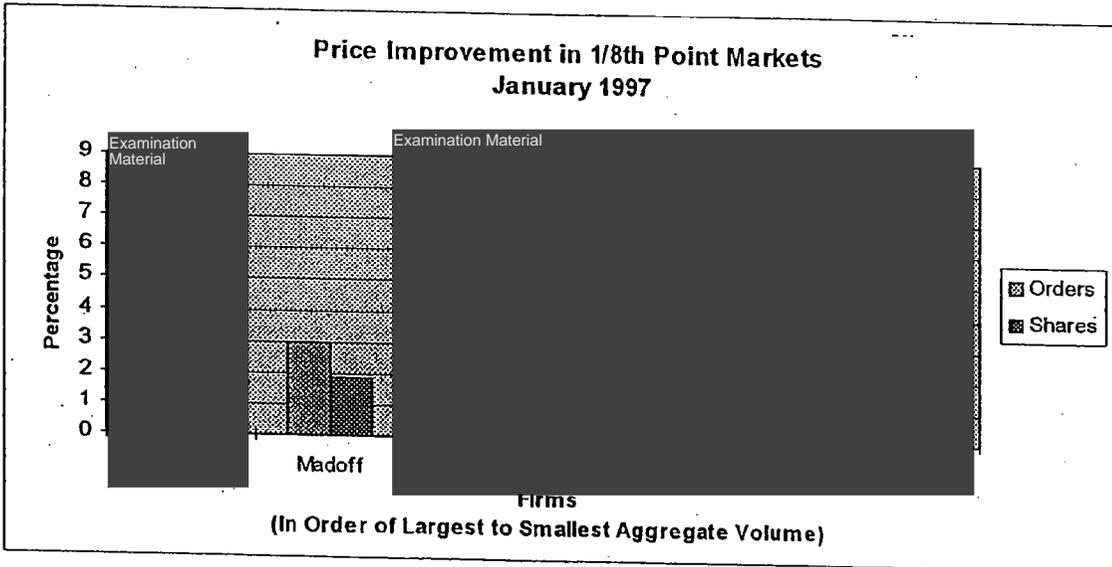
For post-opening market orders, 2.96% of Madoff's orders (1.86% of shares)

Examination Material

received price improvement when the quoted market was 1/8 point

Examination Material

Chart 2



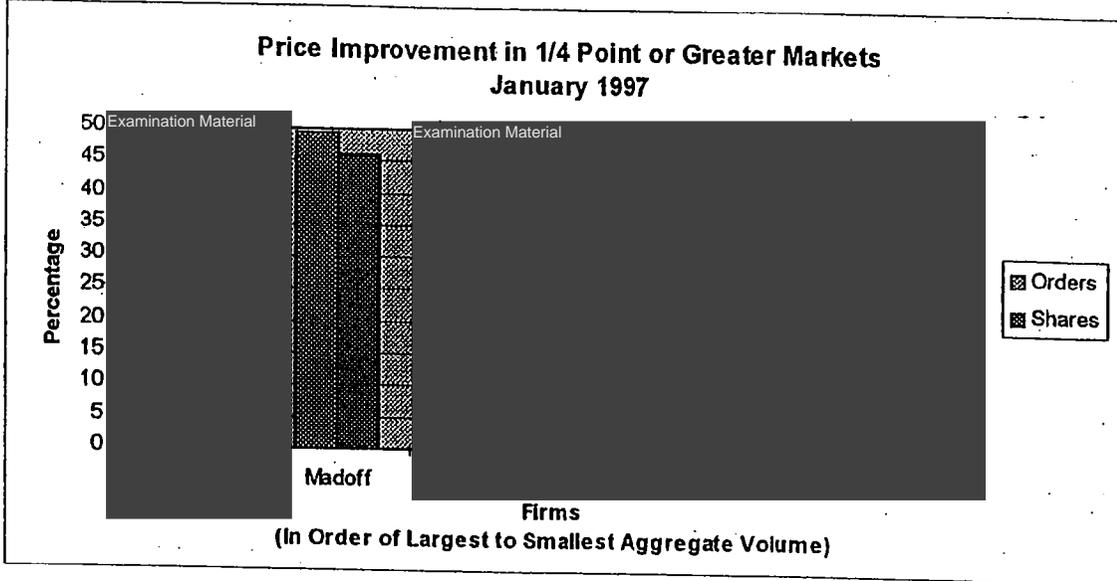
c. Price Improvement in 1/4 point or greater Markets

For post-opening market orders, excluding marketable limit orders, 49.45% of Madoff's orders (46.15% of shares)

Examination Material

received price improvement when the quoted market was a 1/4 point or greater.

Chart 3



2. Staff's Calculation of Price Improvement Statistics

The Staff calculated price improvement of orders executed by four of the third market firms reviewed in order to verify price improvement statistics received from the firms.¹⁷ The Staff's calculations are generally consistent with the aggregate price improvement data provided to the Staff by each firm.¹⁸ The Staff calculated overall price improvement and price improvement in 1/8 point and 1/4 point markets for Madoff, Examination Material. Overall, the Staff calculated that Madoff improved 8.53% of its orders and 10.04% of its shares,

Examination Material, Deliberative Process

3. Price Improvement Methodology

The methodology for obtaining price improvement when the NBBO spread is greater than 1/8 point varies widely from firm to firm and, therefore, the percentage of

¹⁷ See Attachment A for detailed price improvement rates. The Staff calculated overall price improvement statistics for Madoff, Examination Material, Deliberative Process

¹⁸ Examination Material, Deliberative Process

orders that receive price improvement in 1/4 point markets is not consistent from firm to firm. The price improvement methodology for Madoff, [REDACTED]

Examination Materials, Not Related to Madoff

[REDACTED] The Staff's findings are set forth below.

a. Madoff

If Madoff receives a customer order for a security in which the NBBO spread is greater than the minimum variation, Madoff stops the order and attempts to improve the best market for the security by tightening its Intermarket Trading System ("ITS") quotation. Madoff's new quotation is displayed for one minute. If another ITS participant sends a commitment to trade at Madoff's new quotation, Madoff will affirm the ITS trade and execute the customer order at the improved price. If a trade occurs on the security's primary exchange at the improved price, Madoff will execute a trade with its customer at that price. If one minute expires and no ITS commitments are received at the new quotation, or if the primary exchange has not executed an order between the spread, the Madoff system changes its quotation back to the original quotation, and executes the customer order at the stopped price.¹⁹

Several developments will cause Madoff's attempt to provide price improvement to end and execute the customer order at the stopped price. These include an execution on the primary exchange at the stopped price or the receipt by Madoff of an additional customer market or marketable limit order on either side of the market. Madoff concludes that either of these two events is a confirmation of the original NBBO (the stopped price). The Staff believes that the receipt of an additional Madoff customer order on either side of the market is not necessarily an adequate reason to cease attempting price improvement. As a result, the Staff believes that this aspect of Madoff's price improvement methodology in which orders in greater than 1/8 point markets are not exposed for the full minute, should be fully disclosed to the order routing firms. Madoff's literature does not adequately address instances in which attempted price improvement ceases.

The Staff found instances in which Madoff's price improvement methodology did not provide any price improvement opportunity. The Staff found 34 orders of 691 orders received when the NBBO was 1/4 point (4.92% of orders received in 1/4 market) in which Madoff's price improvement methodology did not change the Madoff quotation to narrow the spread for market orders received in markets greater or equal to 1/4 point.

¹⁹

For orders under 300 shares in which the NBBO is 1/4 point or more, Madoff uses an algorithm for price improvement because, according to the firm, changing its quotation for an order under 300 shares does not attract sufficient ITS commitments to provide price improvement. Madoff's automated system does not execute a customer order on a double plus or double minus tick as part of its price improvement algorithm for smaller sized orders. When an NYSE execution is between the spread, Madoff's system checks the tick and executes the trade at an improved price if the execution would not cause a double tick.

Page 11 redacted for the following reason:

Examination Material, Deliberative Process

To illustrate the effect of Madoff's failure to provide price improvement opportunities for marketable limit orders, the Staff compared the price improvement rates of [Material] and Madoff. [Not Related to Madoff, Deliberative Process] Madoff's rate is 11.34%.²⁴ For January 1997, [Examination Material]

[Examination Material] If marketable limit orders are included in the statistics, [Examination Material] while Madoff's overall rate falls 1.4 percent to 9.91%. Therefore, the Staff believes that order routing firms must consider whether their customer's marketable limit orders receive price improvement when making order routing decisions.

5. Marketing Price Improvement Statistics

The Staff found that third market firms' literature concerning the likelihood of a customer's order receiving price improvement can be misleading. In its "Guide to Price Improvement and Limit Order Exposure for Exchange Listed & Nasdaq Securities," Madoff states that the firm "has achieved results averaging a 50% price improvement rate for exchange listed securities." [Examination Material, Deliberative Process]

All the third market firms define price improvement as the likelihood of an execution better than the NBBO when the spread is 1/4 point or greater. Price improvement, in the context of evaluating order execution quality, is defined in the Order Handling Rules Release as "the difference between execution price and the best quotations prevailing in the market at the time the order arrived at the market or market maker."²⁵ The Staff believes that firms must use the definition of price improvement stated in the new order handling rules.

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[Examination Material]

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See Order Handling Rules Release at 48323 note 357.

IV. Order Execution Findings

The Staff analyzed electronic trading data provided by Madoff, [REDACTED] Examination Material [REDACTED] for potential best execution violations.²⁶ The Staff found market orders that were filled at inferior prices to the NBBO at order execution time and inferior to the NBBO at order receipt time.

A. Inferior to NBBO at Order Entry

The Staff found market orders that were filled at inferior prices to the NBBO at the time of order entry ("price disimprovement").²⁷ Most of these inferior executions occurred because the orders were not executed automatically by the firm's automated execution system but, instead, were rejected by the system and handled manually. The rejected orders were often manually priced with the NBBO, at execution time, resulting in orders that were inferior to the NBBO at order entry time. In addition, most firms manually price telephone orders. Telephone orders often result in executions inferior to the NBBO at order entry time because the order is not entered into the firm's system until after the trader manually executes the order. The Staff believes that a firm's rate of price disimprovement must be disclosed to order routing firms.²⁸

B. Executions Inferior to NBBO at Order Execution Time

The Staff found that Madoff executed 110 market orders (2.0% of sample) and 30 limit orders (1.0% of sample), Examination Material [REDACTED] inferior to the NBBO at execution time. This usually occurred at Madoff because the order was manually executed.³⁰ Manually executed orders are priced by Madoff at the NBBO at

²⁶ The Staff analyzed trading data for 19 NYSE-listed and 10 Amex-listed securities during selected trade dates in August and September 1996. Some firms provided additional trading data. See Appendix A for details of trading data provided by each firm.

²⁷ The Staff found the following number of orders executed inferior to the NBBO at order entry time: Madoff: 6 (0.12%); Examination Material [REDACTED]. See Attachment B.

²⁸ The Commission noted that "[a]ny evaluation of price improvement opportunities would have to consider not only the extent to which orders are executed at price better than the prevailing quotes, but also the extent to which orders are executed at inferior prices." See Order Handling Rules Release at 48323 note 357.

²⁹ The sample size of orders reviewed was 5,018 for Madoff, Examination Material [REDACTED]. Madoff was the only firm that electronically provided the NBBO at order execution time and order entry time. Other firms only provided the NBBO at order entry time. The remaining firms were manually sampled. See Attachment C for a list of all Madoff orders executed at a price inferior to the NBBO at order execution time (separated by locked and unlocked markets).

³⁰ Orders are manually executed if Madoff's automated execution system rejects the order. For example, the system may reject orders, for example, if the order was received when the market is locked or crossed.

order entry, not order execution time. Madoff considers all trades to be executed at the time of order entry even if the system rejects the order for manual handling. The Staff does not agree that orders rejected by Madoff's automatic execution system can be considered to have been executed. Execution occurs at the time the order receives a price.

In locked markets, the Staff found that Madoff's automated system determines the primary exchange quotation and executes the order at that price. For example, on August 22, 1996, at 10:01:40 Madoff received a limit order to sell 400 shares of Zenith Corporation ("ZE") at 15 3/4. At that time, the market was locked at 16 1/8. Madoff's automated system immediately executed the order at the NYSE bid of 16. The market unlocked three seconds later when the NBBO was 16 1/8 (third market) bid and 16 1/4 (NYSE) offered. The Staff believes that this order should have been executed at 16 1/8.³¹ Madoff also manually executes orders when the market is locked. Madoff's traders price orders received in a locked market at the NYSE quotation existing before the market locked. The Staff believes that the firm should execute its orders at the locked price or at the NBBO after the market unlocks.³²

C. Failure to Give Customer Execution Price Received on Primary Exchange

The Staff found numerous instances in which third market firms traded ahead of an existing customer order, received a better price on the primary exchange, failed to pass on the improved price to the customer. Specifically, the Staff found instances of trading ahead at [Examination Material]. Some trading ahead instances occur because the trader attempts to cover the customer position on the primary market before executing the customer order. Most of the other instances occur because of a lack of coordination among the firms' traders and no automated compliance features in rapidly moving markets.

A trader who is attempting to lay off an executed customer order may trade ahead of a customer order being held by another trader. For example, on August 22, 1996, at 9:56 [Examination Material] received a customer market order to buy 1,000 shares of ZE. The NBBO was 15 1/2 - 15 3/4. At 9:56:52 [Examination Material] sent a limit order to buy 1000 shares at 15 1/2, which was executed at 9:57:45. At 9:58:35 and 9:58:59, [Examination Material] sent two orders to buy 1000 shares each at the market, which were executed at 9:59:27 at 15 7/8. Finally, at 10:00, [Examination Material] executed the customer order of 1,000 shares at 16

³¹ See Attachment C (Part A) for a list of 55 market orders and 13 limit orders in which Madoff executed market orders inferior to the locked quotation.

³² When the market is locked [Examination Material] sends a market order to the NYSE to determine the market and will execute its orders at the price it receives from the NYSE. If the market unlocks before the order is executed [Examination Material] executes its order at the new NBBO. In a locked market [Examination Material] waits until the market unlocks [Examination Material] do not encounter locked markets because the firms price orders off the NYSE quotation. See NASD Compliance Alert Volume 10, Number 3 which states that NASD members must execute orders at the quoted locked price under the NASD firm quote rule. See also ITS Rule 15A.

1/4 [redacted] traded ahead of the customer order because it waited to execute the full customer order until after 3000 shares had been executed on the NYSE. Further, it did not pass on the price improvement it received on the 1000 shares filled at 15 1/2. The Staff recommends that these systematic problems be corrected. Madoff and [redacted] have developed automated systems which practically eliminate trading ahead violations.

V. Trade Reporting Findings

The Staff found trade reporting irregularities at Madoff, [redacted]

A. Late Trade Reporting (.SLD)

1. Failure to Mark Trades as .SLD

The Staff manually reviewed 116 order tickets of manual executions at [redacted] and found that 12 orders (10.3%) were reported more than 90 seconds after the execution without having been marked .SLD. The Staff reviewed 93 order tickets at [redacted] and found that 19 (20.4%) orders were reported more than 90 seconds after the execution without having been marked .SLD. The Staff reviewed 391 trades at Peters and found that 4 (1.0%) orders were reported more than 90 seconds after the execution without having been marked .SLD.³³

[redacted] Madoff and [redacted] automatically report execution times for each trade report. The Staff analyzed the National Association of Securities Dealers' ("NASD") audit trail for these three firms' compliance with trade reporting rules and determined that [redacted] reported 18 executions late (0.90% of total) without marking the trades .SLD, Madoff reported 84 executions late (0.89% of total) without marking the trades .SLD, and [redacted] reported one execution late (0.21% of total) without marking the trade .SLD.³⁴

2. Improper use of .SLD Modifier

The Staff found that Madoff improperly uses the .SLD designation on reports of trades executed manually. When Madoff manually executes an order, the order is priced at the order entry NBBO. If that price is out-of-range of the NBBO at order execution time, then the firm marks the trade .SLD even though the execution was reported within 90 seconds after the order was executed.³⁵ By analyzing NASD audit

³³ NASD Rule 4632 states that a pattern or practice of unexcused late trade reporting may result in a violation of NASD Rule 2110 (Principles of Trade).

³⁴ See Attachment D, Chart 1.

³⁵ This practice is a potential violation of NASD Transaction Reporting Rules. Madoff reports its out-of-range trades as .SLD so that the NASD's Automated Confirmation Transaction (ACT) System will not reject the order as out-of-range. Madoff stated that the NASD condoned the practice of using the .SLD modifier for out-of-range executions. However, the NASD informed the Staff that the .SLD modifier should not be used in this manner.

trail data, the Staff found that Madoff improperly marked 237 trades .SLD (2.55% of total) that had been reported within 90 seconds after order execution.³⁶ The NASD has raised the issue of member firms using the .SLD modifier in situations where the execution time is also the report time.³⁷

For example, on August 22, 1996, at 9:55:16 Madoff received a limit order to sell 300 shares of ZE at 15. The market was crossed at that time, and the order was sent for manual execution. At 9:59:00, a trader executed the order for 15 1/4, which matched the NYSE bid at order entry, and reported the trade .SLD. At the time of order execution the NBBO was 15 7/8 - 16. The Staff believes that this order should have been filled at 15 7/8, the NBBO at order execution time, and not reported .SLD. The Staff found, from the sample of trades reviewed, 72 market orders (1.36% of sample) and 21 limit orders (0.70% of sample) were marked as .SLD by Madoff because the orders were out-of-range, although reported in a timely manner.

B. Failure to Report Execution and Failure to Time Stamp

The Staff found two trades in which Examination Material failed to report the execution time and nine trades in which Examination Material failed to report to the NASD. Approximately 10% of all trade tickets requested by the Staff and provided by Examination Material were not time stamped. In addition, approximately 20% of the trade tickets provided by Examination Material for two additional trading days were not time stamped.³⁸

VI. Conclusions

1. The Staff will examine the order routing firms that send orders to Examination Material for potential best execution violations because of the failure by Examination Material to provide any price improvement opportunities for customer orders. In addition, the Staff will examine Examination Material remaining customers for potential best execution violations.
2. The Staff believes that order routing firms should consider whether their customer's marketable limit orders receive price improvement in making order routing decisions. Best execution examinations will query how

³⁶ See Attachment D, Chart 2.

³⁷ See Letter from Robert L.D. Colby, Deputy Director, Division of Market Regulation, SEC, to Richard G. Ketchum, Executive Vice President, NASD dated August 11, 1997 at Attachment E.

³⁸ For trade date September 10, 1996, approximately 470 tickets were provided, of which 105 were not time stamped. Eight other tickets were time stamped with a trade date of August 1, 1996. For trade date September 11, 1996, approximately 500 tickets were provided, of which 83 were not time stamped. Thirteen other tickets were time stamped with a trade date August 2, 1996.

order routing firms consider how all types of orders are handled, including marketable limit orders.

3. Order routing firms that send order flow to [Examination Material] will be examined for potential best execution violations. [Examination Material] price improvement statistics were significantly lower than its competitors. In particular, order routing firms that are members of the Roundtable should be examined to ensure that the firms are adhering to their fiduciary duty of best execution. Order routing agreements which result in captive order flow being routed to [Examination Material] should be scrutinized to determine if the Roundtable partners are routing orders to [Examination Material] solely because of profits they receive from the partnership agreement.
4. The Staff believes that [Examination Material] should be required to price executions of listed securities based on the NBBO, not the NYSE quotation.
5. The Staff will refer to the NASD the Staff's findings concerning potential trade reporting violations by Madoff [Examination Material] [Examination Material]
6. The Staff will send deficiency letters to Madoff, [Examination Material] [Examination Material] outlining the above mentioned findings and recommendations.³⁹

³⁹

See deficiency letters at Attachment F.

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Examination Material

ATTACHMENT B
TRADES EXECUTED INFERNO NBBO AT ORDER ENTRY

BERNARD L. MADOFF INVESTMENT SECURITIES															OCIE CALCULATIONS								
ORDER ENTRY INFORMATION										EXECUTION INFORMATION					TAG INFO.								
STK	TRD	DATE	CUST	BUY/SELL	QTY	TYPE:	ORDER ENTRY		1996 ORDER ENTRY DATE	ORDER ENTRY TIME	ORD CODE	MADF BUY/SELL	EXEC QTY	EXEC PRICE	EXEC TIME	EXEC CODE	EXECUTION		TAG NO.	TAG	CODE	ORDER ENTRY	AMT AWAY FROM OE NBBO
							BID	ASK									BID	ASK					
GFS		6-Sep	GHC	BUY	3,200	MKT	29 7/8	30	6-Sep	10:35:23 AM	PB	SOLD	3,200	30 1/8	10:40:26 AM	ME	30	30 1/8	4009617	AE	AE	1/8	- 1/8
HWP		16-Aug	BHC	SL	100	MKT	42	42 1/8	16-Aug	1:03:46 PM	PB	BOT	100	41 7/8	1:06:16 PM	ME	41 7/8	42	3649115	AE	AE	1/8	- 1/8
MO		13-Aug	CS	BUY	1,000	MKT	89 3/4	90	13-Aug	2:51:23 PM	PB	SOLD	1,000	90 1/4	2:52:28 PM	ME	90 1/8	90 1/4	3574931	AE	AE	1/4	- 1/4
MO		13-Aug	RB	BUY	200	MKT	90 1/4	90 3/8	13-Aug	3:34:02 PM	PB	SOLD	200	90 1/2	3:36:21 PM	ME	90 1/2	90 5/8	3578010	AE	AE	1/8	- 1/8
MO		13-Aug	AGE	BUY	100	MKT	90 1/4	90 3/8	13-Aug	3:34:03 PM	PB	SOLD	100	90 1/2	3:36:21 PM	ME	90 1/2	90 5/8	3578013	AE	AE	1/8	- 1/8
ZE		23-Aug	COMP	BUY		MKT	15 5/8	16 1/8	23-Aug	9:37:24 AM		SOLD	500	16 1/2	9:37:24 AM		16	16 1/8	3768541	AV	AV	1/2	- 3/8

TOTAL NEGATIVE PRICE IMPROVEMENT: 6 (0.12%) OF 5,018 ELIGIBLE ORDERS.

Pages 20 through 43 redacted for the following reasons:

Examination Material
Examination Material
Not Related to Madoff

ATTACHMENT C
TRADES EXECUTED INFERIOR TO) AT ORDER EXECUTION

BERNARD L. MADOFF INVESTMENT SECURITIES																				OCIE CALCULATIONS	
STK	DATE	CUST	BUY / SELL	QTY	ORDER ENTRY INFORMATION					EXECUTION INFORMATION							TAG INFO.			ORDER ENTRY NBBO SPREAD	AMT AWAY FROM EXEC NBBO
					1996 TRD	1996 ORDER ENTRY DATE	1996 ORDER ENTRY TIME	ORD CODE	MADF BUY / SOLD	EXEC QTY	EXEC PRICE	EXEC TIME	EXEC CODE	EXECUTION NBBO BID	EXECUTION NBBO ASK	TAG NO.	TAG CODE	SLD			
																			BID		

A. MARKETS LOCKED AT ORDER ENTRY

1. MARKET ORDERS

CPB	5-Sep	JCW	BUY	50	72 1/4	72 1/4	5-Sep	3:09:39 PM	PB	SOLD	50	72 3/8	3:10:13 PM	ME	72 1/4	72 1/4	3998067	AE		0	- 1/8
GPS	5-Sep	PJ	SL	1,529	28 3/4	28 3/4	5-Sep	1:01:49 PM	PB	BOT	1,529	28 5/8	1:03:10 PM	ME	28 3/4	28 7/8	3990618	AE		0	- 1/8
GPS	6-Sep	PJ	SL	200	30 1/8	30 1/8	6-Sep	11:13:22 AM	PB	BOT	200	30	11:17:37 AM	ME	30 1/8	30 1/4	4012023	AE		0	- 1/8
HWP	14-Aug	AGE	SL	100	43 3/8	43 3/8	14-Aug	9:42:33 AM	PB	BOT	100	43 1/4	9:42:34 AM	AM	43 3/8	43 3/8	3584208			0	- 1/8
HWP	16-Aug	MK	SL	800	42 3/8	42 3/8	16-Aug	9:46:14 AM	PB	BOT	800	42 1/8	9:49:56 AM	ME	42 3/8	42 5/8	3636932	AE	SLD	0	- 1/4
MO	12-Aug	INT	SL	106	93 7/8	93 7/8	12-Aug	9:40:29 AM	PB	BOT	100	93 5/8	9:40:29 AM	AM	93 7/8	93 7/8	3529516			0	- 1/4
MO	12-Aug	DOS	BUY	200	93 1/4	93 1/4	12-Aug	9:45:41 AM	PB	SOLD	200	93 1/8	9:51:56 AM	ME	93 1/4	92 5/8	3529957	AE	SLD	0	- 1/2
MO	12-Aug	JOS	SL	150	93	93	12-Aug	9:47:08 AM	PB	BOT	150	92 5/8	9:57:50 AM	ME	92 3/4	92 7/8	3530081	AE	SLD	0	- 1/8
MO	12-Aug	CS	SL	500	92 1/2	92 1/2	12-Aug	9:52:47 AM	PB	BOT	500	92 1/2	9:58:39 AM	ME	92 7/8	92 7/8	3530527	AE	SLD	0	- 3/8
MO	12-Aug	CS	BUY	100	93 3/8	93 3/8	12-Aug	10:02:15 AM	PB	SOLD	100	93 3/8	10:05:10 AM	ME	93 1/8	93 1/8	3531254	AE	SLD	0	- 1/4
MO	12-Aug	INT	BUY	100	93 3/8	93 3/8	12-Aug	10:02:17 AM	PB	SOLD	100	93 3/8	10:05:10 AM	ME	93 1/8	93 1/8	3531256	AE	SLD	0	- 1/4
MO	12-Aug	PBS	BUY	100	93 3/8	93 3/8	12-Aug	10:02:18 AM	PB	SOLD	100	93 3/8	10:05:10 AM	ME	93 1/8	93 1/8	3531258	AE	SLD	0	- 1/4
MO	12-Aug	PBS	BUY	100	93 3/8	93 3/8	12-Aug	10:02:51 AM	PB	SOLD	100	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531306	AE	SLD	0	- 1/8
MO	12-Aug	BRW	BUY	50	93 3/8	93 3/8	12-Aug	10:02:53 AM	PB	SOLD	50	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531309	AE	SLD	0	- 1/8
MO	12-Aug	SCO	BUY	200	93 3/8	93 3/8	12-Aug	10:03:02 AM	PB	SOLD	200	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531325	AE	SLD	0	- 1/8
MO	12-Aug	EVR	BUY	100	93 3/8	93 3/8	12-Aug	10:03:05 AM	PB	SOLD	100	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531331	AE	SLD	0	- 1/8
MO	12-Aug	CS	BUY	6	93 3/8	93 3/8	12-Aug	10:03:12 AM	PB	SOLD	6	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531338	AE	SLD	0	- 1/8
MO	12-Aug	HL	BUY	100	93 3/8	93 3/8	12-Aug	10:03:22 AM	PB	SOLD	100	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531349	AE	SLD	0	- 1/8
MO	12-Aug	CS	BUY	200	93 3/8	93 3/8	12-Aug	10:04:02 AM	PB	SOLD	200	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531419	AE	SLD	0	- 1/8

MADOFF_EXHIBITS-06015

TRADES EXECUTED INFERIOR TO ... O AT ORDER EXECUTION

BERNARD L. MADOFF INVESTMENT SECURITIES																					OCIE CALCULATIONS	
ORDER ENTRY INFORMATION											EXECUTION INFORMATION						TAG INFO.			ORDER ENTRY NBBO SPREAD	AMT AWAY FROM EXEC NBBO	
STK	1996 TRD DATE	CUST	BUY / SELL	QTY	ORDER ENTRY NBBO		1996 ORDER ENTRY DATE	ORDER ENTRY TIME	ORD CODE	MADF SOLD	EXEC QTY	EXEC PRICE	EXEC TIME	EXEC CODE	EXECUTION NBBO		TAG NO.	TAG CODE	SLD			
					BID	ASK									BID	ASK						
MO	12-Aug	JCW	BUY	50	93 3/8	93 3/8	12-Aug	10:04:05 AM	PB	SOLD	50	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531423	AE	SLD	0	- 1/8	
MO	12-Aug	EVR	BUY	50	93 3/8	93 3/8	12-Aug	10:04:06 AM	PB	SOLD	50	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531424	AE	SLD	0	- 1/8	
MO	12-Aug	CS	BUY	106	93 3/8	93 3/8	12-Aug	10:04:13 AM	PB	SOLD	106	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531439	AE	SLD	0	- 1/8	
MO	12-Aug	JCW	BUY	50	93 3/8	93 3/8	12-Aug	10:04:16 AM	PB	SOLD	50	93 3/8	10:07:14 AM	ME	93 1/8	93 1/4	3531447	AE	SLD	0	- 1/8	
MO	12-Aug	EVR	BUY	150	93 1/4	93 1/4	12-Aug	10:04:26 AM	PB	SOLD	150	93 3/8	10:07:14 AM	ME	93 1/8	93 1/4	3531467	AE	SLD	0	- 1/8	
MO	12-Aug	AGE	BUY	200	93 1/4	93 1/4	12-Aug	10:04:26 AM	PB	SOLD	200	93 3/8	10:07:14 AM	ME	93 1/8	93 1/4	3531465	AE	SLD	0	- 1/8	
MO	12-Aug	CS	BUY	100	93 1/4	93 1/4	12-Aug	10:04:30 AM	PB	SOLD	100	93 3/8	10:07:14 AM	ME	93 1/8	93 1/4	3531476	AE	SLD	0	- 1/8	
MO	12-Aug	AGE	BUY	100	93 1/4	93 1/4	12-Aug	10:04:34 AM	PB	SOLD	100	93 3/8	10:07:14 AM	ME	93 1/8	93 1/4	3531483	AE	SLD	0	- 1/8	
MO	12-Aug	PBS	BUY	50	93 1/8	93 1/8	12-Aug	10:05:05 AM	PB	SOLD	50	93 3/8	10:07:14 AM	ME	93 1/8	93 1/4	3531523	AE	SLD	0	- 1/8	
MO	12-Aug	CS	BUY	100	93 1/8	93 1/8	12-Aug	10:05:18 AM	PB	SOLD	100	93 3/8	10:07:14 AM	ME	93 1/8	93 1/4	3531542	AE	SLD	0	- 1/8	
MO	12-Aug	JCW	BUY	100	93 1/8	93 1/8	12-Aug	10:05:19 AM	PB	SOLD	100	93 3/8	10:07:14 AM	ME	93 1/8	93 1/4	3531543	AE	SLD	0	- 1/8	
MO	12-Aug	FLT	BUY	50	93 1/4	93 1/4	12-Aug	10:06:32 AM	PB	SOLD	50	93 3/8	10:07:14 AM	ME	93 1/8	93 1/4	3531638	AE	SLD	0	- 1/8	
MO	12-Aug	DPT	BUY	50	93 1/4	93 1/4	12-Aug	10:06:32 AM	PB	SOLD	50	93 3/8	10:07:15 AM	ME	93 1/8	93 1/4	3531639	AE	SLD	0	- 1/8	
MO	12-Aug	PBS	BUY	50	93 3/8	93 3/8	12-Aug	10:40:04 AM	PB	SOLD	50	93 3/8	10:42:07 AM	ME	93 1/8	93 1/4	3534152	AE		0	- 1/8	
MO	12-Aug	BSC	BUY	500	93 3/8	93 3/8	12-Aug	10:40:11 AM	PB	SOLD	500	93 3/8	10:42:07 AM	ME	93 1/8	93 1/4	3534157	AE		0	- 1/8	
MO	12-Aug	CS	BUY	30	93 3/8	93 3/8	12-Aug	10:40:12 AM	PB	SOLD	30	93 3/8	10:42:07 AM	ME	93 1/8	93 1/4	3534158	AE		0	- 1/8	
MO	12-Aug	CS	BUY	200	93	93	12-Aug	10:51:19 AM	PB	SOLD	200	93	10:53:51 AM	ME	92 5/8	92 7/8	3534997	AE	SLD	0	- 1/8	
MO	13-Aug	JCW	SL	1,218	94 1/8	94 1/8	13-Aug	9:37:54 AM	PB	BOT	1,218	94	9:37:54 AM	AM	94 1/8	94 1/8	3555797			0	- 1/8	
MO	13-Aug	JCW	SL	55	94 1/8	94 1/8	13-Aug	9:38:04 AM	PB	BOT	55	94	9:38:04 AM	AM	94 1/8	94 1/8	3555806			0	- 1/8	
MO	13-Aug	AGE	BUY	100	93 3/4	93 3/4	13-Aug	9:41:43 AM	PB	SOLD	100	93 7/8	9:41:43 AM	AM	93 3/4	93 3/4	3556074			0	- 1/8	
MO	13-Aug	DOS	BUY	50	93 3/4	93 3/4	13-Aug	9:41:46 AM	PB	SOLD	50	93 7/8	9:41:46 AM	AM	93 3/4	93 3/4	3556079			0	- 1/8	
MO	13-Aug	CS	BUY	2	92 5/8	92 5/8	13-Aug	10:53:56 AM	PB	SOLD	2	92 3/4	10:55:56 AM	ME	92 1/2	92 5/8	3561082	AE		0	- 1/8	

MADOFF_EXHIBITS-06016

TRADES EXECUTED INFERIOR TO 0 AT ORDER EXECUTION

BERNARD L. MADOFF INVESTMENT SECURITIES																				OCIE CALCULATIONS	
ORDER ENTRY INFORMATION										EXECUTION INFORMATION						TAG INFO.			ORDER ENTRY NBBO SPREAD	AMT AWAY FROM EXEC NBBO	
STK	1996 TRD DATE	CUST	BUY / SELL	QTY	ORDER ENTRY NBBO		1996 ORDER ENTRY DATE	ORDER ENTRY TIME	ORD CODE	MADF BUY / SOLD	EXEC QTY	EXEC PRICE	EXEC TIME	EXEC CODE	EXECUTION NBBO		TAG NO.	TAG CODE			SLD
					BID	ASK									BID	ASK					
MO	13-Aug	JCW	BUY	50	91 7/8	91 7/8	13-Aug	12:06:06 PM	PB	SOLD	50	92	12:06:24 PM	ME	91 7/8	91 7/8	3566397	AE		0	- 1/8
MO	3-Sep	JCW	SL	200	88 3/4	88 3/4	3-Sep	9:57:08 AM	PB	BOT	200	88 5/8	9:57:08 AM	AM	88 3/4	88 3/4	3928458			0	- 1/8
ODP	4-Sep	OLD	BUY	100	20	20	4-Sep	11:47:29 AM	PB	SOLD	100	20 1/8	11:47:57 AM	ME	20	20	3961015	AE		0	- 1/8
RBD	5-Sep	RB	SL	100	22 3/8	22 3/8	5-Sep	3:49:55 PM	PB	BOT	100	22 1/4	3:53:14 PM	ME	22 3/8	22 3/8	4001124	AE		0	- 1/8
ZE	22-Aug	JCW	BUY	2,000	15 1/2	15 1/2	22-Aug	9:55:58 AM	PB	SOLD	2,000	15 3/4	9:55:58 AM	AM	15 1/2	15 1/2	3741334			0	- 1/4
ZE	22-Aug	BRW	BUY	200	15 1/2	15 1/2	22-Aug	9:55:59 AM	PB	SOLD	200	15 3/4	9:56:00 AM	AM	15 1/2	15 1/2	3741338			0	- 1/4
ZE	22-Aug	JOS	BUY	1,000	16 1/8	16 1/8	22-Aug	10:01:29 AM	PB	SOLD	1,000	16 1/4	10:01:29 AM	AM	16 1/8	16 1/8	3741865			0	- 1/8
ZE	22-Aug	WBL	BUY	1,000	16 1/8	16 1/8	22-Aug	10:01:57 AM	PB	SOLD	1,000	16 1/4	10:01:57 AM	AM	16 1/8	16 1/8	3741906			0	- 1/8
ZE	22-Aug	DA	BUY	500	16 1/8	16 1/8	22-Aug	10:02:00 AM	PB	SOLD	500	16 1/4	10:02:00 AM	AM	16 1/8	16 1/8	3741910			0	- 1/8
ZE	22-Aug	NFS	BUY	1,000	16 1/4	16 1/4	22-Aug	10:02:34 AM	PB	SOLD	1,000	16 1/2	10:02:34 AM	AM	16 1/4	16 1/4	3741963			0	- 1/4
ZE	22-Aug	FRW	SL	750	15 1/2	15 1/2	22-Aug	10:25:10 AM	PB	BOT	750	15 3/8	10:25:10 AM	AM	15 1/2	15 1/2	3743828			0	- 1/8
ZE	22-Aug	PBS	BUY	100	15 7/8	15 7/8	22-Aug	12:07:36 PM	PB	SOLD	100	16	12:07:36 PM	AM	15 7/8	15 7/8	3750883			0	- 1/8
ZE	23-Aug	BRW	SL	100	15	15	23-Aug	10:14:40 AM	PB	BOT	100	14 3/4	10:16:30 AM	ME	15 1/8	15 1/2	3771663	AE	SLD	0	- 3/8
ZE	23-Aug	JCW	SL	1,000	15	15	23-Aug	10:14:50 AM	PB	BOT	1,000	14 3/4	10:16:30 AM	ME	15 1/8	15 1/2	3771680	AE	SLD	0	- 3/8

2. LIMIT ORDERS

MO	12-Aug	JCW	BUY	200	93	93	12-Aug	9:46:34 AM	PB	SOLD	200	93 1/8	9:51:56 AM	ME	93 1/4	92 5/8	3530040	AE	SLD	0	- 1/2
MO	12-Aug	MDD	BUY	200	93	93	12-Aug	9:46:45 AM	PB	SOLD	200	93 1/8	9:51:57 AM	ME	93 1/4	92 5/8	3530052	AE	SLD	0	- 1/2
MO	12-Aug	SHF	BUY	3,000	92 3/4	92 3/4	12-Aug	9:48:08 AM	PB	SOLD	3,000	93	9:53:03 AM	ME	92 3/8	92 1/2	3530163	AE	SLD	0	- 1/2
MO	12-Aug	CS	BUY	1,000	93	93	12-Aug	9:47:00 AM	PB	SOLD	1,000	93	9:53:27 AM	ME	92 3/8	92 1/2	3530069	AE	SLD	0	- 1/2
MO	12-Aug	FAC	BUY	100	93	93	12-Aug	9:47:09 AM	PB	SOLD	100	93	9:53:27 AM	ME	92 3/8	92 1/2	3530085	AE	SLD	0	- 1/2
MO	12-Aug	AGE	BUY	100	93 3/8	93 3/8	12-Aug	10:03:03 AM	PB	SOLD	100	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531328	AE	SLD	0	- 1/8

MADOFF_EXHIBITS-06017

ATTACHMENT C
TRADES EXECUTED INFERIOR TO ORDER AT ORDER EXECUTION

BERNARD L. MADOFF INVESTMENT SECURITIES																				OCIE CALCULATIONS		
STK	1996 TRD DATE	ORDER ENTRY INFORMATION								EXECUTION INFORMATION								TAG INFO.			ORDER ENTRY NBBO SPREAD	AMT AWAY FROM EXEC NBBO
		CUST	BUY / SELL	QTY	ORDER ENTRY		1996 ORDER ENTRY DATE	ORDER ENTRY TIME	ORD CODE	MADF BUY / SOLD	EXEC QTY	EXEC PRICE	EXEC TIME	EXEC CODE	EXECUTION		TAG NO.	TAG CODE	SLD			
					NBBO										NBBO -							
					BID	ASK									BID	ASK						
MO	12-Aug	HM	BUY	60	93 3/8	93 3/8	12-Aug	10:04:09 AM	PB	SOLD	60	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531435	AE	SLD	0	- 1/8	
MO	12-Aug	AGE	BUY	100	93 1/8	93 1/8	12-Aug	10:07:47 AM	PB	SOLD	100	93 1/4	10:09:36 AM	ME	93	93 1/8	3531735	AE	SLD	0	- 1/8	
MO	13-Aug	PBS	BUY	22	91 1/4	91 1/4	13-Aug	1:17:31 PM	PB	SOLD	22	91 3/8	1:18:27 PM	ME	91 1/4	91 1/4	3569804	AE		0	- 1/8	
MO	13-Aug	FRW	BUY	25	90 5/8	90 5/8	13-Aug	2:05:52 PM	PB	SOLD	25	90 3/4	2:06:27 PM	ME	90 1/2	90 5/8	3572117	AE		0	- 1/8	
RBD	4-Sep	TUC	BUY	400	22 3/8	22 3/8	4-Sep	2:15:06 PM	PB	SOLD	400	22 3/8	2:16:08 PM	ME	22	22 1/4	3968241	AE	SLD	0	- 1/8	
ZE	22-Aug	PFS	SL	400	16 1/8	16 1/8	22-Aug	10:01:40 AM	PB	BOT	400	16	10:01:40 AM	AM	16 1/8	16 1/8	3741880			0	- 1/8	
ZE	22-Aug	WSI	BUY	1,600	16 7/8	16 7/8	22-Aug	3:58:51 PM	PB	SOLD	1,600	17	3:58:51 PM	AM	16 7/8	16 7/8	3765090			0	- 1/8	

B. MARKETS NOT LOCKED AT ORDER ENTRY

1. MARKET ORDERS

CPB	5-Sep	HL	SL	500	71 7/8	72 1/4	5-Sep	2:23:33 PM	PB	BOT	500	72	2:24:19 PM	ME	72 1/8	72 1/4	3995271	AE	SLD	3/8	- 1/8
HWP	14-Aug	BGMG	BUY		43	43 3/8	14-Aug	11:07:39 AM		SOLD	1,000	43 11/40	11:07:39 AM		43 1/8	43 1/4	3590279	CMD		3/8	- 1/40
HWP	14-Aug	TUC	BUY	200	43	43 1/8	14-Aug	2:22:56 PM	PB	SOLD	200	43 1/8	2:24:05 PM	ME	42 7/8	43	3599822	AE		1/8	- 1/8
HWP	16-Aug	BHC	BUY	700	43	43 3/8	16-Aug	9:40:47 AM	PB	SOLD	700	43 1/4	9:41:48 AM	ME	43	43 1/8	3636535	AE	SLD	3/8	- 1/8
HWP	16-Aug	RB	BUY	36	43	43 1/8	16-Aug	9:40:59 AM	PB	SOLD	36	43 1/4	9:41:55 AM	ME	43	43 1/8	3636549	AE	SLD	1/8	- 1/8
HWP	16-Aug	RJ	SL	2,000	42 3/8	42 5/8	16-Aug	9:46:10 AM	PB	BOT	2,000	42 1/8	9:49:56 AM	ME	42 3/8	42 5/8	3636926	AE	SLD	1/4	- 1/4
HWP	16-Aug	TUC	SL	100	42 1/4	42 3/8	16-Aug	9:46:39 AM	PB	BOT	100	42 1/8	9:50:03 AM	ME	42 3/8	42 5/8	3636959	AE	SLD	1/8	- 1/4
HWP	16-Aug	LTC	SL	1,000	42 1/8	42 1/4	16-Aug	9:47:53 AM	PB	BOT	1,000	42 1/4	9:51:25 AM	ME	42 3/8	42 5/8	3637052	AE	SLD	1/8	- 1/8
HWP	16-Aug	TUC	BUY	300	41 3/4	42	16-Aug	10:36:53 AM	PB	SOLD	300	41 7/8	10:37:43 AM	ME	41 5/8	41 3/4	3640516	AE	SLD	1/4	- 1/8
ITT	10-Sep	PEC	SELL		48 1/8	48 3/8	10-Sep	1:41:11 PM		BOT	100	48 1/8	1:41:11 PM		48 1/4	48 3/8	4091240	RF		1/4	- 1/8
MO	12-Aug	AGE	BUY	200	93 3/4	94	12-Aug	9:40:09 AM	PB	SOLD	200	93 7/8	9:41:47 AM	ME	93 1/4	93 1/2	3529483	AE	SLD	1/4	- 3/8
MO	12-Aug	AGE	BUY	100	92 5/8	92 3/4	12-Aug	9:48:45 AM	PB	SOLD	100	93	9:53:03 AM	ME	92 3/8	92 1/2	3530218	AE	SLD	1/8	- 1/2

BERNARD L. MADOFF INVESTMENT SECURITIES

OCIE CALCULATIONS

ORDER ENTRY INFORMATION																				EXECUTION INFORMATION							TAG INFO.			ORDER ENTRY NBBO SPREAD	AMT AWAY FROM EXEC NBBO
STK	1996 TRD DATE	CUST	BUY / SELL	QTY	ORDER ENTRY NBBO		1996 ORDER ENTRY DATE	ORDER ENTRY TIME	ORD CODE	MADF BUY / SOLD	EXEC QTY	EXEC PRICE	EXEC TIME	EXEC CODE	EXECUTION NBBO		TAG NO.	TAG CODE	SLD												
					BID	ASK									BID	ASK															
MO	12-Aug	AGE	BUY	200	92 5/8	92 3/4	12-Aug	9:49:24 AM	PB	SOLD	200	93	9:55:17 AM	ME	92 5/8	92 3/4	3530258	AE	SLD	1/8	- 1/4										
MO	12-Aug	AGE	BUY	200	92 5/8	92 3/4	12-Aug	9:49:27 AM	PB	SOLD	200	93	9:55:17 AM	ME	92 5/8	92 3/4	3530261	AE	SLD	1/8	- 1/4										
MO	12-Aug	AGE	BUY	100	92 5/8	92 3/4	12-Aug	9:49:36 AM	PB	SOLD	100	93	9:55:17 AM	ME	92 5/8	92 3/4	3530277	AE	SLD	1/8	- 1/4										
MO	12-Aug	BRW	BUY	100	92 5/8	92 3/4	12-Aug	9:49:45 AM	PB	SOLD	100	93	9:55:17 AM	ME	92 5/8	92 3/4	3530288	AE	SLD	1/8	- 1/4										
MO	12-Aug	AGE	SL	300	92 5/8	92 3/4	12-Aug	9:49:37 AM	PB	BOT	300	92 1/2	9:58:39 AM	ME	92 7/8	92 7/8	3530278	AE	SLD	1/8	- 3/8										
MO	12-Aug	EVR	SL	200	92 7/8	93	12-Aug	9:50:42 AM	PB	BOT	200	92 1/2	9:58:39 AM	ME	92 7/8	92 7/8	3530366	AE	SLD	1/8	- 3/8										
MO	12-Aug	AGE	SL	200	92 5/8	92 3/4	12-Aug	9:55:09 AM	PB	BOT	200	92 1/2	9:58:39 AM	ME	92 7/8	92 7/8	3530690	AE	SLD	1/8	- 3/8										
MO	12-Aug	RB	SL	100	92 5/8	92 3/4	12-Aug	9:55:20 AM	PB	BOT	100	92 1/2	9:58:39 AM	ME	92 7/8	92 7/8	3530699	AE	SLD	1/8	- 3/8										
MO	12-Aug	AGE	BUY	300	93 3/8	93 1/2	12-Aug	10:01:24 AM	PB	SOLD	300	93 1/2	10:03:28 AM	ME	93 3/8	93 3/8	3531169	AE	SLD	1/8	- 1/8										
MO	12-Aug	BSC	BUY	1,000	93 3/8	93 1/2	12-Aug	10:01:31 AM	PB	SOLD	1,000	93 1/2	10:03:28 AM	ME	93 3/8	93 3/8	3531178	AE	SLD	1/8	- 1/8										
MO	12-Aug	INT	BUY	100	93 3/8	93 1/2	12-Aug	10:01:32 AM	PB	SOLD	100	93 1/2	10:03:28 AM	ME	93 3/8	93 3/8	3531181	AE	SLD	1/8	- 1/8										
MO	12-Aug	AGE	BUY	100	93 3/8	93 1/2	12-Aug	10:03:53 AM	PB	SOLD	100	93 3/8	10:06:41 AM	ME	93 1/8	93 1/4	3531406	AE	SLD	1/8	- 1/8										
MO	12-Aug	BRW	BUY	100	93 1/8	93 3/8	12-Aug	10:05:43 AM	PB	SOLD	100	93 3/8	10:07:14 AM	ME	93 1/8	93 1/4	3531572	AE	SLD	1/4	- 1/8										
MO	12-Aug	JCW	BUY	200	93 1/8	93 1/4	12-Aug	10:07:31 AM	PB	SOLD	200	93 1/4	10:09:35 AM	ME	93	93 1/8	3531712	AE	SLD	1/8	- 1/8										
MO	12-Aug	AGE	BUY	100	93 1/8	93 1/4	12-Aug	10:07:32 AM	PB	SOLD	100	93 1/4	10:09:35 AM	ME	93	93 1/8	3531713	AE	SLD	1/8	- 1/8										
MO	12-Aug	AGE	BUY	100	93 1/8	93 1/4	12-Aug	10:07:39 AM	PB	SOLD	100	93 1/4	10:09:36 AM	ME	93	93 1/8	3531721	AE	SLD	1/8	- 1/8										
MO	12-Aug	BSC	BUY	1,500	93 1/2	93 5/8	12-Aug	10:35:40 AM	PB	SOLD	1,500	93 5/8	10:38:37 AM	ME	93 3/8	93 1/2	3533802	AE	SLD	1/8	- 1/8										
MO	12-Aug	JCW	BUY	100	93 1/4	93 3/8	12-Aug	10:41:02 AM	PB	SOLD	100	93 3/8	10:42:07 AM	ME	93 1/8	93 1/4	3534215	AE		1/8	- 1/8										
MO	12-Aug	AGE	BUY	200	93 1/8	93 1/4	12-Aug	10:42:09 AM	PB	SOLD	200	93 1/4	10:43:24 AM	ME	93	93	3534298	AE	SLD	1/8	- 1/4										
MO	12-Aug	JCW	BUY	600	93 1/8	93 1/4	12-Aug	10:42:18 AM	PB	SOLD	600	93 1/4	10:43:24 AM	ME	93	93	3534318	AE	SLD	1/8	- 1/4										
MO	12-Aug	JCW	SL	151	93	93 1/4	12-Aug	10:45:31 AM	PB	BOT	151	93	10:45:31 AM	MI	93 1/8	93 1/4	3534569			1/4	- 1/8										
MO	12-Aug	JCW	BUY	100	93 1/8	93 1/4	12-Aug	10:45:59 AM	PB	SOLD	100	93 1/4	10:46:36 AM	ME	93	93 1/8	3534603	AE	SLD	1/8	- 1/8										

MADOFF_EXHIBITS-06019

ATTACHMENT C
TRADES EXECUTED INFERIOR TO () AT ORDER EXECUTION

BERNARD L. MADOFF INVESTMENT SECURITIES																				OCIE CALCULATIONS		
STK	1996 TRD DATE	ORDER ENTRY INFORMATION								EXECUTION INFORMATION								TAG INFO.			ORDER ENTRY NBBO SPREAD	AMT AWAY FROM EXEC NBBO
		CUST	BUY / SELL	QTY	1996 ORDER ENTRY NBBO		1996 ORDER ENTRY DATE	ORDER ENTRY TIME	ORD CODE	MADF BUY / SOLD	EXEC QTY	EXEC PRICE	EXEC TIME	EXEC CODE	EXECUTION NBBO		TAG NO.	TAG CODE	SLD			
					BID	ASK									BID	ASK						
MO	12-Aug	SCO	BUY	100	93	93 1/8	12-Aug	10:51:07 AM	PB	SOLD	100	93 1/8	10:52:27 AM	ME	92 3/4	92 7/8	3534972	AE	SLD	1/8	- 1/4	
MO	12-Aug	DOS	BUY	200	92 7/8	93	12-Aug	10:51:46 AM	PB	SOLD	200	93	10:53:53 AM	ME	92 5/8	92 7/8	3535031	AE	SLD	1/8	- 1/8	
MO	12-Aug	JCW	BUY	500	93 1/8	93 1/4	12-Aug	11:40:48 AM	PB	SOLD	500	93 1/4	11:43:04 AM	ME	93	93	3538244	AE	SLD	1/8	- 1/4	
MO	12-Aug	PEC	BUY		93 3/8	93 5/8	12-Aug	12:00:57 PM		SOLD	200	93 5/8	12:00:57 PM		93 3/8	93 1/2	3539451	RF		1/4	- 1/8	
MO	13-Aug	TUC	BUY		91 5/8	92	13-Aug	12:24:40 PM		SOLD	200	94	9:33:00 AM		91 5/8	91 3/4	3567412	BAS	SLD	3/8	-2 1/4	
MO	13-Aug	TUC	BUY		91 1/2	91 3/4	13-Aug	12:46:36 PM		SOLD	700	94	9:33:00 AM		91 1/2	91 5/8	3568475	BAS	SLD	1/4	-2 3/8	
MO	13-Aug	TUC	BUY		91 5/8	91 7/8	13-Aug	12:53:22 PM		SOLD	200	94	9:33:00 AM		91 5/8	91 7/8	3568749	BAS	SLD	1/4	-2 1/8	
MO	13-Aug	AGE	BUY	100	93 3/8	93 1/2	13-Aug	10:07:35 AM	PB	SOLD	100	93 3/8	10:14:17 AM	ME	93	93 1/8	3557879	AE		1/8	- 1/4	
MO	13-Aug	AGE	BUY	102	91 3/4	91 7/8	13-Aug	12:12:42 PM	PB	SOLD	102	91 7/8	12:15:27 PM	ME	91 5/8	91 3/4	3566773	AE		1/8	- 1/8	
MO	13-Aug	AGE	BUY	200	91 3/8	91 1/2	13-Aug	1:05:59 PM	PB	SOLD	200	91 1/2	1:06:31 PM	ME	91 1/4	91 3/8	3569348	AE	SLD	1/8	- 1/8	
MO	3-Sep	TRIM	BUY		88 5/8	89	3-Sep	10:59:54 AM		SOLD	500	89	10:59:54 AM		88 3/4	88 7/8	3933060	KLP		3/8	- 1/8	
RBD	5-Sep	JCW	BUY	820	22 5/8	22 3/4	5-Sep	1:19:15 PM	PB	SOLD	820	22 3/4	1:20:27 PM	ME	22 1/2	22 5/8	3991758	AE	SLD	1/8	- 1/8	
ZE	22-Aug	PBS	BUY	1,500	15	15 1/4	22-Aug	9:43:40 AM	PB	SOLD	1,500	15	9:44:11 AM	ME	14 1/2	14 7/8	3740291	AE		1/4	- 1/8	
ZE	22-Aug	PBS	BUY	200	14 1/2	14 3/4	22-Aug	9:46:06 AM	PB	SOLD	200	14 3/4	9:47:42 AM	ME	14 3/8	14 1/2	3740488	AE		1/4	- 1/4	
ZE	22-Aug	STN	SL	500	15 1/4	15 3/4	22-Aug	9:56:35 AM	PB	BOT	500	15 3/8	9:59:00 AM	ME	15 7/8	16	3741387	AE	SLD	1/2	- 1/2	
ZE	22-Aug	PJ	SL	400	15 3/4	16	22-Aug	9:59:39 AM	PB	BOT	400	15 3/4	9:59:41 AM	MI	15 7/8	16	3741700			1/4	- 1/8	
ZE	22-Aug	PJ	BUY	1,000	16 1/4	16 1/2	22-Aug	10:06:56 AM	PB	SOLD	1,000	16 3/8	10:12:55 AM	ME	15 7/8	16	3742337	AE	SLD	1/4	- 3/8	
ZE	22-Aug	RB	BUY	2,000	16	16 1/4	22-Aug	10:10:56 AM	PB	SOLD	2,000	16 1/8	10:13:39 AM	ME	15 7/8	16	3742660	AE	SLD	1/4	- 1/8	
ZE	23-Aug	COMP	BUY		15 5/8	16 1/8	23-Aug	9:37:24 AM		SOLD	500	16 1/2	9:37:24 AM		16	16 1/8	3768541	AV		1/2	- 3/8	
ZE	23-Aug	JCW	SL	1,000	15	15 1/4	23-Aug	10:15:40 AM	PB	BOT	1,000	15	10:17:40 AM	ME	15 1/8	15 1/4	3771750	AE	SLD	1/4	- 1/8	
ZE	23-Aug	STN	SL	200	15	15 1/8	23-Aug	10:16:09 AM	PB	BOT	200	15	10:17:42 AM	ME	15 1/8	15 1/4	3771781	AE	SLD	1/8	- 1/8	

2. LIMIT ORDERS

MADOFF_EXHIBITS-06020

ATTACHMENT C
TRADES EXECUTED INFERIOR TO NBBO AT ORDER EXECUTION

BERNARD L. MADOFF INVESTMENT SECURITIES																				OCIE CALCULATIONS		
STK	1996 TRD DATE	ORDER ENTRY INFORMATION								EXECUTION INFORMATION								TAG INFO.			ORDER ENTRY NBBO SPREAD	AMT AWAY FROM EXEC NBBO
		CUST	BUY / SELL	QTY	1996 ORDER ENTRY NBBO		1996 ORDER ENTRY DATE	ORDER ENTRY TIME	ORD CODE	MADF BUY / SOLD	EXEC QTY	EXEC PRICE	EXEC TIME	EXEC CODE	EXECUTION NBBO		TAG NO.	TAG CODE	SLD			
					BID	ASK									BID	ASK						
HWP	16-Aug	JCW	SL	800	42 1/8	42 3/8	16-Aug	9:47:38 AM	PB	BOT	800	42 1/4	9:51:19 AM	ME	42 3/8	42 5/8	3637031	AE	SLD	1/4	- 1/8	
ITT	10-Sep	JCW	BUY	300	48 1/4	48 3/4	10-Sep	10:01:24 AM	PB	SOLD	300	48 1/2	10:04:17 AM	ME	47 7/8	48 1/4	4077257	AE	SLD	1/2	- 1/4	
ITT	11-Sep	NFS	BUY	60	47 5/8	47 7/8	11-Sep	12:34:04 PM	PB	SOLD	60	47 7/8	12:35:12 PM	ME	47 5/8	47 3/4	4117325	AE		1/4	- 1/8	
MO	12-Aug	RPS	BUY	200	93 1/2	93 5/8	12-Aug	9:41:41 AM	PB	SOLD	200	92 7/8	9:52:17 AM	ME	93 1/4	92 1/2	3529640	AE	SLD	1/8	- 3/8	
MO	12-Aug	PBS	BUY	100	92 5/8	92 3/4	12-Aug	9:48:46 AM	PB	SOLD	100	93	9:53:03 AM	ME	92 3/8	92 1/2	3530220	AE	SLD	1/8	- 1/2	
MO	12-Aug	WER	BUY	100	92 5/8	92 3/4	12-Aug	9:48:55 AM	PB	SOLD	100	93	9:53:03 AM	ME	92 3/8	92 1/2	3530229	AE	SLD	1/8	- 1/2	
MO	12-Aug	PBS	BUY	100	93 3/8	93 1/2	12-Aug	10:02:11 AM	PB	SOLD	100	93 1/4	10:05:10 AM	ME	93 1/8	93 1/8	3531250	AE	SLD	1/8	- 1/8	
MO	12-Aug	AGE	BUY	200	93	93 1/8	12-Aug	10:50:59 AM	PB	SOLD	200	93	10:52:12 AM	ME	92 3/4	92 7/8	3534961	AE	SLD	1/8	- 1/8	
MO	12-Aug	CS	BUY	300	93	93 1/8	12-Aug	10:51:08 AM	PB	SOLD	300	93	10:52:27 AM	ME	92 3/4	92 7/8	3534974	AE	SLD	1/8	- 1/8	
MO	12-Aug	JCW	BUY	200	93 1/4	93 3/8	12-Aug	12:57:36 PM	PB	SOLD	200	93 1/4	1:02:09 PM	ME	93	93 1/8	3542241	AE		1/8	- 1/8	
MO	13-Aug	AAS	BUY	5,000	94 1/4	94 3/8	13-Aug	9:35:49 AM	PB	SOLD	5,000	94 3/8	9:38:32 AM	ME	94 1/8	94 1/8	3555636	AE	SLD	1/8	- 1/4	
MO	13-Aug	DIC	BUY	100	90	90 1/8	13-Aug	2:53:35 PM	PB	SOLD	100	90 1/8	2:54:39 PM	ME	89 1/2	89 7/8	3575154	AE	SLD	1/8	- 1/4	
MO	13-Aug	CS	BUY	207	90 1/8	90 1/4	13-Aug	3:10:34 PM	PB	SOLD	207	90 1/4	3:14:20 PM	ME	89 3/4	90	3576366	AE	SLD	1/8	- 1/4	
ODP	4-Sep	JOS	SS	2,000	19 7/8	20	4-Sep	2:02:36 PM	PB	BOT	2,000	19 31/32	2:08:19 PM	ME	20	20 1/8	3967575	AE	SLD	1/8	- 1/32	
ZE	22-Aug	PJ	BUY	3,500	15 1/2	15 7/8	22-Aug	10:17:33 AM	PB	SOLD	3,500	15 3/4	10:19:22 AM	ME	15 1/2	15 5/8	3743207	AE		3/8	- 1/8	
ZE	22-Aug	FLT	BUY	4,000	15 3/4	15 7/8	22-Aug	10:17:42 AM	PB	SOLD	4,000	15 3/4	10:19:22 AM	ME	15 1/2	15 5/8	3743221	AE		1/8	- 1/8	

TRADES EXECUTED AWAY FROM THE NBBO:
 MARKET ORDERS: 110 (2.08%) OF 5,286
 LIMIT ORDERS: 29 (0.97%) OF 3,004
 TOTAL TRADES: 139 (1.68%) OF 8,290

MADOFF_EXHIBITS-06021

**ATTACHMENT D
FIRM TRADE REPORTING
TO THE NASD**

CHART 1

FIRM	COMPLIANCE WITH SLD MARKING REQUIREMENT				
	TOTAL TRADES REPORTED	LATE REPORTS MARKED SLD		LATE REPORTS NOT MARKED SLD	
		TRADES	PCT	TRADES	PCT
Examination Material					
MADOFF	9,419				
Examination Material		23	0.24%	84	0.89%
TOTAL					

CHART 2

FIRM	IMPROPER USE OF THE SLD MODIFIER				
	TRADES TIMELY REPORTED	TIMELY REPORTS NOT MARKED SLD		TIMELY REPORTS MARKED SLD	
		TRADES	PCT	TRADES	PCT
Examination Material					
MADOFF	9,312				
Examination Material		9,075	97.45%	237	2.55%