UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

SECURITIES INVESTOR PROTECTION CORPORATION, Plaintiff-Applicant, v. BERNARD L. MADOFF INVESTMENT SECURITIES LLC, Defendant.	Adv. Pro. No. 08-01789 (SMB) SIPA LIQUIDATION (Substantively Consolidated)
In re: BERNARD L. MADOFF Debtor,	
IRVING H. PICARD, Trustee for the Liquidation of Bernard L. Madoff Investment Securities LLC, Plaintiff, v. J. EZRA MERKIN, GABRIEL CAPITAL, L.P., ARIEL FUND LTD., ASCOT PARTNERS, L.P., GABRIEL CAPITAL CORPORATION, Defendants.	Adv. Pro. No. 09-1182 (SMB)

DECLARATION OF
DR. STEVE POMERANTZ

I, Steve Pomerantz, hereby declare, under penalty of perjury:

1. I am president of Steve Pomerantz LLC, an economic and financial consulting firm located in New York, NY, where I provide economic and investment management consulting, economic damage assessment and litigation support.

2. I was retained in this matter by Irving H. Picard, Trustee ("Trustee") for the substantively consolidated liquidation of Bernard L. Madoff Investment Securities LLC ("BLMIS") under the Securities Investor Protection Act ("SIPA"), 15 U.S.C. §§ 78aaa *et seq.*, and the estate of Bernard L. Madoff ("Madoff") and by Baker & Hostetler, LLP ("Baker"), counsel for the Trustee.[1] Attached as **Exhibit 1** is a true and correct copy of my Initial Expert Report and certain appendices dated March 20, 2015, and submitted to Defendants on or about March 20, 2015 (and a corrected version submitted on April 13, 2015) (the "Expert Report").[2] Attached as Exhibit 9(a) to the Declaration of Neil A. Steiner in Support of Defendants' Motions for Summary Judgment, dated October 7, 2015, is a true and correct copy of my Rebuttal Expert Report and appendices dated May 15, 2015 (the "Rebuttal Report"). I hereby incorporate by reference the contents of the Expert Report, Rebuttal Report, and all appendices attached thereto as my sworn testimony as if fully set forth herein. All capitalized terms not defined herein shall have the meaning assigned to them in the Expert Report and Rebuttal Report.

3. The opinions rendered in the Expert Report and the bases thereof are detailed in various sections of the Expert Report, including, but not limited to, Section V, Section VI and Appendix II which identify (a) the methodology I employed and/or supervised in connection with the analyses performed, and (b) the sources of information and data that form the basis of my findings, conclusions, and opinions.

4. I received a Ph.D. in Mathematics from the University of California at Berkeley and a B.A. in Mathematics from Queens College of the City University of New York. My experience in the investment management industry spans nearly 30 years. During my career, I have held positions in research and management for fixed income, equities, derivatives, and alternative investments at major firms including Morgan Stanley, Citibank, and Weiss Peck & Greer LLC. I have also consulted for alternative investment

[1] I retained Duff & Phelps, LLC, a valuation and corporate finance advisory firm ("D&P") to assist me in the preparation of this report. Employees of D&P worked under my direction and supervision in the preparation of work supporting my opinions contained herein.

[2] Included as part of Exhibit 1 to this declaration are Appendices I – XII to the Expert Report. Appendices XIII – XVI are voluminous electronic files and are therefore available upon request.

management firms including New York Life Investment Management. A true and correct description of my background and qualifications is set forth in the Expert Report at ¶¶7-19 and Appendix I. Attached as **Exhibit 2** is a current and accurate copy of my curriculum vitae and a list of court and deposition appearances.

5. I reviewed the Joint Statement of Material Facts Pursuant to Local Bankruptcy Rule 7056-1 in Support of Defendants' Motions for Summary Judgment ("JSOMF"), the Defendants J. Ezra Merkin and Gabriel Capital Corporation's Memorandum of Law in Support of their Motion for Summary Judgment, the Memorandum of Law in Support of the Motion for Summary Judgment of Defendants Ascot Partners, L.P., and Ascot Fund Ltd., and the Declaration of Neil A. Steiner in Support of Defendants' Motions for Summary Judgment, filed October 8, 2015. I submit this declaration in support of the Trustee's Memorandum of Law in Opposition to Defendants' Motions for Summary Judgment.

6. In the investment management industry, a comprehensive template or framework for conducting due diligence centers around the Five Ps – consisting of Process, Portfolio, People, Performance, and Price. The Five Ps framework is an organization of the due diligence tools typically used to evaluate an investment in accordance with the customs and practices of the investment management industry. The specific tools used to evaluate a particular investment depend on the amount of information available to the Fund Manager, as well as the results of due diligence. (Pomerantz Dep. 189:12-191:21; Expert Report at ¶¶49-76). For example, if due diligence reveals a red flag that is an indicia of fraud or creates an opportunity for fraud, it is industry custom and practice for the Fund Manager to perform additional due diligence to determine whether that red flag leads to yet another red flag. However, not every due diligence tool is required (or possible) with every due diligence analysis. For example, it may not be possible or necessary to use certain tools in the framework if there is not sufficient information available or if returns are consistent with expected returns for the strategy. (Expert Report at ¶¶49-76).

7. In 2005, I performed due diligence on a client's investment in a BLMIS feeder fund. Using the information available to me at that time, I applied the Five Ps framework to that investment. My analysis showed that the returns for that feeder fund were not consistent with the strategy as stated by BLMIS. I then presented my findings to the client—that Madoff was likely engaged in front running or some other fraud—and that my client should divest from the feeder fund.

8. Reverse engineering, part of the Portfolio analysis, is a due diligence tool that can be used under appropriate circumstances. (*See, e.g.*, Expert Report ¶23, ¶83). For example, when performing due diligence on the Madoff SSC strategy in 2005, I observed that the stated monthly returns were entirely inconsistent with this strategy. Through reverse engineering, I attempted to replicate the strategy so that I could evaluate the risks and returns of the investment. In doing so it became apparent to me that the reported returns were not consistent with the Madoff SSC strategy. Specifically, the reported BLMIS-based returns were less volatile than they should have been based on the elements of the Madoff SSC strategy. As a result, I became convinced that Madoff was not performing any version of the SSC strategy and was likely engaged in front-running or some other fraud. I ultimately recommended that my client divest. (Expert Report at ¶28).

9. The due diligence that I performed on an index fund on behalf of IFIC[3] is not a relevant comparison to Merkin's purported due diligence on BLMIS. An index fund's strategy is to match the returns of an index. A basic tenet of due diligence is to confirm whether an investment performs as it should. Unlike BLMIS, where the returns did not match the stated strategy, the performance of the index fund I analyzed was consistent with the performance of the index it was supposed to match. The Russell 3000 index fund performed as expected, and therefore I did not need to look at trade confirmations for it or verify that the fund owned all 3,000 holdings in the index. (Pomerantz Dep. 61:5-23).

10. Similarly, Goldman Sachs acting as its own broker-dealer with respect to an index fund is not comparable to BLMIS acting as its own broker-dealer. Unlike BLMIS, Goldman Sachs is a large multi-national entity with multiple divisions, each with separate responsibilities and leadership. Specifically, the broker-dealer and the asset management businesses are two distinct entities at Goldman Sachs led by different people. Alternatively, Madoff served as his own broker-dealer, custodian and administrator. (Pomerantz Dep. 59:24-60:10; Expert Report at ¶¶46-48, 169).

11. In conducting ongoing due diligence on behalf of IFIC, I based my activities on my consistent findings that the funds were performing consistent with the stated strategy, a crucial component of due diligence. (Pomerantz Dep. 61:22-23). As such, I did not rely solely on Goldman Sachs' reputation and my meetings with staff, but used those as tools to continue to monitor the investment according to industry customs and practices. My meetings with Goldman Sachs included several people, many of whom were PhD's,

[3] ¶194 of the JSOMF confuses my work performed on behalf of Verizon with that performed on behalf of IFIC. The index fund at Goldman Sachs discussed in ¶194 related to my due diligence on behalf of IFIC.

including Goldman Sachs partner Fischer Black, co-author of the Black-Scholes equation, Goldman Sachs partner Bob Litterman, co-author of the Black-Litterman model, and Emanuel Derman, professor at Columbia, PhD in physics, and co-author of the Black-Derman-Toy model.

12. Prior to September 2006, the back of trade confirmations for the Merkin BLMIS Accounts stated that the trade price "includes a commission equivalent of $.04 per share."[4] (*See, e.g.*, BS00013594 at 595). Therefore, conducting any analysis based on share prices prior to September 2006 would require removing this commission from the reported price.

13. As such, in order to conduct my analyses, I adjusted reported prices prior to September 2006 by $0.04 to account for the commission purportedly included in the prices reported by BLMIS. Failure to remove the $0.04 commission from the reported trade price is commensurate with assuming that BLMIS did not charge any fees for the purported investment advisor services. That is, if the reported trade prices were not adjusted for commissions, it would imply that Madoff did not make any money from the Merkin BLMIS Accounts, which is inconsistent with Merkin's testimony. (*In re Madoff Charities Investigation*, Merkin Dep. 42:14-24, January 30, 2009).

14. Furthermore, even if the pre-September 2006 reported prices are not adjusted for the commissions included in the price, the out-of-range and VWAP analyses still result in red flags. As stated below, the difference is negligible whether accounting for commissions or not. Specifically, even when not adjusting the prices for commissions:

    - There are 462 transactions across the Merkin BLMIS Accounts with reported equity prices outside of the daily price range on the day the trade was made.
    - The total dollar amount purportedly gained through out-of-range equity transactions is still over $8.8 million (compared to $10.3 million when accounting for commissions).
    - 78.3% of the purported buy transactions were executed below VWAP for the Merkin BLMIS Accounts from January 1996 to November 2008 (as compared to 81.3% when accounting for commissions), and 70.4% of purported sell transactions were executed above VWAP (as compared to 74.9% when accounting for commissions).

[4] Beginning in September 2006, when BLMIS registered as an RIA, commissions were reflected on customer statements and trade confirms, rather than in the reported share price.

- On average, BLMIS purportedly bought shares $0.38 per share below VWAP and purportedly sold shares $0.29 per share above VWAP (as compared to buying shares $0.39 below VWAP and selling shares $0.30 above VWAP when accounting for commissions).
- There were no errors or manipulation of the trade data. As discussed here and in my report, I adjusted for the $0.04 commission based on the representation on the BLMIS trade confirmations and Mr. Merkin's testimony.

15. Most of the investment opportunities I have performed due diligence on do not provide trade confirmations to investors. However, in the situations where trade confirmations are available to me as part of my due diligence process, the relevant information is inputted from the trade confirmations into spreadsheets or other computer programs in order for me to perform my analysis. (Pomerantz Dep. 100:9-18).

16. It has also been my experience that the availability of trade level data varies based on the type of investment. In those situations where trade level data is available – as was the case for the Merkin BLMIS Accounts – I have compared transaction prices to VWAP as part of my due diligence process. (Pomerantz Dep. 101:12-16). I have never had a need to look at stock transaction prices compared to daily highs and lows where trade level data is available because, in each of these situations, the results of my VWAP analysis, as well as other due diligence I performed, showed that the investments performed consistently with how the strategies were expected to perform. However, had the results of due diligence raised red flags, including that the returns were inconsistent with how the strategies were expected to perform, as was the case with the Merkin BLMIS Accounts, then I would have conducted additional due diligence, which may have included a comparison of transaction prices to daily highs and lows.

17. Performance data for Princeton/Newport was not publicly available. Ridgeline[5] was not included in my Hedge Fund Peer Group because returns were only available from August 1994 through September 2000 (i.e., less than 10 years). Even over this shortened time period, the Merkin BLMIS Accounts still outperformed Ridgeline across all of the metrics that I analyzed.

[5] The JSOMF refers to "Princeton/Newport" and "Ridgewood." There was a fund in the BarclayHedge database named Ridgewood Asset Management, Inc., but there were no returns available. I instead considered Ridgeline, a fund managed by Edward Thorp, who managed Princeton/Newport. Thorp Dep. 158:18-159:10.

18. As part of my Performance analysis, in my peer analysis of Elite Investment Advisors, I included Renaissance, Soros and Millennium.[6] The Merkin BLMIS Accounts outperformed these funds across all metrics. (Expert Report ¶¶282-291). I considered including Elliott Associates and SAC Capital in my analysis, but ultimately did not include them because performance data was not publicly available. (Expert Report ¶282). Baupost and Princeton/Newport were also not included because performance data was not publicly available. SMN Diversified Futures Fund, Eclectica Fund and Episode Inc. were not included in my Hedge Fund Peer Group because they did not implement comparable strategies to the Madoff SSC strategy. (*See* Expert Report ¶¶248-250). Even if these funds were included, their Sharpe Ratios were still lower than the Sharpe Ratio for the Merkin BLMIS Accounts, and the Merkin BLMIS Accounts outperformed the funds across all of the metrics that I analyzed. As discussed above, Ridgeline was not included in my analysis because returns were only available from August 1994 through September 2000, though even over this shortened time period, the Merkin BLMIS Accounts still outperformed Ridgeline across all of the metrics that I analyzed.

19. The peer analysis presented in the Expert Report includes six metrics: (i) Sharpe Ratio; (ii) Sortino Ratio; (iii) number or percent of positive months; (iv) number or percent of negative months; (v) maximum drawdown; and (vi) number of months in drawdown. BLMIS outperformed its peers to a degree of statistical improbability, if not impossibility, across all six performance metrics, all peer groups, and for all time periods considered. BLMIS's outperformance of all peers over the observed time periods was a red flag that should have prompted additional quantitative due diligence. While a higher Sharpe Ratio, for example, is preferable, it is a statistical improbability that any fund manager could maintain such a high Sharpe Ratio over the period maintained by BLMIS.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America, to the best of my knowledge that the foregoing is true and correct.

Executed on this 24th day of November, 2015 in New York, New York.

_____

By: Dr. Steve Pomerantz

[6] Monthly returns for the Renaissance Medallion Fund were not publicly available. I instead used returns for Renaissance Institutional Equities Fund, LLC – Series BB as representative of returns for Jim Simons in my peer analysis of Elite Investment Advisors.

EXHIBIT 1

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In re: BERNARD L. MADOFF INVESTMENT SECURITIES LLC, Debtor,	Adv. Pro. No. 08-01789 (SMB) SIPA LIQUIDATION (Substantively Consolidated)
IRVING H. PICARD, Trustee for the Liquidation of Bernard L. Madoff Investment Securities LLC, Plaintiff, v. J. EZRA MERKIN, GABRIEL CAPITAL, L.P., ARIEL FUND LTD., ASCOT PARTNERS, L.P., GABRIEL CAPITAL CORPORATION, Defendants.	Adv. Pro. No. 09-1182 (SMB)

INITIAL EXPERT REPORT OF
DR. STEVE POMERANTZ

TABLE OF CONTENTS

I. Assignment Scope and Methodology 1

A. Information Sources 2

B. Conduct of Information Review and Analysis 2

II. Qualifications 3

A. Quantitative and Qualitative Due Diligence Experience in the Investment Management Industry 7

B. Review of Investment Vehicles Invested With BLMIS 8

III. Summary of Expert Opinions 11

1. Opinion No. 1: In the Investment Management Industry, There Are Due Diligence Customs and Practices That Are Typically Performed 11

2. Opinion No. 2: Due Diligence Consistent with Industry Customs and Practices Would Have Revealed Numerous Red Flags Relating to the Merkin BLMIS Accounts 12

IV. Madoff and Merkin Operated Within the Investment Management Industry 13

A. Overview 13

B. Merkin's Role in the Investment Management Industry 14

C. Madoff's Role in the Investment Management Industry 16

V. OPINION NO. 1 17

IN THE INVESTMENT MANAGEMENT INDUSTRY, THERE ARE DUE DILIGENCE CUSTOMS AND PRACTICES THAT ARE TYPICALLY PERFORMED 17

A. Due Diligence 17

1. Initial Due Diligence 22

2. Ongoing/Monitoring Due Diligence 23

3. The Results of Due Diligence 25

B. The Five Ps Framework 26

1. Process 27

2. Portfolio 29

3. People 31

4. Performance 33

5. Price 35

C. Conclusion 36

VI. OPINION NO. 2 36

DUE DILIGENCE CONSISTENT WITH INDUSTRY CUSTOMS AND PRACTICES WOULD HAVE REVEALED NUMEROUS RED FLAGS RELATING TO THE MERKIN BLMIS ACCOUNTS 36

A. Process 37

1. Overview of BLMIS's Purported Investment Strategy: Split-Strike Conversion 38
2. Purported Implementation of the Madoff SSC Strategy 45
3. Lack of Scalability 61
4. Style Drift 65
5. Service Providers 68
6. Investor Communications 71

B. Portfolio 82

1. Alpha Analysis: Basket Return Relative to Benchmark 83
2. Reverse Engineering: Lack of Volatility Is Inconsistent with the Madoff SSC Strategy 88
3. Daily, Monthly and Annual Volatility are Unrelated 90

C. People 92

1. Excessive Concentration of Duties 92
2. Lack of Credentials 93
3. Lack of Disclosures/Transparency 94

D. Performance 96

1. Peer Analysis: Comparison to Peers and Benchmarks 97
2. Performance in Times of Market Stress 124
3. Correlation Analysis 130
4. Performance Attribution 133
5. Scenario Analysis: Greater than the Maximum 142

E. Price 145

1. BLMIS's Operational and Fee Structures Were Atypical 145
2. Commissions vs. Fees under 1-and-20 Fee Structure 148

F. Due Diligence Triggers 150

1. Issues Raised by Colleagues and Investors 151
2. Negative Press Coverage 156
3. Operational Failures at Other Funds 161

G. Conclusion 166

VII. Conclusion 167

LIST OF FIGURES

Figure #	Figure Title
Figure 1	SSC Example Using Disney Stock
Figure 2	SSC Example Using Basket of Stocks
Figure 3	Merkin BLMIS Accounts Call Option Volume Relative to Corresponding Market Volume 1990-2008
Figure 4	Merkin BLMIS Accounts Put Option Volume Relative to Corresponding Market Volume 1990-2008
Figure 5	Sensitivity Analysis of Out of Range Trades for U.S. Treasury Bills 2000-2008
Figure 6	Notional Value of Call Options 1991-2008: S&P 100 v. S&P 500
Figure 7	Notional Value of S&P 100 Call Options
Figure 8	Speculative Option Trades in the Merkin BLMIS Accounts
Figure 9	Customer Statement Reflecting
Figure 10	Trade Confirmation Reflecting
Figure 11	Equity Trade Confirmation Without Any Commission Fee
Figure 12	Customer Statement Reflecting Ending Balance of Cash and Securities
Figure 13	Customer Statement Reflecting Beginning Balance of Cash
Figure 14	Scatterdiagram of Monthly Returns
Figure 15	Basket Returns for the Merkin BLMIS Accounts by Basket (1991-2008)
Figure 16	S&P 100 Returns During the Basket Time Periods (1991-2008)
Figure 17	Summary Performance Statistics for Madoff SSC Strategy Modeling (December 1991 – November 2008)
Figure 18	Volatility Ratios for Five-Year Period
Figure 19	Sharpe Ratio for Hedge Fund Peer Group v. Merkin BLMIS Accounts Rolling 10-Year Periods Ending 2000-2008
Figure 20	Sortino Ratio for Hedge Fund Peer Group v. Merkin BLMIS Accounts Rolling 10-Year Periods Ending 2000-2008

Figure 21	Number of Positive and Negative Months for Hedge Fund Peer Group v. Merkin BLMIS Accounts Rolling 10-Year Periods Ending 2000-2008
Figure 22	Drawdown Metrics for Hedge Fund Peer Group v. Merkin BLMIS Accounts Rolling 10-Year Periods Ending 2000-2008
Figure 23	Sharpe Ratio for Mutual Fund Peer Group v. Merkin BLMIS Accounts Rolling 10-Year Periods Ending 2005-2008
Figure 24	Sortino Ratio for Mutual Fund Peer Group v. Merkin BLMIS Accounts Rolling 10-Year Periods Ending 2005-2008
Figure 25	Number of Positive and Negative Months for Mutual Fund Peer Group v. Merkin BLMIS Accounts Rolling 10-Year Periods Ending 2005-2008
Figure 26	Drawdown Metrics for Mutual Fund Peer Group v. Merkin BLMIS Accounts Rolling 10-Year Periods Ending 2005-2008
Figure 27	Sharpe and Sortino Ratios for Gateway v. Merkin BLMIS Accounts (October 1990 – November 2008)
Figure 28	Number of Positive and Negative Months for Gateway v. Merkin BLMIS Accounts (October 1990 – November 2008)
Figure 29	Maximum Drawdown and Percent of Months in Drawdown for Gateway v. Merkin BLMIS Accounts (October 1990 – November 2008)
Figure 30	Sharpe Ratio for Elite Investment Advisors v. Merkin BLMIS Accounts Over Maximum Time Period Available by Advisor
Figure 31	Sortino Ratio for Elite Investment Advisors v. Merkin BLMIS Accounts Over Maximum Time Period Available by Manager
Figure 32	Percentage of Positive and Negative Months for Elite Investment Advisors v. Merkin BLMIS Accounts Over Maximum Time Period Available by
Figure 33	Drawdown Metrics for Elite Investment Advisors v. Merkin BLMIS Accounts

	Over Maximum Time Period Available by Manager
Figure 34	Comparison of BLMIS v. S&P 500
Figure 35	Comparison of Madoff v. S&P 500
Figure 36	Sortino Ratio for Ariel's BLMIS Account v. Ariel's non-Madoff Investments Rolling 5-Year Periods Ending July 2005- August 2008
Figure 37	Merkin BLMIS Account Comparison to S&P 100 and S&P 500 During Times of Market Stress
Figure 38	Cumulative Annual Returns (Indexed at December 31, 1999=$100) Merkin BLMIS Accounts v. S&P 500, S&P 100 and 3-Month Treasury Bill Performance of a Theoretical $100 Investment
Figure 39	Cumulative Monthly Returns (Indexed at December 31, 1999 = $100) Merkin BLMIS Accounts v. Gateway Based on a Theoretical $100 Investment
Figure 40	Comparison of the Merkin BLMIS Accounts v. S&P 100 – Monthly Returns
Figure 41	Comparison of Merkin BLMIS Accounts v. S&P 100 – Basket Returns
Figure 42	Performance Attribution of Excess Returns 2000-2008 Contribution of Major Categories to Merkin BLMIS Account Profit
Figure 43	Merkin BLMIS Accounts Percentage of Shares Bought Below or Sold Above VWAP
Figure 44	Exxon Mobil Corporation (XOM) Share Price and Volume on October 7, 2003 Market vs. Merkin BLMIS Accounts
Figure 45	AIG Share Price and Volume on August 12, 2003 Market vs. Merkin BLMIS Accounts
Figure 46	Hypothetical Minimum, Hypothetical Maximum and Ascot's Reported Returns
Figure 47	Commissions vs. Fees under 1-and-20 Fee Structure

LIST OF APPENDICES AND SCHEDULES

Appendix I Curriculum Vitae
Appendix II Documents Considered
Schedule A
Appendix III Merkin AUM Invested with BLMIS
Appendix IV Option Volume Schedules
Schedule 1 Call Option Positions Exceeded the CBOE Market Open Interest
Schedule 2 Put Option Positions Exceeded the CBOE Market Open Interest
Appendix V Out-of-Range, Market Exposure and Dividend Schedules
Schedule 3 Out-of-Range Equity Trades by Year
Schedule 4 Out-of-Range Option Trades by Year
Schedule 5 Out-of-Range Treasury Trades by Year
Schedule 6 Equity Sells Without Hedge Adjustment
Schedule 7 Atypical Frequency of Dividends
Appendix VI Alpha Analysis Schedules
Schedule 8 Regression Analysis of Equity Trades Within Baskets
Schedule 9 Regression Analysis of Option Trades Within Baskets
Schedule 10 Regression Analysis of Madoff SSC Strategy Using Baskets
Schedule 11 Regression Diagnostics
Schedule 12 Regression Diagnostics
Appendix VII Hedge Fund Peer Group Schedules
Schedule 13 10-Year Sharpe Ratio (Jan 1991 – Dec 2000)
Schedule 14 10-Year Sharpe Ratio (Jan 1999 – Nov 2008)
Schedule 15 10-Year Sortino Ratio (Jan 1991 – Dec 2000)
Schedule 16 10-Year Sortino Ratio (Jan 1999 – Nov 2008)
Schedule 17 Number of Months with Positive Returns (Rolling 10-Year Periods)
Schedule 18 Number of Months with Positive Returns (Jan 1991 – Dec 2000)
Schedule 19 Number of Months with Positive Returns (Jan 1999 – Nov 2008)
Schedule 20 Number of Months with Negative Returns (Rolling 10-Year Periods)
Schedule 21 Number of Months with Negative Returns (Jan 1991 – Dec 2000)
Schedule 22 Number of Months with Negative Returns (Jan 1999 – Nov 2008)
Schedule 23 Maximum Drawdown (Rolling 10-Year Periods)
Schedule 24 Maximum Drawdown (Jan 1991 – Dec 2000)
Schedule 25 Maximum Drawdown (Jan 1999 – Nov 2008)
Schedule 26 Percent of Months in Drawdown (Rolling 10-Year Periods)

Schedule 27 Percent of Months in Drawdown (Jan 1991 – Dec 2000)
Schedule 28 Percent of Months in Drawdown (Jan 1999 – Nov 2008)
Appendix VIII Mutual Fund Peer Group Schedules
Schedule 29 10-Year Sharpe Ratio (Jan 1996 – Dec 2005)
Schedule 30 10-Year Sharpe Ratio (Jan 1999 – Nov 2008)
Schedule 31 10-Year Sortino Ratio (Jan 1996 – Dec 2005)
Schedule 32 10-Year Sortino Ratio (Jan 1999 – Nov 2008)
Schedule 33 Number of Months with Positive Returns (Rolling 10-Year Periods)
Schedule 34 Number of Months with Positive Returns (Jan 1996 – Dec 2005)
Schedule 35 Number of Months with Positive Returns (Jan 1999 – Nov 2008)
Schedule 36 Number of Months with Negative Returns (Rolling 10-Year Periods)
Schedule 37 Number of Months with Negative Returns (Jan 1996 – Dec 2005)
Schedule 38 Number of Months with Negative Returns (Jan 1999 – Nov 2008)
Schedule 39 Maximum Drawdown (Rolling 10-Year Periods)
Schedule 40 Maximum Drawdown (Jan 1996 – Dec 2005)
Schedule 41 Maximum Drawdown (Jan 1999 – Nov 2008)
Schedule 42 Percent of Months in Drawdown (Rolling 10-Year Periods)
Schedule 43 Percent of Months in Drawdown (Jan 1996 – Dec 2005)
Schedule 44 Percent of Months in Drawdown (Jan 1999 – Nov 2008)
Schedule 45 Gateway Comparison of Indexed Returns
Appendix IX Elite Investment Advisors Peer Group Schedules
Schedule 46 Elite Investment Advisors Percentage of Positive Months
Schedule 47 Elite Investment Advisors Percentage of Negative Months
Schedule 48 Elite Investment Advisors Maximum Drawdown
Schedule 49 Elite Investment Advisors Months in Drawdown
Appendix X Index and Benchmark Schedules
Schedule 50 Merkin BLMIS Accounts Annual Returns versus Treasury Bill
Schedule 51 Correlation with Treasury Bill
Schedule 52 Market Indices Sharpe Ratios
Schedule 53 Market Indices Sortino Ratios
Schedule 54 Market Indices Number of Months with Positive Returns
Schedule 55 Market Indices Number of Months with Negative Returns
Schedule 56 Market Indices Maximum Drawdown
Schedule 57 Market Indices Percent of Months in Drawdown

Appendix XI Ariel Non-Madoff Returns Comparison
Schedule 58 Ariel Non-Madoff Investments Sharpe Ratio
Schedule 59 Ariel Non-Madoff Investments Number of Months with Positive Returns
Schedule 60 Ariel Non-Madoff Investments Number of Months with Negative Returns
Schedule 61 Ariel Non-Madoff Investments Maximum Drawdown
Schedule 62 Ariel Non-Madoff Investments in Drawdown
Appendix XII Performance Attribution Schedules
Schedule 63 Expected vs. Actual Correlation for Merkin BLMIS Accounts
Schedule 64 Positive and Negative Monthly Returns for S&P 100 and Merkin by Year
Schedule 65 Positive and Negative Basket Returns for S&P 100 vs. Merkin by Year
Schedule 66 Performance Attribution Over Time (2000-2008)
Schedule 67 Lack of Correlation with S&P 100
Schedule 68 Returns by Basket for Merkin BLMIS Accounts
Schedule 69 Shares Bought Below VWAP
Schedule 70 Shares Sold Above VWAP
Schedule 71 Poor Market Timing
Schedule 72 Poor Stock Picking
Appendix XII Performance Attribution Schedules
Appendix XIII Merkin BLMIS Accounts – Equity Transactions
Appendix XIV Merkin BLMIS Accounts – Option Transactions
Appendix XV Merkin BLMIS Accounts – Treasury Transactions
Appendix XVI Merkin BLIMS Accounts – Monthly Returns

1. This report is offered pursuant to Federal Rule of Civil Procedure 26(a)(2) and is authored by Dr. Steve Pomerantz, president of Steve Pomerantz LLC (collectively, "Pomerantz"), an economic and financial consulting firm located in New York, NY. Pomerantz was retained in this matter by Irving H. Picard, Trustee ("Trustee") for the substantively consolidated Securities Investor Protection Act ("SIPA") liquidation of Bernard L. Madoff Investment Securities LLC ("BLMIS") and Bernard L. Madoff ("Madoff") and by Baker & Hostetler, LLP ("Baker"), counsel for the Trustee.[1] My curriculum vitae and a list of court and deposition appearances are attached to this report as Appendix I.

I. Assignment Scope and Methodology

2. In this report, I:

   I. Describe the investment management industry and the participants in that industry, including Madoff, J. Ezra Merkin ("Merkin"), and the investment funds managed by Merkin, individually and through his company, Gabriel Capital Corp. ("GCC"), that maintained investment accounts with BLMIS: (i) Gabriel Capital, L.P. ("Gabriel"); (ii) Ariel Fund Limited ("Ariel"); (iii) Ascot Partners, L.P. ("Ascot"); and (iv) Ascot Fund Limited ("Former Ascot Fund") (collectively the "Defendant Funds");[2]

   II. Opine that there are due diligence customs and practices that are typically performed in the investment management industry; and

---

[1] I retained Duff & Phelps, LLC, a valuation and corporate finance advisory firm ("D&P") to assist me in the preparation of this report. Employees of D&P worked under my direction and supervision in the preparation of work supporting my opinions contained herein.

[2] As used in this report, "Merkin" refers to: (i) Merkin individually; (ii) Merkin as General Partner of Gabriel and Ascot; and (iii) Merkin as owner and manager of GCC, the Investment Advisor for Ariel and Former Ascot Fund. While "advisor" and "adviser" are often used interchangeably in the industry, in this report, I use the spelling of "advisor" that is consistent with how Merkin spelled this term in confidential offering memoranda for the Defendant Funds. For example, GCC is identified as the Investment Advisor for Ariel in a confidential offering memorandum. Ariel Fund Limited Confidential Offering Memorandum, March 2006 (BS00024247 at 24248).

III. Opine that due diligence consistent with industry customs and practices would have revealed numerous red flags relating to the Gabriel, Ariel, Ascot, and Former Ascot Fund BLMIS accounts (collectively, the "Merkin BLMIS Accounts").[3]

3. I am compensated for my work at a standard rate of $824 per hour plus out-of-pocket expenses. My compensation is in no way contingent upon my opinions or the testimony I intend to offer in this case.

A. Information Sources

4. My opinions are based upon my education and experience as well as the information obtained through documents produced in this case and publicly-available information. A complete listing of the documents considered in connection with my opinions is included in Appendix II of this report. To the extent that additional information becomes available, I reserve the right to amend or supplement my opinions.

B. Conduct of Information Review and Analysis

5. The work conducted in connection with the assignment was planned, supervised and staffed in accordance with applicable professional standards. The work that was conducted included, but was not limited to:

i. Review and analysis of documents exchanged between the Trustee, the Defendants and third parties related to this proceeding;
ii. Review and analysis of customer statements, trade confirmations and other related BLMIS documentation; [4]

---

[3] Unless otherwise indicated, as used throughout his report, the Merkin BLMIS Accounts refer to the following BLMIS accounts and their composite returns: 1FN005, 1FN004, 1A0042, 1A0058, 1FR070, and 1G0321.

[4] FTI Consulting, Inc. ("FTI"), hired directly by Baker, performed certain work at the direction and supervision of Baker. Such was conducted largely before my retention. To the extent any such data was relied upon or supports analyses or opinions herein, the accuracy of the data was tested to ensure reliability.

iii. Review and analysis of the purported trading activity in the Merkin BLMIS Accounts;
iv. Review of certain deposition transcripts; and
v. Review of publicly-available information including market data and fund databases.

6. The review and analyses I performed were consistent with applicable customs and practices in the investment management industry.

II. Qualifications

7. I am currently the president of Steve Pomerantz LLC, where I provide economic and investment management consulting, economic damage assessment and litigation support.

8. I received a Ph.D. in Mathematics from the University of California at Berkeley and a B.A. in Mathematics from Queens College of the City University of New York. I am currently an Adjunct Professor of mathematics at Queens College. I previously taught courses in statistics, probability, operations research, mathematics and finance at the undergraduate and graduate levels for various institutions.

9. My experience in the investment management industry spans nearly 30 years. During my career, I have held positions in research and management for fixed income, equities, derivatives, and alternative investments at major firms including Morgan Stanley, Citibank, and Weiss Peck & Greer LLC ("WPG"). I have also consulted for alternative investment management firms including New York Life Investment Management.

10. At WPG, I started as the Director of Fixed Income Research with additional portfolio management responsibilities.[5] Subsequently, I became the Director of Quantitative Research with responsibility for quantitative research on all of WPG's products including

[5] Portfolio managers are paid for making investment decisions with money that has been placed under their control. In general, portfolio management refers to the construction of portfolios designed to achieve certain investment objectives. STEPHEN A. ROSS, RANDOLPH W. WESTERFIELD & JEFFREY JAFFE, CORPORATE FINANCE 261 (7th ed. 2005).

traditional, alternative, fixed income, and equity products. As the Director of Quantitative Research, I was the Chair of the Asset Allocation Committee. I also served on the Executive Committee, the Investment Policy Committees of both traditional and alternative products, and on the firm-wide Product Review Committee. My role on the Product Review Committee was to monitor the performance of all products including hedge funds and other investment vehicles offered by WPG.[6] In this role I performed quantitative analyses on these investment vehicles. The quantitative analyses I performed on WPG's products were similar to the quantitative analyses I performed in connection with the opinions in this report.

11. In addition to my role monitoring WPG's investment products, I also supported the firm's clients by assisting them in identifying investment vehicles that would meet their investment goals, and portfolio management. The firm's clients that I supported included institutional investors, hedge funds, funds of funds, defined benefit plans, and defined contribution plans and trusts.[7]

12. As part of my portfolio management responsibilities at WPG, I was subjected to due diligence by investors (or their consultants[8]) who were considering placing money with

---

[6] The term hedge fund is generally used for "an entity that holds a pool of securities and . . . other assets," and "in addition to trading equities . . . may trade fixed income securities, convertible securities, currencies, exchange-traded futures, over-the-counter derivatives, futures contracts, commodity options and/or other non-securities investments." SEC, STAFF REPORT, IMPLICATIONS OF THE GROWTH OF HEDGE FUNDS, 3-4 (2003), *available at* http://www.sec.gov/news/studies/hedgefunds0903.pdf.

[7] A fund of funds is an investment vehicle that channels its investors' money into other funds (e.g., other hedge funds, mutual funds, private equity funds or venture capital funds). JOHN DOWNES & JORDAN ELLIOT GOODMAN, BARRON'S FINANCE & INVESTMENT HANDBOOK 51 (5th ed. 1998); *see also* Andrew Ang, Matthew Rhodes-Kropf & Rui Zhao, *Do Funds-of-Funds Deserve Their Fees-on-Fees?* 1 (Nov. 20, 2005) (AFA Chicago Meetings Paper), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=687274.

[8] There are dozens of firms that specialize in due diligence. Aksia LLC and Albourne Partners are two such firms who were consulted by investors and determined prior to December 11, 2008, that BLMIS was too good to be true. David Glovin, Karen Freifeld & David Voreacos, *Investment Adviser Aksia Warned Clients of Madoff 'Red Flags'*, BLOOMBERG (December 13, 2008), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=afr_KQndJUUs; Matthew Goldstein, *The Madoff Case Could Reel in Former Investors*, BLOOMBERG BUSINESS (December 31, 2008), http://www.businessweek.com/magazine/content/09_02/b4115025606347.htm.

investment vehicles managed by the firm.[9] Potential investors investigated the WPG products with which I was affiliated, and inquired about me personally. I also responded to questions generated by the types of analyses I performed in this report, which has contributed to my knowledge of due diligence practices. For example, while at WPG I responded to due diligence inquiries from consulting firms such as Wilshire Associates, Frank Russell and Callan. After I left WPG, I worked as a consultant to a variety of investment management firms. In that role, I continued to respond to due diligence inquiries from the above consulting firms and others including Merrill Lynch Consults and Lockwood.

13. I have been a portfolio manager and a risk manager providing services to both traditional and alternative investments, and providing investment and asset allocation advice to a wide range of clients.[10] I was a portfolio manager for fixed income, equity and hedge fund accounts. As a portfolio manager I developed security selection models (algorithms) to be used in the construction of portfolios. Within traditional portfolios, these algorithms are used to determine the stocks to own and the weights to be assigned to them within the portfolio. In addition, I developed trading and execution models, which are typically a part of any trading strategy. My role as a risk manager was parallel to that of a portfolio manager, where I utilized the same analytical methods to monitor rather than construct portfolios.

14. The portfolio management and risk management positions I held were typically quantitative in nature, performing functions similar to those that fund managers

---

[9] An article in 1995 discusses how by the mid-1990s, firms such as Link Strategic Investors were building due diligence systems, offering clients 30 page assessments of hedge funds. Miriam Bensman, *Hedge Funds Discover Investor Relations*, Institutional Investor (December 1995).

[10] Effective risk management identifies, assesses, and controls numerous sources of risk, both financial and nonmarket related, in an effort to achieve the highest possible level of reward for the risks incurred. CFA Institute, *Alternative Investments, Risk Management, and the Application of Derivatives CFA Program Curriculum, Level III, Vol. 5*, 133-139 (2014).

perform.[11] In addition, the hedge funds and equity funds that I worked for followed quantitative strategies that were based on identifying a subset of an index that would outperform the index.

15. As part of my work in the investment management industry, I have performed due diligence on hundreds of investment vehicles including both registered and unregistered investment advisor accounts, managed/separate accounts, hedge funds, and mutual funds. Due diligence is a process whereby an investment manager initially investigates an investment to assess the attractiveness of an opportunity, the quality of the management team, the key risks associated with the opportunity, and continues to monitor and evaluate the investment on an ongoing basis.[12]

16. The types of due diligence I performed on these investment vehicles focused on, among other things, developing an understanding of the applicable strategies, analyzing returns, and performing performance attribution, to the extent possible. Performance attribution refers to a range of analyses that are oriented towards determining the source of benchmark-relative performance and the extent to which the performance is consistent with the purported strategy.[13]

17. Additionally, I have spoken at investment seminars, presenting on various areas of portfolio management, risk management, asset allocation, hedge fund products, and securities pricing. I have also authored articles related to investment management including *Mutual Fund Advisory Fees: New Evidence and a Fair Fiduciary Duty Test* and *The Pursuit of Alpha in a Fund of Hedge Funds.*[14]

18. I have offered testimony in a variety of venues on matters similar to those discussed in

---

[11] In the investment management industry the term "fund manager" typically refers to a manager of any kind of fund, including a mutual fund, hedge fund, or fund of funds. For purposes of this report I use the term Fund Manager to represent a manager of a fund of funds unless otherwise indicated.

[12] Due diligence is discussed in detail *infra* Section V, Opinion No. 1 of this report.

[13] FRANK J. TRAVERS, INVESTMENT MANAGER ANALYSIS 179-207 (2004).

[14] *See* Appendix I.

this report. In particular, I have testified in tax court, bankruptcy court, and district court on the role of derivatives in an investment program. My testimony on derivatives related to the use of puts, calls and collars, and how those securities were used in tax shelters. In those cases, my opinions centered on an analysis of these transactions and their associated economic merits. I have also testified dozens of times on due diligence and investment performance-related issues for both traditional and alternative investments. The due diligence activities on which I have testified include some of the same activities I performed as part of this assignment, including, but not limited to, peer analysis and performance attribution.[15] As an example, I have analyzed returns in those cases with an eye towards performing performance attribution which included a variety of statistical calculations designed to determine the source, not just measurement of, performance. In cases involving funds of funds, my testimony involved an analysis of the performance and red flags associated with the funds of funds and the funds in which they invested.

19. The opinions that I offer in this report are based on my review of the facts, data and documents in this case as well as my training, education and experience in the investment management industry.

A. Quantitative and Qualitative Due Diligence Experience in the Investment Management Industry

20. Throughout my career, I have advised more than a dozen investment management firms with assets under management ("AUM") from tens of millions to billions of dollars on risk management and portfolio strategy. As a portfolio manager, risk manager, and consultant, I have conducted due diligence on various investment products, including the development of risk models, pricing models, and other quantitative and qualitative analyses.

---

[15] Peer analysis is a comparison of different investment managers' performance metrics that use the same or similar investment strategies. EDWARD J. STAVETSKI, MANAGING HEDGE FUND MANAGERS: QUANTITATIVE AND QUALITATIVE PERFORMANCE MEASURES 71, 79 (2009).

21. I have consulted or worked for hedge funds such as Galileo, Andover, and Lotus, and provided due diligence and risk management services to established funds of funds.

22. The funds of funds for which I performed due diligence maintained diversified portfolios of 10 to 30 individual fund investments (i.e., investments with other investment advisors). My responsibilities were to monitor and evaluate the current holdings of the funds of funds as well as to continually evaluate new investment opportunities.

23. I routinely develop valuation and trading models for proprietary use, and perform due diligence on investments from both quantitative and qualitative perspectives. Quantitative due diligence is generally focused on the investment strategy, and includes analyses to identify how the strategy works and whether the results are consistent with the strategy. From a quantitative perspective, I perform peer analysis, reverse engineering,[16] performance attribution, and other analyses related to investment and portfolio performance. Qualitative due diligence is more focused on the investment manager and the investment manager's operations. From a qualitative perspective, I analyze, among other things, the philosophy, the pricing structure, the business infrastructure, and the people involved with the investment vehicle.

B. Review of Investment Vehicles Invested With BLMIS

24. It is through my due diligence practice that I encountered funds of funds that were exposed to BLMIS.[17] The first time I encountered BLMIS was in 2005 when my client, a fund of funds, asked me to perform due diligence on dozens of funds in which it was

---

[16] Reverse engineering is the process of "extracting the knowledge or design blueprints from anything man-made." ELDAD EILAM, REVERSING: SECRETS OF REVERSE ENGINEERING 3 (2005). As it relates to due diligence, reverse engineering is the process of replicating, as best as possible, the investment strategy being pursued. FRANK J. TRAVERS, HEDGE FUND ANALYSIS: AN IN-DEPTH GUIDE TO EVALUATING RETURN POTENTIAL AND ASSESSING RISKS 293 (2012).

[17] Throughout this report "BLMIS" will refer to the Investment Advisory business (the "IA Business") of BLMIS. There was also a market making and proprietary trading business of BLMIS, herein referred to collectively as the "Proprietary Trading Business." If I am referring to the Proprietary Trading Business I will explicitly indicate as such.

invested, and to evaluate other potential investments. The fund of funds had approximately $500 million in AUM, and invested in approximately 30 different funds following a variety of strategies such as merger arbitrage, volatility arbitrage, macro, and structured finance.

25. This client was not directly invested with BLMIS, but one of its funds was invested with a feeder fund that was invested with BLMIS.[18] As a result, my due diligence activities included an analysis of both the feeder fund and BLMIS.

26. As part of my due diligence review, I did not have access to BLMIS customer statements, trade confirmations, or any other BLMIS documents. Nor did I have access to any BLMIS personnel in order to ask questions. I spoke with the head of the feeder fund, and inquired as to whether I could speak to Madoff; I was, however, denied access to Madoff and any other BLMIS personnel.

27. My client's Fund Manager provided me with two pieces of information: (i) a one-page document explaining the strategy that Madoff purportedly followed, namely a version of the split-strike conversion ("SSC") strategy;[19] and (ii) monthly rates-of-return for the BLMIS feeder fund from 1997 to 2005. Using this limited information, I performed quantitative analyses consistent with industry customs and practices to evaluate the investment performance of BLMIS, including reverse engineering, peer analysis, and performance attribution.

28. My due diligence, based on the limited information available to me, revealed red flags

---

[18] For purposes of this report, a BLMIS feeder fund is an investment vehicle that invested with BLMIS.

[19] *See* Section VI.A.1 for a discussion of the split-strike conversion strategy. The split-strike conversion strategy as purportedly employed by Madoff involved buying a security (or a basket of securities in the S&P 100), buying a put option on that security (or on the S&P 100 Index), and selling a call option on that security (or on the S&P 100 Index). *N.Y.U. v. Ariel Fund Ltd. et al.*, Merkin Dep. 127:5-9, February 9, 2009; Trustee Ex. 360 (Trading Authorization Directive, Oct. 22, 2002) (GCC-SEC 0027370-381 at 380). *See supra* Section VI.A.1 for a detailed discussion of the S&P 100 Index.

relating to Madoff's purported investment strategy (the "Madoff SSC" strategy).[20] In particular, I observed that the stated monthly returns, which were continuously positive month after month, were entirely inconsistent with the SSC strategy. Through reverse engineering, I attempted to replicate the strategy so that I could evaluate the risks and returns of the investment. In doing so it became apparent to me that the reported returns were not consistent with the Madoff SSC strategy. Specifically, the reported BLMIS-based returns were less volatile than they should have been based on the elements of the Madoff SSC strategy. As a result, I became convinced that Madoff was not performing any version of the SSC strategy. In fact, I communicated to my client that Madoff was likely engaged in front-running[21] or some other fraud because of the lack of volatility and lack of correlation to the S&P 100.[22] I made a recommendation to my client to divest and not invest any additional funds with the BLMIS feeder fund. My client divested in part from the BLMIS feeder fund in which it was invested.

29. In 2008, I encountered BLMIS again when another fund of funds asked me to perform due diligence on a potential investment with a different BLMIS feeder fund. I was provided with: (i) the BLMIS feeder fund's marketing documents explaining the Madoff SSC strategy; and (ii) monthly returns for the BLMIS feeder fund from 1997 to 2008.

30. By 2008, I had become convinced that Madoff was not following any version of the SSC strategy, and was likely engaged in front-running or some other fraud. I informed my client that I believed Madoff was not engaged in the strategy he purported to follow and recommended against investing in the BLMIS feeder fund. My client ultimately decided not to invest.

---

[20] All discussions of and opinions related to the Madoff SSC strategy, BLMIS trading activities, positions, or returns in the Merkin BLMIS Accounts are assumed herein to be purported.

[21] Front-running "refers to a situation in which a trader, knowing that an order is about to come in, trades in the same direction before the anticipated order is executed." Fang Cai, *Was There Front Running During the LTCM Crisis?* 1 (Bd. of Governors of the Fed. Reserve Sys., No. 758, 2003).

[22] Correlation measures the degree of association between two investments. FRANK J. TRAVERS, INVESTMENT MANAGER ANALYSIS 94-96 (2004).

III. Summary of Expert Opinions

Based on my experience, investment industry customs and practices, and the analyses I conducted in connection with this report, my expert opinions are as follows:

1. Opinion No. 1: In the Investment Management Industry, There Are Due Diligence Customs and Practices That Are Typically Performed

31. When a Fund Manager allocates investments to another investment advisor, it is industry custom and practice for the Fund Manager to evaluate the investment opportunity by performing due diligence. The purpose of due diligence is to understand the advisor's investment process, to determine whether the resulting investment fits the Fund Manager's goals and risk tolerances, and to make a determination about the sustainability of the investment advisor and strategy.

32. Due diligence—performed both prior to making an investment decision and during the life of an investment—is necessary to ensure that investments are achieving the right amount of reward with the commensurate level of risk.[23] Industry custom and practice is to perform due diligence elements such as performance attribution, peer analysis, alpha analysis, reverse engineering, risk-adjusted and style-adjusted analyses, scenario analysis, drawdown analysis, and correlation analysis among other analyses.

33. As is industry custom and practice I have organized these elements into a framework that I refer to as the "Five Ps"—consisting of Process, Portfolio, People, Performance, and Price.[24] The specific analyses and assessments performed within the Five Ps depend, in

---

[23] In addition to market risk (generally of the greatest concern to investors in hedge funds), investors are concerned with other risks including, but not limited to credit, counterparty, liquidity, and default risk. *See* MANAGED FUNDS ASSOC., SOUND PRACTICES FOR HEDGE FUND MANAGERS, §§ 4-4.17, app.III at 7-30 (2007); *Counterparty Risk Survey: New Approaches to Risk Management Post-Lehman*, CREDIT MAG., Dec. 2009, at 34, *available at* http://www.risk.net/digital_assets/490/033-043_CR_1209.pdf; Sherree Decovny, *Reining in Liquidity Risk*, CFA MAG., July-Aug. 2010, at 28-29, *available at* http://www.cfapubs.org/doi/pdf/10.2469/cfm.v21.n4.15.

[24] The origins of this framework were developed during the 1970s by Russell Investments, a leading advisory firm servicing individual and institutional investors. The People category is sometimes referred to as Personnel, the

part, on the investment opportunity, the information that is known about the opportunity, and the documents and data available for analyses. For example, prior to making an investment, a potential investor may have historical monthly returns with which to perform quantitative due diligence such as peer analysis, correlation analysis and strategy replication. However, after an investment has been made, an investor will typically have access to additional information that may include transaction level information, allowing for more detailed analyses such as performance attribution and scenario analysis. Additionally, the longer an investor remains in an investment, the longer period over which these analyses can be performed.

2. Opinion No. 2: Due Diligence Consistent with Industry Customs and Practices Would Have Revealed Numerous Red Flags Relating to the Merkin BLMIS Accounts

34. Based on the strategy and the information available, all of the due diligence analyses I performed in connection with this report were industry customs and practices as of 1997 unless otherwise indicated.

35. Due diligence consistent with industry customs and practices would have confirmed that Madoff could not have legitimately generated the returns he claimed using the Madoff SSC strategy. The due diligence processes described within this report include those that were customarily performed by Fund Managers as part of initial due diligence and ongoing monitoring of investments by 1997. These analyses would have revealed numerous red flags (i.e., doubts or concerns regarding the investment opportunity) in each of the Five Ps (i.e., regarding every aspect of the investment) concerning Madoff and his purported strategy.

Process category is sometimes referred to as Philosophy, and the number of "Ps" may differ. Brian Tipple, Chief Investment Officer, Russell Investments London, Remarks before 2009 CFA Inst. European Inv. Conf., Avoiding the Pitfalls: Best Practices in Manager Research and Due Diligence, 46-47 (October 21-23, 2009); s*ee also* Russell Investment Group, Russell's Core Philosophy 9 (October 2006), *available at* investment-planners.com/private/images/advisorresources/RussellCorePhilosophy.ppt.

36. The scope of the due diligence analyses I performed is based on (i) information that was available to Merkin in connection with the Merkin BLMIS Accounts; (ii) information resulting from performing due diligence analyses on the Merkin BLMIS Accounts; and (iii) third-party information available to Merkin over the life of Defendant Funds' investments with BLMIS.

IV. Madoff and Merkin Operated Within the Investment Management Industry

37. Because BLMIS, Madoff, and Merkin operated within the investment management industry it is important to understand this industry and the role due diligence plays in the industry. At the most fundamental level, the investment management industry includes: (i) investors; (ii) investment advisors/managers (including Fund Managers);[25] and (iii) service providers.

38. Customs and practices of market participants in the investment management industry, are generally all in support of the primary investment goal: to maximize reward while simultaneously limiting risk, including the risk of theft or fraud. In order for participants to achieve that goal, they must perform due diligence.

A. Overview

39. While investors drive the amount of capital available to be invested, investment advisors are often thought of as "intermediaries" in the investment management industry. That is, they serve the investment management markets to advise on the allocation of capital between the various investment options, and the selection of transactions or investment opportunities within the investment option.

---

[25] I have used the terms "investment manager" and "investment advisor" interchangeably in this report and these terms are meant to be synonyms in all respects. Investment advisors include entities such as registered investment advisors ("RIAs"), hedge funds, mutual funds, and Fund Managers. In 2006 BLMIS registered as an investment advisor. Prior to 2006 BLMIS was operating as an unregistered investment advisor.

40. Investment advisors provide a combination of advice and execution services in facilitating the invested capital to its destination. They manage client assets either on a pooled basis (e.g., mutual fund, hedge fund, commingled trust) or on a separate account basis which are often referred to as managed accounts.

41. The service providers serve the investment advisors and investors. They offer to execute transactions and provide custody and record keeping services. Service providers include custodians, auditors, broker-dealers, prime brokers, administrators, and transfer agents.

42. The size of the investment management industry is typically measured by the size of the AUM in the industry. The sum total of AUM in the industry is the total dollar amount that investors place with a fund or investment advisor. Industry assets are typically invested in three different vehicles: (i) funds (e.g., hedge funds and other commingled vehicles); (ii) self-managed accounts; and (iii) managed accounts.[26] Assets invested in mutual funds and hedge funds, which comprise the majority of industry AUM, grew from approximately $500 billion in 1985[27] to over $20 trillion by 2008.[28]

B. Merkin's Role in the Investment Management Industry

43. Merkin was a Fund Manager, a type of investment advisor in the investment management industry. Merkin ran funds, managing client accounts and allocating capital between various investment options. Merkin was the General Partner for Gabriel and Ascot. GCC, owned and controlled by Merkin, was the Investment Advisor for Ariel and the

---

[26] There is some overlap in these categories to the extent that a managed account or self-managed account invests in a hedge fund, mutual fund, or other pooled investment vehicle.

[27] Barry Eichengreen & Donald Mathieson et. al, *Hedge Funds and Financial Market Dynamics* 33 (Int'l Monetary Fund, Occasional Paper No. 166, 1998).

[28] *See* Michael L. Goldstein & Jonathan Freedman, *The Future of Money Management in America: Key Issues Facing the Mutual Fund Industry* (Bernstein Research December 5, 1997); *Hedge Fund Industry: Assets Under Management – Historical Growth of Assets (2007-2014)*, BARCLAYHEDGE.COM, http://www.barclayhedge.com/research/indices/ghs/mum/Hedge_Fund.html (last visited Mar. 4, 2015); INVESTMENT COMPANY INSTITUTE, 2010 INVESTMENT COMPANY FACT BOOK 182 (50th ed. 2010).

Former Ascot Fund.[29] All of these funds were controlled by Merkin, and were invested with BLMIS.[30] Merkin received fees for his role as the General Partner and/or Investment Advisor for these funds.[31]

44. Merkin marketed his funds as hedge funds.[32] In past decades, hedge funds were generally investment partnerships where capital contributed by investors (i.e., limited partners) was pooled together and invested in strategies often involving long and short positions. Over time hedge funds have evolved into complex, global, multifaceted investment organizations with a myriad of varying characteristics. There are, however, common features that most hedge funds exhibit. These features include: lightly or unregulated organizational structures, flexible investment strategies, sophisticated investors, substantial investments by management, and substantial managerial incentive

---

[29] In 2002, Ascot and the Former Ascot Fund were unified into a master-feeder structure, with the Former Ascot Fund investing through Ascot. At that time, the Former Ascot Fund's Investment Advisory Agreement with GCC was terminated. Trustee Ex. 8 (Letter from Gabriel Capital Group to Investors, November 11, 2002) (GCC-NYAG 0031102); Trustee Ex. 240 (Letter from Ascot Partners, L.P. to Investors, November 11, 2002) (BS00451097); Trustee Ex. 334 (Termination Agreement between Gabriel Capital Corporation and Ascot Fund Limited, December 19, 2002) (AF00000187); *see* Seymour Dep. 71:23-72:11, January 13, 2015.

[30] *N.Y.U. v. Ariel Fund Ltd. et al.*, Merkin Dep. 26:14-16, February 9, 2009; *see also* Merkin Dep. 125:22-126:13, 127:21-128:12, 277:4-9, February 24, 2015. The duties of a General Partner of a fund generally include the hiring of an Investment Advisor and while the Investment Advisor is typically charged with reviewing the reasonableness of all investments, ultimately all investment decisions are typically the responsibility of the General Partner. In the case of Ariel, the Investment Advisor "ha[d] ultimate responsibility for the management, operations, and investment decisions" of the fund, while documents for Gabriel indicated that "all decisions with respect to the management of the capital of the partnership are made exclusively by [Merkin]." Merkin was General Partner of Gabriel and Ascot, and was the owner, Managing Partner and General Partner of GCC, who was the Investment Advisor for, and who controlled, Ariel. Autera Dep. Ex. 12, October 19, 2011 (Ariel Fund Limited Confidential Offering Memorandum, March 2006) (GCC-SEC0000649; *see also* BS00024247); Trustee Ex. 107 (Gabriel Capital, L.P. Confidential Offering Memorandum, March 2006) (09-01182-GOTR-0000002); Autera Dep. Ex. 10, October 19, 2011 (Ascot Partners L.P. Confidential Offering Memorandum, December 2002) (GCC-NYAG0000164; see also BS00021346 at 1360).

[31] Trustee Ex. 353 at 14-17 (Gabriel Capital Group presentation, April 2008); Autera Dep. Ex. 12, October 19, 2011 (Ariel Fund Limited Confidential Offering Memorandum, March 2006) (GCC-SEC0000649; *see also* BS00024247); Ascot Partners L.P. Confidential Offering Memorandum, March 2006 (BS00319494); Trustee Ex. 338 (Ascot Fund Limited Confidential Offering Memorandum, October 2006) (AF00000026); Trustee Ex. 107 (Gabriel Capital, L.P. Confidential Offering Memorandum, March 2006) (09-01182-GOTR-0000002). One of Merkin's investors stated that he paid Merkin "to do the due diligence, arrange the auditing and do all the things that had to be done with governance of any pool of assets." Ehrenkranz Dep. 64:1-13, March 20, 2014.

[32] Smith Dep. 18:10-24, 21:14-22:1, March 4, 2014; Gottleib Dep. 108:19-109:11, October 22, 2012.

fees.[33]

45. The structure of the Defendant Funds was more similar to that of a fund of funds than a hedge fund. Whereas hedge funds generally make direct investments into equities, bonds, commodities or other financial instruments, fund of funds undertake direct investments into the hedge funds themselves. Merkin acted more like a fund of fund manager in that the predominance of assets held in Merkin's funds were invested with another manager, or were actively managed by someone other than Merkin[34]. For example, over 90% of the invested assets in Ascot/Former Ascot Fund were typically allocated to Madoff,[35] while by 2008 approximately 30% of the assets in Ariel/Gabriel were allocated to Madoff.[36] By 2008 approximately 70% of the assets in Ariel/Gabriel were allocated to other investment managers.[37]

C. Madoff's Role in the Investment Management Industry

46. Madoff was functioning as, and serving in the capacity of, an investment advisor for BLMIS customers, including the Defendant Funds.[38] Additionally, Madoff operated BLMIS's Proprietary Trading Business as a broker-dealer. The responsibility of a broker-dealer is limited to the execution of a transaction. While a broker-dealer may

---

[33] Carl Ackermann, Richard McEnally & David Ravenscraft, *The Performance of Hedge Funds: Risk, Return, and Incentives*, LIV J. FIN. 833, 833-834 (1999).

[34] Merkin also managed some assets for Ariel/Gabriel in-house at various points in time. Funds of funds can also manage some assets in-house. While these are not pure fund of funds, they would be considered a fund of fund if they predominantly invest in other investment advisors as Merkin did. Mayer Dep. 9:12-14:12, October 11, 2011; Hess Dep. 20:2-22:15, October 11, 2012.

[35] Ascot Partners, L.P. Balance Sheet, December 31, 2007 (BS00313824). Note, however, that on some occasions Ascot made non-Madoff investments, at which times may have represented up to 10% of the entire portfolio. *In re Madoff Charities Investigation*, Merkin Dep. 178:17-180:2, January 30, 2009.

[36] 2008 Capital Allocations (GCC-P 0117600). Data is as of November 30, 2008.

[37] The other investment managers were Stephen Feinberg, Jack Mayer and David Sherman. 2007/2008 Capital Allocations Excel File, January 1, 2008 (GCC-P0115588); 2008 Capital Allocations Excel File, January 1, 2009 (GCC-P0117600); *Morry Weiss et al. v. J. Ezra Merkin*, Merkin Dep. 61:13-15, 226:12-18, 234:17-21, August 10, 2011.

[38] *Jesselson v. Merkin*, Hearing Transcript 386:20-388:5, September 13, 2011.

recommend the purchase or sale of certain securities, an investment advisor has the more far-reaching responsibility of the ongoing implementation of an investment strategy.

47. As an investment advisor for the Defendant Funds, Madoff had the sole and broad-based authority and responsibility for, among other things, determining the strategy, selecting the individual stocks to purchase, determining which options to incorporate, as well as the timing for entering and exiting the market. These are examples of the functions of an investment advisor and extend well beyond the authority and role of a broker-dealer.

48. The relationship between an investor, a Fund Manager, and an investment advisor involves fees for activities performed by each party. An investor entrusts assets with a Fund Manager such as Merkin, who is paid by the investor to perform due diligence on investment opportunities and investment advisors, choose investment opportunities, and provide administrative services. A Fund Manager then chooses an investment opportunity or investment advisor, such as Madoff, who is then paid to perform an investment strategy, execute transactions, and provide administrative services.

V. OPINION NO. 1

IN THE INVESTMENT MANAGEMENT INDUSTRY, THERE ARE DUE DILIGENCE CUSTOMS AND PRACTICES THAT ARE TYPICALLY PERFORMED

A. Due Diligence

49. Due diligence is a process whereby a Fund Manager initially investigates an investment to assess the attractiveness of an opportunity, the quality of the management team, the key risks associated with the opportunity, and continues to evaluate and monitor the investment on an ongoing basis. The due diligence discussed in this report relates primarily to the analyses performed by Fund Managers on investments into other funds or

investment vehicles.[39]

50. Due diligence of an investment advisor such as BLMIS is critical because it allows Fund Managers to understand the advisor's investment process and determine whether the resulting investment fits the Fund Manager's goals and risk tolerance. In addition, it allows the Fund Manager to make a determination about the longevity and sustainability of the investment advisor and/or the strategy. The investment advisor and the strategy together can be thought of as a business, and ultimately the Fund Manager is investing in a business.[40] Therefore, evaluating the sustainability of that business through due diligence is important because a Fund Manager, like any investor, would not invest in an unsustainable business.

51. Generally, the due diligence process (both before and after an investment is made) is designed to identify red flags as early as possible. A red flag is information that raises doubt or concern regarding an investment opportunity and can include: (i) any impossibilities where the only reasonable explanation is fraud; (ii) any indications that the advisor is not executing the strategy; (iii) any indicia of fraud or changes to the risk profile of the invested assets; (iv) any inconsistencies with the stated strategy; (v) any potential changes in the advisor and/or his organization, investment process, or philosophy; (vi) any situations that created an opportunity for fraud; and (vii) any inconsistencies with industry customs and practices.

52. Over time, industry sources have compiled reports establishing concurrent due diligence "best practices" process for Fund Managers and other investors. These reports highlight industry customs and practices for due diligence. While memorialized in "best practice"

---

[39] While some Fund Managers may manage some assets in-house, due diligence on these assets is typically of a different nature and includes different analyses and expertise. For example, the due diligence typically performed to help decide whether to invest in an equity, bond, commodity or other financial instrument or asset is more likely to include industry research, company research, credit analysis, comparable company analysis, and historical financial analysis than it is to include performance attribution, correlation analysis or other similar due diligence analysis as discussed below. *See*, e.g., Merkin Dep. 130:1-137:13, February 24, 2015.

[40] *See, e.g.*, Orchard Dep. 40:22-41:10, October 8, 2013.

reports, these customs and practices have for the most part been used in the investment management industry for years before they were memorialized. Based on my experience, most current industry customs and practices, including ones I perform in this report, were established by 1997 when one of the earliest practice guides on due diligence was published.

53. Starting in 1997, the Alternative Investment Management Association ("AIMA") produced a Due Diligence Questionnaire ("DDQ") for use by those investing in or servicing the hedge fund industry.[41] The purpose of the AIMA DDQ was to provide investors with suggested questions when selecting investment advisors, managers and service providers. Consistent with the development of these set of typical questions for investment advisors by the AIMA, over time other industry sources also published customs and practices for due diligence.[42]

54. Due diligence is performed based on all information available. Fund managers rely on information from a variety of sources. For example, Fund Managers collect information from publicly-available sources including databases,[43] pricing services,[44] and marketing materials, as well as directly from the investment advisor through interviews, meetings,

---

[41] AIMA, *AIMA Launches New Due Diligence Questionnaires*, (April 12, 2007); *see also* AIMA's Illustrative Questionnaire for Due Diligence of Fund of Hedge Funds Managers (2004) (BS00115001).

[42] Managed Funds Association ("MFA") is a lobbying group established in 1991 for the alternative investments industry. The MFA submitted a report in 2008 entitled "Hedge Fund Standards: Final Report," which also functions as a thorough manual of due diligence best practices for hedge fund managers. *Hedge Fund Standards: Final Report*, Hedge Fund Working Group (January 2008). This report identified 15 key issues relating to hedge fund practices, grouped into five themes: Disclosure, Valuation, Risk, Management, Fund Governance and Shareholder Conduct (including Activism). The practices included in this report were developed over the life of the MFA.

[43] For example, databases such as Bloomberg contain trading and market information, while BarclayHedge and other similar databases contain performance-related as well as operation-related information on hedge funds. These databases were publicly available throughout the Defendant Funds' investments with BLMIS. *See Bloomberg History & Facts*, BLOOMBERG, http://www.bloomberg.com/company/bloomberg-facts/?utm_source=bloomberg-menu (last visited Mar. 19, 2015); *About BarclayHedge*, BARCLAYHEDGE, http://www.barclayhedge.com/about.html (last visited Mar. 19, 2015).

[44] For example, Morgan Stanley had a pricing service. Merkin Dep. 235:1-12, February 24, 2015.

information requests,[45] or DDQs.[46]

55. While the investment management industry maintains checks and balances through the use of independent third-party providers for various services in part to help protect against fraud in the industry, the industry also recognizes that these checks and balances are insufficient as the only means of protecting investments. Therefore, due diligence performed by a Fund Manager prior to making an investment decision and during the life of an investment is necessary to ensure that investments are achieving returns commensurate with the level of risk assumed.[47]

56. It is industry custom and practice for Fund Managers to either perform due diligence themselves or engage a consultant to perform the analyses for them.[48] Often the due diligence can be performed at no cost to the Fund Manager. For example, it is common for offering memoranda to indicate that operating expenses (e.g., for performing due diligence) are paid by the funds themselves (i.e., by the investors, not the Fund Managers).[49] If not borne directly by the fund, Fund Managers can also use a "soft-dollar" arrangement, where the expenses for due diligence are paid by the broker via mark-ups on broker commissions.[50]

---

45 *See, e.g.*, FRANK J. TRAVERS, INVESTMENT MANAGER ANALYSIS 33-34 (2004).

46 A DDQ is a document that potential investors provide to investment advisors prior to investing. The questionnaire requests information regarding background, investment philosophy, historical performance, and other due diligence-related issues. FRANK J. TRAVERS, INVESTMENT MANAGER ANALYSIS 133-147 (2004).

47 *See supra* note 23.

48 An auditor is not considered a due diligence consultant. It is inconsistent with industry customs and practices for a Fund Manager to rely on their own auditor for any due diligence activities on an investment opportunity.

49 *See, e.g.*, Ariel Fund Limited Confidential Offering Memorandum, November 1990 (BS00045255 at 5267); Autera Dep. Ex. 12, October 19, 2011 (Ariel Fund Limited Confidential Offering Memorandum, March 2006) (GCC-SEC0000649; *see also* BS00024247); Ascot Partners, L.P. Confidential Offering Memorandum December 2002 (BS00021346 at 1360); Gabriel Capital, L.P. Confidential Offering Memorandum, January 2002 (BS00062969 at 2986).

50 Confidential offering memoranda for Ariel and Ascot indicate that Merkin had the option to use soft dollars. *See, e.g.*, Autera Dep. Ex. 12, October 19, 2011 (Ariel Fund Limited Confidential Offering Memorandum, March 2006) (GCC-SEC0000649; *see also* BS00024247); Ascot Partners L.P. Confidential Offering Memorandum, March 2006 (BS00023745).

57. The investment management industry is built on relationships, but it is not an industry where "blind trust" prevails. In my experience, Fund Managers typically follow the "trust but verify" approach given the risk to which a Fund Manager exposes itself and its investors by investing money with an investment advisor.

58. Due diligence applies to all investment advisors, including those with whom Fund Managers have a prior social and/or personal investment relationship. Social relationships may facilitate investment opportunities, but they do not obviate the need for due diligence on those opportunities. Similarly, a Fund Manager's prior personal investment relationship with an investment advisor also does not obviate the need for due diligence. It is custom and practice in the investment management industry for Fund Managers to perform due diligence on every investment advisor when placing other investors' money with that advisor.

59. In addition, due diligence applies to all investment advisors regardless of their corporate structure. Although some investment advisory businesses are under the same corporate structure as a regulated broker-dealer, the two businesses are regulated differently and broker-dealer regulations have no bearing on an investment advisor. As such, it is consistent with industry customs and practices for Fund Managers to conduct due diligence on investment advisors regardless of their affiliation with a regulated broker-dealer.

60. In my experience, even the investment advisory businesses associated with the largest broker-dealers in the industry still have due diligence performed on them. These investment advisory businesses complete questionnaires (see discussion below on DDQs, and are subject to both initial and ongoing due diligence.[51] Fund Managers do not give investment advisors a "free pass" on due diligence simply because they have an affiliated broker-dealer operation. The due diligence process extends to whatever individual or

---

[51] *See, e.g.*, BS00437514 at 7514; BS00527975 at 7975; GCC-P 0245963 at 5964; GCC-P 0245965 at 5965.

entity is making trading decisions.

61. The operational structure of the investment advisory business is also irrelevant as to whether due diligence is performed. For example, investment advisory businesses can be executed through a brokerage account (e.g., BLMIS) [52] or executed through a fund mechanism (e.g., a hedge fund). However, the form of execution does not excuse the Fund Manager from performing due diligence analyses. Whether the investment vehicle is a fund, a managed account, a pooled investment fund, a discretionary brokerage account, or any other type of business where assets are managed by a third party, due diligence is necessary.

62. In addition, if a fund is invested predominantly with a single advisor there is increased risk from the lack of diversification. In these situations, there is an increased need for ongoing and thorough evaluation because of the increased risk.

63. Once invested, due diligence continues to be essential to ensure that investments are achieving the right amount of reward with the commensurate level of risk based on the stated strategy, and to identify and respond to red flags and/or indicia of fraud. Continued diligence, monitoring, and investigation are not only warranted, but are industry custom and practice when a Fund Manager turns over all decisions and authority related to trading to another individual or entity.

1. Initial Due Diligence

64. As discussed above, there are two general periods when due diligence is performed: (i) initial due diligence is performed before an investment is made;[53] and (ii) ongoing/monitoring due diligence is performed while invested.[54]

---

[52] Ascot Customer Agreement, November 5, 2002 (BS00305651-662 at 655); *see* Autera Dep. Ex. 9, October 19, 2011 (GCC-SEC 0027389).

[53] Merkin Dep. 131:18-132:24, 141:6-9, February 24, 2015.

[54] Merkin Dep. 183:13-18, 141:11-13, February 24, 2015.

65. Typically, Fund Managers do not have as much information about the potential investment available to them when performing initial due diligence as they do once they are invested and performing ongoing/monitoring due diligence. As a result, initial due diligence often relies on initial interviews with investment advisor staff, historical monthly returns, a description of the strategy, and any other information that can be collected prior to investing. For example, as described in Section II.B, when I was asked to perform initial due diligence for a client on a BLMIS feeder fund, I was only provided with marketing documents, including a description of the strategy, and a history of monthly returns.

2. Ongoing/Monitoring Due Diligence

66. Ongoing due diligence is critical because, once invested, the investment advisor has the Fund Manager's customers' money and it is necessary to evaluate whether the performance is consistent with the stated strategy and the investment advisor's representations. Furthermore, over time, funds often change styles to accommodate their additional assets or in response to changing market conditions. Ongoing due diligence is required to monitor how these changes, if any, may affect performance.[55] In this manner, due diligence independently verifies what an investment advisor has told a Fund Manager who has invested with the investment advisor. Independent verification is a necessary cornerstone of all aspects of due diligence.

67. In order to maintain consistent supervision over their investments, Fund Managers typically perform monitoring activities including, but not limited to:[56]

- Regular meetings with the investment advisors;

---

[55] Trustee Ex. 176 (CA016548) (stating that "[th]e objective of our ongoing due diligence is to ensure that we remain comfortable with all aspects of each monitored manager's investment activity and operational issues as the firm evolves over time."); *see also* Harrington Dep. 18:23-24.

[56] *See Managing the Investment Managers*, CIBC Due Diligence Process (November 2009).

- Regular peer analysis and benchmarking;[57]
- Performance analyses compared to other advisors with the same or similar investment management style;
- Periodic on-site visits;
- Completion of quarterly questionnaires by investment advisors; and
- Monthly portfolio analysis.

68. Unlike initial due diligence, where limited information may be available, once a Fund Manager is invested, the Fund Manager typically has more information with which to perform ongoing/monitoring due diligence, and has access to a longer track record. Information relevant for ongoing/monitoring due diligence would be any information related to the execution of the stated strategy and related operational activity. Operational activity that would be expected from an investment advisor, and part of the normal course of operations for any investment advisor, would not be considered an endorsement of that investment advisor, or any reason to perform less due diligence on that investment advisor. For example, permitting investments and redemptions, providing confirmations, providing cash flows, and buying and selling stocks is not contributory to the due diligence process.

69. One of the basic tenets of due diligence is to use whatever information is available. For example, to the extent that trade data is available it would be consistent with industry customs and practices to perform analyses on as much of the trade data as possible.[58]

70. Once invested, ongoing/monitoring due diligence should include both proactive due diligence and reactive due diligence. That is, a Fund Manager should be performing ongoing due diligence by performing the activities listed above (i.e., proactive due diligence), at least annually, if not quarterly or monthly. A Fund Manager should also

---

[57] *See supra* note 15. Benchmarking refers to the process of comparing the subject fund to objective measures of market performance.

[58] What is relatively unique about BLMIS is that customers such as the Defendant Funds received a significant amount of data with which one could perform due diligence. Merkin Dep. 168:20-169:21, February 24, 2015.

perform due diligence when information is received or uncovered that raises new concerns regarding the investment (i.e., reactive due diligence).

71. Reactive due diligence should be prompted by new issues or concerns raised by information obtained from third-parties or uncovered independently by the Fund Manager. For example, if a Fund Manager receives information from a third-party that raises new issues or concerns about a particular investment (i.e., "due diligence triggers"), it is industry custom and practice to investigate further. Additionally, if internal information uncovered through a Fund Manager's own due diligence raises concerns as to the legitimacy of the investment strategy then additional analyses can, and should, be performed by the Fund Manager in order to ferret out any indicia of fraud. Reactive due diligence typically becomes more prevalent over the course of the Fund Manager's investment.

3. The Results of Due Diligence

72. Equally important to performing due diligence is how a Fund Manager should respond to the results of due diligence. There are different types of red flags that due diligence can raise, each with its own set of actions that a Fund Manager should take. For example, if initial due diligence results in a significant red flag where the only reasonable explanation is fraud, a Fund Manager would typically stop the due diligence process and not invest. It is not necessary to perform each and every due diligence activity if a single activity reveals a significant red flag where the only reasonable explanation is fraud. Similarly, if the same red flag was revealed in ongoing/monitoring due diligence, a Fund Manager would typically redeem their investments and find an alternative investment opportunity.[59]

73. When a red flag is an indicia of fraud or creates an opportunity for fraud, it is industry

---

[59] Redeeming investments from an investment vehicle is expected to be available subject to the terms and conditions of the investment vehicle. Redeeming investments is a normal course of operations for funds.

custom and practice for the Fund Manager to perform additional due diligence to ferret out whether the indicia of or opportunity for fraud leads to another red flag.

74. Additionally, it is industry custom and practice to perform additional due diligence when red flags are uncovered that indicate the advisor is not executing or is operating inconsistent with the stated strategy. Again, the purpose of additional due diligence in these situations is to determine whether the information leads to another red flag. More specifically, if an investor finds (e.g., through due diligence) that their returns are different from what is expected based on a certain strategy, additional due diligence should be performed.

75. For example, as a portfolio manager I withdrew money from a fund when the fund performed well in a month when the overall market performed well, despite the fact that the fund was supposed to be hedged, and therefore should not have performed as well as the overall market. Upon further investigation, the investment advisor admitted to having directional biases, which were not initially disclosed and were inconsistent with the strategy as it had been explained prior to investing.

B. The Five Ps Framework

76. Regardless of whether due diligence is initial or ongoing/monitoring, a comprehensive template or framework for conducting due diligence centers around the "Five Ps," where each P relates to a particular element of due diligence.[60] The Five Ps are: Process, Portfolio, People, Performance, and Price.[61]

---

[60] Moody's Investors Service publishes guidelines regarding investment advisor evaluation and assigns ratings to asset management companies based on those guidelines. *Moody's Structured Finance Special Report*, Moody's Investors Service (August 31, 2005). As might be expected, these metrics overlap with the Five Ps discussed *infra*. Moody's evaluates areas including: Investment Management Activities (40-50% weighting), Investment Results (20-30% weighting), Financial Profile (15-20% weighting), and Client Servicing (5-10% weighting).

[61] The People category is sometimes referred to as Personnel, and the Process category is sometimes referred to as Philosophy. The origins of this framework were developed during the 1970s by Russell Investments, a leading advisory firm servicing individual and institutional investors. Russell Investment Group, Russell's Core

77. The following is a discussion of the types of due diligence customs and practices typically performed in the investment management industry, and by me, in connection with each of these categories.

1. Process

78. The extent to which investment performance can be repeated over time depends, at least in part, on whether a well-defined investment process is in place. Fund Managers must understand the process, and must evaluate whether an investment advisor's process is indeed well-defined.[62] Key elements considered in the due diligence evaluation of the investment process include:

- understanding the elements of the investment strategy and its expected performance;[63]
- scalability: how well the strategy performs with increasing levels of investment;[64]
- investment management style: what is the investment strategy style (e.g., market timing, technical analysis, etc.);[65]
- implementation of investment ideas: how the investment ideas are implemented by the investment advisor (e.g., where, how, when);[66]
- buy and sell disciplines: any rules or disciplines that are followed in terms of when to buy/sell and how much to buy/sell;
- risk management: what the investment advisor does to assess and address risk (e.g., hedging to reduce downside risk);[67]

Philosophy (October 2006), *available at* investment-planners.com/private/images/advisorresources/RussellCorePhilosophy.ppt. Other frameworks use the "P" acronym, though the number of "Ps" may differ.

62 For example, an Investment Policy Statement is a document that specifies the overall objectives of a portfolio, and should identify the investment strategies and processes to be used in achieving the portfolio's goals. G. TIMOTHY HAIGHT, STEPHEN O. MORELL, & GLENN E. ROSS, *HOW TO SELECT INVESTMENT MANAGERS & EVALUATE PERFORMANCE* 31 (2007).

63 *See, e.g.*, BS00528392 at 8393.

64 *See, e.g.*, Teicher Dep. 64:22-65:18, October 29, 2013.

65 *See, e.g.*, BS00196424 at 6425-32.

66 *See, e.g.*, BS00126670 at 6670.

- investment research: what research is performed and how it is used;
- team approach: how investment decisions are made (e.g., committee, individual decision maker);[68]
- technology: what kind of technology the investment advisor uses (e.g., computers, trading platforms, software);[69] and
- service providers and infrastructure: what service providers are used, and what infrastructure exists to reduce risk.[70]

79. Investment advisors are evaluated to ensure their actions adhere to their stated investment philosophy or management style, their professional investment experience, market focus, and portfolio objectives over time and through various market cycles. Questions regarding Process-related due diligence are often asked of investment advisors through DDQs as discussed above, and answers are often provided in writing. Examples of Process-related questions include the following:[71]

- Detailed description of the strategy;
- Characterization of style in terms of strategy, hedging, market exposure, and geographical market focus;
- Specific risks that are hedged (e.g., country risk, duration risk, spread risk, credit risk, systematic risk, volatility risk, fundamental factor risk, etc.);
- How downside exposure is addressed;
- Maximum loss on any one position before closing it;

---

67 *See, e.g.*, BS00527975 at 7977, BS00528392 at 8393.

68 *See, e.g.*, BS00170938 at 939.

69 *See, e.g.*, BS00600100 at 117.

70 In a letter from Union Bancaire Privée ("UBP") to Merkin in 2008, UBP asks Merkin to "describe the counter party credit risk due to Ascot's options exposure and how that is hedged or managed" and to "describe the due diligence performed by Ascot on Madoff's operational procedures with specific reference to systems and controls, segregation of duties, wire transfer controls, risk management, regulatory compliance, and business continuity planning." *See* Trustee Ex. 363 (Letter from UBP to Merkin, October 10, 2008) (GCC-P 0393142-143). *See* also Kim Dep. 29:13-25, 31:9-22, November 19, 2013; BS00527975 at 7978.

71 A 2004 Aozora Bank DDQ asked about the process at GCC, including questions regarding investment style, strategy, hedging, market exposure, geographical focus, typical holding periods, investment criteria, research sources and budget, and the process for handling new investments and redemptions. *See* Aozora Bank Due Diligence Questionnaire, June 2004 (BS00528297 at 8298-307).

- Breakdown of positions by geography;
- Average holding period for all investments, profitable investments, and/or losing investments;
- Sources used for investment research;
- What research is focused on;
- Annual research budget; and
- Proportion of the research generated internally.

80. It is industry custom and practice for Fund Managers to identify any changes to the Process elements through periodic monitoring due diligence activities. For example, if an advisor changed investment strategies (i.e., "style drift"), it could change the risk profile of the investment opportunity. Even though the advisor has investment discretion, the identification of style drift is important because a Fund Manager may redeem investments if changes in the investment strategy result in a change to the risk profile of the strategy that is outside the Fund Manager's target risk profile. Finally, transaction level (i.e., securities) due diligence includes, among other things, reviews and analyses of what has been bought and sold as well as understanding the risks of how trades are executed.[72]

2. Portfolio

81. In addition to initial due diligence, consistent, ongoing due diligence determines whether the investment approach described by the advisor actually reflects the reality of the portfolio constructed.[73] A Fund Manager wants to be sure they are compensating an advisor for performance that adheres to the stated investment objective and strategy.

82. As part of Portfolio-related due diligence, it is industry custom and practice to review the performance of an investment advisor relative to benchmarks in order to determine how

---

[72] As part of due diligence performed on Madoff by a consultant for McKinsey & Company, prices and volumes on 160 option trades were checked. *See* Thorp Dep. 72:25-74:19, May 22, 2012.

[73] Brian Tipple, Chief Investment Officer, Russell Investments London, Remarks before 2009 CFA Inst. European Inv. Conf., Avoiding the Pitfalls: Best Practices in Manager Research and Due Diligence, 46-47 (October 21-23, 2009).

much of the investment return is due to general market behavior as opposed to the advisor's active management. The component of the return due to an advisor's ability is commonly referred to as the "alpha" earned by the investment advisor.[74] Fund Managers measure the alpha of the investment in order to assess the effectiveness of the investment advisor.[75]

83. Performing reverse engineering is also a customary component of due diligence for assessing portfolio risks and characteristics both prior to an investment and during the life of an investment.[76] The reverse engineering process entails modeling the financial performance of an investment based on information the investment advisor provides regarding the particular strategy. The goal of this process is to understand the returns that could be expected from executing the strategy, how those returns may be correlated with market exposure,[77] as well as information related to key risk measures associated with any strategy, such as volatility,[78] or standard deviation.

84. Portfolio-related questions often include subjects such as:[79]

- The greatest risk of the strategy and how it is addressed;[80]
- Any contemporaneous exposure monitoring performed; and
- Stress testing of the strategy.[81]

---

74 Mathematically, this is calculated by performing a linear regression of portfolio return on benchmark returns. The slope of the regression line is referred to as beta, while the intercept is referred to as alpha. For a fuller explanation, *see* WILLIAM F. SHARPE, INVESTMENTS 611-16 (2d ed. 1981).

75 *See, e.g.*, BS00143299 at 311.

76 As part of its due diligence, Concord Management, a "research and due diligence company," stated that "the only way to fully understand an investment strategy is to try to replicate it." Matlin Dep. 45:11-16, 45:25-46:1, November 21, 2013.

77 *See, e.g.*, BS00170952 at 952.

78 Merkin Dep. 91:24-92:3, February 24, 2015.

79 Cambridge Associates Due Diligence Questionnaire, June 2007 (BS00527975).

80 *See, e.g.*, BS00527975 at 975; BS00116587 at 97-98.

81 *See, e.g.*, BS00527975 at 980.

3. People

85. Fund Managers evaluate the personnel and qualifications of the investment advisor as much as the investment itself. This assessment includes the individuals with key roles, the reporting structure of the business, the hiring and termination processes, and whether all team members understand the philosophy and process they are supposed to be implementing.[82] Advisor and team tenure is also important as investment returns reported in the early years of an advisor's investment history may no longer be relevant to the team currently in place. Aspects of people, or staff, typically considered include, but are not limited to:[83]

- Number of employees; [84]
- Position description and breakdown of employees by type (e.g., portfolio managers, strategists, research analysts, economists, operational, compliance, marketing, management);[85]
- Turnover;[86]
- Background checks on potential employees;[87]
- Compensation structure;[88]
- The number and each type of employee; [89] and

---

[82] Cambridge Associates Due Diligence Questionnaire, June 2007 (BS00527975); *See Managing the Investment Managers*, CIBC Due Diligence Process (November 2009); s*ee* also Harrington Dep. 51:9-52:8, October 1, 2013.

[83] *See* Russell Investment Group, Russell's Core Philosophy (October 2006), *available at* investment-planners.com/private/images/advisorresources/RussellCorePhilosophy.ppt; *See also* Brian Tipple, Chief Investment Officer, Russell Investments London, Remarks before 2009 CFA Inst. European Inv. Conf., Avoiding the Pitfalls: Best Practices in Manager Research and Due Diligence, 46-47 (October 21-23, 2009).

[84] A 2007 Cambridge Associates DDQ asked questions about the personnel at GCC regarding the number of employees, the personnel breakdown by job function, background checks of potential employees, and total assets for each fund. *See* Cambridge Associates Due Diligence Questionnaire, June 2007 (BS00527975 at 977).

[85] *See, e.g.*, BS00110705 at 707; BS00527975 at 977-978; BS00528392 at 392.

[86] *See, e.g.*, BS00176983 at 987.

[87] *See, e.g.*, Email to Merkin re: Due Diligence, March 1, 2007 (BS00196305).

[88] *See, e.g.*, BS00527975 at 977.

[89] A 2004 Aozora Bank DDQ also asked about the personnel at GCC, including questions about the background of the principals, the number of investment professionals, employee turnover, total assets by investment vehicle,

- Average years of professional experience.

86. In addition to staff-related questions, other background related questions are typically asked as part of People-related due diligence in order to provide transparency into the size, structure, and client base of a particular investment advisor. Background-related questions typically include the following:[90]

- Legal structure of the company;
- Firm's ownership structure, names of its owners, their percentage ownership, and their role with the firm;
- Total AUM;[91]
- Percentage of the fund's capital from management and employees;[92]
- Growth of AUM;[93]
- Percentage of AUM represented by the largest clients;
- Breakdown of AUM by type of client group;[94] and
- Identification of the largest clients.[95]

87. In addition to the People-related aspects and questions listed above, it is typical for Fund Managers to consider the reputation of an investment advisor prior to placing assets with the investment advisor. Due diligence, however, is an asymmetrical process where only issues, concerns or problems are relevant, as opposed to areas of comfort or assurance. For example, when considering an advisor's reputation, it is industry custom and practice for Fund Managers to perform due diligence to identify any potential concerns, not to

---

and changes in total assets under management. *See* Aozora Bank Due Diligence Questionnaire, June 2004 (BS00528297).

90 AIMA's Illustrative Questionnaire for Due Diligence of Fund of Hedge Funds Managers (2004) (BS00115001 at 5003).

91 *See, e.g.*, BS00527975 at 983; BS00204957 at 960; BS00528392.

92 *See, e.g.*, BS00170946 at 946.

93 *See, e.g.*, BS00205015 at 007.

94 *See, e.g.*, BS00115001 at 067.

95 *See, e.g.*, BS00205061.

identify areas of comfort. A Fund Manager may learn of an investment opportunity because of an advisor's reputation, but reputation itself is a small component of due diligence and reliance on it is not a substitute for due diligence.

4. Performance

88. In evaluating the performance of an investment advisor, whether initially or during ongoing due diligence, both quantitative and qualitative measures are considered, and all analyses must be consistent with the advisor's stated investment style.[96] Quantitative analysis in particular is a tenet of Performance-related due diligence.[97] For example, in assessing performance it is custom and practice to perform quantitative analysis to compare the returns of an investment advisor to comparable market indices[98] and/or a peer group of advisors (i.e., "peer analysis").[99] In addition, a Fund Manager typically compares the performance of a particular investment advisor with other investments held by the Fund Manager – an activity that I have been engaged to perform numerous times as a consultant. Performance analysis is typically performed on a risk-adjusted or style-adjusted basis so that investment strategies entailing various degrees of risk can still be compared to the subject investment strategy.[100]

89. The ultimate goals for any investment strategy are to preserve capital and generate returns through cash flow received from the investment and/or capital appreciation. In general, within efficient and informed capital markets, the return of an asset or portfolio

---

96 *See, e.g.*, BS00082102 at 105-136; Orchard Dep. 19:2-8, October 8, 2013.

97 *See, e.g.*, BS00456856; Kim Dep. 23:15-24:19, November 19, 2013.

98 *See, e.g.*, Merkin Dep. 95:3-98:17, February 24, 2015.

99 *See* BS00527159 at 159; Harrington Dep. 53:19-23, October 1, 2013; Trustee Ex. 131, (SSKW00007066 at 7066); BS00132728 at 731-769. An article in 1989 describes a "blue-ribbon panel" published report setting forth what it hoped would be a standard for reporting performance numbers. The purpose of these standards was to facilitate due diligence on investment advisors, specifically facilitating peer analysis for example. Nancy Bellivue McConnell, *Can Phony Performance Numbers be Policed?*, Institutional Investor (June 1989).

100 Different statistical techniques are used to identify investment advisors' sources of return. Risk-adjusted returns evaluate returns in light of the risks assumed, either by investing in more volatile securities or employing leverage. Style-based analyses incorporate the sectors or asset classes invested in as part of their analysis.

tends to be highly correlated to its underlying risk.[101] In this context, risk is typically defined as the variability of expected returns. Therefore, the Fund Manager typically weighs the added income and/or return against the incremental risk of a particular investment. Consistent with industry customs and practices, the Fund Manager will perform correlation analysis to assess whether the asset or portfolio is in fact reasonably correlated to the underlying risk.[102]

90. In addition to peer analysis, Performance-related due diligence can also include scenario analysis where the potential ranges of outcomes associated with the implementation of a specific set of trades (e.g., following a particular strategy) are compared to the actual results from the execution of the strategy. Any deviation from these ranges of possibilities would be a red flag that the investment advisor was not implementing the stated strategy.

91. Performance attribution is another due diligence analysis that is typically performed. The purpose of this type of analysis is to identify the source of excess performance delivered by an investment advisor.[103] Fund managers, in my experience, often conduct performance attribution analyses on a regular basis in order to both monitor the returns and fully understand whether the performance was achieved in a method consistent with the stated investment strategy.

92. Fund Managers and other prospective investors typically do not have publicly-available data with which to perform Performance-related due diligence. Therefore, data is often

---

101 GEOFFREY HIRT & STANLEY BLOCK, FUNDAMENTALS OF INVESTMENT MANAGEMENT 7 (7th ed. 2003).

102 Merkin Dep. 87:20:-92:3, February 24, 2015.

103 Merkin Dep. 139:6-23, February 24, 2015. An article in 1993 discusses how service providers such as custodians were providing up-to-the-minute reports on transactions and holdings, and providing information enabling investors to perform performance attribution analysis. Andrew Sollinger, *In search of the perfect system*, Institutional Investor (March 1993).

gathered in due diligence through DDQs, containing questions related to:[104]

- Gross long and short performance;
- Currency adjustments;
- Management fees;
- Accrued incentives;
- Other fund expenses; and
- Net performance.[105]

5. Price

93. Finally, the fees charged by an investment advisor are key components of the investment management process. Fees for investment advisors typically consist of management fees and/or performance fees. It is both customary and essential that the compensation structure be created in a way so as to align the interests of the advisor and the Fund Manager.

94. As it relates to aligning interests, within the investment management industry, it is not just common, but expected, for advisors to have their "skin in the game."[106] This is to ensure an alignment of interests between the investor and the advisor not just in good times, but in bad times as well. Since hedge funds typically have performance fees, which allow the advisors excess compensation commensurate with their positive performance, it is considered only reasonable and hence expected, that they be willing to suffer personal losses in the event that their investments decline.

---

[104] In a 2004 DDQ, Merkin was asked for performance data including historical performance since inception, monthly Net Asset value since inception, and monthly rate of return since inception. In addition, Merkin was asked to explain any major factors affecting performance and drawdowns, how performance for each account was calculated, and how often. *See* Aozora Bank Due Diligence Questionnaire, June 2004 (BS00528297 at 298-307); *see also* BS00143299 at 299-316.

[105] In a 2007 Cambridge Associates DDQ, Merkin was asked for an array of performance data, including gross long and short performance, currency adjustments, management fees, fund expenses, and net performance. *See* Cambridge Associates Due Diligence Questionnaire, June 2007 (BS00527975 at 977-989).

[106] Merkin Dep. 280:6-19, February 24, 2015.

95. As with the other four Ps above, DDQs typically address pricing issues as well.[107] For example, DDQs will often include questions about the following:

- Management fees;[108]
- Administration fees;
- Incentive fees;[109]
- Hurdle rate/high water mark;[110] and
- Sales fees, redemption fees, and other fee-related topics.

C. Conclusion

96. It is custom and practice in the investment management industry to perform due diligence analyses. There are two general periods when due diligence is performed: (i) initial due diligence is performed before an investment is made; and (ii) ongoing/monitoring due diligence is performed while invested with an advisor.

97. Generally, the due diligence process (both before and after an investment is made) is designed to identify red flags relating to an investment as early as possible. A comprehensive framework for conducting due diligence centers around the Five Ps of: Process, Portfolio, People, Performance, and Price.

VI. OPINION NO. 2

DUE DILIGENCE CONSISTENT WITH INDUSTRY CUSTOMS AND PRACTICES WOULD HAVE REVEALED NUMEROUS RED FLAGS RELATING TO THE MERKIN BLMIS ACCOUNTS

98. Due diligence consistent with industry customs and practices would have revealed

---

[107] *See, e.g.*, BS00528297 at 300; BS00528392 at 933.

[108] Ascot Fund Limited DDQ (BS00020935 at 935-953).

[109] *See, e.g.*, Yeshiva University Alternative Investment Summary Report, 2006 (BS00278165 at 1666); Ariel Fund Ltd Questionnaire for Due Diligence of Hedge Fund Managers requested by Aozora Bank (BS00528297 at 710).

[110] *See, e.g.*, BS00111678 at 678.

numerous red flags related to the Merkin BLMIS Accounts. For example, there were certain transactions that were impossible and the only rational or reasonable explanation was fraud. There were also numerous red flags relating to the Merkin BLMIS Accounts that were indicia of fraud, inconsistent with industry customs and practices, and/or inconsistent with the Madoff SSC strategy. Furthermore, many of the red flags would have prompted additional quantitative due diligence on the purported execution of the strategy. As discussed below, additional quantitative due diligence in areas related to the purported execution of the strategy would have revealed significant red flags where the only reasonable explanation was fraud.

99. The following section describes what would have been revealed had due diligence consistent with industry customs and practices been performed on the Merkin BLMIS Accounts.[111] Regardless of whether due diligence is initial or ongoing/monitoring, a comprehensive template or framework for conducting due diligence centers around the "Five Ps," as discussed above, where each "P" relates to a particular element of due diligence. The due diligence analyses performed below on the Merkin BLMIS Accounts and the implementation of the Madoff SSC strategy tracks the same Five Ps framework discussed above in Section V: an analysis of Process, Portfolio, People, Performance, and Price.

A. Process

100. Performing Process-related due diligence on the Madoff SSC strategy would have included analysis of the investment strategy and execution process, including strategy expectations, scalability, investment management style, implementation of investment ideas, buy and sell disciplines, risk management, investment research, team approach,

---

[111] As a Fund Manager, Merkin received dozens of requests from potential and current investors for information regarding the funds he managed. I have reviewed these documents, and they are consistent with industry customs and practices for due diligence related to Process, Portfolio, People, Performance, and Price as discussed above.

and review of the use of technology and service providers and infrastructure.

101. A Process-related analysis of the Madoff SSC strategy would have identified numerous red flags, including: (i) impossibilities where the only reasonable explanation was fraud; (ii) indications that Madoff was not executing the purported strategy; (iii) inconsistencies with the strategy; and (iv) inconsistencies with industry customs and practices.

1. Overview of BLMIS's Purported Investment Strategy: Split-Strike Conversion

102. The first step in Process-related due diligence is to understand, as best as possible, the strategy being implemented by the investment advisor. The Madoff SSC strategy purportedly implemented by Madoff for the Merkin BLMIS Accounts was a version of the SSC strategy.

103. Generally, the SSC strategy involves buying a security, buying "insurance" to protect against losses, and giving up gains in order to afford the insurance.[112] The insurance to protect against losses is called a "put option," and the investor buys a put option to protect against the stock falling in value below a certain point.[113] The gains are limited through a security called a "call option," and the investor sells a call option in order to afford the insurance.[114] When an investor attempts to reduce his or her position's exposure to market prices by purchasing puts and/or selling calls, he or she is said to be "hedging" the position.

---

[112] Merkin Dep. 115:24-116:23, 264:9-11, February 24, 2015.

[113] In exchange for an upfront payment, the put option buyer receives the right to sell the underlying stock at a particular price (the "strike price"). The option to sell the underlying stock has a fixed time frame, and is said to be "exercised" if the put option holder decides to sell the underlying stock at the strike price. In other words, the put option buyer "exercises" his or her right to "put back" the asset at a given price. Technically, American-style options can be exercised at any time through the date of expiration while European-style options can only be exercised on the date of expiration. This report discusses only the former, as OEX options on the S&P 100 are American-style. (http://www.cboe.com/LearnCenter/pdf/OEX_12-05-01.pdf).

[114] A "call option" on a stock provides the buyer of the call option with the right to purchase the underlying stock at a particular price (the strike price) in exchange for an upfront payment. The option to purchase the underlying stock has a fixed time frame, and is said to be "exercised" if the call option buyer decides to purchase the underlying stock at the strike price.

104. Buying the put option and simultaneously selling the call option is referred to as implementing a "collar" in the SSC strategy. In effect, the investor purchases a put option to provide protection on the downside (i.e., to limit losses the investor would incur if the market value of the equity portfolio drops), which is at least partially paid for by selling a call option that limits the upside (i.e., any large gains in the equity portfolio will be offset by payment made to the buyer of the call option).[115]

105. Initially Madoff implemented an SSC strategy that was very similar to what is described above. Pursuant to the Madoff SSC strategy, BLMIS purportedly bought a stock, bought a put option on that stock, and sold a call option on that stock.[116] This initial version of the Madoff SSC strategy using individual stocks and options on individual stocks was reflected on the Defendant Funds' BLMIS customer statements through 1991.[117]

106. An example may be helpful in this regard. Consider an investor who has $50 and decides to invest it in Disney, which is trading at $50 per share, and therefore buys a share of Disney for $50. In this case the investor could lose up to $50 if the value of Disney declines, but also has an opportunity to double the investment if Disney doubles in value. Many investors buy and sell stocks in this manner in the hope of identifying companies that will increase in value.

107. However, in this simple example the investor could lose all $50. What if an investor was not willing to lose all $50? What if they were only willing to lose $1? In that case, in order to protect against losing all $50, an investor could buy insurance to effectively limit the losses that could occur. For example, an investor could buy insurance that would

---

[115] *See* CFA Institute, *Alternative Investments, Risk Management, and the Application of Derivatives CFA Program Curriculum, Level III, Vol. 5*, 391-395 (2014). It is for this reason that the strategy may be used by individuals seeking to protect large concentrated positions in a single stock.

[116] *See, e.g.*, October 1990 customer statements for account 1-00148 (later renamed "1A0042") (MF00027830), (MF00027831). BLMIS purportedly purchased stock of General Electric Co, Atlantic Richfield Co, Disney, and 3 other companies. BLMIS purportedly purchased a put and sold a call for each of the 6 companies.

[117] *See, e.g.*, Statement for Ariel Capital LP (account number 1-00148-3) (December 31, 1990) (MF00024410); Statement for Ariel Capital LP (account number 1-00148-4) (December 31, 1990) (MF00024412).

limit losses to $1, so that if the price of Disney fell to $40 (i.e., more than $1 below $50) the investor could sell the stock at $49 and only lose $1 ($50 less $49) instead of $10 ($50 less $40). For investors who are not willing to lose all $50, insurance may be a useful tool.

108. However, insurance is not free. Therefore the investor has to find a way to afford the insurance since they already spent their $50 on the Disney stock. One alternative is to give up (or sell) gains in the Disney stock above a certain level. For example, the investor might be willing to make only $1 on the Disney stock and therefore be willing to give away gains if the stock goes up by more than $1; so that if the price of Disney went up to $60 (i.e., more than $1 above $50) the investor would only be able to sell the stock for $51 and make $1 instead of $10. Someone else might be willing to pay for this opportunity, i.e., the opportunity that the Disney stock might increase above $51. The money made from selling this opportunity could be used by the investor to pay for the insurance discussed above. In this way the investor only has to have enough money to buy the stock, and has effectively limited the downside (i.e., they won't lose more than $1) by giving up the upside (i.e., they won't make more than $1) regardless of how far the stock goes up or down.[118]

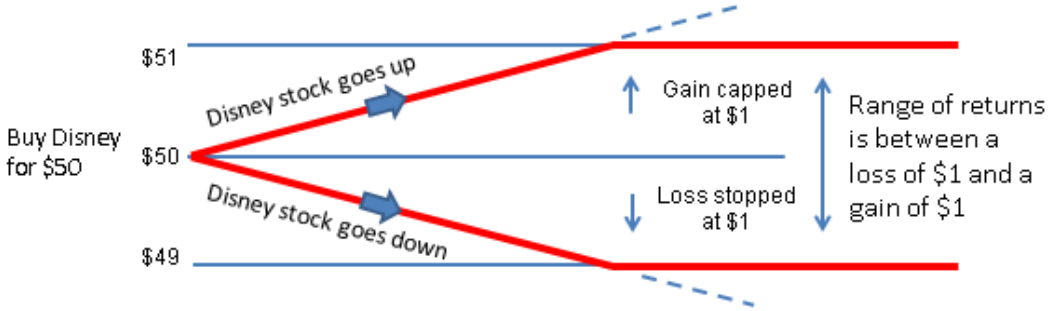
109. A graphical depiction of the example using the Disney stock is illustrated in Figure 1. As Figure 1 illustrates, the SSC strategy limits how much the investor can lose, but also limits the how much the investor can gain.[119]

---

[118] *See, e.g.* Trustee Exhibit 144 (SMC-NYAG000001 at 001-002).

[119] Merkin Dep. 110:21-113:12, February 24, 2015.

Figure 1
SSC Example Using Disney Stock



110. Then, beginning in 1991, Madoff purportedly began to implement the strategy using a basket of stocks in the S&P 100 Index, selling call options on the Index, and buying put options on the Index.[120] Madoff stated that the basket he purportedly purchased would be "correlated" with the S&P 100 Index by at least 95%, meaning that the value of his subset of stocks moved in a manner similar to the S&P 100 Index.[121] While this correlation would likely not be one-to-one, at a minimum, movements in the same direction and in similar degrees would be virtually guaranteed during the time when Madoff purported to be in the market.

111. A graphical depiction of the Madoff SSC strategy using a basket of stocks is illustrated in Figure 2. As Figure 2 illustrates, the Madoff SSC strategy limits how much the investor can lose, but also limits how much the investor can gain.[122]

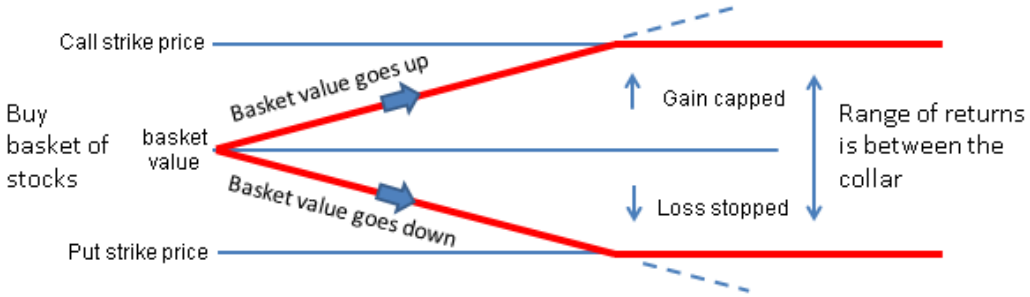
---

[120] Statement for account number1-05124-3-0 (later renamed 1FN004-3), July 31, 1991 (MF00485246); Statement for account number1-05124-4-0 (later renamed 1FN004-4), July 31, 1991 (MF00485248); Merkin Dep. 121:21-122:4, February 24, 2015; Trustee Ex. 363 (Handwritten Note, May 23, 1995) (GCC-P 0393211); Trustee Ex. 360 (Trading Authorization Directive, October 22, 2002) (GCC-SEC 0027370-381). The S&P 100 Index is value-weighted, meaning that companies with larger market capitalization impact the value of the index more than companies with smaller market capitalization. Market capitalization equals the number of shares of stock multiplied by the current price per share. (*See* http://www.standardandpoors.com/indices/sp-100/en/us/?indexId=spusa-100-usduf--p-us-l--).

[121] Trustee Ex. 360 (Trading Authorization Directive, October 22, 2002) (GCC-SEC 0027370-381 at 380-381).

[122] *Jesselson v. Merkin*, Hearing Transcript 691:11-696:8, September 13, 2011; *In re Madoff Charities Investigation*, Merkin Dep. 13:9-14:3, January 30, 2009.

Figure 2
SSC Example Using Basket of Stocks



112. There are certain expectations given the Madoff SSC strategy. First, the investor's returns should have moved in the same direction as the underlying stock, or, when using baskets, the S&P 100 Index. In this way, the Madoff SSC strategy should have produced returns that were correlated (i.e., related from a statistical perspective) to the returns of the underlying stock or the S&P 100 Index. There should have been some relationship between the purported returns of the Madoff SSC strategy and the returns of the underlying stock or the S&P 100 Index.

113. Second, when the Madoff SSC strategy purportedly generated gains, the largest gains should not have been as big as the largest gains in the underlying stock or the S&P 100 Index because the Defendant Funds had given away some of their gains.[123] Similarly, when the Madoff SSC strategy purportedly generated losses, the largest loss should not have been as big as the largest loss in the underlying stock or the S&P 100 Index because the Defendant Funds purportedly bought insurance. By way of the collar, the put option should have created a floor for the returns and the call option should have created a ceiling.

114. As a result, the Madoff SSC strategy was structured in a way for investors to reduce

[123] *Jesselson v. Merkin*, Hearing Transcript 691:11-696:8, September 13, 2011.

risk,[124] where risk generally refers to the volatility of returns.[125] In other words, a strategy is very risky if its returns fluctuate widely over time. For example, a strategy that ranges between -1% and +1% has less volatility than a strategy that ranges between -10% and +10%. Because the latter strategy has a much higher level of volatility and predicting the next month's returns would be very difficult, it would be considered a much riskier investment. However, while a goal of the Madoff SSC strategy is to reduce wide fluctuations in returns over time, it would be impossible to eliminate fluctuations altogether.

115. Additionally, while the SSC strategy can be successful at reducing volatility, it is difficult to generate gains without introducing some level of volatility. The gains are based on the size of the pre-determined range of returns set by the call and put option strike prices (i.e., the collar). This collar in turn introduces a band within which volatility would be expected. In each purported implementation of the Madoff SSC strategy, the strike prices on the call and put options defined the pre-determined range discussed above, and set an expectation as to the volatility of the returns. In other words, for the Madoff SSC strategy to have generated gains, it would typically have had some level of volatility.

116. There is also a timing element to the Madoff SSC strategy. That is, whether the strategy was executed using stocks or baskets, Madoff purportedly executed the strategy over days, months, or in some cases more than a year. For example, the first purported execution of the strategy occurred in October 1990 when BLMIS purportedly purchased for Ariel's BLMIS account (account number 1A0042) 4,300 shares of Atlantic Richfield Co. at a price of $131.75 per share.[126] A collar was initiated by purportedly selling

---

[124] Investors face different types of risk, often characterized as financial or non-financial risk. Market risk associated with exposure to changing stock prices, which is one source of financial risk, is particularly present in equities. Unless otherwise stated, the "risk" discussed herein refers to market risk.

[125] An asset's volatility is often measured as its standard deviation. *See* CFA Institute, *Alternative Investments, Risk Management, and the Application of Derivatives CFA Program Curriculum, Level III, Vol. 5*, 82 (2014).

[126] There were 5 other equities also purchased on October 3, 1990. An option collar was created for each equity position using put and call options on each individual security.

Atlantic Richfield Co. call options with a strike price of $140 and a January 1991 expiration and by purportedly buying Atlantic Richfield Co. put options with a strike price of $130 and a January 1991 expiration. In January 1991, BLMIS purportedly repurchased the January call options and sold new call options with an April 1991 expiration and strike price of $130 to maintain the strategy. Similarly in January 1991, BLMIS purportedly sold the January put options and bought new put options with an April 1991 expiration and a strike price of $120. This process is called "rollover" because the options are effectively rolled over to an expiration date further into the future. A similar "rollover" purportedly occurred in April 1991. Eventually, on July 19, 1991 (approximately 9 months after the initial equity purchase) BLMIS purportedly sold the 4,300 shares of Atlantic Richfield. The call options and put options expired out of the money.

117. In 1991, Madoff began purportedly executing the SSC strategy with baskets of stocks. The first basket, which included 15 stocks, was purportedly bought on July 23, 1991. The collar was initiated on the same date using options on the S&P 100 Index with an expiration of August 1991. Options were purportedly rolled over periodically, and the size of the basket changed at different points in time, until November 15, 1991 (approximately 4 months after the basket was initiated), when all the stocks in the basket were purportedly sold, the put options were sold, and the call options were repurchased. The proceeds from unwinding the strategy were purportedly invested in treasury securities until the next basket was initiated on December 2, 1991.

118. Starting in December 1991, Madoff began purportedly executing the SSC strategy exclusively with baskets of stocks. On December 2, 1991, a basket of 15 stocks was purportedly bought.[127] The collar was initiated on the same date using options on the

[127] While the first basket of stocks included 15 stocks and the second basket included 14 stocks, over time the number of stocks in the basket grew to roughly 30 in the late 1990s, roughly 40 in the early 2000s, and by October 2006 Madoff was purportedly including 50 stocks in the basket.

S&P 100 Index with an expiration of January 1992. Options were purportedly rolled over periodically, and the size of the basket changed at different points in time, until May 4-7, 1993 (approximately 17 months after the basket was initiated), when the stocks in the basket were purportedly sold, the put options were sold, and the call options were repurchased.

119. As these examples illustrate, the time over which the strategy was purportedly executed on a single stock or on a basket of stock was inconsistent (ranging from 4 to 17 months in the example above). Similarly, the number of days that Madoff was not purportedly executing the strategy, but rather invested in treasury securities (*i.e.*, he was not "in the market"), was also inconsistent. For example, from 1992 through 1996, the Merkin BLMIS Accounts were out of the market for an average of 30 days per year, with no more than 75 days in any given year. However, from 1997 through 2008, the Merkin BLMIS Accounts were out of the market for an average of 161 days per year, with no less than 75 days in any given year.

2. Purported Implementation of the Madoff SSC Strategy

a) No Downside Risk

120. In executing the Madoff SSC strategy that began in 1991, Madoff purportedly selected a basket of stocks in the S&P 100. Thus Madoff's position would also have been expected to move with the overall S&P 100 when its value was between the put and call strike prices.[128] However, the returns for the Merkin BLMIS Accounts did not move in the same direction as the S&P 100. For example, since the S&P 100 incurred losses 40.7% of the time (83 out of 204 months) from December 1991 through November 2008, the Madoff SSC strategy should have experienced at least some material percentage of negative return months.[129] However, the Merkin BLMIS Accounts reflected negative

---

[128] Merkin Dep. 259:16-261:14, February 24, 2015.

[129] Calculated based on Bloomberg Market Data.

return months less than 4% of the time (8 out of 204 months) over that time period.

121. Because of the pre-determined range defined by the strike prices, it would have been mathematically impossible for anyone implementing the Madoff SSC strategy to eliminate downside risk, as Madoff did, while generating returns in excess of default risk-free Treasury returns over any significant period of time.[130] As stated in a 2001 MAR/Hedge article, "the best known entity using a similar strategy, a publicly traded mutual fund dating from 1978 called Gateway, has experienced far greater volatility and lower returns [than Madoff] during the same period."[131] The inability to match the Madoff SSC strategy with the reported returns for the Merkin BLMIS Accounts was a red flag that Madoff was not executing the purported strategy.

b) Impossible Option Volumes[132]

122. Reviewing the customer statements for the Merkin BLMIS Accounts, which Merkin received and tracked, along with readily available market data, due diligence would have shown that BLMIS was reporting option trading volume widely in excess of the total daily volume on the option exchanges.[133] Based on a review of total daily volumes on the Chicago Board Options Exchange ("CBOE", the exchange on which OEX S&P100 Index options are traded)[134] for various options, it simply was not possible that BLMIS

---

130 The stability of Madoff's returns becomes progressively less and less likely as the analysis period increases.

131 Trustee Ex. 363 (Michael Ocrant, *Madoff Tops Charts; Skeptics Ask How*, MAR/HEDGE, May 2001) (GCC-P 0393336-339).

132 I also reviewed the volumes of trades that BLMIS purported to make with U.S. Treasuries. Despite the large volume of treasuries issued by the U.S. Government, there are 5 instances where Merkin held more than 10% of the total issuance of a particular U.S. Treasury. In fact, there is one example where Merkin's U.S. Treasury holdings are 55% of the total issuance of that particular U.S. Treasury (CUSIP 912795PX3 on December 28, 2003). These numbers would be even higher assuming that Madoff was buying U.S. Treasuries for other accounts besides Merkin.

133 Merkin indicated that he made this comparison himself. *Wiederhorn v. Merkin*, Hearing Transcript 221:3-222:4, December 3, 2009.

134 As part of the Madoff SSC strategy, BLMIS purportedly traded call and put options on the S&P 100 Index. The trade confirmations for the Merkin BLMIS Accounts reflected a CUSIP number and OEX ticker for the S&P 100 Index options indicating the options were traded on the CBOE as opposed to custom "Over-The-Counter" ("OTC") contracts that are not traded on an exchange. Trade Confirmation for Ariel Fund Ltd (Trade Date May

was trading the number of options indicated on the customer statements.

123. For the time period October 1990 through November 2008, BLMIS purportedly traded in 354 different call options on 628 days in 2,467 transactions for the Merkin BLMIS Accounts.[135] I compared the volume of call options purportedly traded for the Merkin BLMIS Accounts against the market, and 53.7% had a number of contracts above the daily market volume for the relevant option and trade date.[136] Looking further specifically into the transactions that traded above the daily market volume, I found that the number of shares transacted by Madoff greatly exceeded the total share volume transacted on the exchange. In addition, there were 15 instances where BLMIS reported buying or selling call options for the Merkin BLMIS Accounts when there was no volume traded on that day.[137] Figure 3 illustrates these impossible call option share results. (*See also* **Schedule 1**.)

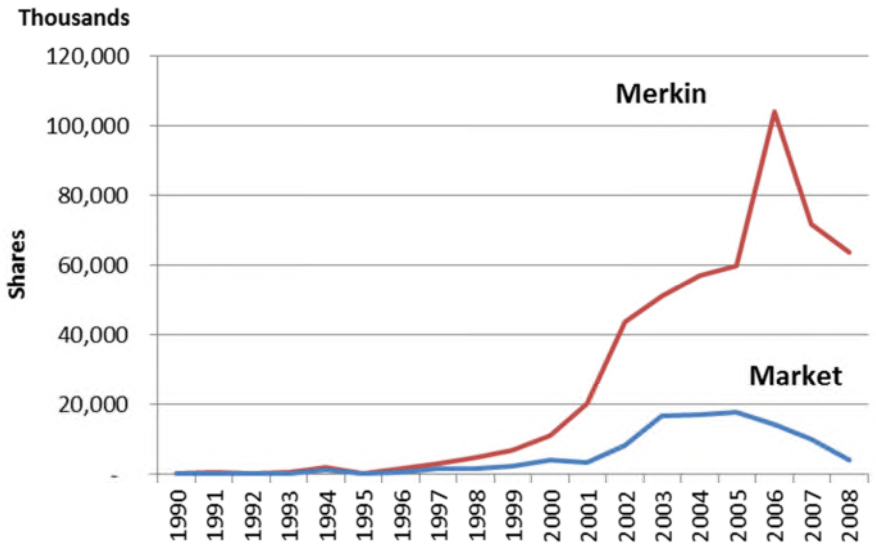
15, 2006) (BS00015518 at 518-522); Trade Confirmation for Ascot Partners LP (Trade Date April 18, 2008) (BS00008481 at 481-84).

135 Settled Cash table, StorQM Customer Statements, Customer Ledgers, and CBOE Market Data.

136 Options are traded as a "contract" where each contract represents 100 options. The number of call and put contracts bought or sold by BLMIS was determined based on the purported equity positions as consistent with the Madoff SSC strategy. In determining how many transactions included contracts above the daily market volume, I aggregated volume across the Merkin BLMIS Accounts; therefore the 53.7% reflects the percentage of unique transactions in the Merkin BLMIS Accounts with volume above the daily market volume. The 2,467 total number of transactions reflects 816 unique transactions with a specific transaction date, strike price, and maturity—53.7% of which had reported volumes above the daily market volume.

137 For example, on October 18, 2001, BLMIS reportedly bought 2,244 S&P 100 Index October 505 Call option contracts for Ascot's BLMIS account (1A0058). According to CBOE Market Data, this option was not bought or sold on that day.

Figure 3
Merkin BLMIS Accounts Call Option Volume Relative to Corresponding Market Volume 1990-2008[138]



124. Similarly, as it relates to put options, BLMIS purportedly traded 374 different put options on 594 days through 2,272 transactions from 1990 through 2008. For the unique transactions of put options, 48.5% had a purported number of contracts above the daily market volume.[139] Similar to the call options, for the put contracts which BLMIS purportedly traded above the daily market volume, the number of shares transacted for the Merkin BLMIS Accounts greatly exceeded the total share volume transacted in the market. Furthermore, as with the call options, there were 15 instances where BLMIS reported buying or selling put options for the Merkin BLMIS Accounts when there was

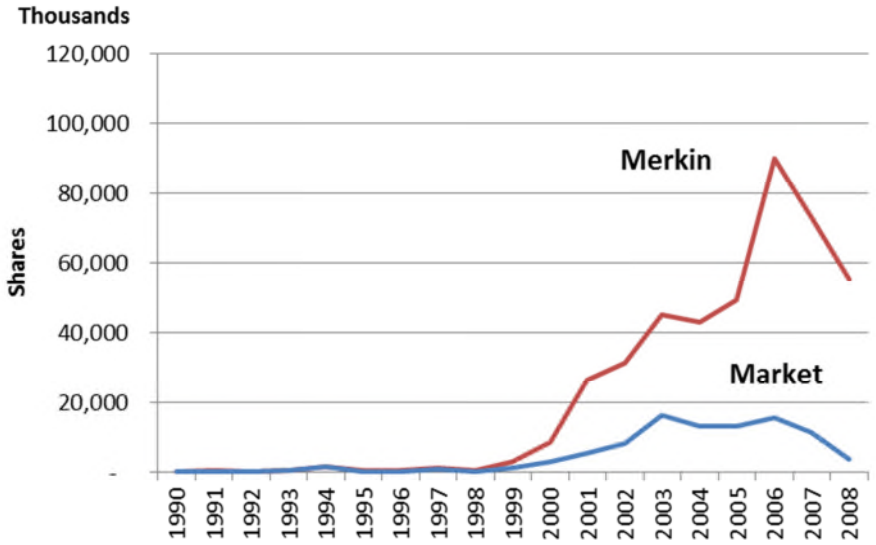
---

[138] Includes option trades made between 1990 and 2008, where the transacted volume for the Merkin BLMIS Accounts was greater than the market volume. Sources include Settled Cash table, StorQM Customer Statements, Customer Ledgers, and CBOE Market Data.

[139] In determining how many transactions included contracts above the daily market volume, I aggregated volume across the Merkin BLMIS Accounts; therefore, the 48.5% reflects the percentage of unique transactions in the Merkin BLMIS Accounts with volume above the daily market volume. The 2,272 total number of transactions reflects 757 unique transactions with a specific transaction date, strike price, and maturity—48.5% of which had reported volumes above the daily market volume.

no volume traded on the respective day.[140] Figure 4 illustrates these impossible put option share results. (*See also* **Schedule 2**.)

Figure 4
Merkin BLMIS Accounts Put Option Volume Relative to Corresponding Market Volume 1990-2008[141]



125. BLMIS not only purportedly purchased or sold options in quantities far above the daily volume, the customer statements for the Merkin BLMIS Accounts also reflected that the Defendant Funds purportedly owned far more options than existed in the market. For the period 2000 through 2008, based on the customer statements, on average, the Defendant Funds purportedly owned more call options than those in existence on the exchange for 116 days out of each year. Similarly, on average, the Defendant Funds purportedly owned more put options than those in existence in the market place for 123 days out of

---

[140] For example, on October 16, 1991, BLMIS reportedly sold 25 Walt Disney Productions October 115 put option contracts for Ariel's BLMIS account (1A0042). According to CBOE Market Data, this option was not bought or sold on that day.

[141] Includes option trades made between 1990 and 2008. Sources include Settled Cash table, StorQM Customer Statements, Customer Ledgers, and CBOE Market Data.

each year.[142]

126. Additionally, these figures reflect the Merkin BLMIS Accounts only. Madoff had billions of other dollars under management, meaning that the volumes necessary to implement the Madoff SSC strategy were even more beyond market capacity.

127. While the trade confirmations for the Merkin BLMIS Accounts indicated that the purported options transactions were exchange-traded (based on the name and CUSIP number), I have also considered the possibility that these purported transactions were done off the exchange, or OTC. I have concluded that the transactions could not have been done OTC for the following reasons:

- OTC transactions tend to be in the $5-$25 million dollar range which would have required 280 to 1400 transactions to be done across multi-billions of dollars in assets with theoretically many sophisticated global counterparties. Any larger OTC transactions would be have been done only on an appointment or negotiated basis and would require days, weeks, or even months to negotiate;

- Counterparties to the trades, whoever they might have been, would themselves have to offset their own risk (i.e., hedge) which would likely have to be done back in the exchange-traded market. Therefore, if there was insufficient volume in the exchange-traded market, then there would have been insufficient volume for BLMIS's counterparties in the OTC market to absorb and then lay off this transferred risk;

- There do not appear to be any written agreements, such as International Swaps and Derivatives Association ("ISDA") agreements that would have been necessary to execute these transactions OTC. OTC contracts are bilateral, privately negotiated contracts that typically require documentation between the trading parties;

---

[142] Based on transaction data in the Settled Cash table as well as daily open interest data from the CBOE for the options purportedly owned by the Defendant Funds.

- Every trade confirmation for S&P 100 Index options purportedly traded in the Merkin BLMIS Accounts that I have reviewed included a CUSIP for the transaction. However, I am not aware of any OTC transactions that have CUSIPs, if for no other reason than there is no economic rationale to do so because CUSIPs require a fee.[143]

- Of the 330 unique put and call options purportedly purchased and sold by BLMIS for the Merkin BLMIS Accounts between 2000 and 2008, all but 1 of the options included a CUSIP that was assigned to the CBOE.[144] That is, virtually all of the option securities that BLMIS reported to purchase could only have been purchased on the CBOE. They could not have been purchased OTC.

- Every trade confirmation for S&P 100 Index options purportedly traded in the Merkin BLMIS Accounts that I have reviewed listed relevant Defendant Fund as the counterparty (called "contraparty" on the trade confirmation), instead of the actual counterparty. It is industry custom and practice to list the counterparty to an OTC transaction on a trade confirmation, so that at a minimum the customer can assess the counterparty risk associated with the trade.[145]

---

143 *Master OTC Options Agreements (2000 Version),* SECURITIES INDUSTRY AND FINANCIAL MARKETS ASSOCIATION (SIFMA), 015. https://www.sifma.org/services/standard-forms-and-documentation/government-securities/government-securities_master-otc-options-agreement-(2000-version)/(last visited March 19, 2015); S*ee also*, AITE GROUP, LLC, TRENDS IN OTC EQUITY DERIVATIVES: WHERE DO WE GO FROM HERE? 11 (2006), *available at* http://164.109.172.95/downloads/leadership/whitepapers/Trends-in-OTC-Equity-Derivatives.pdf; CUSIPs are not free. The fee for CUSIP registration as of 2015 is $165 and $25 for each additional maturity per series. *Standard Fees for CUSIP Assignment (as of 1/1/2015) & Approximate Turnaround Time, Apply for a New Identifier,* CUSIP GLOBAL SERVICES, https://www.cusip.com/cusip/request-an-identifier.htm (last visited March 19, 2015).

144 The first six digits of a CUSIP identify the issuer of the security. With the exception of the one option trade using a different CUSIP using the six digits 783791, all of the reported options for the Merkin BLMIS Accounts between 2000 and 2008 used the six digits 783790 in the CUSIP. This code is specifically assigned to CBOE, and designates OEX options, which are trademarked by the CBOE. *See generally* CHICAGO BOARD OPTIONS EXCHANGE, OEX AND XEO S&P 100 OPTIONS (2001). *See also*, Chicago Board Options Exchange, *OEX Product Specifications, OEX S&P100 Index Options,* CBOE, http://www.cboe.com/products/indexopts/oex_spec.aspx (last visited March. 19, 2015).

145 *Master OTC Options Agreements (2000 Version),* SECURITIES INDUSTRY AND FINANCIAL MARKETS ASSOCIATION (SIFMA), 015. https://www.sifma.org/services/standard-forms-and-documentation/government-securities/government-securities_master-otc-options-agreement-(2000-version) (last visited March 19, 2015).

- If the Defendant Funds had been counterparties to OTC trades, it would have been typical to post margin, yet I have not identified any instances where margin was posted. At minimum, I would expect there to be a netting agreement that would allow the Defendant Funds to use their stock to collateralize the short option position.

For the reasons listed above, all of the purported options transactions could only have been exchange traded.

Based on the purported options being exchange traded, the volume reflected in the Merkin BLMIS Accounts was far in excess of the total market volume more than 50% of the time. These impossible call and put option volumes were a significant red flag and the only reasonable explanation was fraud.

c) Out-of-Range Trades

128. Due diligence on Madoff's execution of the Madoff SSC strategy would have revealed impossibilities related to out-of-range trades. For example, the customer statements and trade confirmations for the Merkin BLMIS Accounts included over 900 instances where BLMIS reported buy and sell equity transactions at prices either above the high stock price for the day or below the low stock price for the day, as reported by Bloomberg.[146] While Merkin indicated that he checked the prices on the trade confirmations he received from Madoff, he only checked to ensure that the prices on the trade confirmations reconciled with the prices on the customer statements, not whether those trade prices could have been legitimate.[147]

129. Legitimate trades could not have occurred at all of the prices reported by BLMIS. Since

---

[146] Examples include the purchase of INTC shares for 3 accounts on October 2, 2003 at $27.63 when the daily low was $28.41 and sale of JPM shares for 4 accounts on February 16, 2001 for $52.59 when the daily high was $52.00. I adjusted the reported trade prices for the $0.04 commission that was purportedly included in the share price prior to September 2006. Statement for Ariel Fund Ltd (October 31, 2003) (MDPTPP03181715 at 715-26); Statement for Ascot Partners LP (February 28, 2001) (MDPTPP00019682 at 682-89).

[147] Achillare Dep. 37:9-18, August 9, 2011; *In re Madoff Charities Investigation*, Merkin Dep. 17:17-25, January 30, 2009; *In re Madoff Charities Investigation*, Merkin Dep. 119:19-120:12, January 30, 2009.

Bloomberg collects its stock price data directly from the exchanges as well as OTC, the prices as claimed by BLMIS would have been picked up by Bloomberg had the trade actually occurred.[148] In the cases when BLMIS's purported executed prices were higher than the high for the day or lower than the low, these prices would have become the highs and lows for the day.[149] These occurrences were significant red flags and the only reasonable explanation was fraud, because, simply stated, there was never a trade in the market at the prices BLMIS reported.

(1) Equities

130. Between 1990 and 2008, there were 985 transactions across the Merkin BLMIS Accounts with reported equity prices outside of the daily price range on the day the trade was made.[150] These 985 transactions reflected over 56 million shares traded *outside* of the daily range. The customer statements and trade confirmations for the Merkin BLMIS Accounts reflected transactions *above* the daily price range 393 times, and transactions *below* the daily price range 592 times.[151] The total dollar amount purportedly gained through out-of-range equity transactions was over $10.3 million. For example, on November 7, 1996, BLMIS purportedly bought 41,055 shares of Intel Corp (INTC) at a price of $113.96 for Ascot's BLMIS account (1A0058), when the low price for the day was $118.75.[152] This resulted in a purported gain of approximately $196,000.

131. Over 56 million shares and over 900 transactions reflected on the face of customer

---

148 *Pricing Services Ensure Transparency and Consistency*, BLOOMBERG, http://www.bloomberg.com/enterprise/data/pricing-services/ (last visited March 4, 2015).

149 Alternatively, had the prices indicated in the account and trading statements been typos or errors, Merkin should have expected corrections from BLMIS with the appropriate prices.

150 Sources include Settled Cash table, StorQM Customer Statements, Customer Ledgers, and Bloomberg Market Data.

151 The results are based on comparing Settled Cash table, StorQM Customer Statements, and Customer Ledgers against Bloomberg Market Data.

152 Prior to September 2006, BLMIS did not explicitly identify commissions on customer statements. The trade confirmations stated that the trade price included a commission of $.04 per share for equities. Accordingly, I have adjusted the reported share prices prior to 2006 to adjust for these commissions. *See, e.g.*, BS00013594 at 595.

statements and/or trade confirmations for the Merkin BLMIS Accounts had impossible equity prices, which meant that these trades did not happen. These impossible trades reported for the Merkin BLMIS Accounts were significant red flags and the only reasonable explanation was fraud. (*See* **Schedule 3** for a table of out-of-range equity trades by year.)

(2) Options

132. In addition to the impossible equity transactions, over this same time period (1990 through 2008), there were also 382 transactions representing 545,828 options contracts (i.e., 54.58 million option shares) that were traded *outside* of the daily price range across the Merkin BLMIS Accounts. Of these transactions, 282 were traded *above* the daily high and 100 were traded *below* the daily low.[153] The total dollar amount purportedly gained through out-of-range option transactions was over $9 million. For example, on May 7, 1997, BLMIS purportedly bought 2,010 May 765 call option contracts at a price of $33.89 for the Merkin BLMIS Accounts, when the low price for the day was $44.00.[154] This resulted in a purported gain of over $2 million.

133. Because these trades were purportedly executed on an exchange, BLMIS could not have been making these impossible trades that were reflected on trade confirmations or customer statements for the Merkin BLMIS Accounts. These impossible out-of-range options trades were therefore significant red flags and the only reasonable explanation was fraud. (*See* **Schedule 4** for a table of out-of-range option trades by year.)

---

[153] Based on comparing Settled Cash table, StorQM Customer Statements, and Customer Ledgers against CBOE Market Data. In addition to the out-of-range trades, there were 6 instances where call options expired in-the-money. That is, in two cases BLMIS purportedly sold a call option, and the holder of the call option let the option expire without exercising it against BLMIS, despite the fact that the S&P 100 price was above the call option strike price on the expiration day (i.e., the option holder could have bought the S&P 100 from BLMIS at a price that was *lower* than the market—generating an instant gain). *See, e.g.*, Statement for Ascot Partners LP (January 31, 2000) (MDPTPP00019555 at 555-56).

[154] I have not adjusted the reported option prices prior to September 2006 for commissions. To the extent that the reported prices included commissions, there may be more out-of-range option trades.

(3) Treasuries

134. In addition to the impossible out-of-range equity and option transactions, BLMIS reported prices for U.S. Treasury Bills in the Merkin BLMIS Accounts that implied yields outside the daily range of yields reported by Bloomberg. Based on yields reported by Bloomberg, over 40% of the U.S. Treasury Bill transactions for the Merkin BLMIS Accounts were traded outside the daily range. However, due to the sensitivity of rounding, and the various ways to calculate prices based on yields, I also calculated what percentage of purported transactions were outside the daily range based on sensitizing the high/low by adding/subtracting between 1 and 10 basis points (i.e., widening the range). As Figure 5 illustrates, even with these sensitivities, over 1000 trades were made outside the daily range plus/minus 1 basis point, and over 200 trades were made outside the daily range plus/minus 10 basis points.

Figure 5
Sensitivity Analysis of Out of Range Trades for U.S. Treasury Bills 2000-2008[155]

Basis Point Adjustment	% of Trades Out of Range	# of Trades Out of Range
0	44.2%	2,398
1	24.3%	1,321
2	14.4%	784
3	10.7%	581
4	8.9%	483
5	7.5%	406
6	6.3%	342
7	5.5%	300
8	5.0%	273
9	4.3%	232
10	4.1%	220

135. BLMIS could not have been making the trades that were reported on the trade confirmations or customer statements for the Merkin BLMIS Accounts. These

[155] Sources include Settled Cash table, StorQM Customer Statements, and Bloomberg Market Data.

impossible out-of-range U.S. Treasury Bill trades were significant red flags and the only reasonable explanation was fraud. (*See also* **Schedule 5**.)

d) Unexplained Exposure to Market Risk

136. As discussed above, an SSC strategy is designed as a way for investors to reduce risk. As part of the Madoff SSC strategy, equity purchases are hedged using an option collar, created through the purchase of puts and the sale of calls. The number of options needed to hedge the equity position depends on the value of the equity position (i.e., if more equities are purchased, more options are needed to hedge the position). Therefore, if additional equities are purchased, the option positions need to increase in order to provide an effective hedge. Similarly, when equities are sold, the option positions should be reduced. When the purported hedges are not adjusted based on changes in the value of the equity position, the Merkin BLMIS Accounts are left exposed to market risk,[156] and this additional market risk is not an element of any SSC strategy, let alone the Madoff SSC strategy.

137. On over 300 occasions, statements for the Merkin BLMIS Accounts reflected changes to the basket of equities purportedly purchased for the Merkin BLMIS Accounts, but failed to reflect corresponding changes to the options used to hedge the equity position. BLMIS's actions on each of these occasions was inconsistent with the Madoff SCC strategy and inexplicably exposed the Defendant Funds to additional market risk.

138. For example, between December 20, 1994 and January 9, 1995, BLMIS purportedly purchased a basket of equities for the Ascot account (1FN005), including MCI Communications Corporation. On January 24, 1995, the entire MCI Communications equity position was sold for approximately $885,000. The remainder of the equity basket was sold on April 17, 1995. Despite the sale of an equity position of approximately $885,000 on January 24, 1995, there was no corresponding adjustment made to the option

---

[156] Merkin Dep. 103:25-104:3, February 24, 2015.

positions.

139. Similarly, between January 16, 2001 and January 17, 2001, BLMIS purportedly purchased a basket of equities for the Ascot account (1A0058), including EMC Corporation. On February 7, 2001, the entire EMC Corporation equity position was sold for approximately $10.7 million. The remainder of the equity basket was sold between February 14, 2001 and February 16, 2001. Despite the sale of an equity position of more than $10 million on February 7, 2001, there was no corresponding adjustment made to the option positions. There were similar sales of EMC Corporation equity positions from three other Merkin BLMIS accounts (1FN005, 1FR070, and 1G0321) on February 7, 2001, totaling an additional $14 million. Despite the combined $25 million in equity sales across these four accounts, there were no adjustments made to any of the option positions in the accounts. (*See* also **Schedule 6**.)

140. In addition to the sale of equity securities without corresponding hedge adjustments, there were also instances in which there were delays in putting on part of the option collar. In the Former Ascot Fund account (1FN005) for example, there were three separate instances during 1994 in which there were timing issues around the purchase and sale of the option collar. For example, on September 12, 1994, BLMIS purportedly bought approximately $357,000 of equities. On the same day, BLMIS purportedly bought 900 put options, creating the bottom half of the option collar. However, the 900 call options were not sold (to complete the option collar) until the next day, September 13, 1994. This difference in timing left the fund exposed to additional market risk that is not part of the SSC strategy.

141. Another example of a timing issue related to the option collar occurred in February of 1993. The Former Ascot Fund (1FN005) was in the market, and BLMIS purportedly rolled over the option collar from options expiring in February to options expiring in March. However, the 2,035 March call option contracts were sold on February 12, 1993, while the 2,035 February call option contracts were not bought back until February 16, 1993. As a result of this timing difference, Merkin's Ascot account was exposed to

additional market risk.

142. This failure to adjust the option hedge when the basket of equities changed was a deviation from the Madoff SSC strategy. Failure to follow the stated strategy is suspicious, inconsistent with the Madoff SSC strategy, and should have prompted additional quantitative due diligence on the purported execution of the strategy, including performance attribution, reverse engineering and alpha analysis. As discussed in Sections VI.D.4, VI.B.2 and VI.B.1, due diligence in these areas would have revealed significant red flags where the only reasonable explanation was fraud.

e) Investing in Cash at the End of Each Year Beginning in 1993

143. Madoff's purported execution of the Madoff SSC strategy is inconsistent with the opportunistic nature of the strategy. That is, the ability of Madoff to enter and exit the market at the right time ("market timing") was touted as a key component of the strategy.[157] In this manner the Madoff SSC strategy can be called opportunistic—Madoff would enter and exit the market when the right opportunity presented itself. However, an opportunistic strategy should be agnostic as to whether it is January, March, or any particular month.

144. Entry and exit from the market should theoretically be random. Based on Madoff's frequency of baskets it is possible to calculate the probability of Madoff being out of the market on any particular day (i.e., the probability that there is not an opportunity).[158] For example, from 1993 to 2008, the Merkin BLMIS Accounts were out of the market (i.e., not in a basket), on average, for 130 days per year. This results in a probability of the

---

[157] Merkin Dep. 158:12-167:13, February 24, 2015; Autera Dep. 171:9-22, October 19, 2011; *New York v. Ascot Partners, LP et al*., Merkin Dep. 150:11-19, July 1, 2010; *N.Y.U. v. Ariel Fund Ltd. et al.*, Merkin Dep. 137:17-22, February 9, 2009.

[158] Merkin testified that market timing referred to going in and out of the market to catch a turn, and typically this would occur three to six or four to eight times a year. Merkin Dep. 164:4-10, February 24, 2015. Therefore, when Madoff is out of the market it must be because there is no opportunity to catch a turn.

Merkin BLMIS Accounts being out of the market on any particular day of 36%.[159] Therefore, the probability of Madoff being out of the market on December 31 of each year is 36%.

145. This analysis can also be extended beyond one year. For example, the probability of being out of the market on December 31 for five straight years (e.g., from 1993 through 1997) is 0.57%.[160] By the end of 2001, the probability that Madoff would be out of the market for 9 straight years is less than 0.01% (less than 1 in 10,000 chance).[161] Madoff was purportedly out of the market at the end of each year for the Merkin BLMIS Accounts from 1993 through 2007 (15 straight years).[162]

146. There is no rationale to avoid the market at the end of each year when implementing the Madoff SSC strategy that was supposedly benefiting from market timing. For example, there is no market stress event at the end of each year that would lead an advisor following a market timing strategy to exit the market. There is no rational explanation for Madoff to be out of the market on these dates with such consistency, which is suspicious, inconsistent with the Madoff SSC strategy, and should have prompted additional quantitative due diligence on the purported execution of the strategy, including performance attribution, reverse engineering and alpha analysis. As discussed in Sections VI.D.4, VI.B.2 and VI.B.1, due diligence in these areas would have revealed significant red flags where the only reasonable explanation was fraud.

147. In addition to being out of the market at the end of each year, Madoff did not maximize returns while out of the market. When not invested in securities, it is consistent with industry customs and practices to put cash in a Short Term Investment Fund ("STIF"), a

---

[159] 130 / 365 = 0.36

[160] 0.36 ^ 5 = 0.0057 or 0.57%

[161] 0.36 ^ 9 = 0.00009 or 0.009%

[162] Madoff was also out at the end of each quarter for 25 straight quarters beginning in the third quarter of 2002 and proceeding through the third quarter of 2008 (the last quarter before authorities seized BLMIS). The probability of this occurring is less than one in 5,000,000.

diversified liquid pool of Treasuries and other securities such as agency debt and commercial paper.[163] Instead, Madoff invested in U.S. Treasury Bills during these periods, resulting in a lower return. For example, using comparable commercial paper investments that are prevalent in broker-dealer STIF accounts would have produced an additional $32 million in investment returns for the Merkin BLMIS Accounts from 2000-2008.[164] It would have been custom and practice for a Fund Manager such as Merkin to inquire as to why Madoff was not maximizing returns while out of the market.

f) Atypical Frequency of Dividends

148. During the periods in which BLMIS was purportedly out of the market, BLMIS purported to invest in U.S. Treasuries, specifically the Fidelity Spartan U.S. Treasury Money Market Fund (the "Fidelity Fund").[165] The Fidelity Fund paid dividends once per month, always in the first few days or the last few days of the month.[166]

149. Typically money market funds declare dividends daily and pay them monthly.[167] However, the statements for the Merkin BLMIS Accounts reflected as many as seven separate Fidelity Fund dividends in a single month. In the month of February 2007, for example, the customer statements for the Ariel account (1FR070), the Gabriel account (1G0321), and the Ascot account (1A0058) each reflected seven separate Fidelity Fund dividends. These dividends purportedly occurred on February 6, February 13, February 16, February 20, February 22, February 23, and February 28. In reality, the Fidelity Fund

---

[163] FRANK J. FABOZZI ASSOCS., PERSPECTIVES ON INVESTMENT MANAGEMENT OF PUBLIC PENSION FUNDS 120 (Frank J. Fabozzi ed., 1999).

[164] This is based on a comparison of the yield on 3-month commercial paper and 3-month Treasury Bill by month, considering how many days in each month that Madoff was in Treasuries.

[165] The customer statements for the Merkin BLMIS Accounts reflected the purported purchase and sale of the Fidelity Spartan U.S. Money Market Fund (Ticker: FDLXX). While this fund officially changed its name to Fidelity U.S. Money Market Fund, effective August 15, 2005, the customer statements for the Merkin BLMIS Accounts never reflected the name change, and continued to report the historical, incorrect name.

[166] From 1990 through 2008, all Fidelity Fund dividends were paid either during the first two or last two business days of the month. There were three instances over that time period in which two dividends fell during the same calendar month, but dividends never occurred less than 25 days apart. Bloomberg Market Data.

[167] https://www.interactivebrokers.com/prospectus/31607A109.pdf, page 19.

only paid one dividend that month, on February 1, 2007. The next Fidelity Fund dividend was not paid until March 1, 2007.

150. The statements for the Ariel account (1FR070), the Gabriel account (1G0321), and the Ascot account (1A0058) each reflected at least three purported Fidelity Fund dividends in a single month over 20 times.[168] (*See* **Schedule 7**.) Purported money market dividend payments reflected on the statements for the Merkin BLMIS Accounts that did not match the dates or the frequency of the actual Fidelity Fund dividend payments were suspicious and should have prompted additional due diligence to make sure there was no other suspicious activity on the customer statements. In accordance with industry customs and practices, this due diligence could include a comparison of purported equity, option and U.S. Treasury Bill prices to the daily high and low market prices as well as analysis of option volume.

3. Lack of Scalability

151. Operating any strategy using the S&P 100 has certain associated limitations. Such a strategy is, by design, limited to only 100 stocks, and therefore also limited to the total number of publicly-available shares for these 100 stocks, as well as options on that particular index.

152. By 2001, Madoff was managing at least $7 billion of AUM.[169] This AUM is not by itself a red flag. However, Madoff's purported operation of the Madoff SSC strategy utilizing the S&P 100, with up to $7 billion in assets, was a red flag because of the lack of scalability of this strategy.[170] As Merkin stated in a conversation with Madoff, "one of

---

[168] *See, e.g.*, BS00533860 at 862-76.

[169] *Straus v. Merkin*, Merkin Dep. 238:15-21, June 21, 2011.

[170] Similar to the law of diminishing returns, scalability refers to the concept that as a fund increases its AUM, it becomes increasingly difficult for that fund to find investment opportunities of a scale proportional to the growing size of the fund. In particular, certain trading strategies are only profitable using small amounts of capital, hence the returns those strategies generate as a percentage of the fund decrease as the fund grows larger. Press Release, Alternative Investment Management Association (AIMA), AIMA Launches New Due Diligence

the tenets of the investment business, right or wrong, is that there is some basic connection between size and profitability."[171] This was a topic that Merkin testified he was "very interested in," noting the popular Wall Street Expression, "The God of size comes to visit everybody."[172]

153. A useful comparison for purposes of scalability is the Gateway Fund ("Gateway"), a $1.3 billion publicly-traded fund as of 2001 that implemented an SSC strategy, but did so with the S&P 500.[173] One of the reasons why Gateway uses the S&P 500 is to avail itself of more securities and more market value, allowing it to invest a larger asset base in the strategy.[174] The SSC strategy tends not to be scalable, and Gateway gives itself as much of an advantage as possible by utilizing up to 500 stocks instead of 100 stocks, and the associated increase in available market value. This means Gateway has significantly more opportunity to implement its strategy than if it relied only on stocks in the S&P 100. This advantage is not limited to the stocks. The volume of options available on the S&P 500 is significantly more than the volume of options available on the S&P 100, again contributing to the ability of Gateway to scale the strategy. Figure 6 illustrates that the notional value of call options (i.e., the number of option shares outstanding times the value of the index at the time) was significantly greater for the S&P 500 than the S&P

Questionnaires (April 12, 2007), http://www.aima.org/en/media_centre/press-releases.cfm/id/51A9EFBE-E15D-4CEC-83A; Vikas Agarwal, Naveen D. Daniel, Narayan Y. Naik, *Flows, Performance, and Managerial Incentives in Hedge Funds* (Glasgow: European Finance Association (EFA) 2003); Roger M. Edelen, Richard Evans, Gregory B. Kadlec, *Scale effects in mutual fund performance: The role of trading costs* (March 17, 2007), http://ssrn.com/abstract=951367; Harry M. Kat & Helder P. Palaro, *FundCreator-Based Evaluation of Hedge Fund Performance* (February 22, 2007), http://ssrn.com/abstract=964301.

171 Trustee Exhibit 363 at GCC-P 0393364-373; *see also Jesselson v. Merkin*, Hearing Transcript 633, September 13, 2011.

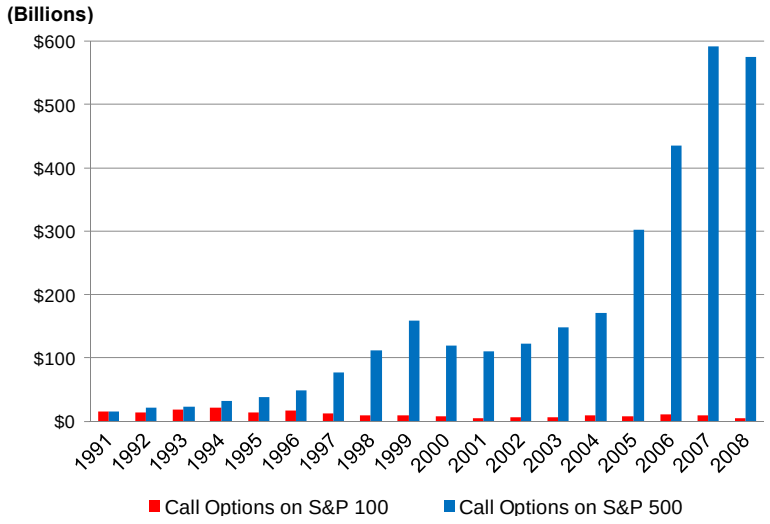
172 *Straus v. Merkin*, Merkin Dep. 562:10-15, June 22, 2011; Merkin Dep. 143:4-144:12, February 24, 2015.

173 Morningstar Direct Database (August 2011); *The Gateway Fund's Hedging Edge, Markets & Finance*, BLOOMBERG BUSINESS (April 20, 2005), http://www.bloomberg.com/bw/stories/2005-04-20/the-gateway-funds-hedging-edge. The ticker for Gateway is "GATEX."

174 Gateway's portfolio typically consists of 250 to 400 stocks, as compared to BLMIS's 35 to 50. GATEWAY TRUST SEC FORM N-1A (July 20, 2007). The market value of the S&P 500 stocks was between 154% and 193% higher than the market value of the S&P 100 stocks between 2000 and 2008. Bloomberg Market Data.

100.

Figure 6
Notional Value of Call Options 1991-2008: S&P 100 v. S&P 500[175]



154. Madoff was operating with more assets, fewer stocks, and fewer opportunities than a comparable strategy being implemented by Gateway. Due diligence, consistent with industry customs and practices, would typically have been conducted to understand how, if at all, Madoff was able to do so and still generate consistently appreciable returns.[176]

155. A closer analysis of the outstanding notional value for S&P 100 call options reveals that it would have been impossible for Madoff to implement the Madoff SSC strategy. In order to implement the strategy, Madoff needed to sell call options, where the notional value of the call option would have corresponded to the funds invested in the market. That is, if Madoff bought $100 of stock, he needed to sell approximately $100 of notional value in call options. Therefore, if Madoff was managing approximately $7 billion in AUM (as had been reported by 2001) he would have needed approximately $7 billion in

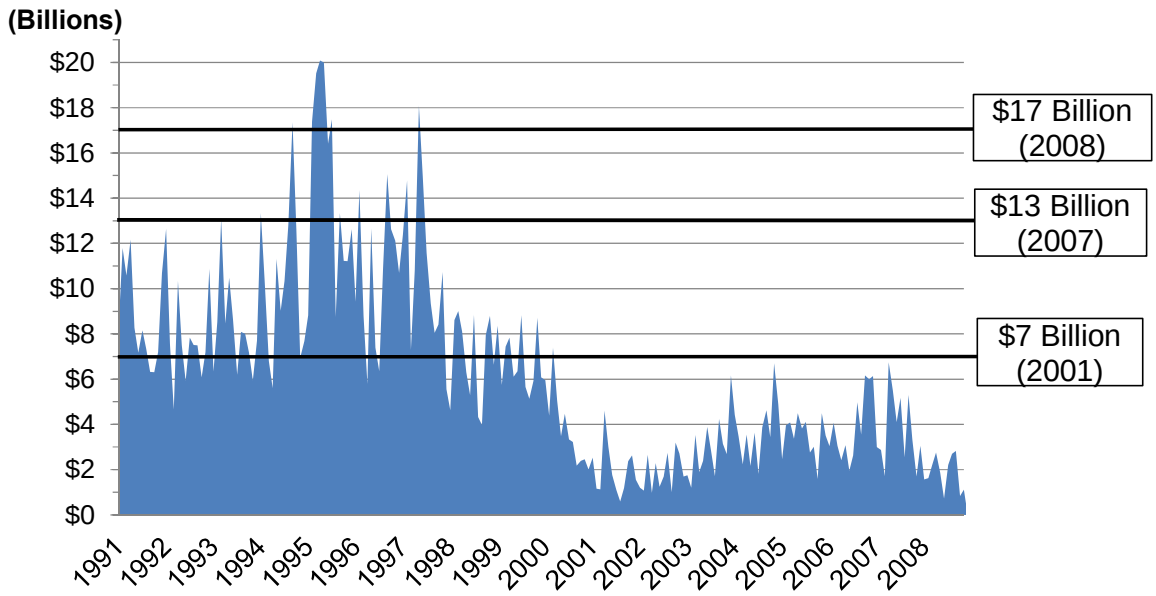
---

[175] CBOE Market Data.

[176] Andre F. Perold and Robert S. Salomon, Jr., *The Right Amount of Assets Under Management*, Financial Analysts Journal (May-June 1991).

call options in terms of notional value. However, as the following chart illustrates, by 2001, and every period thereafter there was simply not enough call option notional value to support the Madoff SSC strategy. The issues associated with implementing the Madoff SSC strategy on the S&P 100 with a large asset base were further magnified in 2007 and 2008 when BLMIS publicly disclosed that it was managing $13 billion and $17 billion respectively.[177]

Figure 7
Notional Value of S&P 100 Call Options[178]



156. With growing AUM of $7 billion to $17 billion, and using the SSC strategy on the S&P 100, Madoff would not be expected to generate the returns reflected in the Merkin BLMIS Accounts. That Madoff was operating an approximately $7 to $17 billion Madoff SSC strategy with the reported returns was a significant red flag and the only

[177] SEC Form ADV, Bernard L. Madoff Investment Securities, January 24, 2007 (PUBLIC0003763 at 771); SEC Form ADV, Bernard L. Madoff Investment Securities, January 7, 2008 (PUBLIC0003834 at 840).

[178] Madoff's strategy required selling call options that were out-of-the-money, therefore the chart depicts the monthly maximum notional value of call options that are out-of-the-money (and expiration date of less than six months). The maximum reflects the highest notional value reported on any day within the month. Data was obtained from CBOE.

reasonable explanation was fraud.

4. Style Drift

157. "Style drift" is used to describe a change in an investment advisor's investment strategy or goals.[179] For example, if an investment advisor changed from an equities-based strategy to an options-based strategy, or began generating returns based on activities outside the stated investment strategy, these would be considered style drift. There are two examples of style drift related to Madoff: (i) a shift from performing the SSC strategy on individual stocks to an overall basket in the early 1990s; and (ii) the purported purchase and sale of speculative options that generated significant returns.

a) Split Strike Strategy on an Index

158. Madoff's purported shift in strategy in the early 1990s from buying and selling options on individual stocks to buying and selling S&P 100 options on baskets of stocks constituted an important change in investment strategy.[180] It was an important change because there was little, if any, investment rationale to make the change. An SSC investment strategy might capitalize on equity and option mispricing by exploiting perceived inefficiencies in the market. Any inefficiency that existed would have more likely been realized at the stock level. Converting to an index-based SSC strategy from a stock based SSC strategy would limit BLMIS's ability to earn excess returns, making this a counter-intuitive modification to the purported strategy.

159. Furthermore, the impact of moving from a stock-based strategy to an index-based strategy is not limited to inefficiencies. Moving from a stock-based strategy to an index-based strategy would also be detrimental to a strategy based on market timing. Rather than searching for 30 market-timing opportunities, the strategy is now limited to trying to predict the market's movement as a whole (assuming the strategy was based on "catching

---

[179] *Straus v. Merkin*, Merkin Dep. 631:4-16, June 21, 2011.

[180] *In re Madoff Charities Investigation*, Merkin Dep. 13:13-16, January 30, 2009.

a return," as Merkin claimed was the case for the Madoff SSC strategy).[181]

b) Speculative Options

160. The Madoff SSC strategy purported to use options to hedge an equity position. When a basket of equities is purchased, the purchase of puts and the sale of calls creates a "collar," limiting both the potential gains and the potential losses of the equity position.[182] As changes are made to the basket of equities, corresponding changes are made to the option collar in order to properly hedge the new equity position. The Madoff SSC strategy did not purport to use options to speculate on the directional movements of the market. However, customer statements for the Merkin BLMIS Accounts reflect that between January 1, 1992 and November 30, 2008 on at least 200 separate occasions, option transactions were used solely to generate a profit and not to hedge any equity transactions. As Figure 8 below illustrates, the Merkin BLMIS Accounts reflected speculative option trades generating over $22 million and 24% of total dollar returns in a single year.

---

[181] Trustee Exhibit 363 (Handwritten Notes, October 30, 2008) (GCC-P 0393148).

[182] If the market declined, gains from the long put options would offset the losses in the equity basket. Similarly, if the market rose, losses from the short call options would offset the gains in the equity basket.

Figure 8
Speculative Option Trades in the Merkin BLMIS Accounts

Year	Number of Speculative Transactions	Gain/(Loss) from Speculative	% of Total Dollar Return
1992	18	$ 568,834	8.0%
1993	8	$ 1,864,496	12.8%
1994	12	$ 3,598,833	21.5%
1995	18	$ 679,257	2.9%
1996	22	$ 6,034,088	24.2%
1997	8	$ 393,338	1.1%
1998	12	$ 2,800,986	6.0%
1999	12	$ 2,618,797	3.9%
2000	4	$ 1,158,297	2.2%
2001	8	$ 9,395,232	9.9%
2002	0	$ -	0.0%
2003	14	$ 8,688,256	6.9%
2004	20	$ 22,433,690	17.6%
2005	10	$ 6,856,536	5.3%
2006	22	$ 4,692,605	3.0%
2007	0	$ -	0.0%
2008	12	$ 22,465,408	12.3%
Totals (1992-2008)	200	$ 94,248,651	6.9%

161. This use of options to generate returns represents an example of style-drift. The profits in the Merkin BLMIS Accounts are not being driven by any part of the Madoff SSC strategy—they are being driven by speculative options.

162. For example, the statements for the Ariel account (1FR070) indicate that on August 29, 2001, BLMIS purported to buy 1,832 OEX put options with a strike price of 570 and a September expiration date, at a price of $5.70. These same options were purportedly sold two days later, on August 31, 2001, for a price of $11.00, generating a net gain of $967,296.

163. These types of option transactions were not used to hedge any equity transactions. Instead, these option transactions were used independently of any equity positions for the sole purpose of generating a profit, and were therefore a deviation from the Madoff SSC

strategy. Over this time period speculative options represented 6.9% of the returns in Merkin's accounts. These speculative option trades were suspicious, inconsistent with the Madoff SSC strategy and should have prompted additional quantitative due diligence on the purported execution of the strategy. The additional due diligence would have been to conduct performance attribution, reverse engineering and alpha analysis. As discussed in Sections VI.D.4, VI.B.2 and VI.B.1, due diligence in these areas would have revealed significant red flags where the only reasonable explanation was fraud.

5. Service Providers

a) Broker-Dealer, Custodian and Administrator

164. Due diligence would also have revealed that BLMIS operated as its own broker-dealer, custodian and administrator – outside of industry norms. While some investment management firms may operate as their own service provider in some areas, rarely do they operate as their own provider in all of these areas.

165. The fact that BLMIS purportedly used its affiliated broker-dealer was a red flag because it is well understood in the industry that this very structure presents an opportunity for fraud to be committed. Most funds do not serve as their own prime broker. Despite the Proprietary Trading Business operating as a broker-dealer, the absence of a third-party prime broker raises a concern because the lack of third-party controls creates an opportunity for fraud.[183]

166. The custody of funds is also an important component of the investment decision. The firm that has the legal responsibility for holding assets owned by an investor is called the "custodian" of those assets. When an individual manages his own funds (i.e., determining when and where to invest), and uses a broker-dealer for purposes of executing transactions, that broker-dealer acts as the custodian. However, if an

---

[183] *N.Y.U. v. Ariel Fund Ltd. et al.*, Teicher Dep. 44:14-45:15, February 9, 2009; Ehrenkranz Dep. 48:4-17, March 20, 2014; Surh Dep. 43:25-46:3, September 18, 2013.

individual or institution entrusts funds to another entity (e.g., an investment advisor) to manage, it is common industry practice for an independent third-party custodian to hold the actual funds. Even though the investment advisor is deciding how best to invest the client funds, the funds and/or securities are held by a different entity (i.e., the custodian).[184]

167. The benefit of using a third-party custodian in these instances is clear – it acts as a check on the investment advisor. The involvement of multiple parties in the management of assets helps reduce the potential misappropriation of those assets by any of those parties. It is extremely rare for investment advisors to also maintain custody of their customers' assets for this reason. If there is a third-party custodian, client assets are safe even if the investment vehicle becomes insolvent.[185] If the investment advisor represents himself as the custodian, it is rife with the possibility of fraud, in that the advisor could theoretically misreport or misappropriate the assets, which is in fact what occurred with BLMIS. Having third parties buy and sell securities (i.e., through the use of prime brokers) and hold securities (i.e., through the use of custodians) helps deter potential fraud. This organizational model using separate entities is industry practice for the investment management industry and applies to both hedge funds and managed accounts.

168. In addition to custodians, investment vehicles also employ the services of an administrator. Administrators offer services including: fund accounting, shareholder servicing, reviewing regulatory requirements, structuring alternative investment instruments, and stock exchange reporting.[186] Similar to prime broker and custodian activities, investment vehicles typically do not act as their own administrator.[187]

---

[184] Securities may be held either in certificate form, or in "street name," i.e., aggregated with the custodian with beneficial owners accounted for by the custodian.

[185] Mark Berman, *Hedge Funds and Prime Brokers* 42 (London: Risk Books 2009).

[186] Jason A. Scharfman, *Hedge Fund Operational Due Diligence* 16 (Hoboken: John Wiley & Sons, Inc. 2009).

[187] Less than 1% of hedge funds handle the responsibilities of an administrator for their own operations. Calculated using Barclay Global DataFeeder August 2011.

169. Madoff serving as his own broker-dealer, custodian and administrator was a red flag because it was inconsistent with industry customs and practices and the lack of independent verification created an opportunity for fraud.

b) Lack of a Well-Known and Established Auditor

170. The purpose of the auditor is to review the financial statements of the audited firm and determine that the financial statements are reasonably free of material misstatements.[188] For example, Merkin employs BDO Seidman as the auditor for Gabriel and Ascot, while BDO Tortuga is the auditor for Ariel and Former Ascot Fund.[189]

171. Due diligence consistent with industry customs and practices, such as running a Dun & Bradstreet report, a site visit, or phone call, would have immediately shown that Friehling & Horowitz was a firm with one active accountant, that simply did not have the capability to provide adequate audit support to a firm the purported size of BLMIS. Madoff was a global investment advisor and BLMIS's purported size would have made it one of, if not the largest, hedge fund in the world during the 2000s.

172. The fact that BLMIS, with public estimates of AUM as much as $7 billion by 2001, did not have a well-known, well-established, and well-equipped auditor was a red flag because it is inconsistent with industry customs and practices and created an opportunity for fraud.[190] It is easier for an investment advisor to produce fictitious numbers or fraudulent financial statements if the auditor is not equipped or does not have the requisite expertise to identify fraudulent activity. Pursuant to industry customs and

---

188 Occupational Outlook Handbook (2014-2015 ed.) (March 5, 2015), http://www.bls.gov/ooh/business-and-financial/print/accountants-and-auditors.htm.

189 Gabriel Capital Group Marketing Presentation, (October 2008) (BS00041099). PwC, Ernst & Young, KPMG, and Deloitte & Touche are commonly referred to as the "Big 4" accounting firms. These firms audit more than 50% of U.S. hedge funds, including providing auditing services to 18 out of 20 of the largest hedge funds. Barclays' Fund Graveyard Database as of August 2011.

190 Joshua Nash, Merkin's friend and co-member of the UJA/Federation of New York investment committee, called the lack of a major accounting firm at BLMIS a "red flag," and as a result "wouldn't be comfortable" investing with Madoff as a fiduciary to any endowment. Nash Dep. 51:1-52:3, 54:13-25, October 18, 2012.

practices, auditors are expected to act as a significant check on the financial transactions of their clients—and without a capable auditor behind BLMIS there was an opportunity for fraud to be committed.[191]

6. Investor Communications

a) All Paper Statements

173. A red flag associated with BLMIS's operations relates to the use of paper statements, and the lack of any electronic access by the Defendant Funds. Despite typical investment management industry operating procedures of allowing customers to obtain account statements, balances, and other details through the internet, the Defendant Funds never had real-time access to any account data or electronic statements.[192]

174. For decades, the common medium for communication between financial institutions and their customers was written notices (i.e., delivered via hard copy). Exactly when financial institutions on the whole made the switch to electronic correspondence is difficult to pinpoint. But records show that discount brokerages such as E-Trade, Fidelity, and Schwab had electronic platforms designed to give customers the ability to manage their accounts online and receive electronic monthly statements as early as 1997.[193] Articles from the mid-1990s also point to electronic communication as

---

[191] In 2006, when BLMIS registered as an investment advisor it reported $11.7 billion AUM and still did not use a well-known and established auditor. Nor did BLMIS change auditors in 2007 or 2008 when AUM reported to rise to $13 billion and $17 billion respectively. SEC Form ADV, Bernard L. Madoff Investment Securities, August 25, 2006 (PUBLIC0003729 at 736); SEC Form ADV, Bernard L. Madoff Investment Securities, January 24, 2007 (PUBLIC0003763 at 771); SEC Form ADV, Bernard L. Madoff Investment Securities, January 7, 2008 (PUBLIC0003834 at 840).

[192] Achilarre Dep. 90:12-91:14, August 9, 2011. *Wiederhorn v. Merkin*, Hearing Transcript 159:13-18, December 3, 2009.

[193] *E-Trade* (April 1997), Internet Archive: WayBackMachine (last visited March 5, 2015), https://web.archive.org/web/19970409110234/http://www.etrade.com/; *Fidelity* (April 1997), Internet Archive: WayBackMachine (last visited March 5, 2015), https://web.archive.org/web/19970415075112/http://www.fidelity.com/; *Schwab* (April 1997), Internet Archive: WayBackMachine (last visited March 5, 2015), https://web.archive.org/web/19970412072157fw_/http://www.schwab.com/.

"standard," particular for custodians serving the investment management industry.[194]

175. Money managers such as T. Rowe Price had similar electronic platforms to monitor account activity available as early as January 1998.[195] By June of 2000, the practice of granting customers electronic access to their accounts would appear to be mainstreamed given the enacted legislation at the time.[196] Other managers that Merkin was invested with such as Cerberus and David Sherman were providing electronic access,[197] yet long after industry-comparable companies had begun allowing electronic access the Defendant Funds still did not have electronic access to any of their BLMIS account data up through December 11, 2008.[198] Unlike consumers, who began performing increasing numbers of their own, individual banking transactions throughout the 2000s through online access to checking and savings accounts, BLMIS's operations continued to be paper-based, without any electronic access to statements.

---

194 Andrew Burchill, *Make way for middlemen*, Institutional Investor, June 1993.

195 *T. Rowe Price* (January 1998), Internet Archive: WayBackMachine (last visited March 11, 2015), https://web.archive.org/web/19980122084527/http://www.troweprice.com/.

196 On June 30, 2000, the Electronic Signatures in Global and National Commerce Act (referred to herein as the "E-Sign Act") was signed into law by Congress. 15 U.S.C. § 7001. The implementation of this law "[allowed for] the use of electronic records to satisfy any statute, regulation, or rule of law requiring that such information be provided in writing, if the consumer has affirmatively consented to such use and has not withdrawn such consent." Another portion of the E-Sign Act focuses on required record retention. Specifically it requires "[a] financial institution to maintain electronic records accurately reflecting the information contained in applicable contracts, notices or disclosures and that they remain accessible to all persons who are legally entitled to access for the period required by law in a form that is capable of being accurately reproduced for later reference." Given that the law requires maintenance of electronic records, it would be reasonable for customers to be granted access to their own records electronically. Federal Deposit Insurance Corporation, "The Electronic Signatures in Global and National Commerce Act (E-Sign Act)," FDIC Compliance Manual, Sec. X-3.1-X-3.4 (June 2009).

Electronic account information had become so prevalent that the U.S. Office of the Comptroller issued an advisory letter in November 2004 to the chief executive officers of all national banks stressing the importance of having investor records retained within an online platform. The advisory letter states explicitly that "[f]ailure to provide such electronic disclosures in a proper manner can expose the bank to significant compliance, transaction, and reputation risk." Office of the Comptroller of the Currency, AL 2004-11, *Electronic Consumer Disclosures and Notices* (October 1, 2004), http://www.occ.gov/static/news-issuances/memos-advisory-letters/2004/advisory-letter-2004-11.pdf.

197 Askling Dep. 21:25-22:12, August 10, 2011.

198 Achilarre Dep. 90:12-91:14, August 9, 2011.

176. In addition, for a firm that claimed to use "cutting-edge technology" in its operations and with such a small employee base to handle the enormous logistical task of mailing documentation to customers, it was suspicious that paper documents continued to be Madoff's standard operating procedure for BLMIS instead of electronic documents. BLMIS's use of paper statements was inconsistent with industry customs and practices in the years after 2000.

177. To better understand the extent to which broker-dealers (recognizing Madoff was far more than a mere executing broker) offered electronic access in the mid-2000s I examined the top 25 independent broker-dealers in 2005 by revenue. I then used a historical internet archive to search the websites for these broker-dealers circa 2005.[199] Of the 20 broker-dealers that had websites available in the time period, 19 indicated that they offered electronic access to account information.[200] That is, 95% of the top independent broker-dealers in the 2005 time period offered electronic access.

178. It was even more unusual and atypical in so much as that Madoff was touted in the media as a global leader in the use of technology, in publications including *Securities Week*, *The New York Times*, and *Wall Street & Technology*.[201] Madoff's marketing materials highlighted his firm's ability in this area, specifically stating:

---

199 Internet Archives, WayBackMachine (last visited March 11, 2015), http://www.archive.org/web/web.php.

200 No information was available in the historical internet archive for the websites for the other 5 (25 - 20 = 5). However, each of these broker-dealers appears to offer electronic access today based on a review of their current websites.

201 *NYSE Price Material Raises Eyebrows at Madoff*, Securities Week (McGraw Hill, Inc. September 3, 1990); Anthony Guerra, *Family Influence*, Wall Street & Technology (July 07, 2000); *Madoff Seeks Edge with Pre-Opening Price Improvement Plan*, Securities Week (May 31, 1999); Susan Rodetis, *Third Market Man*, Equities (October 1993); Press Release, NASDAQ, SEC Grants Permanent Approval of NASDAQ's Primex Auction System (New York: Mar. 3, 2003).

> Moreover, Madoff Securities' computerized transaction processing means that the firm can customize client reports and **deliver them electronically in whatever format best meets the needs of clients**.[202]

179. Madoff himself highlighted his technological superiority to Merkin, stating that "we spend more on technology than any hedge fund I know of doe[s] and more than 99% of the brokerage industry does."[203] Therefore, the lack of electronic statements available to Merkin was a red flag.

180. From its inception through 2008, BLMIS sent all monthly statements and trading documentation to customers, including Defendant Funds, in hard copy form, with time delays. Time delays provide an opportunity to adjust prices or backdate transaction information.

181. Compounding the issue with time delays, BLMIS provided "corrective" trade confirmations to the Defendant Funds that reflected that a previous trade (e.g., a week prior) was purportedly executed at a different price and that the earlier trade confirmation would be cancelled and replaced by a new one.[204]

182. BLMIS's use of paper statements was a red flag because it was inconsistent with industry customs and practices in the years after 2000 and created an opportunity for fraud.

b) Non-Standard Trade Confirmations and Customer Statements

183. I reviewed two types of account statements that were regularly delivered to the Defendant Funds during their investment relationship with BLMIS: (i) trade confirmations; and (ii)

---

202 Bernard L. Madoff Investment Securities, Marketing Presentation (undated) (BS00017223 at 231).

203 Trustee Ex. 363 (Telephone Conversation Transcript between E. Merkin and B. Madoff, January 14, 2002) (GCC-P 0393364-373 at 67).

204 *N.Y.U. v. Ariel Fund Ltd. et al.*, Teicher Dep. 26:12-17, February 9, 2009; Gordon Dep. 43:16-46:7, August 16, 2011.

customer statements. None of these documents was standard.[205] To the contrary—each document reflected significant (and plain) deviations from typical statements of similar purpose.

184. Features of typical brokerage-related statements include, but are not limited to:[206]

- Account information – Name, time period, account number, broker contact information;
- Statement Account/Summary – Realized and unrealized gains/losses, total value of securities (both beginning and ending balance);
- Portfolio Detail – Information on individual asset holdings, including estimated income and yield, bond ratings and stock ticker symbols;
- Income Summary – Dividends and income earned by investments during the period (and/or year-to-date);
- Daily Activity – Detailed account activity at a transaction level; and
- Disclosures – Administrative and legal explanations regarding the statement or account.

185. As described in detail below, Madoff's statements deviated from this sort of typical information, and were non-standard in multiple ways.

(1) Trade Confirmations

186. The first document that the Defendant Funds would have received in connection with a transaction in their accounts would have been a trade confirmation, providing details about a purported trade such as the date of the trade, the security traded, and the quantity traded. However, the trade confirmations received by the Defendant Funds were non-standard, atypical, and excluded the type of information that Fund Managers would have expected to see on trade confirmations.

187. First, the trade confirmations that the Defendant Funds received were backwards. That

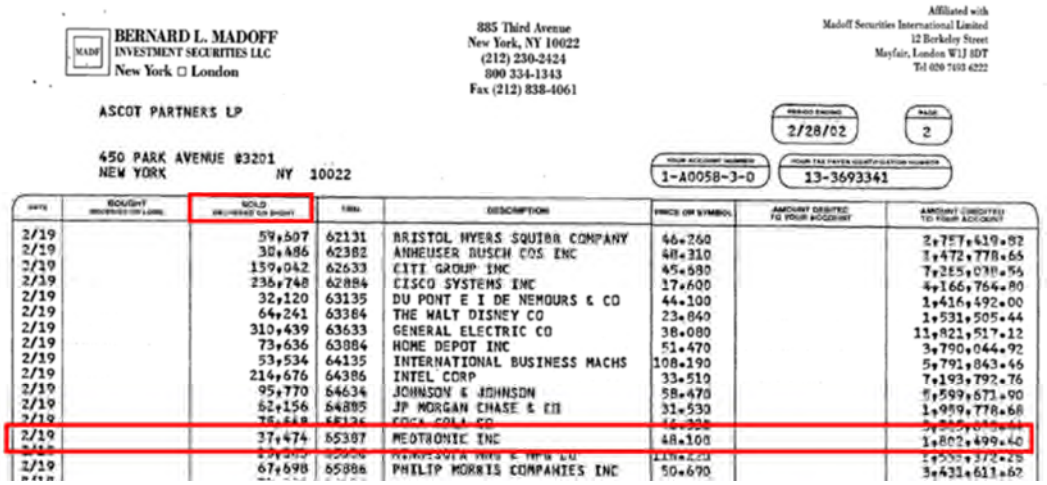
---

[205] While Madoff also provided Portfolio Management Reports ("PMR") to customers, it is not clear whether these were regularly delivered to Merkin. I only located one PMR produced by Merkin in this matter.

[206] "Understanding Your Brokerage Accounts" at 2, SIFMA, SIPC, NASAA (March 7, 2007).

is, when BLMIS purportedly bought a security for one of the Merkin BLMIS Accounts, the Defendant Funds would receive a trade confirmation reflecting a "sale" of a security. Conversely, when BLMIS purportedly sold a security from one of the Merkin BLMIS Accounts, the Defendant Funds would receive a trade confirmation reflecting a "buy" of a security.[207] For example, in February 2002, the customer statement for Ascot (account number 1-A0058-3-0) reflected that BLMIS sold 37,474 shares of Medtronic Inc. which settled on February 19, 2002 (*see* Figure 9 — 37,474 shares are listed in the "SOLD" column).[208]

Figure 9
Customer Statement Reflecting SELL



BERNARD L. MADOFF
INVESTMENT SECURITIES LLC
New York □ London

885 Third Avenue
New York, NY 10022
(212) 230-2424
800 334-1343
Fax (212) 838-4061

Affiliated with
Madoff Securities International Limited
12 Berkeley Street
Mayfair, London W1J 8DT
Tel 020 7493 6222

ASCOT PARTNERS LP

450 PARK AVENUE #3201
NEW YORK NY 10022

2/28/02 | 2 | 1-A0058-3-0 | 13-3693341

	BOUGHT	SOLD		DESCRIPTION			
2/19		59,607	62131	BRISTOL MYERS SQUIBB COMPANY	46.260		2,757,419.82
2/19		30,486	62382	ANHEUSER BUSCH COS INC	48.310		1,472,778.66
2/19		159,042	62633	CITI GROUP INC	45.680		7,265,038.56
2/19		236,748	62884	CISCO SYSTEMS INC	17.600		4,166,764.80
2/19		32,120	63135	DU PONT E I DE NEMOURS & CO	44.100		1,416,492.00
2/19		64,241	63384	THE WALT DISNEY CO	23.840		1,531,505.44
2/19		310,439	63633	GENERAL ELECTRIC CO	38.080		11,821,517.12
2/19		73,636	63884	HOME DEPOT INC	51.470		3,790,044.92
2/19		53,534	64135	INTERNATIONAL BUSINESS MACHS	108.190		5,791,843.46
2/19		214,676	64386	INTEL CORP	33.519		7,193,792.76
2/19		95,770	64634	JOHNSON & JOHNSON	58.478		5,599,671.90
2/19		62,156	64885	JP MORGAN CHASE & CO	31.533		1,959,778.68
2/19		37,474	65387	MEDTRONIC INC	48.100		1,802,499.40
2/19		67,698	65886	PHILIP MORRIS COMPANIES INC	50.690		3,431,611.62

188. However, the trade confirmation for this transaction reported a BUY of the security (*see* Figure 10 — BOT is short for "BOUGHT").[209]

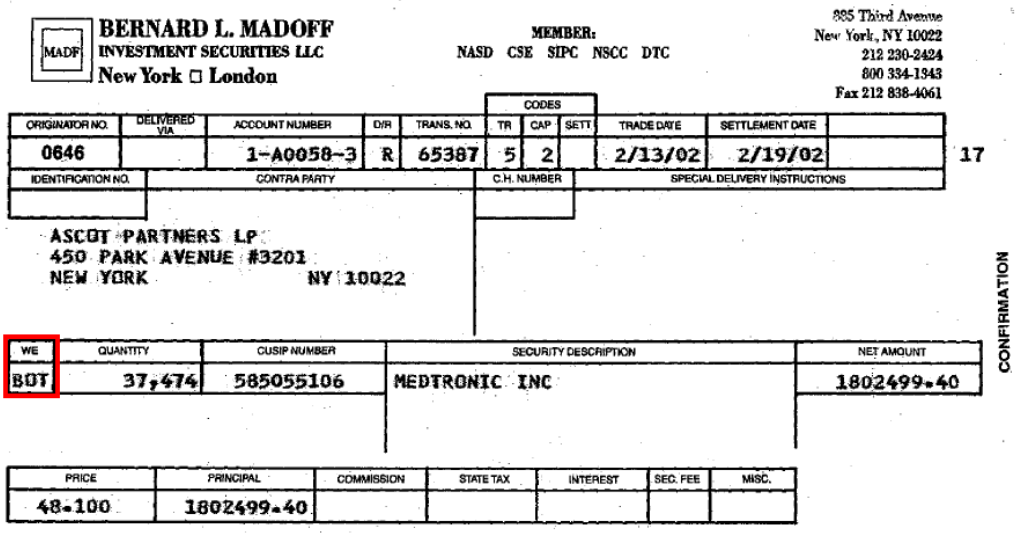
---

[207] *See*, e.g., Trade Confirmation for Ascot Partners LP (account number 1-A0058-3), February 19, 2002 (GCC-P 0288915 at 921). This is just one example of the backwards trade confirmations that the Defendant Funds received. Based on my review of the documents produced by Merkin, it appears that every single trade confirmation throughout the entire life of the Defendant Funds' investments with BLMIS was backwards.

[208] Statement for Ascot Partners LP (account number 1-A0058-3-0), February 28, 2002 (GCC-P 0310216 at 217).

[209] Trade Confirmation for Ascot Partners LP (account number 1-A0058-3) (settlement date of February 19, 2002) (GCC-P 0288915 at 921).

Figure 10
Trade Confirmation Reflecting BUY



BERNARD L. MADOFF
INVESTMENT SECURITIES LLC
New York □ London

MEMBER:
NASD CSE SIPC NSCC DTC

885 Third Avenue
New York, NY 10022
212 230-2424
800 334-1343
Fax 212 838-4061

ORIGINATOR NO.	DELIVERED VIA	ACCOUNT NUMBER	D/R	TRANS. NO.	CODES TR	CAP	SETT	TRADE DATE	SETTLEMENT DATE	
0646		1-A0058-3	R	65387	5	2		2/13/02	2/19/02	17

IDENTIFICATION NO.	CONTRA PARTY	C.H. NUMBER	SPECIAL DELIVERY INSTRUCTIONS
	ASCOT PARTNERS LP 450 PARK AVENUE #3201 NEW YORK NY 10022		

CONFIRMATION

WE	QUANTITY	CUSIP NUMBER	SECURITY DESCRIPTION	NET AMOUNT
BOT	37,474	585055106	MEDTRONIC INC	1802499.40

PRICE	PRINCIPAL	COMMISSION	STATE TAX	INTEREST	SEC. FEE	MISC.
48.100	1802499.40					

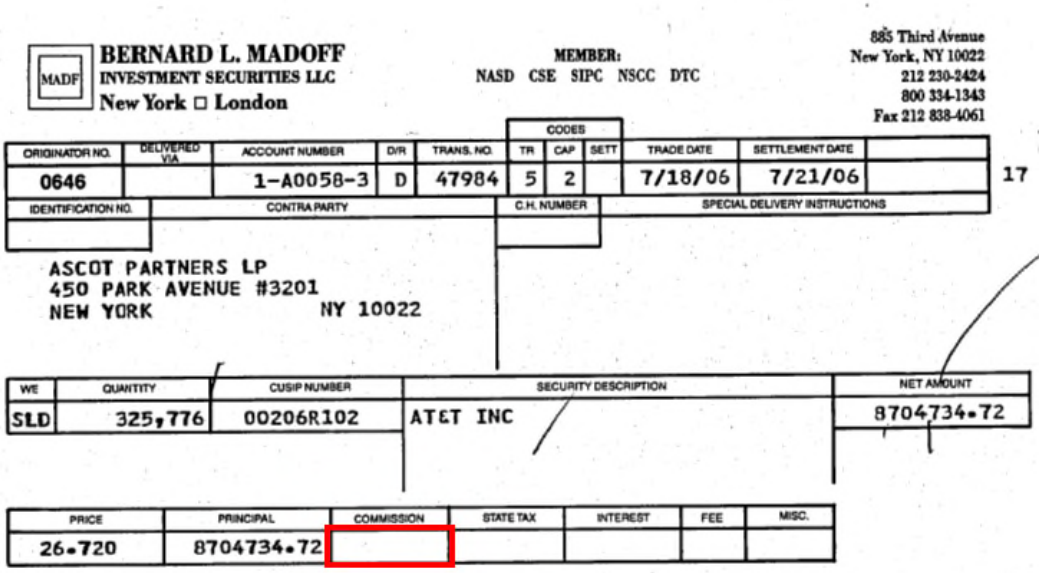
189. In my nearly 30 years of experience working with trade confirmations and customer statements for myself as well as for my clients, I have never seen trade confirmations provided to clients in this manner where the trade confirmation reflects exactly the opposite of what the customer statement reflects, or the trade that was purportedly executed. Madoff's trade confirmations were non-standard in this regard.

190. Second, the equity trade confirmations that BLMIS provided to the Defendant Funds leave out the most basic information that is included on every trade confirmation I have ever seen: the commission for the executing broker. Commissions for equity trades are required by the Securities and Exchange Commission ("SEC") to be reported on trade confirmations.[210] Although Madoff claimed that he was purportedly charging $0.04 per

[210] 17 CFR § 240.10b-10. Section (a)(2)(i)(B) states that written notification must disclose: "The amount of any remuneration received or to be received by the broker from such customer in connection with the transaction unless remuneration paid by such customer is determined pursuant to written agreement with such customer, otherwise than on a transaction basis." This applies when the broker or dealer acts as an agent. While the trade confirmation in the figure above appears to identify Madoff as a principal (*see* "Capacity (CAP) Code"), the Trading Authorization Directive signed by Merkin clearly indicates Madoff is acting as Merkin's agent in any transaction of stock or options. *See, e.g.*, Trustee Ex. 360 (Trading Authorization Directive, October 22, 2002)

equity trade,[211] the trade confirmations for the Merkin BLMIS Accounts prior to September 2006 never reported commissions payable to BLMIS.[212] Figure 11 illustrates the lack of commissions on a trade confirmation for Ascot's BLMIS account—the red box highlights the area where the commission should be reported.[213]

Figure 11
Equity Trade Confirmation Without Any Commission Fee



BERNARD L. MADOFF
INVESTMENT SECURITIES LLC
New York □ London

MEMBER:
NASD CSE SIPC NSCC DTC

885 Third Avenue
New York, NY 10022
212 230-2424
800 334-1343
Fax 212 838-4061

ORIGINATOR NO.	DELIVERED VIA	ACCOUNT NUMBER	D/R	TRANS. NO.	CODES TR	CAP	SETT	TRADE DATE	SETTLEMENT DATE	
0646		1-A0058-3	D	47984	5	2		7/18/06	7/21/06	17

IDENTIFICATION NO.	CONTRA PARTY	C.H. NUMBER	SPECIAL DELIVERY INSTRUCTIONS
	ASCOT PARTNERS LP 450 PARK AVENUE #3201 NEW YORK NY 10022		

WE	QUANTITY	CUSIP NUMBER	SECURITY DESCRIPTION	NET AMOUNT
SLD	325,776	00206R102	AT&T INC	8704734.72

PRICE	PRINCIPAL	COMMISSION	STATE TAX	INTEREST	FEE	MISC.
26.720	8704734.72					

191. The fact that trade confirmations for the Merkin BLMIS Accounts were backwards and

---

(GCC-SEC 0027370-381). Merkin also understood Madoff to be acting as an agent. *Wiederhorn v. Merkin*, Hearing Transcript 165:5-9, December 3, 2009.

211 Autera Dep. 108:7-15, October 19, 2011; UBPAMERKIN00001711 at 711; GCC-P0515226. These commissions are reflected on customer statements and trade confirmations after BLMIS registered as an RIA in September 2006. Prior to September 2006, the commissions were reflected directly in the reported share prices. *See, e.g.*, Trade Confirmation for Ascot Partners LP (account number 1-A0058-3) (settlement date of October 27, 2006) (GCC-P0515226 at 5225).

212 Trade Confirmation for Ascot Partners LP (account number 1-A0058-3) (settlement date of February 19, 2002) (GCC-P 0288915 at 921). This is just one example of the thousands of trade confirmations for the Merkin BLMIS Accounts that did not report commissions.

213 Trade Confirmation for Ascot Partners LP (account number 1-A0058-3) (settlement date of July 21, 2006) (BS00009134 at 134). The handwritten annotations are included in the original document.

omitted standard and required information means the trade confirmations were non-standard and were unlike any other trade confirmations I have seen in the industry. Madoff's non-standard trade confirmations were a red flag because they are inconsistent with industry customs and practices.

(2) Customer Statements

192. The Defendant Funds received monthly customer statements from BLMIS. These statements also contained non-standard characteristics.

193. First, customer statements for the Merkin BLMIS Accounts reported securities not available for purchase. On hundreds of statements, the Merkin BLMIS Accounts reflected the purported purchase or sale of the Fidelity Spartan U.S. Money Market Fund (Ticker: FDLXX).[214] While this fund officially changed its name to Fidelity U.S. Money Market Fund, effective August 15, 2005,[215] the customer statements for the Merkin BLMIS Accounts never reflected the name change, and continued to report the historical, incorrect name.

194. Second, the customer statements for the Merkin BLMIS Accounts reported a "Balance Forward" that was entirely inconsistent with industry customs and practices. Rather than listing the total beginning balance in the account (i.e., cash balance plus the market value of securities), the customer statements for the Merkin BLMIS Accounts reported only the beginning cash position. In the example below, the ending balance in the equity account as of October 31, 2003 was $67,453,295.69 in cash and $1,283,271,378.19 in securities. However, the Balance Forward in the November 30, 2003 customer statement was only

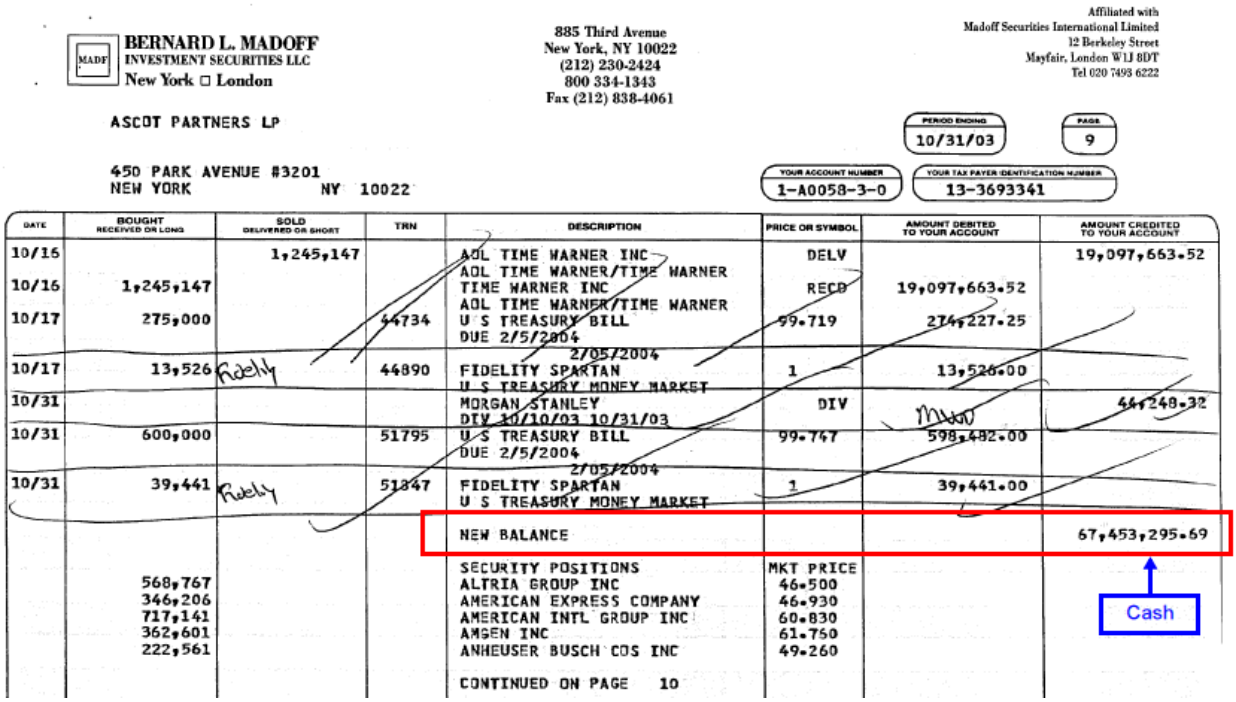
---

[214] *See e.g.*, Statement for Ariel Fund (account number 1-FR070-3), December 31, 2004 (BS00005772 at 772); Statement Ariel Fund (account number 1-FR070-3), December 31, 2005 (BS00005587 at 591).

[215] Supplement to the Spartan U.S. Treasury Money Market Fund, Spartan U.S. Government Money Market Fund, and Spartan Money Market Fund June 29, 2005 Prospectus.

$67,453,295.69, reflecting only the cash balance (*see* Figure 12 and Figure 13).[216]

Figure 12
Customer Statement Reflecting Ending Balance of Cash and Securities



BERNARD L. MADOFF
INVESTMENT SECURITIES LLC
New York □ London

885 Third Avenue
New York, NY 10022
(212) 230-2424
800 334-1343
Fax (212) 838-4061

Affiliated with
Madoff Securities International Limited
12 Berkeley Street
Mayfair, London W1J 8DT
Tel 020 7493 6222

ASCOT PARTNERS LP

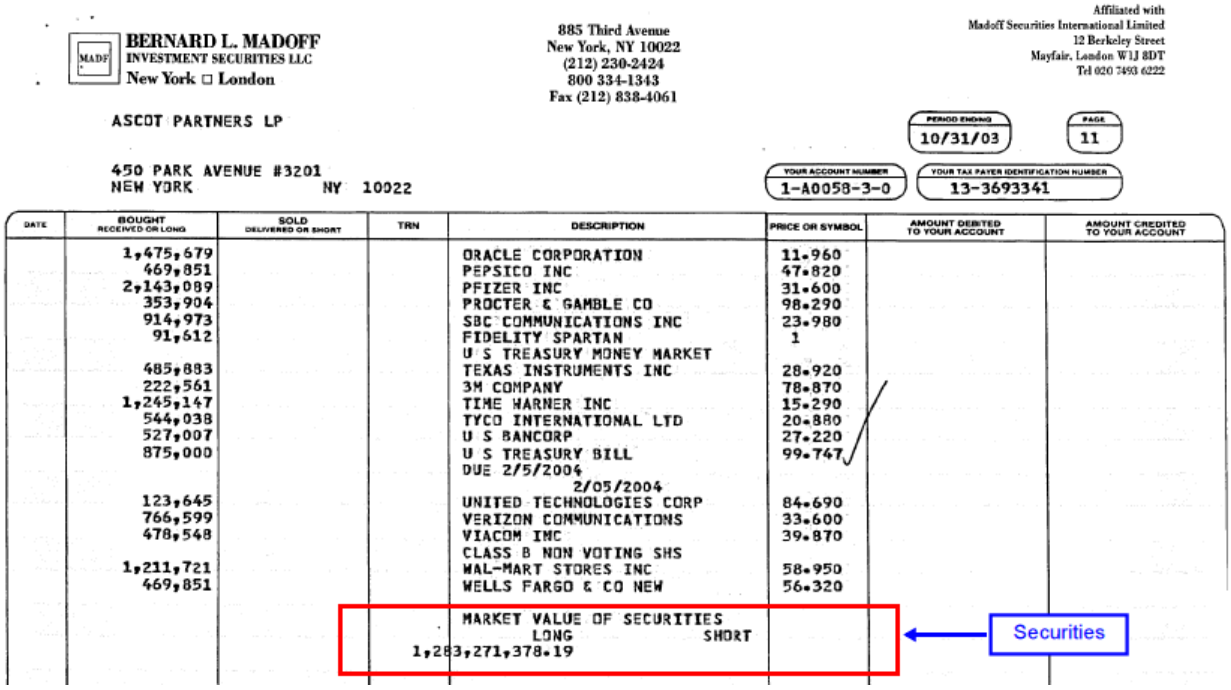
450 PARK AVENUE #3201
NEW YORK NY 10022

PERIOD ENDING 10/31/03 | PAGE 9
YOUR ACCOUNT NUMBER 1-A0058-3-0 | YOUR TAX PAYER IDENTIFICATION NUMBER 13-3693341

DATE	BOUGHT RECEIVED OR LONG	SOLD DELIVERED OR SHORT	TRN	DESCRIPTION	PRICE OR SYMBOL	AMOUNT DEBITED TO YOUR ACCOUNT	AMOUNT CREDITED TO YOUR ACCOUNT
10/16		1,245,147		AOL TIME WARNER INC AOL TIME WARNER/TIME WARNER TIME WARNER INC AOL TIME WARNER/TIME WARNER	DELV RECD		19,097,663.52
10/17	275,000		44734	U S TREASURY BILL DUE 2/5/2004 2/05/2004	99.719	274,227.25	
10/17	13,526 Reinv		44890	FIDELITY SPARTAN U S TREASURY MONEY MARKET	1	13,526.00	
10/31				MORGAN STANLEY DIV 10/10/03 10/31/03	DIV	Mon	44,248.32
10/31	600,000		51795	U S TREASURY BILL DUE 2/5/2004 2/05/2004	99.747	598,482.00	
10/31	39,441 Reinv		51847	FIDELITY SPARTAN U S TREASURY MONEY MARKET	1	39,441.00	
				NEW BALANCE			67,453,295.69
	568,767 346,206 717,141 362,601 222,561			SECURITY POSITIONS ALTRIA GROUP INC AMERICAN EXPRESS COMPANY AMERICAN INTL GROUP INC AMGEN INC ANHEUSER BUSCH COS INC	MKT PRICE 46.500 46.930 60.830 61.750 49.260		
				CONTINUED ON PAGE 10			

Cash

[216] Statement for Ascot Partners, L.P. (account number 1-A0058-3), November 30, 2003 (GCC-P 0532545 at 2591); Statement for Ascot Partners, L.P. (account number 1- A0058-3), October 31, 2003 (GCC-P 0532545 at 2620). The handwritten annotations are included in the original document.



BERNARD L. MADOFF
INVESTMENT SECURITIES LLC
New York □ London

885 Third Avenue
New York, NY 10022
(212) 230-2424
800 334-1343
Fax (212) 838-4061

Affiliated with
Madoff Securities International Limited
12 Berkeley Street
Mayfair, London W1J 8DT
Tel 020 7493 6222

ASCOT PARTNERS LP

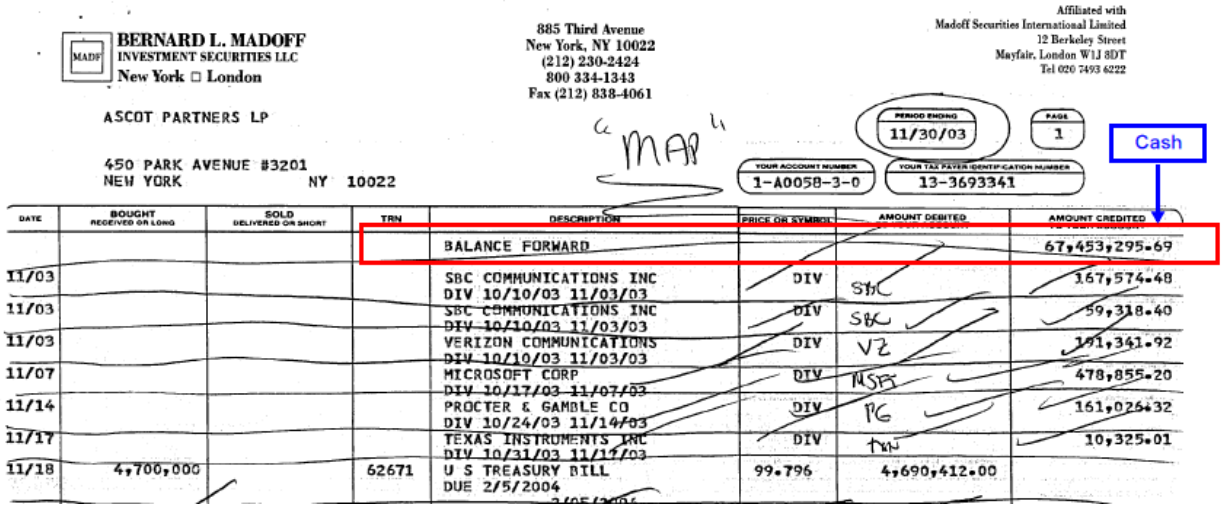
450 PARK AVENUE #3201
NEW YORK NY 10022

PERIOD ENDING 10/31/03 | PAGE 11
YOUR ACCOUNT NUMBER 1-A0058-3-0 | YOUR TAX PAYER IDENTIFICATION NUMBER 13-3693341

DATE	BOUGHT RECEIVED OR LONG	SOLD DELIVERED OR SHORT	TRN	DESCRIPTION	PRICE OR SYMBOL	AMOUNT DEBITED TO YOUR ACCOUNT	AMOUNT CREDITED TO YOUR ACCOUNT
	1,475,679			ORACLE CORPORATION	11.960		
	469,851			PEPSICO INC	47.820		
	2,143,089			PFIZER INC	31.600		
	353,904			PROCTER & GAMBLE CO	98.290		
	914,973			SBC COMMUNICATIONS INC	23.980		
	91,612			FIDELITY SPARTAN U S TREASURY MONEY MARKET	1		
	485,883			TEXAS INSTRUMENTS INC	28.920		
	222,561			3M COMPANY	78.870		
	1,245,147			TIME WARNER INC	15.290		
	544,038			TYCO INTERNATIONAL LTD	20.880		
	527,007			U S BANCORP	27.220		
	875,000			U S TREASURY BILL DUE 2/5/2004 2/05/2004	99.747		
	123,645			UNITED TECHNOLOGIES CORP	84.690		
	766,599			VERIZON COMMUNICATIONS	33.600		
	478,548			VIACOM INC CLASS B NON VOTING SHS	39.870		
	1,211,721			WAL-MART STORES INC	58.950		
	469,851			WELLS FARGO & CO NEW	56.320		
				MARKET VALUE OF SECURITIES LONG 1,283,271,378.19 SHORT			

Securities

Figure 13[217]
Customer Statement Reflecting Beginning Balance of Cash



BERNARD L. MADOFF
INVESTMENT SECURITIES LLC
New York □ London

885 Third Avenue
New York, NY 10022
(212) 230-2424
800 334-1343
Fax (212) 838-4061

Affiliated with
Madoff Securities International Limited
12 Berkeley Street
Mayfair, London W1J 8DT
Tel 020 7493 6222

ASCOT PARTNERS LP

450 PARK AVENUE #3201
NEW YORK NY 10022

PERIOD ENDING 11/30/03 | PAGE 1
YOUR ACCOUNT NUMBER 1-A0058-3-0 | YOUR TAX PAYER IDENTIFICATION NUMBER 13-3693341

Cash

DATE	BOUGHT RECEIVED OR LONG	SOLD DELIVERED OR SHORT	TRN	DESCRIPTION	PRICE OR SYMBOL	AMOUNT DEBITED	AMOUNT CREDITED
				BALANCE FORWARD			67,453,295.69
11/03				SBC COMMUNICATIONS INC DIV 10/10/03 11/03/03	DIV	SBC	167,574.48
11/03				SBC COMMUNICATIONS INC DIV 10/10/03 11/03/03	DIV	SBC	59,318.40
11/03				VERIZON COMMUNICATIONS DIV 10/10/03 11/03/03	DIV	VZ	191,341.92
11/07				MICROSOFT CORP DIV 10/17/03 11/07/03	DIV	MSFT	478,855.20
11/14				PROCTER & GAMBLE CO DIV 10/24/03 11/14/03	DIV	PG	161,026.32
11/17				TEXAS INSTRUMENTS INC DIV 10/31/03 11/17/03	DIV	TXN	10,325.01
11/18	4,700,000		62671	U S TREASURY BILL DUE 2/5/2004	99.796	4,690,412.00	

195. In the example above, Ascot's BLMIS customer statement as of November 30, 2003

---

[217] Statement for Ascot Partners, L.P. (account number 1-A0058-3), November 30, 2003 (GCC-P 0532545 at 2591)

never reports the beginning balance of securities.

196. This is non-standard, atypical, and inconsistent with industry customs and practices. Industry guidance is that customers should be able to find their total beginning and ending balances on all statements, and furthermore be able to compare the total beginning balance of the current statement with the total ending balance of the previous statement.[218] This exercise would not be possible with the customer statements for the Merkin BLMIS Accounts. While the monthly customer statements for the Merkin BLMIS Accounts reflected both the ending cash position and the ending securities position for each month, the customer statements did not show an opening securities position each month, only the opening cash position. Madoff's non-standard customer statements were a red flag because they were inconsistent with industry customs and practices.

B. Portfolio

197. As discussed above in Opinion No. 1, it is important to perform Portfolio-related due diligence to determine whether the approach described by the investment advisor actually reflects the reality of the portfolio constructed. A Fund Manager wants to be sure they are compensating an advisor for performance that adheres to the stated investment objective and strategy. Portfolio-related due diligence activities that I performed on the Merkin BLMIS Accounts include alpha analysis, reverse engineering, and volatility analysis.

198. These analyses reflect industry customs and practices for due diligence, and are consistent with the analyses I typically perform for clients as to both their consideration of new investments and ongoing/monitoring of existing investments.

---

[218] The Securities Industry and Financial Markets Association ("SIFMA") provides a checklist regarding brokerage account statements, indicating that investors should "find [their] beginning and ending balances" and also "compare the beginning balance of [their] current statement with the ending balance of the previous statement." "Understanding Your Brokerage Accounts" at 3, SIFMA, SIPC, NASAA (March 7, 2007).

1. Alpha Analysis: Basket Return Relative to Benchmark

199. As discussed above in Section V.B.2, it is industry custom and practice to measure the alpha of the investment opportunity in order to assess the effectiveness of the investment advisor. Alpha enables a Fund Manager to monitor the performance of an investment advisor relative to benchmarks in order to determine how much of the investment advisor's return is due to general market behavior as opposed to active management. Fund Managers measure the alpha of the fund in order to assess the effectiveness of the investment advisor.[219] There are two important aspects of alpha: (i) the magnitude of the measurement; and (ii) the consistency of generating alpha at that magnitude. For example, a Fund Manager might calculate an alpha of 2.0% for an investment advisor, meaning an investment advisor generates returns 2.0% above the market. However, the consistency of this value is equally important. While an investment advisor may be able to generate an alpha of 2.0, in my experience it is very difficult to generate any alpha consistently.[220]

200. The most common technique employed in the investment management industry to measure alpha and the consistency of alpha is regression analysis. Regression analysis is a statistical technique for modeling the relationship between two or more variables, and an analysis that I have performed hundreds, if not thousands, of times throughout my career in the investment management industry. In employing regression analysis to estimate alpha for an investment, the returns of the investment are regressed against the returns of a benchmark, or other objective measures of return.

201. An analysis included in documents produced to the Trustee by Merkin appears to be consistent with regression analysis performed on a BLMIS account for another BLMIS

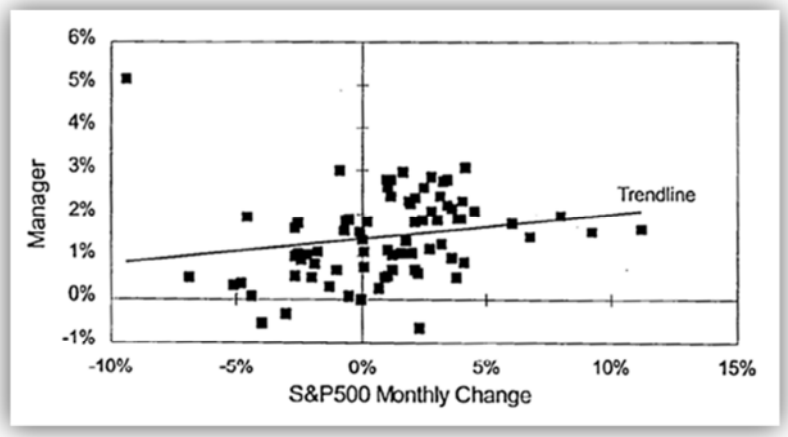
---

[219] *See, e.g.*, BS00143299 at 3305

[220] Hampshire, Jodie, "How Much Risk Does Return Cost? The Information Ratio Explained," October 2002.

customer.[221] In a document titled "Comparing Promeo [sic] Manager Series B and the S&P500"[222] there is an analysis called "Scatterdiagram of Monthly Returns."[223] The analysis plots the monthly return of the S&P 500 against Primeo Manager Series B's monthly return from July 1989 through December 1995. Because Primeo was a BLMIS feeder fund, these returns are representative of an investment with BLMIS during this time period.[224] The scatterdiagram, shown below in Figure 14, "shows that the performance of [BLMIS] is to a large degree independent of the gyrations of the S&P500."[225]

Figure 14
Scatterdiagram of Monthly Returns[226]



202. Figure 14 illustrates BLMIS's ability to generate positive returns (BLMIS's returns are on the vertical axis) regardless of the corresponding returns in the market (S&P 500

---

221 Merkin Dep. 284:6-295:16, February 24, 2015; *N.Y.U. v. Ariel Fund Ltd. et al.*, Merkin Dep. 298:5-300:24, February 9, 2009.

222 While the title of the document says "Promeo," subsequent references in the document indicate "Primeo." Merkin Dep.

223 Trustee Ex. 363 (Comparing Promeo Manager Series B and the S&P500) (GCC-P 0393213-226).

224 Merkin Dep. 286:18-24, February 24, 2015. Additionally, the handwritten word "Madoff" appears at the top of the document. Trustee Ex. 363 (Comparing Promeo Manager Series B and the S&P500) (GCC-P 0393213-226).

225 Trustee Ex. 363 (Comparing Promeo Manager Series B and the S&P500) (GCC-P 0393213-226).

226 Trustee Ex. 363 (Comparing Promeo Manager Series B and the S&P500) (GCC-P 0393213-226).

returns are on the horizontal axis).

203. The regression analysis depicted in Figure 14 would have generated regression diagnostics that can be used to interpret the analysis. For example, the "R-Squared" of the analysis would indicate how well the data fits the model. The "intercept" would be an indication of alpha, the average return generated by the advisor regardless of the overall market return. Finally, the t-statistic ("t-stat") would measure the consistency with which the advisor generated alpha.

204. I calculated regressions diagnostics for Figure 14 using a table of returns provided in the same document.[227] The R-Squared for this monthly analysis is 0.04, indicative of the fact that BLMIS's returns were achieved independent of market conditions. The interpretation of an R-Squared of 0.04 is that 4% of the change in BLMIS's returns was explained by the change in the S&P 500—implying therefore that the change in the market had little to no impact on BLMIS's returns. The calculated intercept for the monthly analysis is 0.0141, indicating an alpha of 1.4%, meaning that BLMIS's returns were, on average, 1.4% per month. The consistency with which BLMIS earned a return of 1.4% is measured by the t-stat. Generally a t-stat of 2.0 or greater indicates significant consistency.[228] However, the t-stat for BLMIS's returns is 12.28, indicating virtual certainty that regardless of the performance of the S&P 500, BLMIS generated a return of 1.4%.[229] Of note is a very significant outlier in the upper left corner of Figure 14, and it would have been industry custom and practice to investigate this further. If Merkin had performed this analysis on the Merkin BLMIS Accounts contemporaneously, it would have shown similar results.

---

[227] Trustee Ex. 363 (Comparing Promeo Manager Series B and the S&P500) (GCC-P 0393213-226).

[228] Hampshire, Jodie, "How Much Risk Does Return Cost? The Information Ratio Explained," October 2002.

[229] The t-stat for a coefficient in a linear regression is the estimate of its value divided by the standard error of the estimate, and is used to create a confidence interval about the estimated coefficient. The larger the t-stat, the more likely the true coefficient differs from 0.0. *Quantitative Methods for Investment Methods* 326-27, Association for Investment Management and Research (Baltimore: United Book Press, Inc., 2001).

205. Because the Madoff SSC strategy from 1991 involved basket trades consisting of purchasing a basket of stocks correlated with the S&P 100 Index, I have conducted a regression analysis of basket returns against the S&P 100 for 1991 through 2008. Had Merkin performed this regression analysis on basket returns (the combination of stock, put and call positions) instead of monthly returns as shown above, the analysis would have revealed that Madoff's basket trades generated an absolute return of 2.7% with implausible consistency. (*See* **Schedule 8** to **Schedule 11**.)

206. Had Merkin performed this regression analysis on basket returns, it would have shown an R-Squared of 0.29, which is higher than BLMIS's returns as compared to the S&P 500 above, but is still a considerably low number. An R-Squared of 0.29 indicates that changes in the S&P 100 only explained 29% of the change in the returns of the Merkin BLMIS Accounts, despite the fact that the Madoff SSC strategy should be highly correlated to the S&P 100 as described in detail in Section VI.A.1. The calculated intercept is 0.0269, which translates into an alpha of 2.7%, meaning that on average the Merkin BLMIS Accounts were generating a return of 2.7% regardless of the returns generated by the S&P 100. The t-stat for the analysis is 13.4, indicating that Madoff generated a return of 2.7% (i.e., the alpha) with implausible certainty (because the t-stat of 13.4 is so far above 2.0). This level of confidence as implied by such a high t-stat is unattainable in the investment management industry. (*See* **Schedule 12** for a table of these statistics cumulatively at select time points.)

207. The two charts below illustrate the returns used in the regression analysis: (i) the basket returns for the Merkin BLMIS Accounts; and (ii) the returns of the S&P 100 during each basket time period. As the charts indicate, across 83 unique baskets, the Merkin BLMIS Accounts were up 81 times and down only 2 times (Figure 15) while the S&P 100 was up 45 times and down 38 times across the same 83 basket time periods (Figure 16).

Figure 15
Basket Returns for the Merkin BLMIS Accounts by Basket (1991-2008)[230]

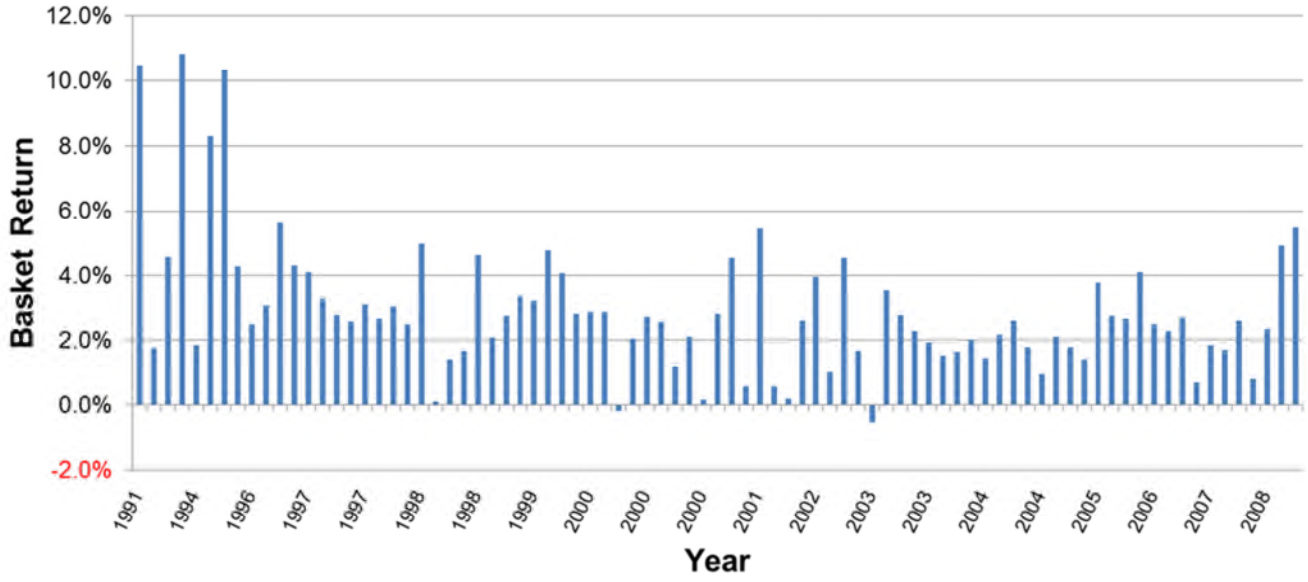
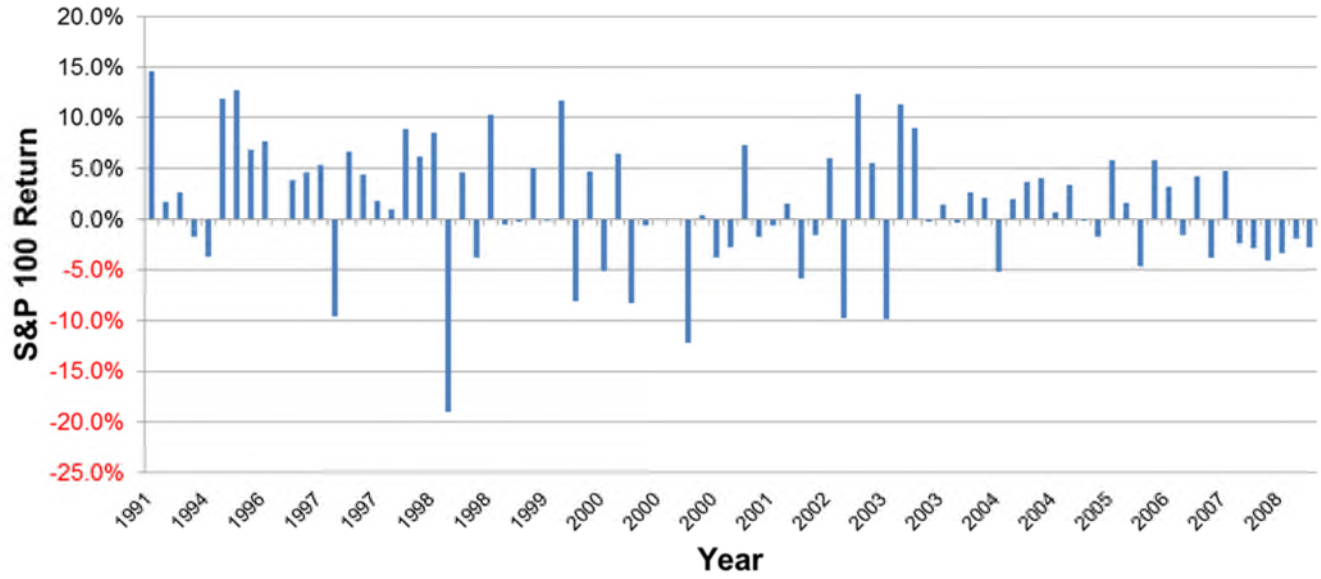


Figure 16
S&P 100 Returns During the Basket Time Periods (1991-2008)[231]



---

230 Sources include StorQM Customer Statements, Settled Cash table Bloomberg market data.

231 Sources include StorQM Customer Statements, Bloomberg market data.

208. Results showing the absolute returns for the Merkin BLMIS Accounts were consistently 2.7% per basket trade regardless of the market's performance were a red flag that Madoff was not executing the strategy he purported to implement, or indeed any strategy. These results were a significant red flag and the only reasonable explanation was fraud.

2. Reverse Engineering: Lack of Volatility Is Inconsistent with the Madoff SSC Strategy

209. Another common technique employed in due diligence is referred to as "reverse engineering." The goal of reverse engineering is to replicate, as closely as possible, the investment strategy that is being pursued. This type of due diligence serves as a check on investment returns, as well as an analysis for determining reasonable expectations for performance and for volatility. I performed this analysis for my client when I was performing due diligence on the Madoff SSC strategy.

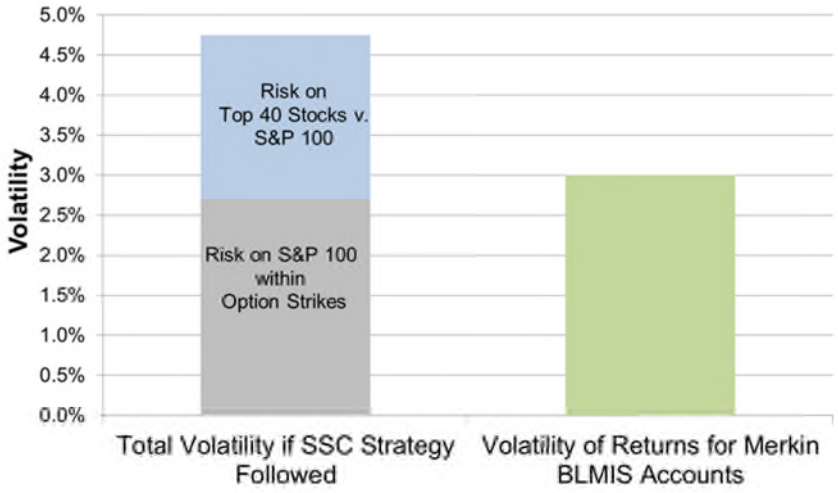
210. The volatility of the Madoff SSC strategy should, at a minimum, incorporate two prevalent market risks: (i) the risk due to movements in the S&P 100 Index within the option strikes (i.e., the call and put options); and (ii) because BLMIS did not purport to buy all 100 stocks in the index, there is additional risk related to the difference between the performance of the stocks selected by Madoff and the performance of the S&P 100 Index. Together these two data points reflect the Madoff SSC strategy as purportedly implemented by Madoff where at least 35 stocks are purchased (over a few times during the performance year), and call and put options on the S&P 100 Index are sold and bought respectively.[232]

---

[232] For this analysis, I chose the top 40 stocks in the S&P 100 Index (by market capitalization) in order to create a basket that would have been highly correlated to the index. While the first two basket transactions purportedly executed by Madoff in 1993 included 14 and 15 stocks respectively, the average number of stocks in a basket thereafter until 2008 was 39.5 stocks. In addition, the Trading Authorization Directive from 2002 indicated that

211. I modeled the volatility of return for each strategy separately using the top 40 stocks from December 1991 (the start of BLMIS's use of baskets in the Madoff SSC) through November 2008, the results of which are presented below, along with the volatility of the returns for the Merkin BLMIS Accounts for the same time period.[233]

Figure 17
Summary Performance Statistics for Madoff SSC Strategy Modeling (December 1991 – November 2008)[234]



212. As illustrated above in Figure 17, the total volatility of the two primary market risks is significantly higher than the actual volatility produced by returns in the Merkin BLMIS Accounts. The Madoff SSC strategy should have had volatility based on the description of the strategy given to investors including Merkin. However, the actual volatility of the

---

no less than 35 stocks would be purchased in a basket. Trustee Ex. 360 (Trading Authorization Directive, October 22, 2002) (GCC-SEC 0027370-381)

233 I assumed that the strike price of the put is 1% below the initial spot price of the index and that the strike price of the call is 1% above the initial spot price of the index. The procedure is repeated every month for 204 months, from December 1991 to November 2008. I used the historical option price data (closing price) from CBOE and the index price (adjusted for dividends and splits) from Bloomberg. I used the prevailing business day 3-month U.S. Treasury bill rates from Federal Reserve to proxy the risk free rates in pricing the options and computing interest and a 1.5% dividend yield on the S&P 100 when pricing the options. Trustee Ex. 360 (Trading Authorization Directive, October 22, 2002) (GCC-SEC 0027370-381 at 380-81).

234 Sources include StorQM Customer Statements, Customer Ledgers, Bloomberg market data.

returns for the Merkin BLMIS Accounts was much less than what should have been expected. This stark difference between expected and actual volatility indicates that Madoff was not implementing the Madoff SSC strategy.

213. When I performed due diligence on the Madoff SSC strategy on behalf of my client, I found this same stark difference between expected and actual BLMIS volatility. I consider it now, as I considered it then, to be a significant red flag and the only reasonable explanation was fraud.

3. Daily, Monthly and Annual Volatility are Unrelated

214. While it is not uncommon for daily volatility to be different than monthly or annual volatility, there should always exist a mathematical relationship between daily, monthly and annual volatility of any investment strategy. However, if a Fund Manager identifies potential differences between daily, monthly and/or annual volatility, an analysis can be performed to assess whether the differences are reasonable or unreasonable.[235]

215. For example, the ratio between monthly and annual volatility over a five year period, regardless of the investment strategy, should be 3.5. This is calculated as the square root of the ratio of the number of returns over the period:

$$3.5 = \sqrt{[\ (60 \text{ monthly returns} / 5 \text{ annual returns})\ ]}$$

Therefore, the ratio of monthly volatility to annual volatility over any five year period, for any investment strategy, should be close to 3.5.

216. The same benchmark ratios can be calculated for daily to monthly and daily to annual volatilities. For five years of data, the expected ratio between daily and monthly volatility is 4.6,[236] and the expected ratio between daily and annual volatility is 15.9.[237]

---

[235] *N.Y.U. v. Ariel Fund Ltd. et al.*, Merkin Dep. 75:09-22, 87:20-88:19, February 9, 2009.

[236] $4.6 = \sqrt{[\ (\text{approx. } 1{,}266 \text{ daily returns} / 60 \text{ monthly returns})\ ]}$.

[237] $15.9 = \sqrt{[\ (\text{approx. } 1{,}266 \text{ daily returns} / 5 \text{ annual returns})\ ]}$.

These ratios are independent of the asset, and apply whether the asset is stocks, bonds, options, or any hybrid thereof. The ratio is an underlying property of financial market data, and the ratios between these volatilities are said to fit on a quadratic curve.

217. I reviewed the daily, monthly and annual volatility of returns between December 2000 and December 2005 for Merkin's BLMIS account for Ariel to determine whether the volatility of returns for the Merkin BLMIS Accounts were consistent with the benchmark ratios one would expect from any investment strategy.[238]

218. For comparison purposes and to demonstrate that the type of investment does not impact the analysis, I also calculated the volatility ratios for Gateway, a fund operating an SSC strategy as discussed above, as well as four diverse index funds. The four index funds I used are: (i) Vanguard Total Bond Market Index Fund ("VBMFX"), a bond fund; (ii) Vanguard 500 Index Fund ("VFINX"), an equity fund; (iii) Vanguard Balanced Index Fund ("VBAIX"), a balanced fund; and (iv) Vanguard Short-Term Investment-Grade Fund ("VFSIX"), a short-term investment-grade fund. The results are shown in Figure 18.

Figure 18
Volatility Ratios for Five-Year Period
December 2000 – December 2005[239]

	Expected Ratio	BLMIS	GATEX	VBMFX	VFINX	VBAIX	VFSIX
Monthly:Annual	3.5	1.4	2.9	2.1	4.1	4.2	4.0
Daily:Monthly	4.6	1.3	3.5	4.1	3.7	3.8	3.5
Daily:Annual	15.9	1.9	10.1	8.8	15.5	15.9	13.7

219. As shown above, the volatility ratios for Gateway and the index funds are consistent with the expected benchmark ratios, while the volatility ratios for BLMIS are inconsistent with

---

238 I used Merkin's BLMIS account for Ariel as an example to demonstrate the unrelated daily, monthly and annual volatilities for the Merkin BLMIS Accounts. Given the similarity of returns across the Merkin BLMIS Accounts, analysis using other accounts would likely achieve similar results.

239 Sources include Settled Cash table, StorQM Customer Statements (for account 1FR070) and Bloomberg market data.

what would be expected.

220. That the daily volatility of Madoff's purported returns was unrelated to the monthly or annual volatility was a red flag that Madoff was not executing the purported strategy.

C. People

221. Fund Managers evaluate the personnel and qualifications of the investment advisor as much as the investment itself. This assessment includes the individuals with key roles, the reporting structure of the business, the hiring and termination processes, and whether all team members understand the philosophy and process they are supposed to be implementing.[240] It is fundamental for a Fund Manager to continually analyze and investigate the investment advisor and his personnel when conducting due diligence.

1. Excessive Concentration of Duties

222. The excessive concentration of managerial duties in the hands of one or two executives is considered problematic from a due diligence perspective because it significantly limits transparency into the management of the fund.[241] Investment-related decisions at BLMIS were made solely by Madoff, with little input from other employees or outside parties.

223. As discussed in more detail below in Section VI.F.3, in 2005, the Bayou Fund ("Bayou") was exposed as a Ponzi scheme.[242] Bayou's collapse highlighted the importance of People-related due diligence because there was a concentration of executive duties in the hands of very few people. Specifically, one of Bayou's executives, Daniel Marino, was simultaneously the Chief Financial Officer (CFO) and the Chief Operating Officer

---

[240] Cambridge Associates Due Diligence Questionnaire, June 2007 (BS00527975); *See Managing the Investment Managers*, CIBC Due Diligence Process (November 2009); *see* also Harrington Dep. 51:17-20, October 1, 2013.

[241] Complaint for Injunctive and Other Equitable Relief at 6, *Commodity Futures Trading Comm'n v. Bayou Mgmt. et al.* No. 05 Civ. 8374 (S.D.N.Y. Sept. 29, 2005), ECF No. 1. p. 6.

[242] Grosvenor Capital Management Report Regarding Samuel Israel/Bayou Management LLC (September 7, 2005) (BS00151981 at 1981-85).

(COO) of Bayou Group. [243]

224. Much like the excessive concentration of duties in the hands of Daniel Marino at Bayou, the excessive concentration of duties in the hands of Madoff at BLMIS was suspicious and created an opportunity for fraud.

2. Lack of Credentials

225. A global investment management firm as large as BLMIS (growing to tens of billions in AUM) would, in my experience, have employed a workforce that possessed credentials more like traditional investment management firms.[244] General partners and general portfolio managers at hedge funds and other investment vehicles would be expected, at a minimum, to hold a bachelor's degree. Additionally, it was common for them to also hold advanced degrees (e.g., master's degrees or PhDs) and professional certifications (e.g., Chartered Financial Analyst or Certified Public Accountant).[245]

226. It is customary to review ADV forms as part of due diligence, and in its SEC Form ADV, BLMIS was listed as having no more than five employees who performed investment advisory (i.e., BLMIS) functions.[246] It would be difficult for a multi-billion dollar investment management business to operate with so few employees who served in that role. The fact that BLMIS may have been employing a black box or algorithm as part of

---

[243] Complaint for Injunctive and Other Equitable Relief at 4, *Commodity Futures Trading Comm'n v. Bayou Mgmt. et al.* No. 05 Civ. 8374 (S.D.N.Y. Sept. 29, 2005), ECF No. 1.

[244] A FINRA *BrokerCheck* providing a business description for BLMIS would have shown, at any time, that Madoff did not disclose his investment advisory business even though Madoff was making all investment decisions, and in all other respects serving as an investment advisor to investors such as Merkin. CRD Number 2625 and SEC File No. 8-08132. Additionally, Victor Teicher and Noreen Harrington both note that infrastructure needs grow as assets increase. Teicher Dep. 65:3-18, October 29, 2013, Harrington Dep. 83:4-21, October 1, 2013.

[245] General partners are individuals who, regardless of title, focus on daily operations such as trading, modeling, research, risk control, and general fund support. Considering data between 1975 and 2010, 100% of directors or managers held bachelor's degrees, 61% held master's degrees, 29% held PhDs, 1% held JDs, 8% were Chartered Financial Analyst ("CFA") charterholders, 4% were Certified Public Accountants ("CPA"), and 1% were Financial Risk Managers ("FRM"). Barclay Hedge Database, August 2011.

[246] SEC Form ADV, Bernard L. Madoff Investment Securities, August 25, 2006 (PUBLIC0003729 at 734). BLMIS listed one-to-five total employees performing investment advisory functions.

its strategy[247] would necessitate that these employees be capable of developing mathematical algorithms or other related analyses for the black box. For this reason alone it would be important to investigate the backgrounds (e.g., education) of these employees.

227. Due diligence would have revealed that BLMIS had a limited number of personnel, with no advanced education or training, who were purportedly implementing a multi-billion dollar investment strategy. This lack of credentials was a red flag because it was inconsistent with industry customs and practices.

3. Lack of Disclosures/Transparency

228. BLMIS also lacked typical disclosures/operational transparency provided by investment advisors. Some of the most basic staff-related and background-related due diligence typically performed by Fund Managers includes questions for which I did not find any answers for in the documents produced by Merkin. For example, as discussed above in Section V.B.1, typical staff-related and background-related due diligence includes a collection of basic staff and organizational information such as:

- Number of employees, type, positions, and compensation structure;
- Legal structure of the company;
- Total AUM and growth of assets under management;
- Percentage of AUM represented by the largest clients;
- Breakdown of AUM by type of client group; and
- Identification of the largest clients.[248]

229. While some investment advisors can be secretive about certain information (e.g., trading strategies), other information such as the size of the fund and the growth of the fund is

---

[247] Merkin Dep. 308:8-20, February 24, 2015; Merkin Dep. 417:16-25, 433:3-434:6, 562:2-14, 574:8-13, February 25, 2015.

[248] AIMA's Illustrative Questionnaire for Due Diligence of Fund of Hedge Funds Managers (2004) (BS00115001 at 5001-20).

typically disclosed by investment advisors.

230. Typically this, and other information, can be found in DDQs or marketing documents produced by the investment advisor. As a multi-billion dollar investment advisor executing a consistent investment strategy across all investors, it would have been consistent with industry customs and practices for Madoff to maintain some type of marketing documentation. This documentation would have provided detailed information regarding his strategy, risks associated with the strategy, background on himself and key employees, and a detailed explanation of his fee structure.[249]

231. Hedge funds typically convey such information to Fund Managers and other investors through a Private Placement Memorandum, which is a standard hedge fund marketing document.[250] Alternatively, if a formal Private Placement Memorandum is not used, the hedge fund or other investment advisor will typically convey the information through a document, such as a PowerPoint presentation, containing all of the relevant information. I did not identify any such marketing documents for BLMIS in the documents produced by Merkin.

232. There is also no indication that any information was made available about the staff composition of BLMIS.[251] For example, if a Fund Manager were to meet with Madoff and observe the operation, it would be important to understand which employees were part of the investment advisory business and which employees were part of the broker-dealer business that Madoff was also running. A key aspect of employee-related due

---

[249] Government Accountability Office, *Hedge Funds: Regulators and Market Participants are Taking Steps to Strengthen Market Discipline, but Continued Attention is Needed* 27, Report to Congressional Requesters (January 2008). Mutual Funds also prepare prospectuses for potential investors with information similar to a hedge fund Private Placement Memorandum. Mutual fund prospectuses include information on investment strategy, fee structure, past performance, and the investment manager in charge of the fund. *See* also Mahagan Dep. 11:7-14, November 22, 2013.

[250] Douglas Hammer, *U.S. Regulation of Hedge Funds* (American Bar Association 2005). Merkin stated, "did I think of [Madoff] as a hedge fund, the answer is, absolutely, yes." *Jesselson v. Merkin*, Hearing Transcript 388:2-5, September 13, 2011.

[251] Merkin Dep. 433:14-434:6, February 25, 2015.

diligence is understanding the backgrounds of the employees involved in the investment advisory business specifically.[252]

233. BLMIS's lack of disclosures and operational transparency was a red flag because it was suspicious and inconsistent with industry customs and practices.

D. Performance

234. In evaluating the performance of an investment advisor, whether initially or during ongoing due diligence, both qualitative and quantitative measures are considered, and all analyses must be consistent with the advisor's stated investment style.[253] Quantitative analysis in particular is a basic tenet of Performance-related due diligence.[254]

235. Ongoing performance due diligence is particularly important as an investment grows in size. For example, as a Fund Manager for the Defendant Funds, Merkin began investing with BLMIS in 1990 and remained invested through its collapse in December 2008.[255] By 2007, the customer statements for the Merkin BLMIS Accounts reflected more than $2 billion.[256] The annual returns for the Merkin BLMIS Accounts were never lower than 9% in any year, and only had 9 months of negative returns out of 218 total months in an 18.2 year period.[257]

236. The quantitative analyses I perform on the Merkin BLMIS Accounts below includes peer analysis, performance analysis in times of market stress, correlation analysis, performance attribution and scenario analysis. These due diligence analyses are customary in the industry to help safeguard against fraud and other deceit or

---

252 AIMA's Illustrative Questionnaire for Due Diligence of Fund of Hedge Funds Managers (2004) (BS00115001 at 5001-20).

253 *See, e.g.*, Orchard Dep. 19:2-8, October 8, 2013; Presentation by UJA- Federation of New York on Portfolio Performance Analysis and Review, April 21, 2004 (BS00082102 at 102-154).

254 *See, e.g.*, Kim Dep. 23:15-24:19, November 19, 2013; BS00456856.

255 Statement for Account Number 1-A0042, October 31, 1990 (MF00027830 at 830).

256 SQL Database: StorQM Customer Statements.

257 SQL Database: StorQM Customer Statements, and Customer Ledgers.

misappropriation by an investment advisor.

1. Peer Analysis: Comparison to Peers and Benchmarks

237. In the due diligence process, an assessment of investment advisor performance is not conducted in a vacuum. It is customary to continually evaluate the performance of an investment advisor in the context of other funds, benchmarks, and general market movements, i.e., peer groups.[258] The peer analysis presented herein uses information publicly available from third-party providers, and incorporates the evaluation of widely-recognized market events.

238. I examined the pattern of historical returns for the Merkin BLMIS Accounts within the context of different peer groups, such as hedge funds, mutual funds, world-class investment advisors, indices, and Merkin's own portfolio. This range of investment alternatives casts a wide net for performance comparisons. As further discussed below, when selecting peer groups, I selected funds that exhibited similar characteristics to BLMIS as related to strategy, asset classification, and/or skill of the investment advisor (e.g., when analyzing elite investment advisors).

239. Peer groups and benchmarks are selected for both comparison purposes as well as to provide context for the purported results reflected in the Merkin BLMIS Accounts. It is important to understand that the Madoff SSC strategy was neither an equity strategy, nor a fixed income strategy. It was a hybrid strategy that should exhibit characteristics of both an equity strategy (because the returns should move both up and down with the movements in the underlying S&P 100 Index), and a fixed income strategy (because the volatility of the returns was limited on the upside and downside by the strike prices). Therefore, benchmarks for the Madoff SSC strategy should not be limited to

---

[258] A peer group is a collection of other funds used for comparison analysis, typically for performance comparison Edward J. Stavetski, *Managing Hedge Fund Managers* 71 (Hoboken, New Jersey: John Wiley & Sons 2009); G. Timothy Haight, Stephen O. Morell & Glenn E. Ross, *How to Select Investment Managers & Evaluate Performance* 248 (Hoboken: John Wiley & Sons, Inc. 2007).

only equity-based returns or treasury returns. The peer groups and benchmarks I chose are discussed below.

240. The peer analysis presented herein includes six metrics: (i) Sharpe Ratio; (ii) Sortino Ratio; (iii) number or percent of positive months; (iv) number or percent of negative months; (v) maximum drawdown; and (vi) number of months in drawdown. All six metrics were consistent with industry customs and practices during the Defendant Funds' investments with BLMIS and are analyses that I performed as part of due diligence on BLMIS.

241. The Sharpe Ratio and the Sortino Ratio are two primary metrics used to evaluate investment advisor performance on a risk-adjusted basis. The Sharpe Ratio measures the amount of return above a risk free rate per unit of risk. It is calculated as the mean portfolio return less a risk free return ($r_p - r_f$), divided by the standard deviation of the returns.[259] A higher Sharpe Ratio indicates that the investment is generating more return for the same amount of risk.

242. The Sortino Ratio is a form of the Sharpe Ratio where only downside risk is incorporated into the formula by calculating the standard deviation of returns that are only negative.[260] In this manner, the Sortino Ratio does not penalize performance for being volatile if the volatility always results in positive performance.

243. I utilized the Sharpe Ratio and the Sortino Ratio based upon the popularity of these metrics in the investment management industry, as well as on their acceptance within the

---

[259] The Sharpe Ratio was developed by William Sharpe and made public in his 1966 Journal of Business publication *Mutual Fund Performance*. William Sharpe, *Mutual Fund Performance*, The Journal of Business, 119-128 (Vol. 39, No. 1, Part 2, January 1966).

[260] In the formula for Sortino Ratio the positive returns are set to 0 for purposes of calculating the standard deviation. The Sortino Ratio was developed by Frank Sortino and Lee Price and made public in their 1994 Journal of Investing publication *Performance Measurement in a Downside Risk Framework*. Frank Sortino and Lee Price, *Performance Measurement in a Downside Risk Framework*, The Journal of Investing 59-64 (Vol. 3, No.3 Fall 1994). *See also*, FRANK J. TRAVERS, INVESTMENT MANAGER ANALYSIS 93-94 (2004).

academic community.[261] The ratios are common statistics used to compare performance between two or more funds, and both of these risk-adjusted performance metrics were well-established due diligence tools during the relevant time period of the Defendant Funds' investments with BLMIS.[262]

244. Two other related metrics, the number of months with positive returns and the number of months with negative returns, are also included in the analysis as they are helpful in evaluating the performance of investment advisors. Merkin used similar metrics (percent of positive months) in promoting his own funds.[263]

245. Finally, I included an analysis of drawdowns, looking both at maximum drawdowns and the number of months in drawdown. When calculated on a monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Maximum drawdown would then be the largest drop between peak to trough in the period.[264] Months in drawdown would be the number of months in which the current portfolio is below the previous high. These analyses are helpful in evaluating the magnitude and duration of losses.

246. As detailed below, across all six performance metrics, all peer groups, and for all time periods considered, BLMIS outperformed its peers to a degree of statistical improbability, if not impossibility. It is highly unlikely for an investment advisor to outperform, and often by a significant amount, every peer group, across these performance metrics, across lengthy periods of time.

---

[261] *See* the following: (i) http://www.morningstar.com/InvGlossary/sharpe_ratio.aspx; (ii) http://www.morningstar.com/InvGlossary/sortino_ratio_definition_what_is.aspx; and (iii) CFA Institute, *Alternative Investments, Risk Management, and the Application of Derivatives CFA Program Curriculum, Level III, Vol. 5*, 82-83 (2014).

[262] *See, e.g.*, GCCSAA00045752 at 763; GCCSAA00066993 at 995; GCCSAB00191509 at 109-118; NYGSAA0247976 at 976, 978-979.

[263] BS00528457 at 457.

[264] Maximum drawdown is one of the analytics that Noreen Harrington used while performing due diligence at Sterling Stamos. Harrington Dep. 52:14-25, October 1, 2013; s*ee also*, BS00528457 at 457.

247. This purported performance was indicia of fraud and a red flag that Madoff was not executing the Madoff SSC strategy. Furthermore, these results should have prompted additional quantitative due diligence on the purported execution of the strategy, including performance attribution, reverse engineering and alpha analysis. As discussed in Sections VI.D.4, VI.B.2 and VI.B.1, due diligence in these areas would have revealed significant red flags where the only reasonable explanation was fraud.

a) Hedge Funds

248. My analysis of hedge fund returns involves data obtained from BarclayHedge, a publicly-available comprehensive hedge fund database.[265] Using this database I created a peer group of hedge funds implementing comparable strategies to the Madoff SSC strategy.

249. BarclayHedge includes information on approximately 8,700 hedge funds, and categorizes these hedge funds into 35 different primary strategies based on the type of strategy followed by the hedge fund.[266] Consistent with due diligence customs and practices, I reviewed the strategies used by BarclayHedge, and identified those strategies that I considered most comparable to the Madoff SSC strategy. The strategies that I identified as most comparable to the Madoff SSC strategy were: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias. These strategies are most comparable because they invest in hedged domestic equity strategies.[267]

250. The descriptions provided by BarclayHedge for each strategy are as follows:

- **Equity Market Neutral:** This investment strategy is designed to exploit equity market inefficiencies and usually involves being simultaneously long and short

---

[265] http://www.barclayhedge.com. Of the four fund types in the BarclayHedge database, my sample includes only "Hedge Funds," thereby excluding the following fund types: (i) Funds of Funds; (ii) CTA; and (iii) Benchmark Indices. Only hedge funds that report returns "Net of All Fees" have been included. For each time period examined, the sample includes only funds which published returns for every month in the period of interest.

[266] BarclayHedge assigns one primary strategy to each hedge fund.

[267] I further note that BarclayHedge includes American Masters Broad Market Fund, L.P., a hedge fund run by Tremont that was invested with BLMIS, within the "equity market neutral" category.

matched equity portfolios of the same size within a country. Market neutral portfolios are designed to be either beta or currency neutral, or both. Well-designed portfolios typically control for industry, sector, market capitalization, and other exposures. Leverage is often applied to enhance returns.[268]

- **Equity Long/Short:** This directional strategy involves equity-oriented investing on both the long and short sides of the market. The objective is not to be market neutral. Managers have the ability to shift from value to growth, from small to medium to large capitalization stocks, and from a net long position to a net short position. Managers may use futures and options to hedge. The focus may be regional or sector specific.[269]

- **Equity Long-Bias:** Equity Long/Short managers are typically considered long-biased when the average net long exposure of their portfolio is greater than 30%.[270]

251. I calculated the Sharpe Ratio, Sortino Ratio, number of months with positive and negative returns, maximum drawdown, and percent of months in drawdown on ten-year rolling bases for the period January 1991 through November 2008. I created a peer group of funds classified in the three strategies identified above that reported ten years of continuous returns (the "Hedge Fund Peer Group"). I used ten-year periods for purposes of my performance analyses because ten years reduces the margin of error (as opposed to using three-year or five-year time periods for example).

252. Historical performance analyses using ten years of data is standard for the Association for Investment Management and Research ("AIMR") Performance Presentation Standards ("AIMR-PPS").[271] In addition, in order to be compliant under the Global Investment

---

[268] http://www.barclayhedge.com/research/indices/ghs/Equity_Market_Neutral_Index.html.

[269] http://www.barclayhedge.com/research/indices/ghs/Equity_Long_Short_Index.html.

[270] http://www.barclayhedge.com/research/indices/ghs/Equity_Long_Bias_Index.html.

[271] *AIMR-Performance Presentation Standards*, Association for Investment Management and Research 4 (2001), www.aimr.org. The AIMR-PPS standards were first introduced in 1987.

Performance Standards ("GIPS") published by the CFA Institute, and formally endorsed in 1999,[272] firms must initially report at least five years of historical performance, building up to a minimum of ten years of historical performance.[273]

253. There were nine 10-year rolling periods between 1991 and 2008. I assembled the returns for all funds in the Hedge Fund Peer Group that continuously reported monthly performance for each 10-year rolling period (the funds in each period are referred to as a "Rolling 10-Year Hedge Fund Peer Group").[274]

254. I evaluated each performance metric of interest over 10 years of returns data for each of the Rolling 10-Year Hedge Fund Peer Groups. For example, the Sharpe Ratios in each ten-year period presented herein were calculated using returns data over 120 months.[275] The results below show that the metrics for the Merkin BLMIS Accounts were consistently significant outliers in the hedge fund industry from 1991 through 2008.

(1) Sharpe and Sortino Ratios

255. First, I calculated the Sharpe and Sortino Ratios for the Hedge Fund Peer Group. As discussed above, these metrics are used to evaluate investment advisor performance on a risk-adjusted basis. As shown in Figure 19, the Sharpe Ratio for the Merkin BLMIS Accounts was higher than the maximum Sharpe Ratio of any fund in the Rolling 10-Year Hedge Fund Peer Groups for every period for which data was analyzed (the rolling 10-year periods ending 2000 through 2008).

---

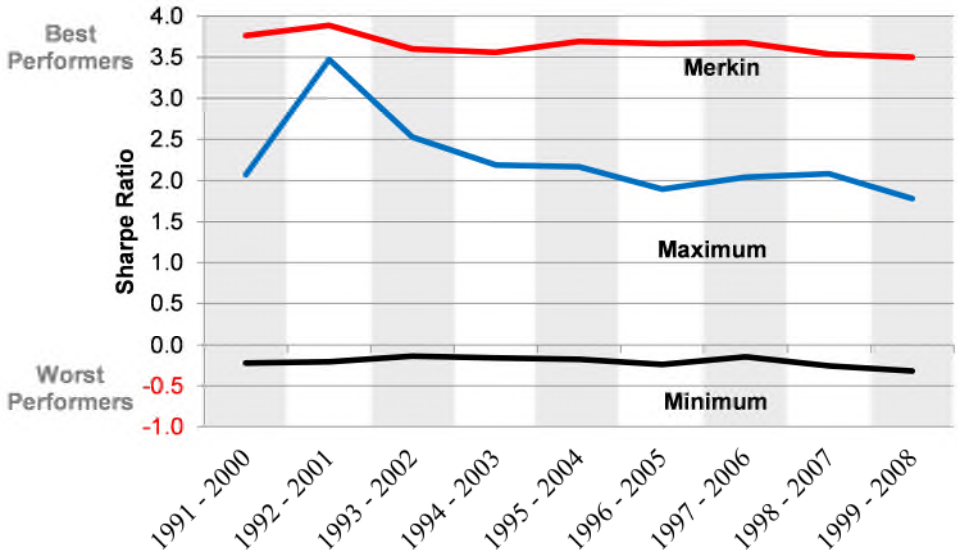
[272] GIPS was endorsed in 1999 by AIMR, the predecessor to CFA Institute.

[273] CFA Institute, Global Investment Performance Standards (2010).

[274] For example, the funds included in the 10-year period from January 1991 through December 2000 are referred to as the "2000 Rolling 10-Year Hedge Fund Peer Group." This is the first ten-year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds. Each ten-year period includes a different set of hedge funds, i.e., those hedge funds for which ten years of monthly data is available over the relevant time period. Some hedge funds appear in multiple ten-year rolling periods.

[275] Given that BLMIS's operations ceased in December 2008, the 2008 Rolling 10-Year Peer Group runs from January 2000 through November 2008. Accordingly, the metrics for this peer group are calculated over 119 months of returns data.

Figure 19
Sharpe Ratio for Hedge Fund Peer Group v. Merkin BLMIS Accounts[276]
Rolling 10-Year Periods Ending 2000-2008



256. The only year in which the Sharpe Ratio for the Hedge Fund Peer Groups was somewhat close to that of the Merkin BLMIS Accounts, was 2001. Moreover, the only fund that generated a Sharpe Ratio close to that of the Merkin BLMIS Accounts for the 2001 rolling 10-year period was American Masters Broad Market Fund, L.P., which was managed by Tremont and invested with BLMIS.[277] In other words, the only fund which produced a 10-year Sharpe Ratio from 2000 through 2008 that was close to the Sharpe Ratio for the Merkin BLMIS Accounts was a BLMIS feeder fund.

257. Performance comparison charts for the 2000 and 2008 rolling 10-year periods highlight the Merkin BLMIS Accounts as an obvious outlier relative to the distribution of hedge fund peers. (*See* **Schedule 13** and **Schedule 14**.)

258. While Figure 19 above includes all hedge funds in the Hedge Fund Peer Group, the same

---

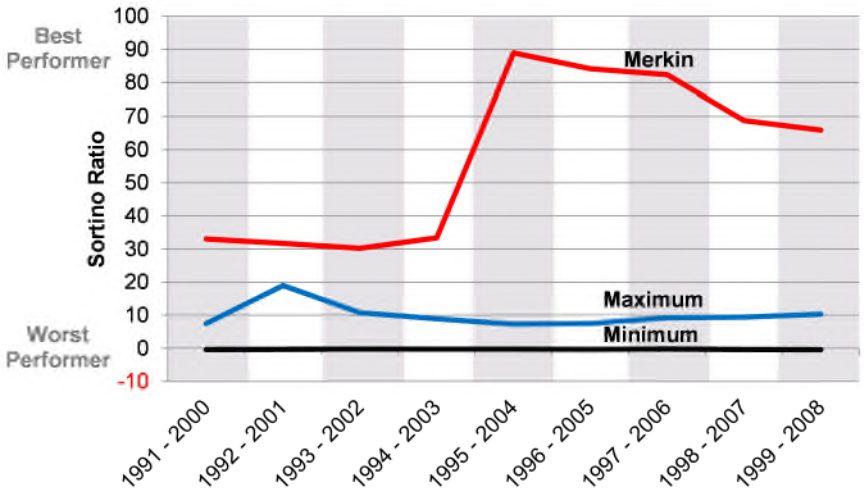
[276] 2000 is the first year in which there is sufficient data available for a 10 year period. 2008 data is through November 2008. Sources include StorQM Customer Statements, Customer Ledgers, Settled Cash table, BarclayHedge Database, Federal Reserve FRB H.15 Release.

[277] This is the only 10-year rolling period in which continuous monthly returns were reported by Tremont.

conclusions, by definition, are drawn from the three strategy/categories that comprise the Hedge Fund Peer Group. That is, if the maximum Sharpe Ratio across all hedge funds in all strategies is less than the Sharpe Ratio for the Merkin BLMIS Accounts, then the maximum Sharpe Ratio in any one strategy/category will be less than the Sharpe Ratio for the Merkin BLMIS Accounts.

259. The Sortino Ratios for the Merkin BLMIS Accounts were also significantly higher than the maximum for the Rolling 10-Year Hedge Fund Peer Groups for every period for which data was analyzed as illustrated in Figure 20.

Figure 20
Sortino Ratio for Hedge Fund Peer Group v. Merkin BLMIS Accounts[278]
Rolling 10-Year Periods Ending 2000-2008



260. The Sortino Ratios for the Merkin BLMIS Accounts were significantly higher than their peers primarily because the Merkin BLMIS Accounts rarely had negative returns.[279] The

---

[278] 2000 is the first year in which there is sufficient data available for a 10 year period. 2008 data is through November 2008. Sources include StorQM Customer Statements, Customer Ledgers, Settled Cash table, BarclayHedge Database, Federal Reserve FRB H.15 Release.

[279] The only fund that generated a Sortino Ratio closer to that of the Merkin BLMIS Accounts for the 2001 rolling 10-year period was American Masters Broad Market Fund, L.P., which was managed by Tremont and invested with BLMIS.

increase in the Sortino Ratio beginning with the 1995-2004 ten year period is a result of a prolonged period of time beginning in 1995 when the Merkin BLMIS Accounts had very few negative months. In the first 51 months (i.e., through December 1994) the Merkin BLMIS Accounts had four months with negative returns. Over the next 167 months there were only five total months with negative returns. (*See also* **Schedule 15** and **Schedule 16**.)

(2) Number of Months with Positive/Negative Returns

261. Next, I calculated the number of months with positive returns and the number of months with negative returns for the Merkin BLMIS Accounts and for the Hedge Fund Peer Group. Figure 21 illustrates that the Merkin BLMIS Accounts were again outliers in terms of months with consistently positive returns and a lack of months with negative returns.

Figure 21
Number of Positive and Negative Months for Hedge Fund Peer Group v. Merkin BLMIS Accounts
Rolling 10-Year Periods Ending 2000-2008

	Number of Positive Months				Number of Negative Months		
	Peer Group				Peer Group		
Rolling Period	Min	Max	Merkin		Min	Max	Merkin
1991 - 2000	60	94	**115**		23	59	**5**
1992 - 2001	58	114	**116**		5	62	**4**
1993 - 2002	59	99	**115**		21	61	**5**
1994 - 2003	60	100	**114**		20	60	**6**
1995 - 2004	59	101	**116**		19	61	**4**
1996 - 2005	59	99	**116**		21	61	**4**
1997 - 2006	58	100	**116**		20	62	**4**
1998 - 2007	61	101	**115**		18	59	**5**
1999 - 2008	57	96	**114**		22	62	**5**

262. The Merkin BLMIS Accounts had more months with positive returns than every fund in the Rolling 10-Year Hedge Fund Peer Groups for every period for which data was analyzed (2000 through 2008). Similarly, the Merkin BLMIS Accounts had fewer months with negative returns than every fund in the Rolling 10-Year Hedge Fund Peer Groups for every period for which data was analyzed (2000 through 2008). (*See also*

Schedule 17 to **Schedule 22**.)

(3) Drawdown

263. Finally, I calculated the maximum drawdown and the percent of months in drawdown for the Merkin BLMIS Accounts and for the Hedge Fund Peer Group. As discussed above, when calculated on a monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Maximum drawdown is the largest drop between peak to trough in the period. Percent of months in drawdown is the percent of months in which the current portfolio is below the previous high.

Figure 22
Drawdown Metrics for Hedge Fund Peer Group v. Merkin BLMIS Accounts
Rolling 10-Year Periods Ending 2000-2008

	Maximum Drawdown				Months in Drawdown		
	Peer Group				Peer Group		
Rolling Period	Min	Max	Merkin		Min	Max	Merkin
1991 - 2000	-62.9%	-2.6%	**-0.9%**		34%	89%	**4%**
1992 - 2001	-86.7%	-1.4%	**-0.9%**		4%	93%	**3%**
1993 - 2002	-86.7%	-3.3%	**-0.9%**		25%	86%	**4%**
1994 - 2003	-86.7%	-3.3%	**-0.9%**		25%	93%	**6%**
1995 - 2004	-86.7%	-3.4%	**-0.4%**		23%	96%	**4%**
1996 - 2005	-93.3%	-3.4%	**-0.4%**		25%	94%	**4%**
1997 - 2006	-93.3%	-3.2%	**-0.4%**		24%	95%	**4%**
1998 - 2007	-93.3%	-3.2%	**-0.4%**		23%	98%	**5%**
1999 - 2008	-80.4%	-4.4%	**-0.4%**		25%	97%	**5%**

264. As shown in Figure 22, the Merkin BLMIS Accounts outperformed the Hedge Fund Peer Group for every single rolling period in both maximum drawdown and percent of months in drawdown. (*See also* **Schedule 23** to **Schedule 28**.)

(4) Hedge Fund Peer Group Conclusion

265. The analyses above show that the Merkin BLMIS Accounts outperformed, and often by a significant amount, the Hedge Fund Peer Group, across every performance metric, for every rolling period.

b) Mutual Funds

266. Consistent with due diligence customs and practices I also considered a peer analysis using mutual funds that implemented investment strategies comparable to the Madoff SSC strategy. As part of quantitative due diligence, it is custom and practice to review both hedge funds and mutual funds for investment strategies comparable to the target investment strategy.

267. My analysis of mutual fund returns involves data obtained from Morningstar, a comprehensive mutual fund database. Morningstar includes information on over 131,000 mutual funds,[280] and categorizes these mutual funds into 7 global asset strategies, with multiple subcategories for a total of 98 possible strategies/categories.[281] Consistent with due diligence customs and practices I reviewed the categories used by Morningstar and identified those categories that included strategies that I considered most comparable to the Madoff SSC strategy.

268. I identified one such category of mutual funds (the Hedge Fund sub-category within the Alternative global asset category), and all of the mutual funds categorized by Morningstar as "Hedge Fund" were included in my peer group ("Mutual Fund Peer Group"). While these mutual funds are categorized as "Hedge Fund" by Morningstar, the legal structure of each fund is that of a mutual fund. Morningstar's Hedge Fund category includes any mutual fund that engages in what Morningstar defines as "alternative strategies."[282] Morningstar defines the Hedge Fund category as follows:

---

[280] http://corporate.morningstar.com/US/documents/Brochures/DirectProductBrochure.pdf (accessed on March 4, 2015).

[281] The number of subcategories per global asset category ranges from 1 to 48. *The Morningstar Global Category Classifications,* Morningstar Methodology Paper (March 31, 2010).

[282] *The Morningstar Global Category Classifications*, Morningstar Methodology Paper (March 31, 2010).

- Hedge Fund: Hedge fund portfolios engage in alternative strategies. Hedge fund portfolios can focus on specific areas of the market and/or specific trading strategies.[283]

269. Consistent with my evaluation of hedge funds, I assessed the Sharpe Ratio, Sortino Ratio, number of months with positive and negative returns, maximum drawdown, and percent of months in drawdown on ten-year rolling bases. I created a peer group of funds classified in the Hedge Fund category that reported ten years of continuous returns (the "Mutual Fund Peer Group"). There were four 10-year rolling periods between 1996 and 2008. My analysis begins in 1996 because 2005 is the first year in which there is sufficient Morningstar data available for a ten-year period.[284] I assembled the returns for all funds in the Mutual Fund Peer Group that continuously reported monthly performance for each 10-year rolling period (the funds in each period are referred to as a "Rolling 10-Year Mutual Fund Peer Group")[285] I note that Gateway, a mutual fund implementing an SSC strategy, is included in the Mutual Fund Peer Group for every 10-year rolling period.

270. I evaluated each metric of interest over 10 years of returns data for each of the four Rolling 10-Year Mutual Fund Peer Groups. The results below show that the metrics for the Merkin BLMIS Accounts were consistently significant outliers in the mutual fund industry from 1996 through 2008.

(1) Sharpe and Sortino Ratios

271. First, I calculated the Sharpe and Sortino Ratios for the Mutual Fund Peer Group. As discussed above, these metrics are used to evaluate investment advisor performance on a

---

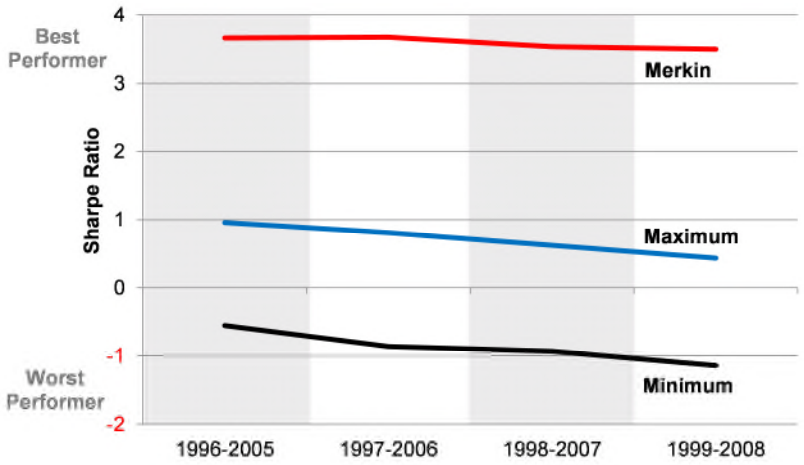
[283] *The Morningstar Global Category Classifications*, Morningstar Methodology Paper (March 31, 2010).

[284] This is the first ten-year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

[285] For example, the funds included in the 10-year period from January 1996 through December 2005 are referred to as the "2005 Rolling 10-Year Mutual Fund Peer Group." This is the first ten-year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds. Each ten-year period includes a different set of mutual funds, i.e., those mutual funds for which ten years of monthly data is available over the relevant time period. Some mutual funds appear in multiple ten-year rolling periods.

risk-adjusted basis. As shown in Figure 23, the Sharpe Ratio for the Merkin BLMIS Accounts was higher than the maximum Sharpe Ratio of any fund in the Rolling 10-Year Mutual Fund Peer Groups for every period for which data was analyzed (the rolling 10-year periods ending 2005 through 2008). (*See also* **Schedule 29** and **Schedule 30**.)

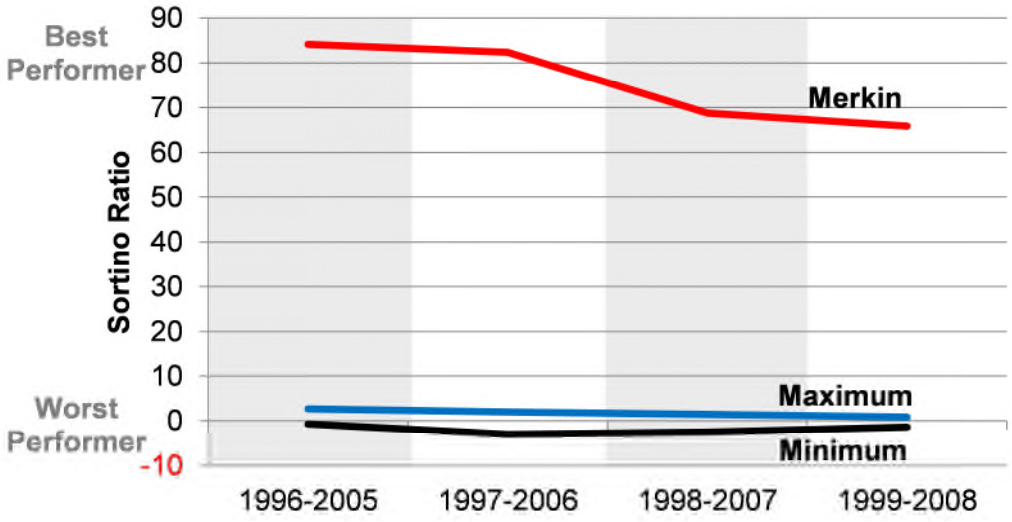
Figure 23
Sharpe Ratio for Mutual Fund Peer Group v. Merkin BLMIS Accounts[286]
Rolling 10-Year Periods Ending 2005-2008



272. Similarly, as shown in Figure 24, the Sortino Ratio for the Merkin BLMIS Accounts far exceeded the maximum Sortino Ratio of every other fund in the Rolling 10-Year Mutual Fund Peer Groups for every period for which data was analyzed.

[286] 2008 data is through November 2008. Sources include StorQM Customer Statements, Settled Cash table, Morningstar Direct Database, Federal Reserve FRB H.15 Release.

Figure 24
Sortino Ratio for Mutual Fund Peer Group v. Merkin BLMIS Accounts[287]
Rolling 10-Year Periods Ending 2005-2008



273. My findings related to the 10-Year Rolling Mutual Fund Peer Groups are as compelling as those for the 10-Year Rolling Hedge Fund Peer Groups. Again, the Merkin BLMIS Accounts are an outlier in the risk-adjusted performance metrics, with Sharpe and Sortino Ratios far exceeding the maximum of every other fund. (*See also* **Schedule 31** and **Schedule 32**.)

(2) Number of Months with Positive/Negative Returns

274. Next, I calculated the number of months with positive returns and the number of months with negative returns for the Merkin BLMIS Accounts and for the Mutual Fund Peer Group. As shown in Figure 25, the Merkin BLMIS Accounts also posted a far greater number of months with positive returns and far fewer months with negative returns than the Mutual Fund Peer Group.

---

[287] 2008 data is through November 2008. Sources include StorQM Customer Statements, Settled Cash table, Morningstar Direct Database, Federal Reserve FRB H.15 Release.

Figure 25
Number of Positive and Negative Months for Mutual Fund Peer Group v. Merkin BLMIS Accounts[288]
Rolling 10-Year Periods Ending 2005-2008

	Number of Positive Months				Number of Negative Months		
	Peer Group				Peer Group		
Rolling Period	Min	Max	Merkin		Min	Max	Merkin
1996 - 2005	49	100	**116**		20	69	**4**
1997 - 2006	48	101	**116**		19	71	**4**
1998 - 2007	41	103	**115**		17	78	**5**
1999 - 2008	36	99	**114**		20	81	**5**

275. The Merkin BLMIS Accounts had more months with positive returns than every fund in the Rolling 10-Year Mutual Fund Peer Groups for every period for which data was analyzed (2005 through 2008). Similarly, the Merkin BLMIS Accounts had fewer months with negative returns than every fund in the Rolling 10-Year Mutual Fund Peer Groups for every period for which data was analyzed (2005 through 2008). (*See also* **Schedule 33** to **Schedule 38**.)

(3) Drawdown

276. Next, I calculated the maximum drawdown and the percent of months in drawdown for the Merkin BLMIS Accounts and for the Mutual Fund Peer Group.

[288] 2008 data is through November 2008. Sources include StorQM Customer Statements, Settled Cash table, Morningstar Direct Database, Federal Reserve FRB H.15 Release.

Figure 26
Drawdown Metrics for Mutual Fund Peer Group v. Merkin BLMIS Accounts[289]
Rolling 10-Year Periods Ending 2005-2008

	Maximum Drawdown				Months in Drawdown		
	Peer Group		Merkin		Peer Group		Merkin
Rolling Period	Min	Max			Min	Max	
1996 - 2005	-68.6%	-2.3%	**-0.4%**		25%	93%	**4%**
1997 - 2006	-68.6%	-0.6%	**-0.4%**		19%	95%	**4%**
1998 - 2007	-68.6%	-0.5%	**-0.4%**		18%	92%	**5%**
1999 - 2008	-71.0%	-1.3%	**-0.4%**		23%	97%	**5%**

277. As shown in Figure 26, the Merkin BLMIS Accounts again outperformed every fund in the Rolling 10-Year Mutual Fund Peer Groups in both maximum drawdown and percent of months in drawdown for every period for which data was analyzed (2005 through 2008). (*See also* **Schedule 39** to **Schedule 44**.)

(4) Gateway

278. Gateway is a mutual fund within the Mutual Fund Peer Group that has been implementing an SSC strategy using stocks from the S&P 500 since 1988.[290] It is custom and practice in the investment management industry to perform peer analysis using other funds that employ strategies as close as possible to the subject investment.

279. Gateway employs a strategy that is similar to the Madoff SSC strategy, yet the performance of the Merkin BLMIS Accounts dominates Gateway with respect to every analyzed metric. (*See* Figure 27, Figure 28, and Figure 29.)[291]

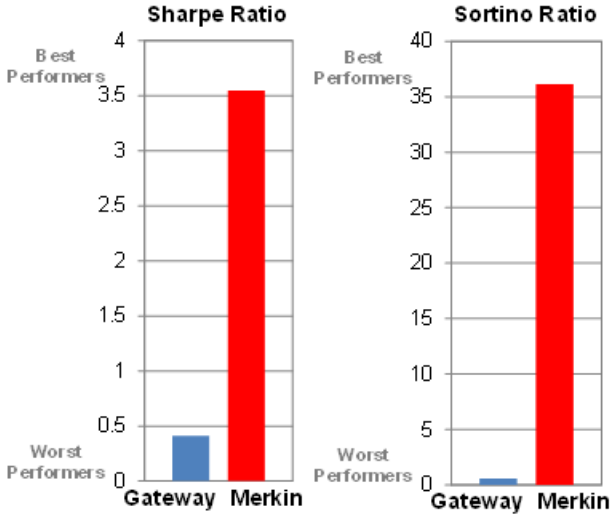
---

[289] 2008 data is through November 2008. Sources include StorQM Customer Statements, Settled Cash table, Morningstar Direct Database, Federal Reserve FRB H.15 Release.

[290] *The Gateway Fund's Hedging Edge, Markets & Finance*, BLOOMBERG BUSINESS (April 20, 2005), http://www.bloomberg.com/bw/stories/2005-04-20/the-gateway-funds-hedging-edge ; Gateway Fund Performance Profile, December 31, 2014, p.2, http://ngam.natixis.com/docs/59/77/GA07-1214_F.pdf.

[291] The analyses discussed above relating to the Mutual Fund Peer Groups began in 1996 because 1996-2005 was the first ten-year period in the dataset with at least 30 funds. Returns for Gateway were available beginning in 1980. Therefore, my comparison of Gateway to the Merkin BLMIS Accounts begins in October 1990, when returns begin for the Merkin BLMIS Accounts.

Figure 27
Sharpe and Sortino Ratios for Gateway
v. Merkin BLMIS Accounts (October 1990 – November 2008)[292]



[292] Sources include StorQM Customer Statements, Settled Cash table, and Morningstar Direct Database.

Figure 28
Number of Positive and Negative Months for Gateway v. Merkin BLMIS Accounts (October 1990 – November 2008)[293]

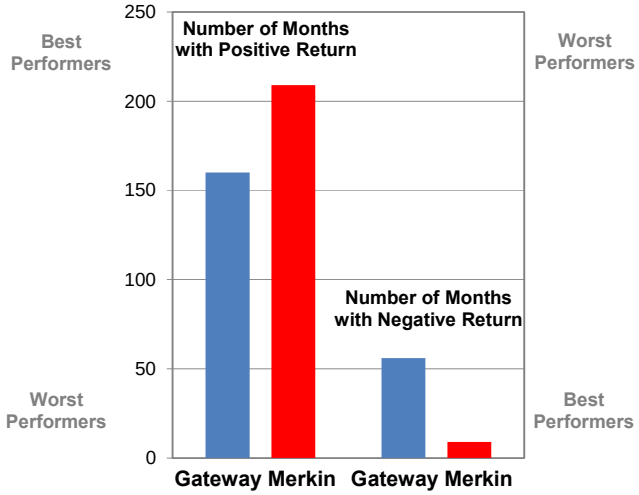
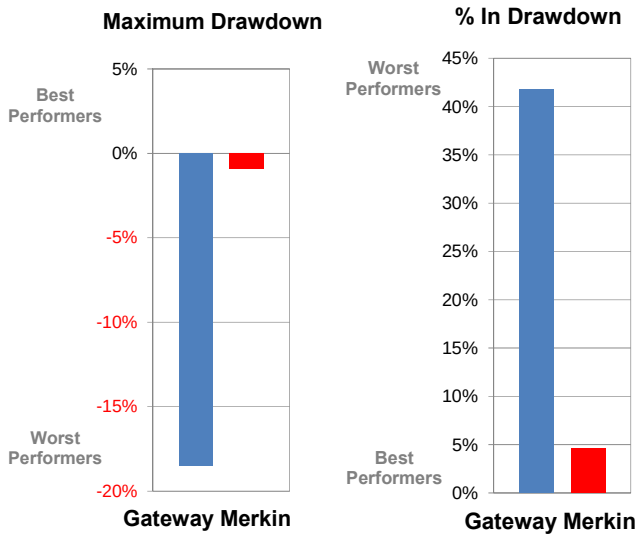


Figure 29
Maximum Drawdown and Percent of Months in Drawdown for Gateway v. Merkin BLMIS Accounts (October 1990 – November 2008)[294]



293 Sources include StorQM Customer Statements, Settled Cash table, and Morningstar Direct Database.

294 Sources include StorQM Customer Statements, Settled Cash table, and Morningstar Direct Database.

280. As shown in the figures above, the Merkin BLMIS Accounts outperformed Gateway across all metrics. (*See also* **Schedule 45**).

(5) Mutual Fund Peer Group Conclusion

281. The analyses above show that the Merkin BLMIS Accounts outperformed, and often by a significant amount, the Mutual Fund Peer Group, across every performance metric, for every rolling period. Furthermore, the Merkin BLMIS Accounts also outperformed Gateway, a mutual fund implementing an SSC strategy, across every performance metric.

c) Elite Investment Advisors

282. In addition to the above analyses, I evaluated the performance of the Merkin BLMIS Accounts in the context of seven distinguished or "elite" investment advisors (the "Elite Investment Advisors") to account for and analyze the notion that Madoff's performance could be explained by his "genius" or "elite" skills and abilities. The Elite Investment Advisors, and the funds they manage, serve strictly as examples of possible performance benchmarks, and are: Warren Buffet (via Berkshire Hathaway, Inc.- Class A), George Soros (via Quantum Fund N.V. – A Shares), Jim Simons (via Renaissance Institutional Equities Fund, LLC – Series BB), John Paulson (via Paulson Partners Enhanced L.P.), Bruce Kovner (via GAMut Investments Inc.), D.E. Shaw (via Oculus International Fund), and Israel Englander (via Millennium International, Ltd.).[295]

283. I assessed the Sharpe Ratio, Sortino Ratio, percentage of months with negative and positive returns, maximum drawdown, and number of months in drawdown for the Elite Investment Advisors over the period during which data was available for each Elite Investment Advisor. However, the risk-adjusted performance of the Merkin BLMIS

---

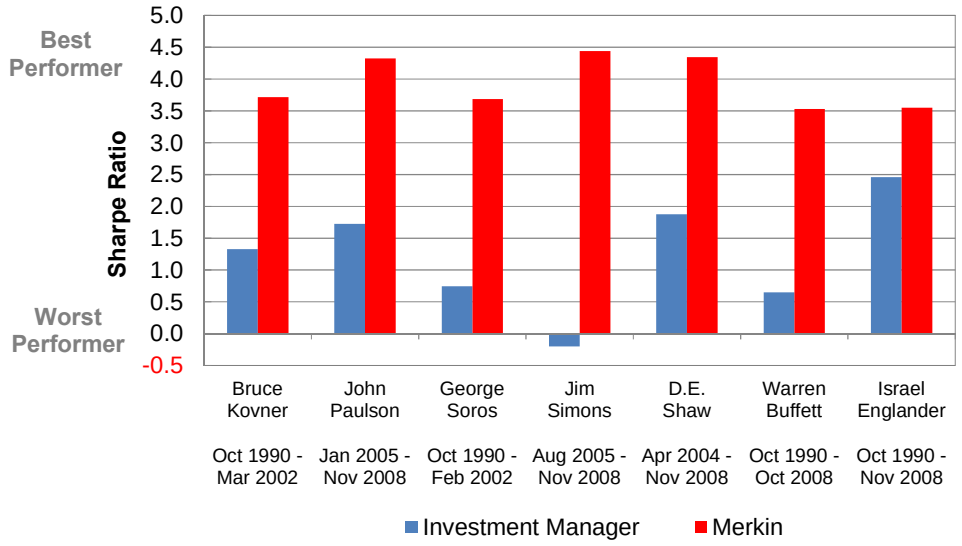
[295] Merkin specifically noted Paul Singer, Israel Englander and Steve Cohen as investment advisors whose performance he considered comparable to, or better than, Madoff's reported performance. *Wiederhorn v. Merkin*, Hearing Transcript 146:1-11, December 3, 2009. I included Paul Singer in my analysis. I also considered including Steven Cohen (via SAC Capital Advisors) and Paul Singer (via Elliot Management Corporation) in my analysis, but ultimately did not because information on funds managed by these advisors was not publicly available.

Accounts dominates these Elite Investment Advisors with respect to every considered performance metric.

(1) Sharpe and Sortino Ratios

284. First, I calculated the Sharpe and Sortino Ratios for the Elite Investment Advisors. As discussed above, these metrics are used to evaluate investment advisor performance on a risk-adjusted basis. As shown in Figure 30, the Sharpe Ratio for the Merkin BLMIS Accounts was higher than the Sharpe Ratio of any of the Elite Investment Advisors.

Figure 30
Sharpe Ratio for Elite Investment Advisors v. Merkin BLMIS Accounts[296]
Over Maximum Time Period Available by Advisor[297]



285. Similarly, as shown in Figure 31, the Sortino Ratio for the Merkin BLMIS Accounts far

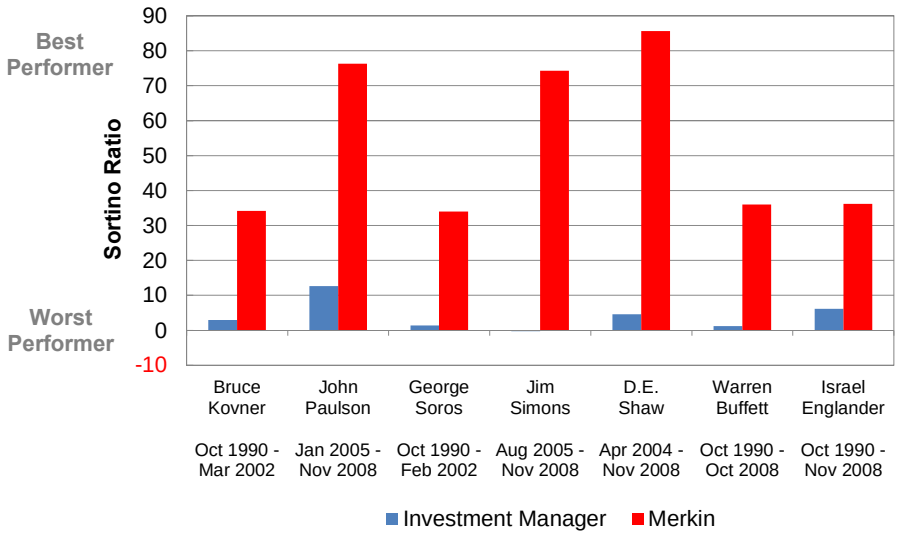
---

[296] Sources include StorQM Customer Statements, Customer Ledgers, Settled Cash table, BarclayHedge Database, Federal Reserve FRB H.15 Release, Bloomberg market data, Morningstar Direct Database. One fund was selected for each investment advisor based on AUM and availability of data.

[297] The time periods for each advisor are different because they reflect the time periods for which data was available for each advisor. There are two reasons the time periods are not the same for every investment advisor. First, the investment advisors may have started their funds at different times. Second, the investment advisors may have only reported data to BarclayHedge in the time period indicated, regardless of whether they were operating a fund or not (i.e., they may have been operating a fund, but chose not to report their returns to BarclayHedge). Data for Warren Buffett is not based on BarclayHedge; it is based on the publicly-traded price of Berkshire Hathaway, Inc.- Class A common stock.

exceeded the Sortino Ratio of every other Elite Investment Advisor.

Figure 31
Sortino Ratio for Elite Investment Advisors v. Merkin BLMIS Accounts Over Maximum Time Period Available by Manager



286. Again, the Merkin BLMIS Accounts are an outlier in the risk-adjusted performance metrics, with Sharpe Ratio and Sortino Ratio far exceeding those of every other Elite Investment Advisor. Merkin could have run this analysis contemporaneously with the Defendant Funds' investment with BLMIS and seen these results.

(2) Percentage of Months with Positive/Negative Returns

287. Next, I calculated the percentage of months with positive returns and the percentage of months with negative returns for the Merkin BLMIS Accounts and for the Elite Investment Advisors. As shown in Figure 32, the Merkin BLMIS Accounts also posted far greater percentages of months with positive returns and far fewer negative months than the Elite Investment Advisors.

Figure 32
Percentage of Positive and Negative Months for Elite Investment Advisors v. Merkin BLMIS Accounts[298]
Over Maximum Time Period Available by Advisor

	% of Positive Months			% of Negative Months	
Elite Investment Advisor	**Advisor**	**Merkin**		**Advisor**	**Merkin**
Bruce Kovner (Oct 1990 - Mar 2002)	69%	**96%**		31%	**4%**
John Paulson (Jan 2005 - Nov 2008)	72%	**98%**		28%	**2%**
George Soros (Oct 1990 - Feb 2002)	66%	**96%**		34%	**4%**
JimSimons (Aug 2005 - Nov 2008)	65%	**98%**		35%	**3%**
D.E.Shaw (Apr 2004 - Nov 2008)	70%	**98%**		30%	**2%**
Warren Buffett (Oct 1990 - Oct 2008)	62%	**96%**		38%	**4%**
Israel Englander (Oct 1990 - Nov 2008)	89%	**96%**		11%	**4%**

288. The Merkin BLMIS Accounts had more months with positive returns and fewer months with negative returns than every Elite Investment Advisor. (*See also* **Schedule 46** and **Schedule 47**.)

(3) Drawdown

289. Finally, I calculated the maximum drawdown and the percent of months in drawdown for the Merkin BLMIS Accounts and for the Elite Investment Advisors. As discussed above, when calculated on a monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Maximum drawdown is the largest drop between peak to trough in the period. Percent of months in drawdown is the percent of months in which the current portfolio is below the previous high.

---

[298] The number of positive and negative months for the Elite Investment Advisors are shown as a percentage of total months given that the time periods differ for each advisor.

Figure 33
Drawdown Metrics for Elite Investment Advisors v. Merkin BLMIS Accounts[299]
Over Maximum Time Period Available by Manager

	Maximum Drawdown			Months in Drawdown	
Elite Investment Advisor	**Advisor**	**Merkin**		**Advisor**	**Merkin**
Bruce Kovner (Oct 1990 - Mar 2002)	-10.8%	**-0.9%**		51%	**4%**
John Paulson (Jan 2005 - Nov 2008)	-3.4%	**-0.2%**		40%	**2%**
George Soros (Oct 1990 - Feb 2002)	-29.6%	**-0.9%**		62%	**4%**
JimSimons (Aug 2005 - Nov 2008)	-21.3%	**-0.2%**		55%	**3%**
D.E.Shaw (Apr 2004 - Nov 2008)	-7.6%	**-0.2%**		43%	**2%**
Warren Buffett (Oct 1990 - Oct 2008)	-43.8%	**-0.9%**		73%	**5%**
Israel Englander (Oct 1990 - Nov 2008)	-7.2%	**-0.9%**		18%	**5%**

290. As shown in Figure 33, the Merkin BLMIS Accounts outperformed every Elite Investment Advisor in both maximum drawdown and percent of months in drawdown. (*See also* **Schedule 48** and **Schedule 49**.)

(4) Elite Investment Advisors Conclusion

291. The analyses above show that the Merkin BLMIS Accounts outperformed, and often by a significant amount, every Elite Investment Advisor, across every performance metric.

d) Market Indices

292. In addition to comparing returns against peers and other investment advisors, performance-related due diligence consistent with industry customs and practices includes comparing returns against well-known indices. I evaluated the performance of the Merkin BLMIS Accounts in the context of equity and bond market indices. Specifically, I used the following indices: (i) Barclays Capital U.S. Aggregate Bond Index; (ii) S&P 100 Index; (iii) S&P 500 Index; (iv) HFRI EH: Equity Market Neutral Index; (v) HFRX EH: Equity Market Neutral Index; and (vi) Dow Jones Credit Suisse

[299] The number of positive and negative months for the Elite Investment Advisors are shown as a percentage of total months given that the date periods differ for each advisor.

Hedge Fund Index.[300] While there are certainly examples of elite investment advisors and highly-regarded funds that have produced risk-adjusted returns higher than the market over specific periods of time, it is virtually impossible that any given investor or fund could consistently generate risk-adjusted returns more than double market indices over approximately two decades.[301] The metrics for the Merkin BLMIS Accounts calculated over about two decades dwarfed those for well-known equity, bond market and hedge fund indices. (*See also* **Schedule 52** to **Schedule 57**.)

293. Comparing BLMIS returns to market indices is an analysis that is reflected in materials collected and maintained by Merkin.[302] In the previously discussed document titled "Comparing Promeo [sic] Manager Series B and the S&P500" there are various analyses comparing monthly returns, cumulative returns, drawdowns, and number of negative months.[303] The analyses include a histogram of monthly returns, differences in monthly returns, a scatterdiagram of monthly returns, and various other comparisons between BLMIS returns and returns from the S&P 500. For example, Figure 34, an excerpt from the document, shows how BLMIS consistently outperformed the market over an extended period of time between 1989 and 1995:[304]

---

300 This range of indices casts a wide net for performance comparisons.

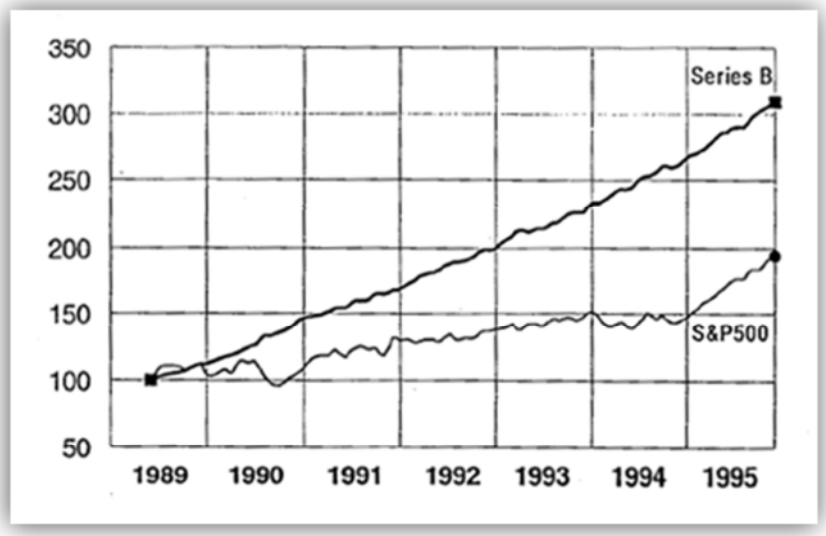
301 S*ee, e.g.*, Vikas Agarwal & Narayan Y. Naik, *Multi-Period Performance Persistence Analysis of Hedge Funds*, Journal of Financial and Quantitative Analysis 327-42 (Issue 35, 2000); Ardian Harri & B. Wade Brorsen, *Performance Persistence and the Source of Returns for Hedge Funds*, Applied Financial Economics (2002), http://ssrn.com/abstract=318379 or doi:10.2139/ssrn.318379; Samuel Manser & Markus M. Schmid, *The Performance Persistence of Equity Long/Short Hedge Funds* 51-69, Journal of Derivatives & Hedge Funds (Issue 15, 2009).

302 *N.Y.U. v. Ariel Fund Ltd. et al.*, Merkin Dep. 298:5-300:24, February 9, 2009.

303 *See supra* Section VI.B.1; Trustee Ex. 363 (Comparing Promeo Manager Series B and the S&P500) (GCC-P 0393213-226).

304 As discussed in Section VI.B.1, the analysis compares returns the S&P 500 with returns for Primeo Manager Series B. Because Primeo was a BLMIS feeder fund, these returns are representative of an investment with BLMIS during this time period.

Figure 34
Comparison of BLMIS v. S&P 500[305]



294. Another table from the same document shows how Madoff was consistently up even when the S&P 500 was down in a particular month. This table, shown in Figure 35 as it appears in the document, specifically indicates that when the return on the S&P 500 was down, Madoff's return was up 89% of the time, with an average monthly return of 1.09%:

Figure 35
Comparison of Madoff v. S&P 500[306]

Months when:	Mgr B: Average return	Mgr B: % of Months Up
S&P500 closed up	+1.67%	98%
S&P500 closed down	+1.09%	89%

295. The comparison between Madoff and the S&P 500 contained in this document further

[305] Trustee Ex. 363 (Comparing Promeo Manager Series B and the S&P500) (GCC-P 0393213-226).

[306] Trustee Ex. 363 (Comparing Promeo Manager Series B and the S&P500) (GCC-P 0393213-226).

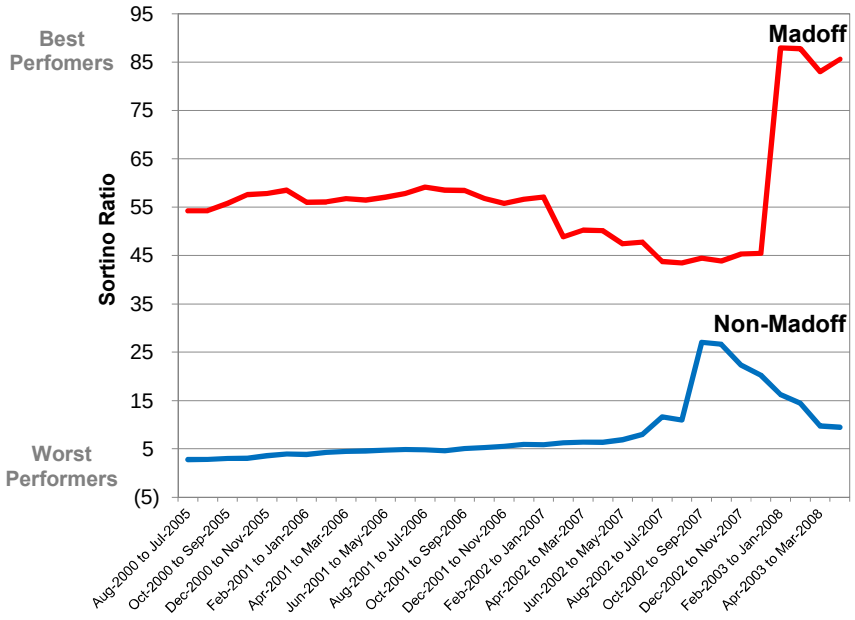
illustrates how virtually impossible it would have been to generate the returns reported by Madoff. The cumulative returns, the performance when the S&P 500 was down, and the ability to generate positive returns irrespective of what the S&P was doing, *see* Section VI.B.1, all indicated that the returns generated by Madoff were inconsistent with the split strike conversion strategy. This should have prompted additional quantitative due diligence on the purported execution of the strategy, including performance attribution, reverse engineering and alpha analysis. As discussed in Sections VI.D.4, VI.B.2 and VI.B.1, due diligence in these areas would have revealed significant red flags where the only reasonable explanation was fraud.

e) Ariel's Non-Madoff Returns

296. In addition to comparing an investment advisor's performance to that of its peers, it is also consistent with industry customs and practices for a Fund Manager to review the investments within his or her portfolio. The purpose of analyzing investments in one's own portfolio is to identify managers that are performing well on both an absolute and risk-adjusted basis, and to consider whether changes to the allocation of assets may be appropriate for the portfolio. As such, I compared Ariel's Madoff returns with Ariel's non-Madoff returns, information that would be available without even considering publicly available data. I assessed the peer analysis metrics on a five-year rolling basis over the period August 2000 through November 2008.[307] Ariel's Madoff returns outperformed Ariel's non-Madoff returns across all metrics across all time periods. (*See* **Schedule 58** to **Schedule 62**.) For example, as shown in Figure 36, the Sortino Ratio for Merkin's BLMIS account for Ariel was higher than the Sortino Ratio for Ariel's non-Madoff investments for every period for which data was analyzed.

[307] Ten years of data was not available so I used five-year rolling periods.

Figure 36
Sortino Ratio for Ariel's BLMIS Account v. Ariel's non-Madoff Investments[308]
Rolling 5-Year Periods Ending July 2005- August 2008



297. Ariel's Madoff returns outperformed Ariel's non-Madoff returns across all metrics across all time periods. (*See* **Schedule 58** to **Schedule 62**.) Given that BLMIS purportedly implemented the Madoff SSC strategy across multiple accounts, the results from this analysis would apply to the other Merkin BLMIS Accounts as well.

f) Conclusion

298. The analyses above show that across all six performance metrics, all peer groups, and for all time periods considered, BLMIS outperformed its peers to a degree of statistical improbability, if not impossibility. It is highly unlikely for an investment advisor to outperform, and often by a significant amount, every peer group, across these performance metrics, across lengthy periods of time. This purported performance was indicia of fraud and a red flag that Madoff was not executing the Madoff SSC strategy.

---

[308] StorQM Customer Statements; Settled Cash table; Federal Reserve FRB: H.15 Release; Ariel Historical Net Asset Value Summary (BS00025342 at 342.

Furthermore, these results should have prompted additional quantitative due diligence on the purported execution of the strategy, including performance attribution, reverse engineering and alpha analysis. As discussed in Sections VI.D.4, VI.B.2 and VI.B.1, due diligence in these areas would have revealed significant red flags where the only reasonable explanation was fraud.

2. Performance in Times of Market Stress

299. Another red flag that due diligence would have uncovered is Madoff's anomalous performance during times of market stress.[309]

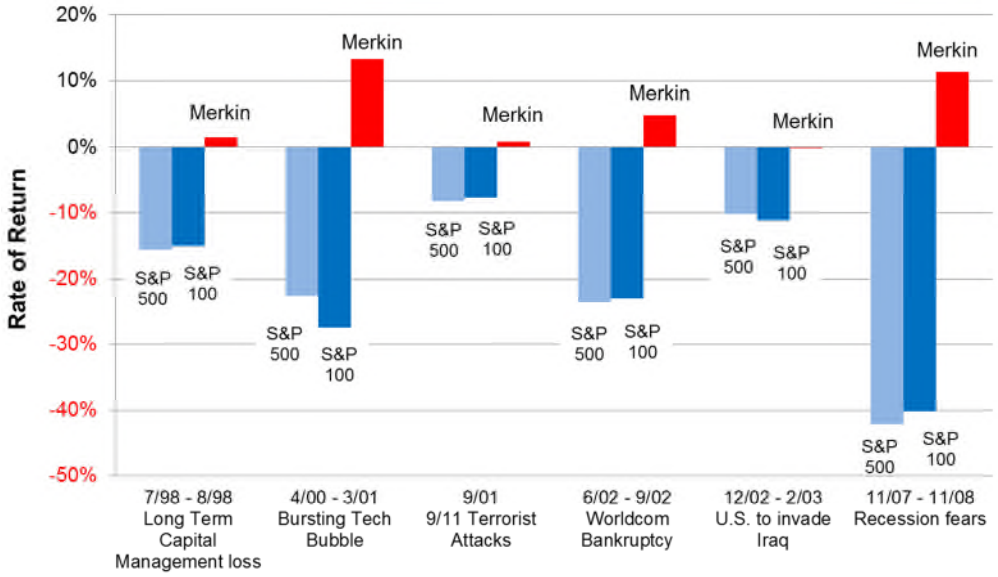
a) Market Stress Based on Contemporaneous Events

300. I identified periods of market stress, based primarily on events contemporaneous with the Defendant Funds' investments with BLMIS, and compared the returns of the S&P 100 and S&P 500 with the returns reflected on statements for the Merkin BLMIS Accounts. In each separate period, where the market exhibited significant stress, and the S&P 100 and S&P 500 both fell substantially, the returns for the Merkin BLMIS Accounts were inexplicably positive. Figure 37 highlights some of the periods of market stress where the returns for the Merkin BLMIS Accounts did not track the market:

---

[309] The Kansas City Federal Reserve defines financial stress as "an interruption to the normal functioning of financial markets." Craig S. Hakkio & William R. Keeton, *Financial Stress: What Is It, How Can It Be Measured, and Why Does It Matter?*, Federal Reserve Bank of Kansas City (undated). I am using market stress consistent with this definition.

Figure 37
Merkin BLMIS Account Comparison to S&P 100 and S&P 500 During Times of Market Stress[310]



301. Figure 37 illustrates six examples where Madoff outperformed the market in times of stress. For example, during the Tech Bubble Burst of April 2000 through March 2001, Merkin's BLMIS Accounts purportedly generated returns of 13.3% while the S&P 100 lost 27.4%.[311] Similarly, the reported returns for Merkin's BLMIS Accounts from November 2007 through November 2008 were 11.4%, while the S&P 100 fell 40.2% amid wide-spread fear of a financial crisis and extended recession.[312] Madoff emerged unscathed from at least three additional periods of market stress, including the terrorist attacks on the U.S. in September 2001, the aftermath of WorldCom's filing for Chapter

---

[310] In the time periods shown, a month reflects the full month. For example, for the 9/11 Terrorist Attacks, the period of September 1, 2001 through September 30, 2001 was analyzed. Sources include StorQM Customer Statements, Settled Cash table and Bloomberg market data. I included the S&P 500 in this analysis because Merkin compared his funds to the S&P 500, and because Merkin collected a document that compared Madoff to the S&P 500. Gabriel Capital Group Marketing Presentation, October 2008 (BS00041099 at 1105); Trustee Ex. 363 (Comparing Promeo Manager Series B and the S&P500) (GCC-P 0393213-218).

[311] StorQM Customer Statements, Settled Cash, Bloomberg market data.

[312] StorQM Customer Statements, Settled Cash, Bloomberg market data.

11 bankruptcy protection during the summer of 2002 (to date had been the largest bankruptcy ever filed), and the U.S. invasion of Iraq during the winter of 2002-2003.[313] The S&P 500 performed similarly to the S&P 100 during these periods.

302. The fact that BLMIS's returns were impervious to periods of tremendous market stress that resulted in significant losses to the S&P 100 and S&P 500 should have alerted Merkin that Madoff was not executing the stated strategy. These consistent returns were indicia of fraud and should have prompted additional quantitative due diligence on the purported execution of the strategy, including performance attribution, reverse engineering and alpha analysis. As discussed in Sections VI.D.4, VI.B.2 and VI.B.1, due diligence in these areas would have revealed significant red flags where the only reasonable explanation was fraud.

b) Market Stress 2000-2002

303. The end of 2002 saw the end of a three-year period during which the stock market fell dramatically while the Merkin BLMIS Accounts showed returns of over 45%.[314] Between 1999 and 2002 the S&P 100 fell 43.9%, while the Merkin BLMIS Accounts showed returns of 45.9%. The returns for the Merkin BLMIS Accounts and the returns for the S&P 100 went in precisely the opposite direction over a three-year period, creating an 89.8 percentage point variance (the difference between up 45.9% and down 43.9%). That is, if an investor held $100 in the Merkin BLMIS Accounts in December 1999, that $100 would have become approximately $146 by December 2002 (an increase

---

313 StorQM Customer Statements, Settled Cash, Bloomberg market data. *See* also Harrington Dep. 146:17-147:2, October 1, 2013.

314 When performing comparisons of returns between and among funds and indices, it is industry custom and practice to use full year or full month returns, regardless of whether a fund's assets are invested in the market, in treasuries, or in illiquid securities over the relevant time period. Investors are most interested in total returns, which would include periods "in the market" as well as "out of the market." Comparisons of returns over long periods of time between BLMIS and other funds or indices should not differentiate between when BLMIS was "in the market" versus "out of the market," as that is not consistent with industry customs and practices. Some basket-based analyses in this report, such as alpha analysis and scenario analysis pertain to just those periods that Madoff was "in the market."

of 45.9%). Similarly, if an investor held $100 in the S&P 100 in December 1999, that $100 would have become approximately $56 by December 2002 (a decrease of 43.9%).

304. Documents in Merkin's possession show a similar a comparison of the Gabriel fund (which included BLMIS account returns) against the S&P 500 from 1991 through 2006,[315] which shows that between 1999 and 2002 the S&P 500 fell 40.1%.

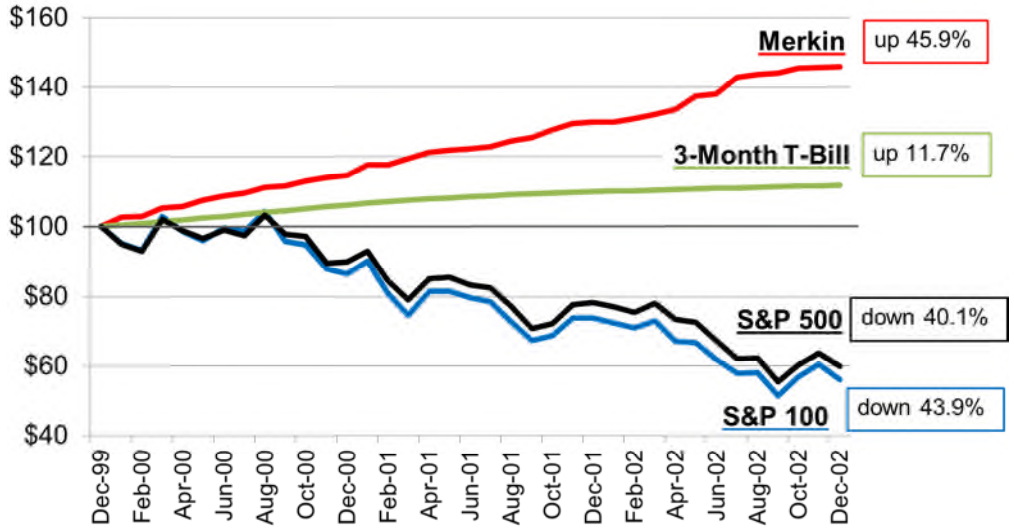
305. As Figure 38 below shows, the end of 2002 saw the end of a three-year period during which the S&P 100 fell by 43.9% and the S&P 500 fell by 40.1%, as compared to returns for the Merkin BLMIS Accounts of 45.9%. The figure also includes cumulative returns for Treasury Bills, a default risk-free investment.[316]

---

[315] BS00527159.

[316] Trustee Ex. 353 at 8 (Gabriel Capital Group presentation, April 2008); Merkin Dep. 99:4-25, February 24, 2015. While the Merkin BLMIS Accounts were purportedly invested in treasuries when not invested in the market, contributions from treasuries would not account for the returns in the Merkin BLMIS Accounts being up almost 46 percent with the market down over 40 percent.

Figure 38
Cumulative Annual Returns (Indexed at December 31, 1999=$100) [317]
Merkin BLMIS Accounts v. S&P 500, S&P 100 and 3-Month Treasury Bill
Performance of a Theoretical $100 Investment



306. Figure 38 illustrates the cumulative declines in the S&P 100 and S&P 500 and a moderate cumulative increase in Treasury Bills for the three-year period ending in December 2002, compared to the cumulative increases in the Merkin BLMIS Accounts.

307. This consistent, inexplicable over-performance with respect to the S&P 100, the S&P 500 and Treasury Bills, over a three-year period, where global economic markets were down substantially, was indicia of fraud. This should have alerted Merkin that Madoff was not executing the Madoff SSC strategy to achieve his consistent returns and should have prompted additional due diligence. The Madoff SSC strategy is exposed to market

---

317 Sources include StorQM Customer Statement, Settled Cash table (weighted average across Merkin accounts), Bloomberg market data, Federal Reserve FRB H:15 Release. Monthly returns for Merkin are calculated using the Modified Dietz method. The Modified Dietz method "[c]alculates a capital-weighted rate of return by taking the exact length of time that cash flow is present in the portfolio. The major advantage of this method is that it does not require daily calculation of the portfolio value." Noël & and Veronique LeSourd, PORTFOLIO THEORY AND PERFORMANCE ANALYSIS 40-41 (2003).

movements within the strike range,[318] and in such a long, protracted downward move of the market, it would be statistically improbable to achieve the result he achieved.[319]

308. If the market experiences prolonged movement in either direction, it should have been reflected in the returns of the Merkin BLMIS Accounts. The expected performance of the Madoff SSC strategy in the face of a 40-44% drop in market values can be observed through Gateway, a mutual fund that employed an SSC strategy similar in nature to the Madoff SSC strategy. As Figure 39 illustrates, Gateway's performance over this time period was nowhere near the performance reflected in the statements for the Merkin BLMIS Accounts and, in fact, was negative:[320]

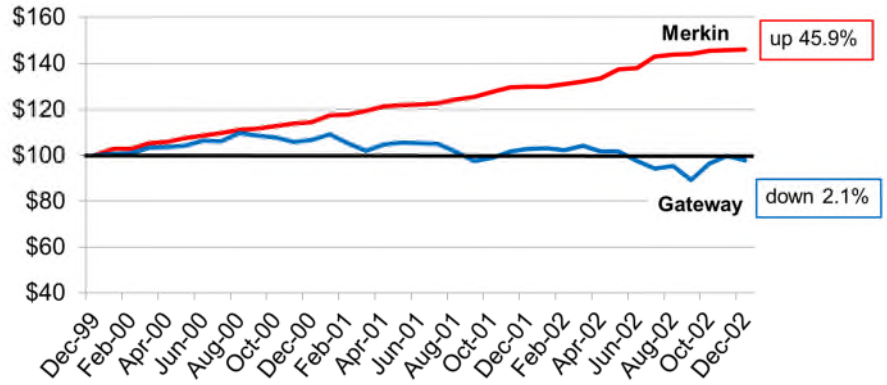
---

[318] The strike range is the range between the put strike price and the call strike price. If the S&P 100 Index moves up and down within this range (i.e., the collar) the Madoff SSC strategy should perform like the S&P 100 Index and the options should have no impact on the performance of the Madoff SSC strategy.

[319] As an example, I performed a linear regression of simulated SSC returns on the S&P 100 from 1990 to 2000. The beta of this regression, or the investments' dependence on market movement, is calculated to be 30%. This means that subject to error, and manager ability, the strategy is expected to be down 30% as much as the market's decline. The standard error of the regression is too small to allow for such a radical divergence as the stated results.

[320] As compared to the analyses above, where the S&P 100 and S&P 500 explained less than 30% and 5%, respectively, of the change in returns for the Merkin BLMIS Accounts, the S&P 100 and S&P 500 explained 83% and 84%, respectively, of the change in Gateway's returns. This result is expected, as Gateway's SSC strategy was based on using stocks in the S&P 500 Index, and therefore should be more correlated to the return of the S&P 500.

Figure 39
Cumulative Monthly Returns (Indexed at December 31, 1999 = $100)[321]
Merkin BLMIS Accounts v. Gateway Based on a Theoretical $100 Investment



309. The return for the Merkin BLMIS Accounts over this three-year period is also a red flag because of its obvious and stark lack of correlation with the S&P 100. In a strategy that was expected to be correlated to the S&P 100, results like these are indicia of fraud and a red flag that Madoff was not implementing the strategy he said he was implementing based on the returns he reported. Industry customs and practices would be to perform additional quantitative due diligence on the purported execution of the strategy, including performance attribution, reverse engineering and alpha analysis. As discussed in Sections VI.D.4, VI.B.2 and VI.B.1, due diligence in these areas would have revealed significant red flags where the only reasonable explanation was fraud.

3. Correlation Analysis

310. As discussed above in Section VI.B.2 I conducted reverse engineering to establish what could have reasonably been expected from the Madoff SSC strategy. The analysis incorporated S&P 100 Index prices and the exchange-traded put and call options.[322] The

---

[321] Sources include StorQM Customer Statements, Settled Cash table, and Morningstar Direct Database.

[322] BLMIS purportedly purchased baskets of no less than 35 stocks in the S&P 100 Index; baskets which Madoff claimed were on average 95% correlated with the S&P 100. Trustee Ex. 360 (Trading Authorization Directive,

analysis further assumed that the put strike was 1% out-of-the-money and that the call strike was 1% out-of-the-money.[323]

311. When the value of Madoff's purported basket of 35 stocks was between the put and call strike prices there should have been a strong correlation between Madoff's returns and the S&P 100. One would expect *a priori* to see a strong correlation between Madoff's returns and the S&P 100 when the value of Madoff's basket of 35 stocks was between the put and call strike prices. Because of the manner in which the Madoff SSC strategy was implemented, the returns should move in the same direction as the underlying stock that is bought, or, when using baskets, the S&P 100 Index. In this way the Madoff SSC strategy should produce returns that are correlated (i.e., related from a statistical perspective) to the returns of the underlying stock or the S&P 100 Index.

312. Per the reverse engineering analysis, BLMIS's returns should have displayed a correlation coefficient of more than 0.57 from December 1991 through November 2008. However, the returns for the Merkin BLMIS Accounts displayed a correlation coefficient of 0.32 during that period. Had this reverse engineering of the Madoff SSC strategy been performed contemporaneously, it would have been clear that BLMIS's correlation with the S&P 100 was less than the strategy would predict.[324] (*See* **Schedule 63** for an indication of expected versus actual correlation for cumulative annual periods beginning

---

October 22, 2002) (GCC-SEC 0027370-381 at 380); UBPAMMERKIN00001711 at 711; Trustee Ex. 363 (GCC-P 0393148 and 3211). Accordingly, the correlation coefficient derived from reverse engineering of the Madoff SSC strategy that incorporated a basket of the top 40 stocks rather than the entire S&P 100 would be substantially similar.

[323] According to the Trading Authorization Directive, BLMIS would buy put options no more than 3% out-of-the-money, with no limitation on how far out-of-the-money the call options could be. Trustee Ex. 360 (Trading Authorization Directive, October 22, 2002) (GCC-SEC 0027370-381 at 381). As reflected on the customer statements for the Merkin BLMIS Accounts, BLMIS purportedly bought and sold put and call options both less than 3% out-of-the-money. On average puts were purchased 1% out-of-the-money, while calls were sold 1.2% out-of-the-money.

[324] Given how little Madoff's returns were correlated to the S&P 100, I am comfortable that my conclusion is robust to any other set of reasonable assumptions (e.g., modeling Madoff's baskets to be 35 stocks, incorporating different assumptions regarding the "out-of-the-moneyness" of the options purportedly transacted, assessing different time periods, etc.).

in 1992 and continuing through 2008.)

313. The returns for the Merkin BLMIS Accounts were entirely unrelated to what happened with the S&P 100 over the Defendant Funds' 18 year investment history with BLMIS, contradictory to the purported strategy.[325] Regardless of whether the S&P 100 was up (131 months) or down (87 months), the returns for the Merkin BLMIS Accounts were consistently up. Figure 40 illustrates this stark difference between the reported monthly returns for the life of the Merkin BLMIS Accounts and the S&P 100 returns.

Figure 40
Comparison of the Merkin BLMIS Accounts v. S&P 100 – Monthly Returns[326]
October 1990 to November 2008

	Number of Months	Merkin Up	Merkin Down
S&P 100 Up	131	128	3
S&P 100 Down	87	81	6

314. It should be noted that for two of the three months in which the Merkin BLMIS Accounts were down while the S&P 100 was up, BLMIS was purportedly out of the market during the days in which the market gained. The other month in which the Merkin BLMIS Accounts were down while the S&P 100 was up (March 1991) was the result of a speculative put option transaction (an OEX put option was bought in March and expired worthless in April). (*See* Section VI.A.4.b).

315. The disconnect between the reported returns for the Merkin BLMIS Accounts and the S&P 100 is even more pronounced when comparing the basket returns for the Merkin BLMIS Accounts with the S&P 100 returns over the basket time period:

---

[325] The S&P 100 was also flat during one month over Defendant Funds' 18 year investment period with BLMIS. I have categorized this month as an S&P 100 "up" month. The reported returns for the Merkin BLMIS Accounts were up during this month.

[326] Sources include StorQM Customer Statements, Customer Ledgers, Settled Cash table and Bloomberg market data.

Figure 41
Comparison of Merkin BLMIS Accounts v. S&P 100 – Basket Returns[327]
December 1991 to November 2008

	Number of Baskets	Merkin Up	Merkin Down
S&P 100 Up	45	45	0
S&P 100 Down	38	36	2

316. This lack of correlation with the S&P 100 was indicia of fraud, a red flag that Madoff was not implementing the strategy he said he was implementing based on the returns he reported, and should have prompted additional quantitative due diligence on the purported execution of the strategy, including performance attribution, reverse engineering and alpha analysis. As discussed in Sections VI.D.4, VI.B.2 and VI.B.1, due diligence in these areas would have revealed significant red flags where the only reasonable explanation was fraud.

4. Performance Attribution

317. Performance attribution is an analysis that I performed (and is one that could have been performed based on the customer statements and trade confirmations received by customers such as the Defendant Funds).[328] The purpose of this type of analysis is to identify the source of excess performance (relative to a benchmark) delivered by an investment advisor. Fund managers, in my experience, often conduct performance attribution analyses on a regular basis in order to both to monitor the returns and to fully understand whether the performance was achieved in a method consistent with the stated

---

[327] Sources include StorQM Customer Statements, Customer Ledgers, Settled Cash table and Bloomberg market data.

[328] Such analysis was performed on Madoff in 1991 for example, using monthly returns and a description of the split strike strategy. Thorp Dep. 52:13-19, May 22, 2012.

investment style(s).[329]

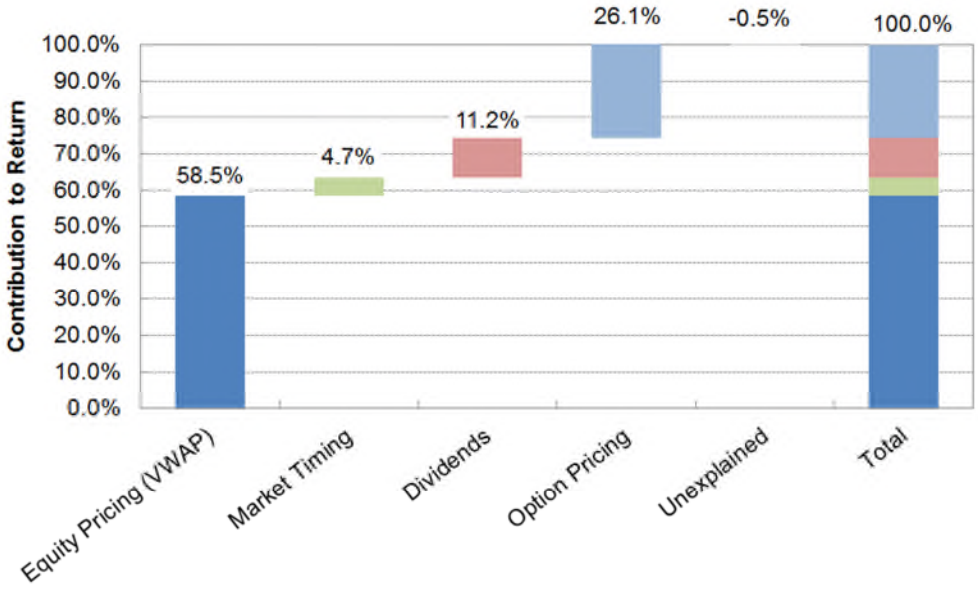
318. At the core of any investment strategy are the decisions made by the investment advisor. I performed performance attribution on the purported profits of the Merkin BLMIS Accounts to determine how the profits would have been generated, had they been actual profits. The performance attribution shown in Figure 42 allocates the sources of return for the purported profits of the Merkin BLMIS Accounts into five major categories for the years 2000 through 2008, including: equity pricing, market timing, dividends, option pricing, and a residual amount that is unexplained.[330] (*See* **Schedule 66** for these allocations annually from 2000 through 2008.)

---

[329] CFA Institute, *Alternative Investments, Risk Management, and the Application of Derivatives CFA Program Curriculum, Level III, Vol. 5*, 80-81 (2014). Another key reason for performance attribution due diligence is to detect any changes in investment style that are inconsistent with the stated trading strategy. *See supra* Section VI.A.2.d).

[330] Equity pricing is based on trading acumen (trading above or below the average price); market timing is based on gains generated by determining when to enter and exit the market; dividends are based on gains made from holding stocks that paid dividends; option pricing is based on trading acumen (trading above or below the average price); and unexplained represents the returns that are not attributable to the other four categories.

Figure 42
Performance Attribution of Excess Returns 2000-2008[331]
Contribution of Major Categories to Merkin BLMIS Account Profit



a) Equity Pricing (VWAP)

319. In order to track trade execution effectiveness, it is common practice for portfolio managers to compare their transaction price against the Volume Weighted Average Price ("VWAP") for the respective stock. VWAP is a trading metric calculated by weighting each transaction price by the volume for the transaction.[332] While almost impossible, consistently buying below VWAP or selling above VWAP would result in substantial excess returns.

320. As Figure 42 illustrates, the single largest component of the purported returns, 58.5%, comes from the purported trade execution being above or below the VWAP.[333] A

---

331 Sources include StorQM Customer Statements, Customer Ledgers, Settled Cash table and Bloomberg market data. Excess Return is the return over and above the risk-free rate.

332 VWAP data is easily obtainable from any Bloomberg terminal and was publicly accessible to Fund Managers like Merkin.

333 Merkin Dep. 207:12-15, February 24, 2015.

comparison of trading records for the Merkin BLMIS Accounts against VWAP for the respective stocks over the period January 1996 to November 2008, shows that 81.3% of purported buy transactions by share volume were executed below VWAP while 74.9% of purported sell transactions by share volume were executed above VWAP.[334]

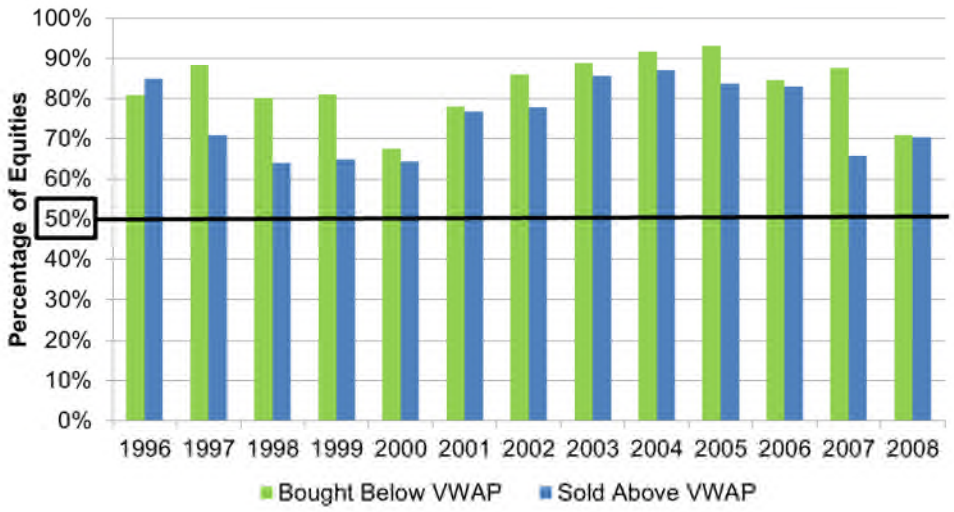
321. Further, this analysis showed that, on average, BLMIS purportedly bought shares $0.39 per share below VWAP, while purportedly selling shares $0.30 per share above VWAP, which contributed to the significant purported gains created by trading above or below VWAP. These deviations from VWAP are significant in an industry where the industry norm is to target trade execution *at* VWAP (meaning that one would expect 50% of shares would be above VWAP and 50% would be below VWAP).

322. BLMIS's ability to purportedly buy below and sell above VWAP was not limited to a few transactions. Rather, 57.9% of the purported returns for the Merkin BLMIS Accounts were due to the consistent purchase and sale of stocks at most favorable prices. As Figure 43 illustrates, in some years, Madoff bought below VWAP and sold above VWAP more than 80% of the time. (*See also* **Schedule 69** and **Schedule 70**.)

---

[334] This analysis was based on the Settled Cash table, StorQM customer statements and market data from Bloomberg. Prior to September 2006, BLMIS did not explicitly identify commissions on customer statements. The trade confirmations state that the trade price includes a commission of $.04 per share for equities. Accordingly, I have adjusted the reported share prices prior to 2006 to adjust for commissions. *See, e.g.*, Trade Confirmation for Ascot Partners LP (Trade Date March 22, 2006) (BS00013594 at 594).

Figure 43
Merkin BLMIS Accounts Percentage of Shares Bought Below or Sold Above VWAP[335]



323. Given how many shares BLMIS purportedly traded just on behalf of the Merkin BLMIS Accounts, the statistical probability of this happening is virtually 0%. Buying below VWAP and selling above VWAP with the same success as Madoff is comparable to flipping a coin more than 2 billion times and getting heads 70-90% of the time.[336] It is reasonable to assume that the likelihood of any share purchased below VWAP on any given day is 50%. The likelihood of buying 1.4 billion shares below VWAP out of 1.6 billion shares between 1996 and 2008 follows a binomial distribution. The calculated probability for this outcome is effectively 0.0%. BLMIS's purported ability to buy and sell at these levels with such consistency was a significant red flag and the only reasonable explanation was fraud.

324. Looking at intraday prices of equities, on a minute-by-minute basis, helps explain why it

---

335 Sources include Settled Cash table and Bloomberg market data.

336 There were over 1.6 billion shares purportedly bought and over 1.5 billion shares purportedly sold in the Merkin BLMIS Accounts between 1996 and 2008. In total there were over 3 billion shares purportedly transacted.

is almost impossible to execute at these prices.[337] Comparing data for the Merkin BLMIS Accounts for equities purportedly purchased at or near the daily low or at or near the daily high to intraday data illustrates that BLMIS could not have made these trades.[338] For example, on October 7, 2003, BLMIS purportedly purchased 672,450 shares of Exxon Mobil Corp., across three Merkin accounts, for $37.75 per share.[339] The low market price for the day was $37.74 per share.[340] Figure 44 illustrates the high and low price for Exxon Mobil Corporation, by minute, on October 7, 2003.

---

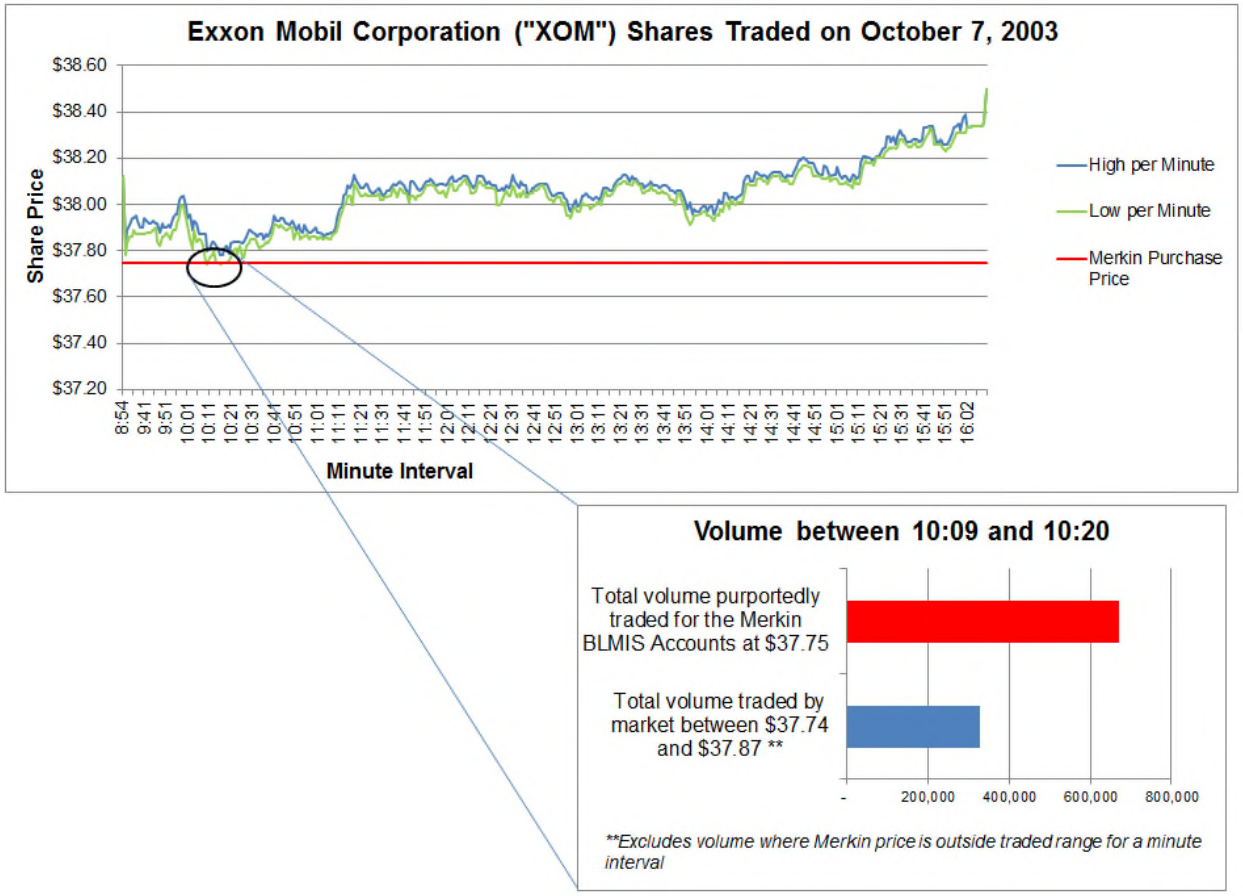
337 Sources include Tick Data market data.

338 This analysis is particularly informative because Madoff claimed at times to have executed large volumes of trades in smaller amounts throughout the day (sometimes called "time slicing."). To the extent that Madoff was purportedly time slicing, time slicing is typically not a source of alpha, nor is it designed to generate alpha. It simply ensures that the trades are being executed at VWAP. It is a passive version of trading where the investor is satisfied to execute at VWAP because the investor is not buying above or selling below VWAP. The fact that Madoff's execution is consistently better than VWAP is therefore inconsistent with the understanding that Madoff was time slicing. *See* UBPAMMERKIN00001711 at 1712; Merkin Dep. 201:12-203:1, February 24, 2015.

339 Share price is adjusted for commissions of $0.04 per share. *See supra* Section VI.A.2.c)(1). Sources include Settled Cash table and Bloomberg market data.

340 Sources include Bloomberg market data.

Figure 44
Exxon Mobil Corporation (XOM) Share Price and Volume on October 7, 2003
Market vs. Merkin BLMIS Accounts[341]



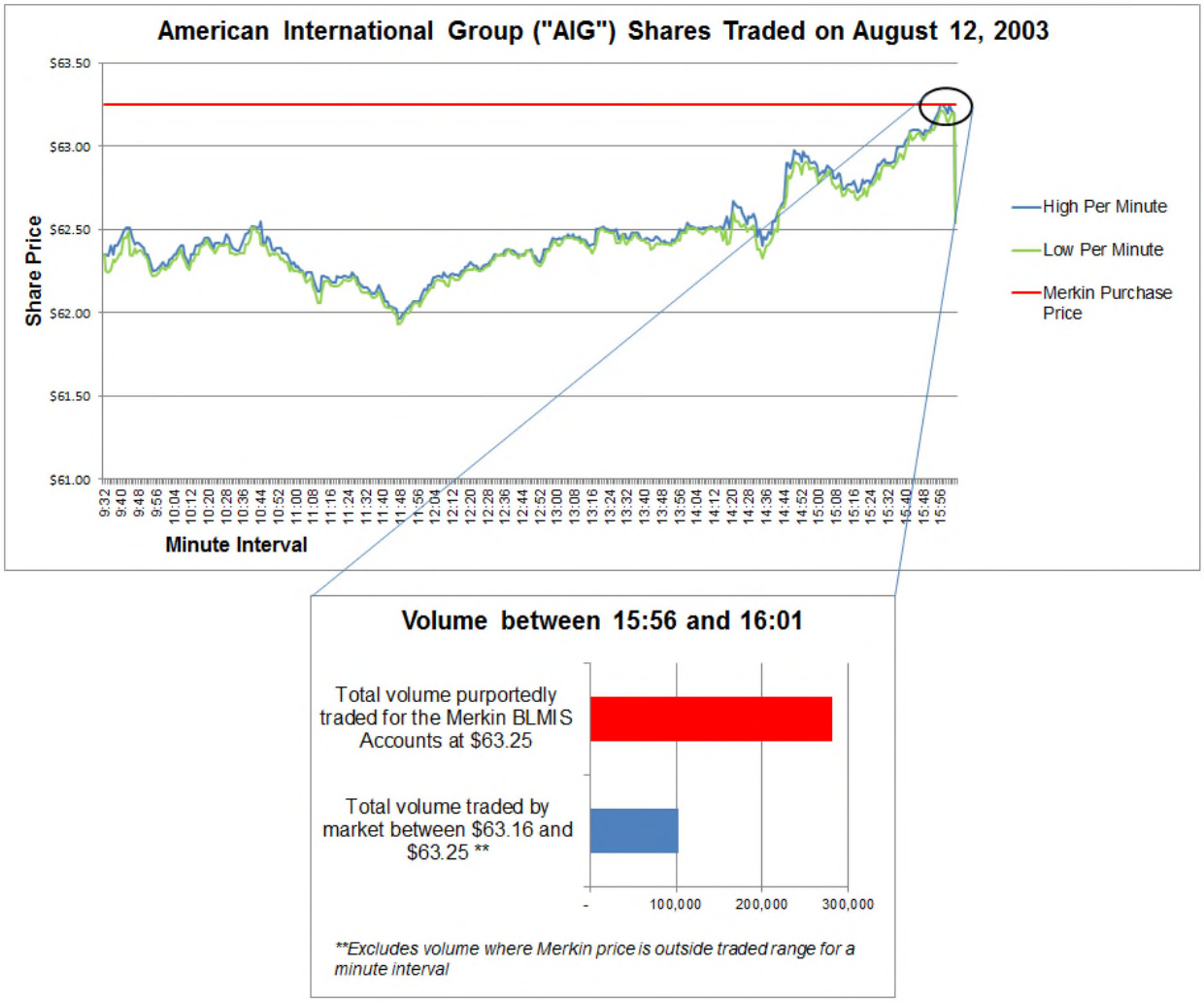
325. As shown in Figure 44 above, the only time period where the range of share prices included the purported Merkin price of $37.75, is between 10:09 AM and 10:20 AM. During this 11 minute period, Merkin purportedly purchased 672,450 shares of Exxon Mobil Corporation, while only 328,500 shares were traded in the market.

326. Similarly, on August 12, 2003, BLMIS purportedly sold 280,904 shares of American International Group, across three Merkin accounts, for $63.25 per share, exactly at the

[341] Sources include Settled Cash table and TICK Data market data.

daily high market price.[342] Figure 45 illustrates the high and low price for AIG, by minute, on August 12, 2003.

Figure 45
AIG Share Price and Volume on August 12, 2003
Market vs. Merkin BLMIS Accounts[343]



327. As shown in Figure 45 above, the only time period where the range of share prices

---

342 Share price excludes commissions of $0.04 per share. Sources include Settled Cash table and Bloomberg market data.

343 Sources include Settled Cash table and TICK Data market data.

included the purported Merkin price of $63.25, is between 15:56 (3:56 PM) and 16:01 (4:01 PM). During this 5 minute period, BLMIS purportedly sold 280,904 shares of AIG, while only 102,300 shares were traded in the market.

328. BLMIS's purported purchase and sale of equities at volumes larger than the total daily traded volume at the price reported by BLMIS was a significant red flag and the only reasonable explanation was fraud.

b) Market Timing

329. Market timing, which could have contributed to the returns purportedly generated by BLMIS, is shown in Figure 42 to have actually contributed very little (4.7%) to the returns for the Merkin BLMIS Accounts.[344] Madoff's purported success at timing the market (i.e., in the market when it goes up and out of the market when it goes down) does not appear to be any better than if he had flipped a coin to determine when to enter and exit the market.

330. I analyzed how the S&P 100 performed during the times when Madoff chose to enter and exit the market (i.e., during each of the 84 baskets). **Schedule 71** shows that out of the 84 baskets that Madoff purportedly entered into between December 1991 and November 2008, the S&P 100 was up only 45 times, or only 54% of the time.[345] The other 46% of the time (i.e., the majority of the time) Madoff entered and exited the market during a time period when the S&P 100 fell. It is clear from the data that Madoff was not successful at market timing.[346]

---

344 Merkin Dep. 158:12-167:13, February 24, 2015; Autera Dep. 171:9-22, October 19, 2011; *New York v. Ascot Partners, LP et al.*, Merkin Dep. 150:11-19, July 1, 2010; *N.Y.U. v. Ariel Fund Ltd. et al.*, Merkin Dep. 137:17-22, February 9, 2009.

345 *See* Figure 41.

346 Given Madoff's lack of success at market timing, Madoff was deriving little market timing benefit from any black box/algorithm or potential order flow of the broker-dealer business that was part of BLIMS's Proprietary Trading Business. Merkin Dep. 159:7-18, 166:4-167:13, February 24, 2015

c) Stock Picking

331. In addition to the analyses underlying Figure 42, I also considered whether the performance in the Merkin BLMIS Accounts was a result of "stock picking," i.e., picking stocks within the S&P 100 that performed better than others. I reviewed the returns of the stocks in each basket in the Merkin BLMIS Accounts as compared to the returns of the S&P 100 over the purported investment period for each basket, and found that Madoff was no better at "stock picking" than he was at market timing. The stocks in only 17 out of 52 baskets (i.e., 33%) outperformed the S&P 100. (*See* **Schedule 72**.)

5. Scenario Analysis: Greater than the Maximum

332. Consistent with due diligence customs and practices, I also performed scenario analysis on the Merkin BLMIS Accounts. Scenario analysis is a comparison of the potential ranges of outcomes associated with the implementation of a specific set of trades (e.g., following a particular strategy) to the actual results from executing the strategy. Any deviation from the range of possibilities would be a red flag that the investment advisor was not implementing the stated strategy.

333. Beginning in 1991, The Madoff SSC strategy utilized baskets, representing the simultaneous purchase of stocks in the S&P 100, sale of call options on the S&P 100 Index, and purchase of put options on the S&P 100 Index. The strike price for each option provides constraints on the possible range of returns at the initiation of each trade, i.e., the collar. The downside is limited by the put option strike price, and the upside is limited by the call option strike price.[347]

334. To execute my scenario analysis, I calculated the hypothetical minimum and maximum returns for a given trade using the strike prices.[348] The following analysis concerns account 1A0058 (Ascot) where 83 basket trades occur over a 16 year period (1993-

---

[347] *Jesselson v. Merkin*, Hearing Transcript 691:11-692:25, September 13, 2011.

[348] *New York v. Ascot Partners, L.P. et al*., Merkin Dep. 115:16-116:12, July 1, 2010.

2008).[349] Because the Madoff SSC strategy purportedly used a basket of S&P 100 stocks that was highly correlated with the S&P 100, my analysis uses the daily S&P 100 Index price as a proxy for the basket of stocks.[350]

335. Calculating minimum and maximum returns first required establishing the baskets on which I would perform the analysis. After reviewing the purported trading history, I eliminated baskets where the equity position size increased or rollover occurred, i.e., the options expired, over the life of the basket. [351] Based on this requirement, I eliminated 67 of the 83 baskets. The remaining 16 "simple" baskets were entered into over a few days, with different strike prices on the options and different prices for the equity securities. Therefore, for each basket in my analysis I used the share-weighted average price for the S&P 100 Index, and the share-weighted average strike prices for the call and put options.[352]

336. Figure 46 illustrates the hypothetical minimum returns, hypothetical maximum returns, and returns purportedly generated for Ascot's BLMIS account for the 16 simple baskets. The vertical lines represent the range of the minimum and maximum returns while the triangles represent the returns purportedly generated for Ascot's BLMIS account.

---

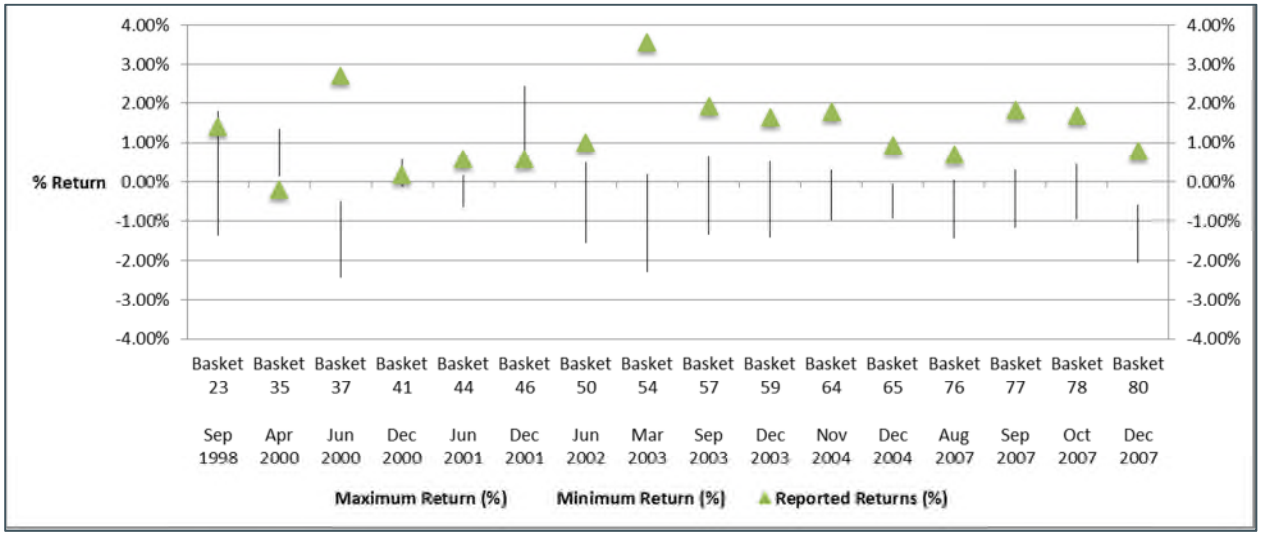
349 Trustee Ex. 363 (GCC-P 0393600-607); MF00435941; *In re Madoff Charities Investigation*, Merkin Dep. 91:17-93:9, 103:8-14, January 30, 2009.

350 Trustee Ex. 360 (Trading Authorization Directive, October 22, 2002) (GCC-SEC 0027370-381).

351 A rollover occurs when options expire before the basket of stocks is sold (*i.e.*, the basket is unwound), and new options are purportedly purchased to replace the expiring options.

352 I calculated hypothetical returns as the difference between the weighted strike prices and the weighted equity price multiplied by the number of underlying S&P 100 Index shares, less the net cost of the option proceeds.

Figure 46
Hypothetical Minimum, Hypothetical Maximum and Ascot's Reported Returns[353]



337. As Figure 46 illustrates, 14 out of the 16 baskets have reported returns outside of the hypothetical minimum-maximum range. These baskets were not concentrated in any particular time period, but rather occurred over time between 1998 and 2008.[354] Madoff's purported ability to generate returns outside of the hypothetical range of possibilities was further evidence that he was not executing the Madoff SSC strategy. This should have prompted additional quantitative due diligence on the purported execution of the strategy, including performance attribution, reverse engineering and alpha analysis. As discussed in Sections VI.D.4, VI.B.2 and VI.B.1, due diligence in these areas would have revealed significant red flags where the only reasonable explanation was fraud.

---

353 Sources include Settled Cash table and Bloomberg market data.

354 There was one simple basket in 1998, three in 2000, two in 2001, one in 2002, three in 2003, two in 2004, and four in 2007.

E. Price

338. The fees charged by an investment advisor are key components of the investment management process.[355] Fees for investment advisors typically consist of management fees and/or performance fees. It is both customary and essential that the compensation structure be created in a way so as to align the interests of the advisor and the Fund Manager.

1. BLMIS's Operational and Fee Structures Were Atypical

339. Based on my experience, BLMIS's operational structure was atypical, suspicious, and inconsistent with industry customs and practices. Though often compared to a hedge fund,[356] BLMIS did not technically fit the model of a hedge fund, a mutual fund, or any other traditional investment advisory model. Madoff chose to run his investment advisory operation through the use of what are called managed accounts, where each client received their own account number, customer statements, trade confirmations, and any other account-related communications.[357]

340. One of the primary benefits of a managed account is that it offers customers a high degree of customization and transparency. That is, the investment advisor, or money manager, has the ability to customize an investment strategy for a particular client. As a result, different managed accounts typically have different strategies, each reflecting the risk profile of the client. However, the Madoff SSC strategy was not customized to the individual customers. Madoff purportedly implemented the same strategy across multiple BLMIS investment advisory accounts, including the Merkin BLMIS

---

355 *See, e.g.*, E-mail from Merkin to Rick Annis, et. al, September 7, 2005 (BS00224244).

356 *Jesselson v. Merkin*, Hearing Transcript 388:2-5, September 13, 2011.

357 Trustee Ex. 363 (GCC-P 0393127).

Accounts.[358]

341. It is highly inefficient for an investment advisor following the same investment strategy across multiple accounts to implement the strategy using managed accounts instead of a pooled account[359] or a fund structure. For example, the operational execution of the Madoff SSC strategy was made more challenging and more costly by the use of managed accounts instead of a fund structure. Because of how the strategy was purportedly executed, numerous documents were created and mailed throughout the year. Considering trade confirmations alone, BLMIS would have generated over 11,000 trade confirmations per year between 2004 and 2008 totaling over 55,000, assuming 23 customers and 5 baskets a year of 47 stocks.[360] Assuming this level of activity over a ten year period doubles the number to over 110,000 trade confirmations.

342. BLMIS could have avoided printing and sending tens of thousands of trade confirmations had a fund structure been adopted for purposes of executing the strategy. As a result, BLMIS incurred significantly more administrative costs than if it had been structured as a fund. By choosing not to use a collective vehicle structure, like a hedge fund or mutual fund, BLMIS incurred significant additional operational costs and denied BLMIS the economic benefit of economies of scale, ever-present in the investment management industry.[361] The fact that Madoff employed an operational structure that is significantly more costly than industry norms (costs borne by BLMIS and not customers) was suspicious and a red flag because it is inconsistent with industry customs and practices.

---

358 Trustee Ex. 363 (GCC-P 0393600-607); MF00435941; *In re Madoff Charities Investigation*, Merkin Dep. 91:17-93:9, 103:8-14, January 30, 2009.

359 A pooled account is a collection of individual accounts administered as one account.

360 BLMIS's ADV form from 2008 indicated 23 customers. SEC Form ADV, Bernard L. Madoff Investment Securities, January 7, 2008 (PUBLIC0003834 at 840). Between 2004 and 2008 the Merkin BLMIS Accounts averaged 5 baskets per year and 47 stocks per basket. 11,000 = [47(stocks) + 2(options)] * 2 (buy and sell) * 5 (baskets) * 23 (customers).

361 *See* Trustee Ex. 363 (Transcript of Conversation Between Madoff and Merkin, January 14, 2002) (GCC-P 0393369); Merkin Dep. 480:19-481:12, February 25, 2015.

343. Further, while BLMIS's operational structure was significantly more costly than a traditional fund structure, the fees that BLMIS purportedly collected were significantly lower than those that would have been charged in a traditional fund structure. An investment advisor like BLMIS would typically charge both management and incentive fees, while BLMIS only charged transaction fees. BLMIS's fee structure was an extreme departure from industry customs and practices.

344. Hedge funds typically charge two types of fees for managing a client's assets: management fees and performance fees.[362] The management fees compensate advisors for managing the portfolio. The performance fees compensate the advisor for successful performance. Fees incurred by the advisor to pay broker-dealers for trading securities, as well as other expenses, are either charged to investors directly, or can be recovered through management fees.

345. A common industry fee structure for an investment advisor is the "1-and-20" structure, consisting of a management fee of 1% of AUM and a performance fee of 20% of profits.[363] This fee structure typically varies depending on an advisor's experience and customer "demand" to "get in on" a particular fund. Profits can consist of actual net profits for the relevant period or profits in excess of a certain benchmark over the relevant period, such as the London Interbank Offer Rate ("LIBOR").

346. BLMIS, however, did not charge any fees based on AUM or on performance. Instead, BLMIS merely charged a commission for executing trades. This was the only fee that was supposedly charged to customers.[364] While this transaction based, commission-only structure is consistent with services provided by simple broker-dealers, BLMIS was serving customers, including the Defendant Funds, as an investment advisor, not a

---

362 John C. Hull, *Options, Futures, and Other Derivatives* 9 (Prentice Hall: New Jersey, 6th Edition 2006). *Jesselson v. Merkin*, Hearing Transcript. 388:2-5, September 13, 2011.

363 Harrington Dep. 94:16-20, October 1, 2013.

364 Madoff charged nothing for his strategy/investment management services.

broker-dealer, and this fee structure is simply not used by investment advisors. One reason, among others, is that charging fees in this manner can lead to a conflict of interest. If an investment advisor is compensated based on the number of transactions, it creates an incentive for more frequent trading without necessarily maximizing returns (i.e., "churning").

347. Additionally, approximately 95% of investment advisors registered with the SEC are not broker-dealers.[365] None of these investment advisors would ever make any money if they only charged fees to cover the trade commissions charged to them by broker-dealers for executing trades. To the extent that BLMIS was only recovering the trade commission costs, BLMIS was not generating any profit as an investment advisor.

348. BLMIS's fee structure was a red flag because it was inconsistent with industry customs and practices.

2. Commissions vs. Fees under 1-and-20 Fee Structure

349. BLMIS reportedly charged commissions of $0.04 per share for equities and $1.00 per contract for options.[366] From 1990 to September 2006, the commissions were reflected directly in the reported share prices.[367] After BLMIS registered as an RIA in September 2006, the commissions are reflected directly on BLMIS customer statements and trade confirmations. On the customer statements the charge of $0.04 per share for equities is rounded down to the dollar for each transaction and excludes shares in treasuries or

---

[365] U.S. Securities and Exchange Commission, Study on Investment Advisers and Broker-Dealers (January 2011). The percent of investment advisors who are not registered with the SEC and are also not broker-dealers is likely even higher than 95%.

[366] Trade Confirmation for Ascot Partners LP (account number 1-A0058-3) (Trade Date October 24, 2006) (GCC-P0515226 at 226); Trade Confirmation for Ascot Partners LP (account number 1-A0058-4) (Trade Date October 24, 2006) (GCC-P0515290); BLMIS Trade Confirmation for Ascot Partners LP (account number 1-A0058-4) (Trade Date April 18, 2008) (BS00008481 at 481).

[367] Prior to September 2006, BLMIS did not identify commissions on customer statements. However, the trade confirmations state that the trade price includes a commission of $.04 per share for equities. For this analysis, I have assumed that options were treated the same way prior to 2006 with a commission of $1.00 per contract.

money markets.

350. Applying this commission structure to the purported trades in the Merkin BLMIS Accounts, the Defendant Funds would have been charged approximately $139 million in commissions to BLMIS between 1996 and 2008, with average annual commissions during this period of approximately $10.7 million per year. This equates to approximately 0.8% of average AUM over this time period.[368] This was significantly less than a typical investment advisor would have charged had a more typical fee structure been in place. For example, the Defendant Funds paid fees of 1% of net capital and 10% of profits in excess of a benchmark to Cohanzick for managing assets for Gabriel.[369] This fee structure is significantly more than the 0.8% of average AUM paid by the Defendant Funds to BLMIS.

351. If BLMIS had utilized a "1-and-20" fee structure, the Defendant Funds would have paid annual management fees of 1% of AUM and performance fees of 20% of annual net gains. A "1-and-20" fee structure would have been typical and was, for example, what Ariel and Gabriel charged their investors.[370]

352. Assuming this 1-and-20 fee structure, the Defendant Funds would have paid BLMIS an average of $37.7 million in fees per year, totaling $490.6 million between 1996 and 2008.[371] Figure 47 highlights the fees that the Defendant Funds could have been paying under a different fee structure.

---

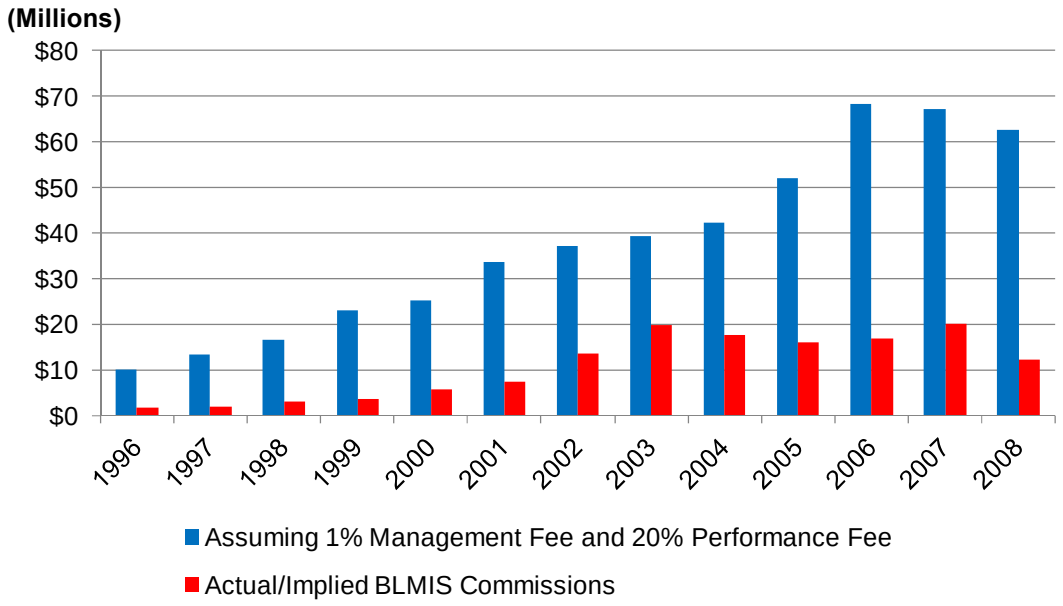
[368] Only 7 of the 2,852 (0.2%) funds in the BarclayHedge database with an investment strategy categorized as either (i) equity market neutral; (ii) equity long/short; or (iii) equity long-bias charged a management fee of less than 1% with no performance fee.

[369] "Term Sheet between Gabriel and Cohanzick – August 9, 2002" (signed August 12, 2002) (BS00305554 at 55).

[370] *New York v. Ascot Partners, LP et al.*, Merkin Dep. 18:3-16, March 3, 2010; Gabriel Capital Group Marketing Presentation (October 2008) (BS00041099 at 1116).

[371] Sources include StorQM Customer Statements.

Figure 47
Commissions vs. Fees under 1-and-20 Fee Structure[372]



353. On average, the Defendant Funds paid $27 million less per year under the commission fee structure than they would have paid under a typical 1-and-20 structure. The fact that BLMIS passed on $351.2 million (i.e., $490.6 less $139.5)[373] in fees from the Defendant Funds alone was suspicious and a red flag because it was inconsistent with industry customs and practices.

F. Due Diligence Triggers

354. As discussed above in Section V.A.2, once invested, ongoing/monitoring due diligence should include both proactive due diligence and reactive due diligence. All of the proactive and reactive due diligence analyses discussed above in the Five Ps would have

---

372 Sources include StorQM Customer Statements.

373 This difference is not net of expenses. With a traditional fund structure, such as a mutual fund or hedge fund, many administrative and operational expenses would be paid for by fund assets. Therefore, if BLMIS had used a fund structure, the difference net of expenses would have been greater.

been appropriate as part of ongoing/monitoring due diligence on the Merkin BLMIS Accounts. Additionally, due diligence triggers occur when information from a third-party raises concerns about a particular investment. It is custom and practice for Fund Managers to perform due diligence when due diligence triggers arise that cast doubt on a particular investment.

355. The following due diligence triggers are examples of when information was shared regarding BLMIS and the Madoff SSC strategy that, consistent with industry customs and practices, would have caused a Fund Manager invested with BLMIS to perform additional due diligence.

1. Issues Raised by Colleagues and Investors

356. Anytime new issues are raised by colleagues or investors that relate to concerns about an investment advisor, it is industry custom and practice for the Fund Manager to perform due diligence, to the extent not already performed. The due diligence is necessary to ensure that the Fund Manager continues to be comfortable with where they have placed investor assets in light of the new information. If the individual sharing the information is trusted or valued by the Fund Manager, the Fund Manager may perform due diligence regardless of whether any prior comfort had been reached regarding the specific concern. As discussed above, due diligence is a continuing activity that should be performed throughout the life of an investment.

357. The following are two examples where issues were raised by a colleague and an investor in the Defendant Funds.

a) Victor Teicher

358. Victor Teicher was a portfolio manager who managed assets for Ariel and Gabriel, and he testified that as early as 1992/1993 he discussed with Merkin the consistency of

Madoff's returns and "felt that [what Madoff was doing] was just not possible."[374] Teicher suggested to Merkin that he should not invest with Madoff and reiterated these concerns to Merkin over the years.[375] Teicher discussed with Merkin that "the Madoff track record didn't sound right, didn't smell right."[376] Another concern Teicher raised was that Madoff self-cleared, which left "room for misrepresentations," noting that "[t]here have been cases in the past that were frauds that the people were self-clearing."[377] A concern that Teicher may have raised with Merkin was that "there's no check that…what you've been told has been done has actually been done."[378] In addition, Teicher mentioned to Merkin the issue of delayed trade confirmations.[379]

359. Had information such as this been shared in 1993, for example, it would have been industry custom and practice to perform due diligence related to the concerns, to the extent not already performed. For example, by the end of 1993, due diligence consistent with industry customs and practices, as discussed above within the Five Ps framework, would have revealed the following red flags related to the Merkin BLMIS Accounts.

(1) Process

- **Impossible Option Volume:** By the end of 1993, there had already been 21 unique call transactions and 22 unique put transactions purportedly traded across the Merkin BLMIS Accounts that exceeded the total market volume traded that day, representing approximately 18% and 17%, respectively, of the unique call

---

374 *N.Y.U. v. Ariel Fund Ltd. et al.*, Teicher Dep. 40:25-41:15, February 9, 2009; Teicher Dep. 51:1-52:10, October 29, 2013; Mayer Dep. 64:14-65:4, October 11, 2011. E-mail from Reid Nagle of SNL Investors to Beth Kaswan ,January 9, 2009 (BS00037818 at 818) (Teicher reportedly "told anyone who would listen...that Madoff was a fraud.").

375 Teicher Dep. 108:21-109:7, October 29, 2013; *N.Y.U. v. Ariel Fund Ltd. et al.*, Teicher Dep. 42:21-43:7, 48:6-12, February 9, 2009.

376 Teicher Dep. 109:2-7, October 29, 2013; *see also* Teicher Dep. 51:6-8, October 29, 2013.

377 *N.Y.U. v. Ariel Fund Ltd. et al.*, Teicher Dep. 44:18-45:7, February 9, 2009; *see also* Teicher Dep. 111:22-113:15, October 29, 2013.

378 *N.Y.U. v. Ariel Fund Ltd. et al.*, Teicher Dep. 45:2-7, February 9, 2009.

379 *N.Y.U. v. Ariel Fund Ltd. et al.*, Teicher Dep. 49:13-16, February 9, 2009.

and put transactions purportedly traded for the Merkin BLMIS Accounts to that point.

- **Out-of-Range Trades:** By the end of 1993, there had been 124 equity transactions and 152 option transactions across the Merkin BLMIS Accounts that reported prices outside of the daily price range.
- **Unexplained Exposure to Market Risk:** By the end of 1993, on at least 82 occasions, statements for the Merkin BLMIS Accounts had reflected changes to the basket of equities purportedly purchased for the Merkin BLMIS Accounts, but failed to reflect corresponding changes to the options used to hedge the equity position.
- **Style Drift:** Madoff counter-intuitively switched from a single stock Madoff SSC strategy to a basket-based Madoff SSC strategy.
- **Service Providers:** BLMIS was its own broker-dealer, custodian and administrator and did not use a well-known, well-established, and well-equipped auditor, creating an opportunity for fraud.
- **Investor Communications:** BLMIS's trade confirmations and customer statements were inconsistent with industry customs and practices.

(2) Portfolio

- **Alpha Analysis:** BLMIS's monthly returns through the end of 1993generated an R-Squared of 0.02, indicating that changes in the S&P 500 only explain 2% of the change in Madoff's returns, despite the fact that the Madoff SSC strategy should be highly correlated to the S&P 500. BLMIS's monthly returns generated an alpha of 1.50%, meaning that on average the Merkin BLMIS Accounts are generating a return of 1.50% regardless of the returns generated by the S&P 500. The t-stat for the analysis is 10.56, indicating that Madoff generates a return of 1.50% (i.e., the alpha) with virtual certainty.

(3) People

- **Excessive Concentration of Duties:** BLMIS exhibited an excessive concentration of duties.
- **Lack of Credentials:** BLMIS had a limited number of personnel, with no advanced education or training, purportedly implementing a multi-billion dollar investment strategy.

- **Lack of Disclosures/Transparency:** BLMIS lacked typical disclosures/transparency provided by investment advisors.

b) Joel Ehrenkranz

360. It is industry custom and practice to perform additional due diligence when information received from an industry colleague, investor, and Fund Manager raises new concerns about an investment.

361. For example, in 1995, a Merkin investor and Fund Manager, Joel Ehrenkranz, testified that he redeemed his fund's investment in Ascot because "the stability of the returns began to belie any understanding of how it was possible to achieve."[380] Ehrenkranz had also met with Madoff and Merkin in the early 1990s regarding a potential investment directly with BLMIS.[381] Ehrenkranz stated that one concern he had at the meeting was the lack of independent verification at BLMIS, stating "where's the independent verification?"[382] Madoff would not offer the independent verification, and Ehrenkranz did not invest directly with BLMIS.[383]

362. Typical industry customs and practices, upon investors redeeming and citing disbelief in returns, would have been to conduct additional due diligence into BLMIS and Madoff. Had additional due diligence been performed in 1995, certain red flags discussed above in the Five Ps would have been observed. For example, by 1995 the following concerns would have been evident with additional due diligence.

---

380 Ehrenkranz Dep. 64:22-65:18, March 20, 2014.

381 Ehrenkranz Dep. 43:6-44:1, March 20, 2014.

382 Ehrenkranz Dep. 48:4-12, March 20, 2014.

383 Ehrenkranz Dep. 52:14-19, March 20, 2014. Ehrenkranz stated that he eventually became comfortable with investing with Ascot (before redeeming in 1995) because Merkin told Ehrenkranz that Merkin's firm would handle the trade verification. Ehrenkranz Dep. 58:14-20, March 20, 2014.

(1) Process

- **Impossible Option Volume:** By the end of 1995, there had already been 25 unique call transactions and 25 unique put transactions purportedly traded across the Merkin BLMIS Accounts that exceeded the total market volume traded that day, representing approximately 12% and 12%, respectively, of the unique call and put transactions purportedly traded for the Merkin BLMIS Accounts to that point.
- **Out-of-Range Trades:** By the end of 1995 there had been 265 equity transactions and 247 option transactions across the Merkin BLMIS Accounts that reported prices outside of the daily price range.
- **Unexplained Exposure to Market Risk:** By the end of 1995, on at least 141 occasions, statements for the Merkin BLMIS Accounts had reflected changes to the basket of equities purportedly purchased for the Merkin BLMIS Accounts, but failed to reflect corresponding changes to the options used to hedge the equity position
- **Style Drift:** Madoff had counter-intuitively switched from a single stock SSC strategy to a basket based SSC strategy.
- **Speculative Options:** By the end of 1995, on at least 56 separate occasions, option transactions were used solely to generate a profit and not to hedge any equity transactions. These speculative option trades generated approximately $6.7 million in profit and represented approximately 10.5% of the total dollar returns.
- **Service Providers:** BLMIS was its own broker-dealer, custodian and administrator and did not use a well-known, well-established, and well-equipped auditor, creating an opportunity for fraud.
- **Investor Communications:** BLMIS's trade confirmations and customer statements were inconsistent with industry customs and practices.

(2) Portfolio

- **Alpha Analysis:** BLMIS's monthly returns through the end of 1995 generated an R-Squared of 0.04, indicating that that changes in the S&P 500 only explain 4% of the change in Madoff's reported returns, despite the fact that the Madoff SSC strategy should be highly correlated to the S&P 500. BLMIS's monthly returns generated an alpha of 1.41%, meaning that on average the Merkin BLMIS

Accounts are purportedly generating a return of 1.41% regardless of the returns generated by the S&P 500. The t-stat for the analysis is 12.28, indicating that Madoff purportedly generates a return of 1.41% (i.e., the alpha) with virtual certainty

(3) People

- **Excessive Concentration of Duties:** BLMIS exhibited an excessive concentration of duties.
- **Lack of Credentials:** BLMIS had a limited number of personnel, with no advanced education or training, purportedly implementing a multi-billion dollar investment strategy.
- **Lack of Disclosures/Transparency:** BLMIS lacked typical disclosures/transparency provided by investment advisors.

(4) Performance

- **Correlation Analysis:** From December 1991 through 1994, the reported returns for the Merkin BLMIS Accounts displayed a correlation coefficient with the S&P 100 of 0.60, dramatically less than the expected correlation of 0.92.

2. Negative Press Coverage

363. In May 2001, two articles were circulated that questioned the legitimacy of BLMIS's returns.[384] While media publications are routinely reviewed in the industry, and can create headline risk (i.e., the risk that a story will spread throughout various media publications, and negatively impact the investment advisor), news stories are not indicia of fraud in and of themselves. Nevertheless, when articles like these are published, industry customs and practices are that additional due diligence be conducted.

364. The first article was published in May 2001 in *MAR/Hedge* titled "Madoff tops charts;

---

[384] Merkin testified that he read both of these articles. *New York v. Ascot Partners, LP et al*., Merkin Dep. 348:25-329:11, March 4, 2010.

skeptics ask how."[385] Highlights from the article include, but are not limited to, the following:

- Madoff is supposedly running one of the largest and most successful hedge funds in the world, based on historical returns;[386]

- The opinions of a dozen industry professionals indicate that the Madoff SSC strategy would not produce the degree of returns Madoff purportedly attained in the early 1990s to 2001. A few reasons included: (i) the fact that Madoff's returns had little to no volatility compared to firms that implemented a similar trading strategy; (ii) Madoff seemed to consistently be able to "time the market" perfectly; and (iii) not one person or firm was able to duplicate his strategy (including Gateway, a mutual fund following an SSC strategy);[387] and

- A few of the contacted experts claimed Madoff must have been using financial instruments outside of the S&P 100—or something different than what Madoff customers, including the Defendant Funds, were being told.

- Madoff also explained his strong returns by citing a low-to-no fee structure, stating that BLMIS was "just happy" to make trading commissions.

365. Around the same time period Merkin received another article covering similar red flags related to BLMIS, this one published in *Barron's* and titled "Don't Ask, Don't Tell: Bernie Madoff is so secretive, he even asks his investors to keep mum."[388] Highlights

---

[385] Trustee Ex. 363 (Michael Ocrant, *Madoff Tops Charts; Skeptics Ask How*, MAR/HEDGE, May 2001) (GCC-P 0393336-339).

[386] Trustee Ex. 363 (Michael Ocrant, *Madoff Tops Charts; Skeptics Ask How*, MAR/HEDGE, May 2001) (GCC-P 0393336-339). The article noted that although Madoff did not provide the amount of Assets Under Management (AUM) in his fund, he did not dispute that the AUM was around $6 - $7 billion as of 2001.

[387] Trustee Ex. 363 (Michael Ocrant, *Madoff Tops Charts; Skeptics Ask How*, MAR/HEDGE, May 2001) (GCC-P 0393336-339).

[388] Trustee Ex. 363 (Erin Arvedlund, *Don't Ask, Don't Tell: Bernie Madoff is so secretive, he even asks his investors to keep mum*, BARRON'S, May 2001) (GCC-P 0393344-345). Victor Teicher also discussed this article with Merkin "right away," highlighting concerns regarding Madoff's secrecy. Teicher Dep. 132:14-133:22, October 29, 2013.

from the article include, but are not limited to:

- BLMIS had been averaging returns of 15% per year for more than a decade and never had a down year. When Madoff was asked how he accomplished such a feat, he stated "[i]t's a proprietary strategy. I can't go into it;"

- Certain industry professionals responded to BLMIS's remarkable returns by suggesting that Madoff's market-making operation "subsidizes and smooths [Madoff's] hedge-fund returns." The article explained the way in which this could occur, stating that Madoff's broker-dealer "stands in the middle of a tremendous river of orders." However, if Madoff's broker-dealer were trading securities ahead of its clients that would have been front-running, which would have been a fraudulent operation;

- Three options strategists at major banks could not understand Madoff's returns via the Madoff SSC strategy. A former Madoff customer is quoted as saying that any "seasoned hedge fund investor knows the split-strike strategy is not the whole story;" and

- Madoff's refusal to charge fees for his money management services or fees on money he managed in private accounts remained a mystery.

366. Typical industry customs and practices, upon reading these articles, would have been to conduct additional due diligence into BLMIS and Madoff to understand whether the concerns raised in the articles were cause for pulling investments from BLMIS. Had additional due diligence been performed in 2001 certain red flags discussed above in the Five Ps would have been observed. For example, by May 2001 the following concerns would have been evident with additional due diligence.

a) Process

- **Impossible Option Volume:** By May 2001, there had already been 101 unique call transactions and 66 unique put transactions purportedly traded across the Merkin BLMIS Accounts that exceeded the total market volume traded that day,

representing approximately 23% and 16%, respectively, of the unique call and put transactions purportedly traded for the Merkin BLMIS Accounts to that point.

- **Out-of-Range Trades:** By May 2001, there had been 501 equity transactions and 299 option transactions across the BLMIS Merkin Accounts that reported prices outside of the daily price range on the.
- **Unexplained Exposure to Market Risk:** By May 2001, on at least 230 occasions, statements for the Merkin BLMIS Accounts had reflected changes to the basket of equities purportedly purchased for the Merkin BLMIS Accounts, but failed to reflect corresponding changes to the options used to hedge the equity position.
- **Style Drift:** Madoff had counter-intuitively switched from a single stock SSC strategy to a basket based SSC strategy.
- **Speculative Options:** By May 2001, on at least 120 separate occasions, option transactions were used solely to generate a profit and not to hedge any equity transactions. These speculative option trades generated approximately $20.0 million in profit and represented 4.1% of the total dollar returns.
- **Service Providers:** BLMIS was its own broker-dealer, custodian and administrator and did not use a well-known, well-established, and well-equipped auditor, creating an opportunity for fraud.
- **Investor Communications:** BLMIS's trade confirmations and customer statements were inconsistent with industry customs and practices.

b) Portfolio

- **Alpha Analysis:** BLMIS's baskets for the year 2001 generated an R-Squared of 0.32, indicating that that changes in the S&P 100 only explain 32% of the change in Madoff's reported returns, despite the fact that the Madoff SSC strategy should be highly correlated to the S&P 100. BLMIS's baskets generated an alpha of 3.15%, meaning that on average the Merkin BLMIS Accounts are purportedly generating a return of 3.15% regardless of the returns generated by the S&P 100. The t-stat for the analysis is 9.67, indicating that Madoff purportedly generates a return of 3.15% (i.e., the alpha) with virtual certainty.

c) People

- **Excessive Concentration of Duties:** BLMIS exhibited an excessive concentration of duties.

- **Lack of Credentials:** BLMIS had a limited number of personnel, with no advanced education or training, purportedly implementing a multi-billion dollar investment strategy.
- **Lack of Disclosures/Transparency:** BLMIS lacked typical disclosures/transparency provided by investment advisors.

d) Performance

- **Peer Analysis:** By May 2001, the Merkin BLMIS Accounts had purportedly outperformed every fund in the Hedge Fund Peer Group for the 10 year period ending 2000.
- **Market Stress:** The Merkin BLMIS Accounts purportedly outperformed the market in periods of market stress, including the 1998 Long Term Capital Management loss and the 2001 Tech Bubble Burst.
- **Correlation Analysis:** From December 1991 through April 2001, the reported returns for the Merkin BLMIS Accounts displayed a correlation coefficient with the S&P 100 of 0.40, dramatically less than the expected correlation of 0.63.
- **VWAP:** Between January 1996 and April 2001, 75.9% of purported buy transactions by share volume were executed below VWAP and 69.0% of purported sell transactions by share volume were executed above VWAP. On average, BLMIS purportedly bought shares $0.70 per share below VWAP, while it purportedly sold shares $0.62 per share above VWAP, which contributed to the significant gains created by trading above or below VWAP.
- **Performance Attribution:** For the year 2000, the contribution from market timing in the purported basket returns was negative 29.5%, meaning that the returns were negatively impacted by Madoff's decisions when to enter and when to exit the market.
- **Scenario Analysis:** By May 2001, 2 of BLMIS's baskets had reported returns outside of the hypothetical minimum-maximum range.

e) Price

- **Commissions vs. Fees Under 1-and-20 Fee Structure:** By May 2001, Madoff had left at least $72.2 million on the table by purportedly charging only commissions rather than a typical 1-and-20 fee structure, one of the red flags

highlighted in the *Barron's* article.

3. Operational Failures at Other Funds

367. In connection with ongoing due diligence, and consistent with typical industry due diligence practices, when it is identified that specific operational failures at other funds facilitated fraud, additional due diligence should be triggered. Typically, investors will: (1) check all of their investments to determine any exposure to the specific fraud; and (2) review their entire investment portfolio to determine whether any of their investments exhibit similar operational failures. Over the course of the Defendant Funds' investments with BLMIS there was one fraud in particular, a Ponzi scheme, that was revealed and should have prompted Merkin to perform due diligence, due to the similarities between this fund and BLMIS.

368. In 2005 the Bayou Fund ("Bayou") was exposed as a Ponzi scheme. When Bayou collapsed there was significant coverage of the event, including discussions of the red flags associated with Bayou. For example, Merkin circulated (or had circulated to him) Bayou-related documents including: (i) a report by an investment management firm addressing red flags; (ii) articles addressing the need for due diligence, referencing Bayou; and (iii) communications from other investment managers who were invested with Bayou.[389]

369. Within days of Bayou being revealed, Merkin circulated a list of "Issues we should be asking each of our money managers."[390] This list included: (i) "Clearing firm;" (ii)

---

[389] Hennessee Group LLC Letter to clients regarding Bayou Fund, September 1, 2005 (BS00151989); Email from Merkin regarding Grosvenor Capital Bayou Special Report, September 8, 2005 (BS00151980); Email from Merkin regarding Silver Creek's investment in Bayou, August 30, 2005 (BS00188043); Email from Merkin sending David F. Swensen, *Invest at your Own Risk*, New York Times dated October 19, 2005 (October 20, 2005) (BS00225016); Grosvenor Capital Management Report Regarding Samuel Israel/Bayou Management LLC, September 7, 2005 (BS00151981).

[390] E-mail from Merkin to Rick Annis, et. al, September 7, 2005 (BS00224244).

"Unusual, unconventional, or self-owned broker-dealer relationships;" (iii) "Auditing firm;" (iv) "Law Firm;" (v) "Use of leverage;" and (vi) "Pricing of fund."[391]

370. When a fraud is revealed in another fund it is industry custom and practice for Fund Managers to develop a list of risk factors to consider in connection with their investments. These risk factors should be considered for every investment in the portfolio. At least four of the problematic aspects of BLMIS that proper due diligence would have uncovered were also present in Bayou, and BLMIS customers who claimed familiarity with Bayou should have seen the similarities between the two.

371. The process-related concerns that were present in both Bayou and BLMIS include the following:

- **Consistent Returns:** One of the red flags highlighted by the Bayou fraud was that Bayou "sought to deliver consistent returns (1% - 3% per month)."[392] As one investment advisor stated in a report sent to Merkin, any such investment strategy "must be considered with great skepticism."[393] As discussed above, the returns for Merkin's BLMIS Accounts were also remarkably consistent, and should have been considered with "great skepticism."

- **Lack of a Well-Known and Established Auditor:** The red flag associated with BLMIS using Friehling & Horowitz as an auditor would have been even more pronounced at the time it was revealed that Bayou relied on a fabricated auditor in order to help perpetrate its fraud. Bayou represented that its financial transactions were certified by an independent public accounting firm called Richmond Fairfield ("Richmond") from at least December 2000 through August 2005.[394] In

---

391 E-mail from Merkin to Rick Annis, et. al, September 7, 2005 (BS00224244).

392 Grosvenor Capital Management Report Regarding Samuel Israel/Bayou Management LLC (September 7, 2005) (BS00151981).

393 Grosvenor Capital Management Report Regarding Samuel Israel/Bayou Management LLC (September 7, 2005) (BS00151981).

394 Complaint for Injunctive and Other Equitable Relief at 6, *Commodity Futures Trading Comm'n v. Bayou Mgmt. et al.* No. 05 Civ. 8374 (S.D.N.Y. Sept. 29, 2005), ECF No. 1.

actuality, Richmond was a fictional firm created by Bayou's management for the sole purpose of concealing the ongoing fraud. As part of perpetuating this fraud, the annual reports were fabricated, and office space was leased for the purposes of acquiring a mailing address and telephone number.[395] As one investment advisor stated following the revelations in Bayou, "it is unlikely that [we] would have approved the use of an audit firm that is 'unknown' in the industry."[396]

- **Operations:** Similar to BLMIS, Bayou did not have an offering memorandum. It is industry custom and practice to maintain a marketing document providing detailed information regarding strategy, risks associated with the strategy, background on the investment advisor, and a detailed explanation of the fee structure.[397]

- **Internal Broker-Dealer:** The lack of a third-party broker-dealer was one of the red flags raised in the exposure the Bayou.[398] The majority of trading activity at Bayou was transacted through Bayou Securities, a broker-dealer owned by Bayou.[399] As discussed above, despite BLMIS having its own brokerage firm, not having a third-party prime broker raises a concern because the lack of third-party controls creates an opportunity for fraud.

372. These similarities between Bayou and BLMIS were all red flags that should have prompted due diligence consistent with industry customs and practices. Had additional due diligence been performed in 2005 certain red flags discussed above in the Five Ps

---

395 Complaint for Injunctive and Other Equitable Relief at 10-11, *Commodity Futures Trading Comm'n v. Bayou Mgmt. et al.* No. 05 Civ. 8374 (S.D.N.Y. Sept. 29, 2005), ECF No. 1.

396 Grosvenor Capital Management Report Regarding Samuel Israel/Bayou Management LLC (September 7, 2005) (BS00151981).

397 Government Accountability Office, *Hedge Funds: Regulators and Market Participants are Taking Steps to Strengthen Market Discipline, but Continued Attention is Needed* 27, Report to Congressional Requesters (January 2008). Mutual Funds also prepare prospectuses for potential investors with information similar to a hedge fund Private Placement Memorandum. Mutual fund prospectuses include information on investment strategy, fee structure, past performance, and the investment manager in charge of the fund.

398 Grosvenor Capital Management Report Regarding Samuel Israel/Bayou Management LLC (September 7, 2005) (BS00151981 at 984).

399 Complaint for Injunctive and Other Equitable Relief at 7, *Commodity Futures Trading Comm'n v. Bayou Mgmt. et al.* No. 05 Civ. 8374 (S.D.N.Y. Sept. 29, 2005), ECF No. 1.

would have been observed. For example, by 2005 the following red flags would have been evident with additional due diligence.

a) Process

- **Impossible Option Volume:** By September 2005, there had already been 292 unique call transactions and 232 unique put transactions purportedly traded across the Merkin BLMIS Accounts that exceeded the total market volume traded that day, representing approximately 44% and 38%, respectively, of the unique call and put transactions purportedly traded for the Merkin BLMIS Accounts to that point.
- **Out-of-Range Trades:** By August 2005 there had been 961 equity transactions and 362 option transactions across the Merkin BLMIS Accounts that reported prices outside of the daily price range.
- **Unexplained Exposure to Market Risk:** By August 2005, on at least 299 occasions, statements for the Merkin BLMIS Accounts had reflected changes to the basket of equities purportedly purchased for the Merkin BLMIS Accounts, but failed to reflect corresponding changes to the options used to hedge the equity position
- **Style Drift:** Madoff had counter-intuitively switched from a single stock SSC strategy to a basket based SSC strategy.
- **Speculative Options:** By August 2005, on at least 172 separate occasions, option transactions were used solely to generate a profit and not to hedge any equity transactions. These speculative option trades generated approximately $67.4 million in profit and represented 6.2% of the total dollar returns.
- **Service Providers:** BLMIS was its own broker-dealer, custodian and administrator and did not use a well-known, well-established, and well-equipped auditor, creating an opportunity for fraud, similar to Bayou.
- **Investor Communications:** BLMIS provided paper statements on a time delay, rather than electronic statements. Additionally, BLMIS's trade confirmations and customer statements were inconsistent with industry customs and practices.

b) Portfolio

- **Alpha Analysis:** BLMIS's baskets from 2000 through the end of 2004 generated an R-Squared of 0.31, indicating that that changes in the S&P 100 only explain

31% of the change in Madoff's reported returns, despite the fact that the Madoff SSC strategy should be highly correlated to the S&P 100. BLMIS's baskets generated an alpha of 2.67%, meaning that on average the Merkin BLMIS Accounts are purportedly generating a return of 2.67% regardless of the returns generated by the S&P 100. The t-stat for the analysis is 11.25, indicating that Madoff purportedly generates a return of 2.67% (i.e., the alpha) with virtual certainty.

c) People

- **Excessive Concentration of Duties:** Similar to Bayou, BLMIS exhibited an excessive concentration of duties.
- **Lack of Credentials:** BLMIS had a limited number of personnel, with no advanced education or training, purportedly implementing a multi-billion dollar investment strategy.
- **Lack of Disclosures/Transparency:** BLMIS lacked typical disclosures/transparency provided by investment advisors.

d) Performance

- **Peer Analysis:** By August 2005, the Madoff SSC strategy for the Merkin BLMIS Accounts had outperformed, and often by a significant amount, every peer group, including the Hedge Fund Peer Group, the Mutual Fund Peer Group, Elite Investment Advisors, and Market Indices, across the performance metrics evaluated, across lengthy periods of time.
- **Market Stress:** The Merkin BLMIS Accounts generated returns of 45.9% between 2000 and 2002, while the S&P 100 and S&P 500 fell 43.9% and 40.1%, respectively. Similarly, the Merkin BLMIS Accounts outperformed the market in other periods of market stress, including the 1998 Long Term Capital Management loss, the 2001 Tech Bubble Burst, the September 11, 2001 terrorist attacks, the 2002 WorldCom bankruptcy, and the 2002-2003 U.S. invasion of Iraq.
- **Correlation Analysis:** From December 1991 through August 2005, the reported returns for the Merkin BLMIS Accounts displayed a correlation coefficient with the S&P 100 of 0.32, dramatically less than the expected correlation of 0.61.

- **VWAP:** Between January 1996 and August 2005, 81.4% of purported buy transactions by share volume were executed below VWAP and 76.8% of purported sell transactions by share volume were executed above VWAP. On average, BLMIS purportedly bought shares $0.41 per share below VWAP, while it purportedly sold shares $0.31 per share above VWAP, which contributed to the significant gains created by trading above or below VWAP.
- **Performance Attribution:** Between 2000 and the end of 2005, only 13.4% of purported basket returns were generated based on market timing.
- **Scenario Analysis:** Between January 2000 and August 2005, at least 11 of BLMIS's baskets had reported returns outside of the hypothetical minimum-maximum range.

e) Price

- **Commissions vs. Fees Under 1-and-20 Fee Structure:** By August 2005, Madoff had left at least $165.7 million on the table by purportedly charging only commissions rather than a typical 1-and-20 fee structure.

G. Conclusion

373. Based on the analyses above, it is clear that due diligence consistent with industry customs and practices would have revealed numerous red flags relating to the Merkin BLMIS Accounts. There were certain transactions that were impossible and the only reasonable explanation was fraud. There were also numerous red flags relating to the Merkin BLMIS Accounts that were by their nature indicia of fraud, inconsistent with industry customs and practices, and/or inconsistent with Madoff's purported strategy, requiring additional qualitative and quantitative due diligence. Given the Defendant Funds' investment history with BLMIS that began in 1990, all of the red flags discussed above in the Five Ps would have been prevalent by 2002, could have been performed on Madoff, and would have revealed numerous red flags had they been performed as part of ongoing/monitoring due diligence. Furthermore, in addition to due diligence performed in the context of the Five Ps, there were, over the life of Merkin's investment with Madoff,

a number of examples where information was shared regarding BLMIS and the Madoff SSC strategy that, consistent with industry customs and practices, would have caused a Fund Manager invested with BLMIS to perform additional due diligence. These events are discussed above.

374. Together, the red flags discussed above, and the information that should have led to due diligence and the revelation of red flags, had little impact on the amounts invested in the Merkin BLMIS Accounts as they grew from $27 million in AUM invested with BLMIS in 1990 to over $2.0 billion AUM invested with BLMIS by 2008. *See* Appendix III for a chart showing the growth in AUM invested with BLMIS.

VII. Conclusion

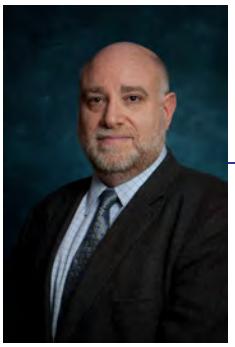
375. In the investment management industry there are due diligence customs and practices that are typically performed. Due diligence consistent with these industry customs and practices would have revealed numerous red flags relating to the Merkin BLMIS Accounts. Based on industry customs and practices, my review of the documents in the record, my own analyses and experience, there were numerous quantitative and qualitative red flags, including impossibilities where the only reasonable explanation was fraud, indicia of fraud, indications that Madoff was not executing the purported strategy, inconsistencies with the strategy and inconsistencies with industry customs and practices.

Dr. Steve Pomerantz

March 20, 2015 (originally submitted)
April 13, 2015 (submitted with corrections)

APPENDICES

Appendix I: Curriculum Vitae



Steve Pomerantz, PhD

PROFESSIONAL CREDENTIALS

Steve Pomerantz is the president of Steve Pomerantz LLC. The firm provides economic and investment management consulting, economic damage assessment and litigation support on cases involving: investment management fees and practices; tax shelters; securities and investment-related damages; investment performance and suitability; event studies; asset allocation analysis and options; derivatives and swap valuation.

Steve Pomerantz holds a Ph.D. in mathematics from the University of California at Berkeley and has twenty-five years of experience in investment research, financial modeling, derivative structuring, statistics, portfolio and risk management.

Dr. Pomerantz has been qualified as an expert witness in numerous securities-related matters in various jurisdictions, providing litigation support to accountants and attorneys. His experience in litigation has been in cases involving trust management, investment suitability, derivative valuation, investment strategy analysis, economic damages, tax shelters, mutual funds and investment industry practice.

The firm is often called upon to use sophisticated mathematical techniques to develop models for valuation, damages and suitability analysis. Dr. Pomerantz is well versed in applications of operations research, statistics, probability and time-series analysis to provide solutions within a variety of assignments.

Strong verbal and communication skills enable Dr. Pomerantz to reduce complex securities, investments and financial topics to simple and accurate frameworks. He has taught as an adjunct professor at the undergraduate and graduate level in mathematics, operations research and finance.

His experience in the investment management area has served a variety of firms and clients in areas as diverse as derivative structuring, quantitative research, due diligence, portfolio and risk management. This experience coupled with his academic training provides a perspective that is grounded in scientific rigor yet possesses the practical realities of how the business of finance operates.

Areas of Dr. Pomerantz's practice include:

- Mutual Fund and Investment Management Fee Analysis
- 401(k) Design, Fee and Performance Analysis
- Investment Management Performance
- Tax-Shelter Analysis
- Hedge Funds
- Investment Suitability
- Derivatives Valuation
- Stock Option Valuation
- Concentrated Hedging Strategies
- Risk Management

LICENSES

Dr. Pomerantz has held numerous NASD licenses including the Series 3, 7, 24 and 63. In addition, he is a FINRA-trained arbitrator.

EDUCATION

Dr. Pomerantz received a Ph.D. in Mathematics from the University of California at Berkeley in 1986. His thesis was in the area of Non-Linear Partial Differential Equations. In 1981 he received a Bachelor of Arts in Mathematics from Queens College of the City University of New York.

TEACHING EXPERIENCE

Dr. Pomerantz has held adjunct professor positions at Stevens Institute of Technology, the College of Saint Elizabeth, and Saint Peter's College teaching courses in Finance, Operations Research, Statistics and Probability. He is currently an adjunct professor of Mathematics at Queens College of CUNY.

PRIOR WORK EXPERIENCE

Pomerantz LLC 2000-present

Investment Management Consultant
Various assignments in research, portfolio management and risk management for:
Insurance Companies, Traditional and Alternative Investment Advisors.

Managing Director 2013-2014
Duff & Phelps LLC
Litigation Support

Director of Quantitative Research 1992-2000
Weiss Peck & Greer LLC
Provided quantitative decision support to all investment management areas of the firm including equity, fixed income, alternatives, asset allocation, client servicing and firm-wide risk management.

Vice President 1990-1992
Nomura Securities International
Cross-market trader in all fixed income and mortgage derivative markets.

Vice President 1988-1990
Citibank - Consumer Banking Group
Asset liability management for consumer banking division and internal mortgage portfolio.

Vice President 1987-1988
Morgan Stanley
Development and trading of dynamic hedging strategies in equity, interest rate, commodity and currency markets.

Vice President 1986-1987
Bank of America
Model development for bond analysis and exotic currency options.

ARTICLES PUBLISHED

MUTUAL FUND ADVISORY FEES: NEW EVIDENCE AND A FAIR FIDUCIARY DUTY TEST (with John P. Freeman & Stewart Brown)
61 Okla. L. Rev. 83 (2008)

MONTE CARLO SIMULATION ANALYSIS – A TOOL FOR PROJECTING THE UNKNOWN (with Bruce Dubinsky)
CPA Expert – Winter 2007

MONTE CARLO SIMULATION ANALYSIS – Part II: BEYOND THE THEORY
CPA Expert – Spring 2007

MONTE CARLO SIMULATION ANALYSIS – Part III: A CASE HISTORY
CPA Expert – Summer 2007

THE PURSUIT OF ALPHA IN A FUND OF HEDGE FUNDS
Hedge Fund Association – May 2006

MONTE-CARLO ANALYSIS: A TOOL FOR EVALUATING INVESTMENT RETURNS
New York State Bar Association Newsletter – Fall/Winter 2005

DESIGNING A 401K PLAN
New York State Bar Association Newsletter – Fall/Winter 2005

AN INFORMATION-BASED MODEL OF MARKET VOLATILITY (with Rick Bookstaber)
Financial Analyst Journal – November/December 1989
Received the 1989 Graham and Dodd Scroll Award by the Financial Analysts Federation

PRESENTATIONS

HEDGE FUND DUE DILLIGENCE
U.S. Department of Labor – December 2012

EVOLVING RISK CONCEPTS AND TOOLS
InfoVest – February 2010

USING STYLE ANALYSIS TO CALCULATE VAR
MPI Conference – March 2008

RISK MANAGEMENT FOR HEDGE FUNDS AND FUND OF FUNDS
ICI Economic Consulting – January 2005

AN APPLICATION OF ASSET ALLOCATION
IRR Fund of Funds Forum – September 2002

APPEARANCES

Deposition in Foutz al vs Arborgen. et al, State of South Carolina – County of Dorcester, Employee Options Analysis, December 2014, January 2015

Deposition in Sivolella et al v. AXA Equitable Life Insurance Co., US District Court – District of New Jersey, Mutual Fund Fee Analysis, November 2014

Deposition in Krueger et al vs Ameriprise Financial, Inc. et al, US District Court – District of Minnesota, 401(k) Analysis, September 2014

Deposition in DeLollis et al v. Margolin, Winer & Evans., State of New York – County of Nassau, Investment Analysis, September 2014

Deposition In Re: Ciufo Trust, Circuit Court of the First Circuit, State of Hawai'I,

Investment Analysis, June 2014

Deposition in Santomenno et al v. Transamerica Life Insurance Co., US District Court – Central District of California, 401(k) Analysis, June 2014

Deposition, Direct and Cross-Examination in Convergent Wealth Advisors v. Lexington Insurance, Circuit Court of Montgomery County, Maryland, Hedge Fund Due Diligence, May 2014

Direct and Cross-Examination Testimony in Buchanan v. Primerica, NASD Arbitration, Investment Suitability, November 2013

Direct and Cross-Examination Testimony in Smith v. Primerica, NASD Arbitration, Investment Suitability, October 2013

Direct and Cross-Examination Testimony in Ward v. Primerica, NASD Arbitration, Investment Suitability, June 2013

Direct and Cross-Examination Testimony in DeShazior v. Primerica, NASD Arbitration, Investment Suitability, April 2013

Direct and Cross-Examination Testimony in Schneider v. Primerica, NASD Arbitration, Investment Suitability, March 2013

Deposition in Curran et al v. Principal Management Corporation, US District Court – Southern District of Iowa, Mutual Fund Fee Analysis, January 2013

Direct and Cross-Examination Testimony in Fiorilla v. Citigroup, NASD Arbitration, Investment Suitability, December 2012

Direct and Cross-Examination Testimony in Grevelding et al v. State of New York, State of New York – Court of Claims, December 2012

Deposition in Reso et al v. Artisan Partners, US District Court – Eastern District of Wisconsin, Mutual Fund Fee Analysis, June 2012

Deposition in Eastman et al vs. First Data Corp, US District Court – District of New Jersey, Investment Management, June 2012

Deposition in Irving H. Picard vs. Katz et al, US Bankruptcy Court – Southern District of New York, Investment Management, January 2012

Deposition in Goldberg et al vs. Indel Inc. et al, US District Court – District of New Jersey, Investment Suitability, January 2012

Deposition in Nolte et al vs Cigna Corporation et al, US District Court – Central District of Illinois, 401(k) Analysis, January 2012

Deposition in Inmobilliaria Axial, S.A. v. Banco Santander International, AAA, Investment Suitability, April 2011

Deposition in DDRA v. KPMG, US District Court – Division of St. Croix, Tax Shelter Analysis, March 2011

Deposition in Re: Northrup Grumman, US District Court – Central District of California, 401(k) Analysis, February 2011

Deposition in George et al v. Kraft Foods Global, Inc. et al, US District Court – Northern District of Illinois, 401(k) Analysis, November 2010

Deposition in Robin Figas et al v. Wells Fargo et al, US District Court – District of Minnesota, 401(k) Analysis, October 2010

Direct and Cross-Examination Testimony in Citrone v. Chequer, Chon & Krensky, AAA, Employee Option Analysis September 2010

Direct and Cross-Examination Testimony in MacDonald v. Genspring Family Office, JAMS, Investment Suitability, March 2010

Deposition in Schmidt v. Wachovia Bank, US District Court – Western District of Northern Carolina, Tax Shelter Analysis, February 2010

Deposition in Re: Federated Mutual Funds, US District Court –Western District of Pennsylvania, Mutual Fund Fee Analysis, December 2009

Direct and Cross-Examination Testimony in Hawkins, et al v. United States of America, et al, US Bankruptcy Court, Tax Shelter Analysis, December 2009

Deposition, Direct and Cross-Examination Testimony in Tibble et al v. Edison Intl. et al, US District Court –Central District of California, 401(k) Analysis, May 2009, October 2009

Deposition in Alfano v. BDO Seidman et al, Superior Court of New Jersey –Bergen County, Tax Shelter Analysis, January 2009

Deposition in Re: Inter Vivos Trust, Superior Court of New Jersey –Bergen County, Investment Suitability, January 2009, October 2010

Deposition in Giordano v. Merrill Lynch & Co. Inc., Superior Court of New Jersey –Mercer County, Stock Option Analysis, January 2009

Deposition, Direct and Cross-Examination Testimony, Deposition in Kennedy et al v. ABB Inc., et al, US District Court –Western District of Missouri, 401(k) Analysis, November 2008, March 2008, January 2010

Deposition in Pat Beesley et al v. International Paper, US District Court –Southern District of Illinois, 401(k) Analysis, November 2008, September 2011

Deposition in Abbot et al v. Lockheed Martin Corporation, US District Court –Southern District of Illinois, 401(k) Analysis, October 2008

Deposition in Kanawi et al v. Bechtel Corporation, US District Court –Northern District of California, 401(k) Analysis, September 2008

Deposition in Bennett et al v. Fidelity, US District Court –District of Massachusetts, Mutual Fund Fee Analysis, September 2008

Deposition, Direct and Cross-Examination Testimony in Bemont et al v. The United States of America, US District Court –Eastern District of Texas, Tax Shelter Analysis, June 2008, July 2009, March 2010

Deposition in Atwater et al v. NFLPA, US District Court - Northern District of Georgia, Investment Suitability, May 2008

Deposition in Taylor et al v. United Technologies Corporation, US District Court –District of Connecticut, 401(k) Analysis, April 2008

Deposition in Spano et al v. The Boeing Company, US District Court –Southern District of Illinois, 401(k) Analysis, April 2008, September 2011

Direct and Cross-Examination Testimony in Fegers et al v. Atlantic Data Services, Inc., Commonwealth of Massachusetts – Superior Court, February 2008

Direct and Cross-Examination Testimony in New Phoenix v. Commissioner of Internal Revenue, Tax Shelter Analysis, January 2008

Direct and Cross-Examination Testimony in Rosenbach et al v. DGI, AAA, Tax Shelter Analysis, October 2007

Deposition in Trotman v. Delaware Management Business Trust, US District Court – Eastern District of Pennsylvania, Investment Management, October 2007

Deposition in Spillsbury v. KPMG, District Court of Clark County, Nevada, Tax Shelter Analysis, August 2007

Deposition in Strigliabatti et al v. Franklin Resources Inc., US District Court –Northern District of California, Mutual Fund Fee Analysis, May 2007

Deposition in Gallus et al v. American Express Financial Corp., US District Court –District of Minnesota, Mutual Fund Fee Analysis, January 2007

Deposition in Sullivan v. KPMG and QA Investments, Superior Court of New Jersey, Tax Shelter Analysis, November 2006

Direct and Cross-Examination Testimony in Techtmann v. Merrill Lynch, NASD Arbitration, Investment Suitability, November 2006

Deposition in Sklodowski v. First Union, Superior Court of New Jersey, Analysis of Investment Performance, October 2006

Deposition in WCF LLC v. Charles Calomiris, Superior Court –District of Columbia, Investment Management, October 2006

Direct and Cross-Examination Testimony in Guido v. McDonald Securities, NASD Arbitration, Investment Suitability, October 2006

Deposition in Sins et al v. Janus Capital Management, US District Court –District of Colorado, Mutual Fund Fee Analysis, September 2006

Direct and Cross-Examination Testimony in Kusma v. Smith Barney, NASD Arbitration, Investment Suitability, April 2006

Direct and Cross-Examination Testimony in Chu v. Smith Barney, NASD Arbitration, Investment Suitability, March 2006

Deposition in Williams et al v. Waddell & Reed, US District Court –District of Kansas, Mutual Fund Fee Analysis, March 2006, July 2006

Deposition in McNair v. KPMG, District Court of Harris County – Texas, Tax Shelter Analysis, February 2006

Deposition in Jones et al v. Harris Associates LP, US District Court – Northern District of Illinois, Mutual Fund Fee Analysis, February 2006

Deposition in Baker et al v. American Century, US District Court – Western District of Missouri, Mutual Fund Fee Analysis, December 2005, April 2006

Deposition in Nelson et al v. UBS Asset Management, US District Court – Northern District of Illinois, Investment Suitability, August 2005

Deposition, Direct and Cross-Examination Testimony in Coleman v. KPMG, AAA, Tax Shelter Analysis August 2005

Deposition in Gibson v. First Union, Superior Court of New Jersey, Analysis of Investment Performance, July 2005

Deposition in Lola Brown Trust et al v. Neuberger Berman Real Estate Income Fund, US District Court – District of Maryland, Investment Management Performance, Asset Allocation and Event Models, May 2005

Deposition in Hobby v. Georgia Power, US District Court – Atlanta Division, Valuation of Employee Stock Options, March 2005

Direct and Cross-Examination Testimony in Kahn v. Oppenheimer & Co., Inc., NASD Arbitration, Investment Suitability, February 2005

Deposition in Howard v. Covansys Inc., US District Court – Eastern Division, Valuation of Employee Stock Options, July 2004

Direct and Cross-Examination Testimony in Stacy Foundation v. Merrill Lynch, Pierce, Fenner & Smith, Inc., JAMS Arbitration, Investment Suitability, June 2004

Rev. March 2015

Appendix II: Documents Considered

I have considered the pleadings in this case, as well as documents and other information produced by the parties to this case and gathered during my research. Accordingly, my report contains various footnote references and discussion of documents specifically relied upon by me in issuing my expert opinions in this case. In addition to the documents cited in my report, the following documents were considered by me in issuing my expert opinions in this report. Documents identified / named below are to be considered inclusive of any and all exhibits to the particular document. Additional documents considered by me are included by bates number in Schedule A to Appendix II.

The categories of documents I considered include the following:

- Public Documents
- Case Documents, Depositions and available Exhibits
- Structured Data

	Public Documents
1	17 CFR § 240.10b-10.
2	*2010 Investment Company Fact Book*, Investment Company Institute (50th ed. 2010) http://www.ici.org/pdf/2010_factbook.pdf.
3	*About IOSCO*, International Organization of Securities Commissions, http://www.iosco.org/about/?subsection=about_iosco (accessed March 4, 2015).
4	AIMA, *AIMA Launches New Due Diligence Questionnaires*, (Apr. 12, 2007).
5	AIMR, *Performance Presentation Standards* (2001) http://www.cfainstitute.org/ethics/Documents/Codes%20Documents/redraft_aimrpps.pdf (accessed March 4, 2015).
6	Aite Group, LLC. Trends in OTC Equity Derivatives: Where Do We Go from Here? Rep. Depository Trust & Clearing Corporation, (October 2006).
7	Andre F. Perold & Robert S. Salomon, Jr., *The Right Amount of Assets Under Management*, Financial Analysts Journal (June 1991).
8	Andrew Ang, Matthew Rhodes-Kropf & Rui Zhao, *Do Fund-of-Funds Deserve Their Fees-on-Fees?,* Columbia University (Nov. 20, 2005).
9	Andrew Burchill, *Make Way for the Middlemen*, Institutional Investor (Jun. 1993).
10	Andrew Sollinger, *In Search of the Perfect System*, Institutional Investor (Mar. 1993).
11	Anil Bangia, Francis X. Diebold, Til Schuermann, & John D. Stroughair, *Modeling Liquidity Risk, with Implications for Traditional Market Risk Measurement and Management* (The New York University Salomon Center Series on Financial Markets and Institutions 2002).
12	Ann F, Jaedicke, *OCC Advisory Letter, Subject: Electronic Consumer Disclosures and Notices* (Oct. 1, 2004).
13	Anthony Guerra, *Family Influence*, Wall Street & Technology (July 07, 2000).
14	*Apply for a New Identifier*, CUSIP Global Services, https://www.cusip.com/cusip/request-an-identifier.htm (accessed March 4, 2015).
15	Ardian Harri & B. Wade Borsen, *Performance Persistence and the Source of Returns for Hedge Funds*, Applied Financial Economics (2004).
16	Barclay Hedge, http://www.barclayhedge.com/research/indices/ghs/mum/Hedge_Fund.html (accessed March 4, 2015)
17	BarclayHedge Equity Long Bias Index (2007-2011) http://www.barclayhedge.com/research/indices/ghs/Equity_Long_Bias_Index.html (accessed November 21, 2011).
18	BarclayHedge Equity Long Short Index (2007-2011) http://www.barclayhedge.com/research/indices/ghs/Equity_Long_Short_Index.html (accessed November 21, 2011).
19	BarclayHedge Equity Market Neutral Index (2007-2011) http://www.barclayhedge.com/research/indices/ghs/Equity_Market_Neutral_Index.html (accessed November 21, 2011).

	Public Documents
20	BarclayHedge, http://www.barclayhedge.com.
21	Barry Eichengreen & Donald Mathieson, *Hedge Funds and Financial Market Dynamics,* International Monetary Fund (May 1998).
22	Bloomberg Data- Pricing Services, http://www.bloomberg.com/enterprise/data/pricing-services/ (accessed March 4, 2015).
23	Brian Tipple, *Avoiding the Pitfalls: Best Practices in Manager Research and Due Diligence*, CFA Institute Conference Proceedings Quarterly (June 2010).
24	Carl Ackermann, Richard McEnally, & David Ravenscraft, *The Performance of Hedge Funds: Risk, Return, and Incentives*, 54 The Journal of Finance (June 1999).
25	CBOE, *OEX & XEO S&P 100 Index Options* (December 4, 2001).
26	CBOE, *OEX Product Specifications*, http://www.cboe.com/products/indexopts/oex_spec.aspx (accessed March 4, 2015).
27	CFA Institute, 2014 CFA Program Curriculum (Level III, Wiley 2014).
28	CFA Institute, *CIPM Program*, http://www.cfainstitute.org/programs/cipm/Pages/index.aspx (accessed March 4, 2015).
29	CFA Institute, *Global Investment Performance Standards* (2010).
30	CFTC v. Bayou Management, et al., Complaint (September 29, 2005).
31	*Counterparty Risk Survey 2009*, The Credit/Fitch Solutions (Dec. 2009).
32	Craig S. Hakkio & William R. Keeton, *Financial Stress: What Is It, How Can It Be Measured, and Why Does It Matter?*, Federal Reserve Bank of Kansas City (2009).
33	David Glovin, *Investment Adviser Aksia Warned Clients of Madoff 'Red Flags',* Bloomberg (Dec. 12, 2008) http://www.bloomberg.com/apps/news?pid=21070001&sid=afugzzMDfgIk.
34	Douglas Hammer, U.S. Regulation of Hedge Funds (American Bar Association 2005).
35	Edward Stavetski, Managing Hedge Fund Managers (John Wiley & Sons 2009).
36	Eldad Eilam, Reversing: Secrets of Reverse Engineering, April 2005, John Wiley & Sons.
37	E-Trade (Apr. 1997) http://wayback.archive.org/web/*/http://www.etrade.com.
38	Executive Order Number 12631, (Mar. 18, 1988) http://www.archives.gov/federal-register/codification/executive-order/12631.html.
39	Fabozzi, Frank J. Perspectives on Investment Management of Public Pension Funds (John Wiley and Sons, 1999).
40	Fang Cai, *Does the Market Conspire Against the Weak? An Empirical Study of Front Running Behavior During the LTCM Crisis*, Board of Governors of the Federal Reserve System - Division of International Finance (May 2002).
41	FDIC, *FDIC Compliance Manual*, (June 2009).

	Public Documents
42	Fidelity (Apr. 1997) http://wayback.archive.org/web/*/http://www.fidelity.com.
43	Fidelity Institutional Money Market Funds Prospectus, May 30, 2012, https://www.interactivebrokers.com/prospectus/31607A109.pdf (accessed March 20, 2015).
44	Frank J. Travers, Hedge Fund Analysis: An In-Depth Guide to Evaluating Return Potential and Assessing Risks, John Wiley & Sons, Inc., 2012.
45	Frank Sortino & Lee Price, *Performance Measurement in a Downside Risk Framework*, 3 The Journal of Investing (Fall 1994).
46	G. Timothy Haight, Stephen O. Morell, & Glenn E. Ross, How to Select Investment Managers & Evaluate Performance (John Wiley & Sons 2007).
47	GAO, *HEDGE FUNDS Regulators and Market Participants Are Taking Steps to Strengthen Market Discipline, but Continued Attention is Needed* (Jan. 2008).
48	Geoffrey A. Hirt & Stanley B. Block, Fundamentals of Investment Management (McGraw-Hill 7th ed. 2003).
49	Hampshire, Jodie, "How Much Risk Does Return Cost? The Information Ratio Explained," October 2002.
50	Harry M. Kat & Helder P. Palaro, *Replication and Evaluation of Fund of Hedge Fund Returns (*Alternative Investment Research Centre Working Paper Series, Working Paper No. 0028, Cass Business School, Jan. 3, 2006).
51	Hedge Fund Working Group, "Hedge Fund Standards: Final Report" (Jan. 2008).
52	Hedge Funds & Prime Brokers (Mark Berman ed. Risk Books 2d ed. 2009).
53	Internet Archives, WayBackMachine (last visited March 11, 2015), http://www.archive.org/web/web.php.
54	Jason A. Scharfman, Hedge Fund Operational Due Diligence (John Wiley & Sons 2009).
55	John C. Hull, Options, Futures, and Other Derivatives 9 (Prentice Hall: New Jersey, 6th Edition 2006).
56	John Downes & Jordan Elliot Goodman, Barron's Finance & Investment Handbook 51 (New York: Barron's, 5th ed. 1998).
57	*Madoff Seeks Edge With Pre-Opening Price Improvement Plan,* Securities Week (May 31, 1999).
58	Managed Funds Association, *Sound Practices for Hedge Fund Managers* (2007).
59	Matthew Goldstein, *The Madoff Case Could Reel in Former Investors*, Bloomberg Businessweek (Dec. 31, 2008) http://www.businessweek.com/magazine/content/09_02/b4115025606347.htm.
60	Michael Goldstein & Jonathan Freedman, *The Future of Money Management in America: Key Issues Facing the Mutual Fund Industry,* Bernstein Research (Dec. 5, 1997).
61	Miriam Bensman, *Hedge Funds Discover Investor Relations*, Institutional Investor (Dec. 1995).

	Public Documents
62	*Morningstar Direct,* Morningstar, http://corporate.morningstar.com/US/documents/Brochures/DirectProductBrochure.pdf (accessed March 4, 2015).
63	Nancy Belliveau McConnell, *Can Phony Performance Numbers be Policed*, Institutional Investor (Jun. 1989).
64	NASD, *Notice to Members: Options Exemption* (January 2004).
65	Noel Amenc and Veronique LeSourd, Portfolio Theory and Performance Analysis (est Sussex, England: Wiley, 2003).
66	*NYSE Price Material Raises Eyebrows at Madoff*, Securities Week (McGraw Hill, Inc. September 3, 1990).
67	Occupational Outlook Handbook: Accountants and Auditors, Bureau of Labor Statistics (2010-2011 ed.), www.bls.gov/oco/ocos001.htm (accessed November 10, 2011).
68	Press Release, Natixis, Natixis Global Asset Management, L.P. Acquires Gateway Investment Advisers, L.P. (Boston: Feb. 19, 2008).
69	Renaissance Investments, CIBC Due Diligence Process, *Managing the Investment Managers* (Nov. 2009).
70	Report of the Investors' Committee, To the President's Working Group of Financial Markets, *Principles and Best Practices for Hedge Fund Investors* (Apr. 15, 2008).
71	Report of The President's Working Group on Financial Markets, *Hedge Funds, Leverage, and the Lessons of Long-Term Capital Management* (April, 1999).
72	Richard A. DeFusco, David E. Runkle, & Dennis W. McLeavey, Quantitative Methods for Investment Analysis (Association for Investment Management & Research 2001).
73	Roger M. Edelen, Richard B. Evans, & Gregory B. Kadlec, *Scale Effects in Mutual Fund Performance: The Role of Trading Costs* (Mar. 17, 2007) http://ssrn.com/abstract=951367.
74	Russell Investment Group, *Russell's Group Philosophy* (Oct. 2006).
75	Samuel Manser & Markus M. Schmid, *The Performance Persistence of Equity Long/Short Hedge Funds*, Jounrnal of Derivatives & Hedge Funds (2009).
76	Schwab (Apr. 1997) http://wayback.archive.org/web/*/http://www.schwab.com.
77	SEC, *Form N-1A Gateway Trust* (July 20, 2007).
78	SEC, *Implications of the Growth of Hedge Funds* (Sept. 2003) http://www.sec.gov/news/studies/hedgefunds0903.pdf.
79	Securities Industry and Financial Markets Association, *Master OTC Options Agreement (2000 Version).*
80	Securities Industry and Financial Markets Association, SIPC, and NASAA; *"Understanding Your Brokerage Account Statements"* (March 7, 2000).
81	*Sharpe Ratio*, Morningstar Investing Glossary, http://www.morningstar.com/InvGlossary/sharpe_ratio.aspx (accessed March 4, 2015).

	Public Documents
82	Sherree Decovny, *Reining in Liquidity Risk*, CFA Magazine (July-Aug. 2010).
83	*Sortino Ratio*, Morningstar Investing Glossary, http://www.morningstar.com/InvGlossary/sortino_ratio_definition_what_is.aspx (accessed March 4, 2015).
84	Stephen A. Ross, Randolph W. Westerfield, & Jeffrey Jaffre, Corporate Finance (McGraw Hill 7th ed. 2005).
85	Supplement to the Spartan U.S. Treasury Money Market Fund, Spartan U.S. Government Money Market Fund, and Spartan Money Market Fund June 29, 2005 Prospectus.
86	Susan Rodetis, *Third Market Man*, Equities (Oct. 1993).
87	T. Rowe Price (Jan. 1998), http://wayback.archive.org/web/*/http://www.troweprice.com.
88	The Gateway Fund's Heding Edge, Bloomberg, April 20, 2005., http://www.bloomberg.com/bw/stories/2005-04-20/the-gateway-funds-hedging-edge (accessed March 20, 2015).
89	*The Morningstar Global Category Classifications*, Morningstar Methodology Paper (Mar. 31, 2010).
90	U.S. Securities and Exchange Commission, Study on Investment Advisers and Broker-Dealers (January 2011).
91	Vikas Agarwal & Narayan Naik, *Multi-Period Performance Persistence Analysis of Hedge Funds*, Journal of Financial & Quantitative Analysis (2000).
92	Vikas Agarwal, Neveen Daniel, & Narayan Naik, *Flows, Performance, and Managerial Incentives in Hedge Funds*, (European Finance Association (EFA) Annual Conference Paper No. 501, 2003).
93	William F. Sharpe, Investments (Prentice Hall 5th ed. 1981).
94	William F. Sharpe, *Mutual Fund Performance*, 39 The Journal of Business (Jan. 1966).

	Case Documents, Deposition and available Exhibits
95	Achilarre, Michael - Deposition and Exhibits, August 9, 2011.
96	Askling, Steven - Deposition and Exhibits, August 10, 2011.
97	Autera, Michael - Deposition and Exhibits, October 19, 2011.
98	Autera, Michael - Deposition and Exhibits, September 26, 2011.
99	Autera, Michael - Deposition and Exhibits, October 22, 2014.
100	Autera, Michael - Deposition and Exhibits, October 23, 2014.
101	Balsam, Jerome - Deposition and Exhibits, October 25, 2011.
102	Castro, Robert - Deposition and Exhibits, October 10, 2012.

	Case Documents, Deposition and available Exhibits
103	Dubinsky Expert Report and Exhibits, August 20, 2013.
104	Ehrenkranz, Joel - Deposition and Exhibits, March 20, 2014.
105	Feinberg, Stephen - Deposition and Exhibits, October 4, 2011.
106	Gordon, Andrew - Deposition and Exhibits, August 16, 2011.
107	Harrington, Noreen - Deposition and Exhibits, October 1, 2013.
108	Hess, Daniel - Deposition and Exhibits, October 11, 2012.
109	*In re Madoff Charities Investigation*, Available Testimony and Exhibits, January 30, 2009.
110	*Jesselson v. Merkin,* AAA No. 13 148 Y 01912 10, Hearing Transcript, September 12-16, 19 and Nov. 16-17, 2011.
111	*JJS Associates, L.P. v. J. Ezra Merkin,* AAA No. 13 148 Y 012802 10, Hearing Transcript, September 12-16, 19, and Nov. 16-17, 2011.
112	Kim, Wilbur - Deposition and available Exhibits, November 19, 2013.
113	Mahagan, Michael - Deposition and available Exhibits, November 22, 2013.
114	Matlin, Michael - Deposition and available Exhibits, November 21, 2013.
115	Mayer, Jack - Deposition and available Exhibits, October 11, 2011.
116	Merkin, Ezra - Deposition and Exhibits, February 24, 2015.
117	Merkin, Ezra - Deposition and Exhibits, February 25, 2015.
118	Mnookin, James - Deposition and Exhibits, November 19, 2013.
119	*Morry Weiss et al. v. J. Ezra Merkin*, AAA No. 13 148 Y 01803 10, Hearing Transcript, August 10, 12, 15, and Nov. 1, 2011.
120	Nash, Joshua - Deposition and Exhibits, October 18, 2012.
121	*New York University v. Ariel Fund Ltd. et al.,* No. 08603803/2008 (N.Y. Sup. Ct. Feb. 9, 2009) Ezra Merkin Deposition and available Exhibits, February 9, 2009.
122	*New York University v. Ariel Fund Ltd. et al.,* No. 08603803/2008 (N.Y. Sup. Ct. Feb. 9, 2009) Victor Teicher Deposition and available Exhibits, February 9, 2009.
123	*New York Attorney General v. Merkin et al.,* No. 450879/2009 (N.Y. Sup. Ct. April 6, 2009) available case materials.
124	Orchard, Jason - Deposition and Exhibits, October 8, 2013.
125	Seymour, Donald - Deposition and Exhibits, January 13, 2015.
126	Sloan, Fred - Deposition and Exhibits, October 16, 2012.
127	*State of New York* v. Merkin et al., No. 450879/2009, Merkin Deposition and available Exhibits, March 3-4, 2010.
128	*Straus v. Merkin,* AAA No. 13 148 & 01800 10, Hearing Transcript, June 21 - 23, 2011.
129	Surh, Tina - Deposition and Exhibits, September 19, 2013.
130	Teicher, Victor - Deposition and Exhibits, October 29, 2013.
131	Thorp, Edward - Deposition and Exhibits, May 22, 2012.

	Case Documents, Deposition and available Exhibits
132	*Weiderhorn v. Merkin*, AAA No. 13 148 Y 02937 08, Hearing Transcript, December 3-4 and 7-8, 2009.

	Structured Data
133	Barclay Global DataFeeder August 2011.
134	BarclayHedge Database, August 2011.
135	Barclays' Fund Graveyard Database as of August 2011.
136	Bloomberg Market Data.
137	CBOE Market Data.
138	Federal Reserve FRB H.15 Release.
139	Hedge Fund Network, August 2011.
140	Morningstar Direct Database.
141	SQL Compilation of BLMIS Data and Summary of Databases (MOTAA00004006).
142	Tick Data Market Data.

Schedule A to Appendix II

Bates Begin	Bates End
ABON-BR00026465	ABON-BR00026466
ALB 015693	ALB 015693
AMAD-BR00018728	AMAD-BR00018741
AMAD-BR30001814	AMAD-BR30001825
AMF00000001	AMF00000001
AMF00000062	AMF00000062
AMF00000135	AMF00000139
AMF00000273	AMF00000274
AMF00000311	AMF00000312
AMF00000422	AMF00000423
AMF00000516	AMF00000517
AMF00000535	AMF00000538
AMF00014933	AMF00014969
AMF00015507	AMF00015647
AMF00015731	AMF00015877
AMF00016163	AMF00016253
AMF00016256	AMF00016311
AMF00016437	AMF00016467
AMF00016470	AMF00016495
AMF00016810	AMF00016892
AMF00031524	AMF00031544
AMF00070003	
AMF00076286	
AMF00128321	AMF00128321
AMF00128322	AMF00128324
AMF00128325	AMF00128378
AMF00128379	AMF00128379
AMF00133748	AMF00133749
AMF00189618	AMF00189731
AMF00247781	AMF00247800
Ariel_fu	
ASLA-BR00000019	ASLA-BR00000032
BASE-BR00000014	
BDO_T_0038163	BDO_T_0038190
BDO_T_0042544	BDO_T_0042569
BRU-BF00005964	
BRU-BF00005965	
BRU-BF00005966	
BRU-BF00005968	
BRU-BF00005969	
BRU-BF00005970	
BRU-BJ00105656	
BRUNE-00000002	
BRUNE-00009462	
BRUNE-00024247	
BS00000001	BS00000224

Bates Begin	Bates End
BS00447749	BS00447760
BS00447768	BS00447779
BS00447792	BS00447803
BS00447805	BS00447816
BS00447822	BS00447833
BS00447837	BS00447848
BS00447851	BS00447862
BS00447865	BS00447876
BS00447878	BS00447889
BS00447891	BS00447902
BS00447919	BS00447921
BS00447968	BS00447979
BS00447981	BS00447992
BS00447994	BS00448005
BS00448008	BS00448019
BS00448021	BS00448032
BS00448034	BS00448045
BS00448057	BS00448058
BS00448059	BS00448060
BS00448061	BS00448063
BS00448064	BS00448066
BS00448068	BS00448079
BS00448081	BS00448092
BS00448094	BS00448105
BS00448107	BS00448118
BS00448120	BS00448131
BS00448133	BS00448144
BS00448147	BS00448158
BS00448160	BS00448171
BS00448174	BS00448185
BS00448187	BS00448198
BS00448200	BS00448211
BS00448238	BS00448269
BS00448271	BS00448272
BS00448299	BS00448310
BS00448311	BS00448311
BS00448312	BS00448325
BS00448329	BS00448342
BS00448344	BS00448359
BS00448512	BS00448559
BS00449026	BS00449066
BS00449127	BS00449167
BS00449430	BS00449460
BS00449590	BS00449620
BS00449744	BS00449744
BS00449762	BS00449762

Schedule A to Appendix II

BS00000225	BS00000420
BS00000421	BS00000695
BS00000696	BS00000813
BS00000814	BS00001024
BS00001025	BS00001285
BS00001286	BS00001438
BS00001439	BS00001553
BS00001554	BS00001819
BS00001820	BS00001935
BS00001936	BS00001936
BS00001937	BS00001937
BS00001938	BS00001938
BS00001940	BS00001940
BS00001942	BS00001945
BS00001946	BS00001968
BS00001969	BS00001980
BS00001981	BS00002034
BS00002115	BS00002116
BS00002120	BS00002157
BS00002159	BS00002160
BS00002161	BS00002189
BS00002193	BS00002202
BS00002203	BS00002436
BS00002437	BS00002444
BS00002445	BS00002450
BS00002453	BS00002453
BS00002454	BS00002458
BS00002459	BS00002478
BS00002479	BS00002479
BS00002480	BS00002487
BS00002488	BS00002497
BS00002498	BS00002507
BS00002508	BS00002517
BS00002534	BS00002536
BS00002537	BS00002538
BS00002539	BS00002545
BS00002546	BS00002561
BS00002562	BS00002566
BS00002587	BS00002594
BS00002595	BS00002596
BS00002630	BS00002748
BS00002749	BS00002768
BS00002769	BS00002822
BS00002823	BS00002825
BS00002826	BS00002829
BS00002830	BS00002836
BS00002837	BS00002936

BS00449838	BS00449868
BS00449929	BS00449954
BS00450074	BS00450074
BS00450076	BS00450076
BS00450078	BS00450078
BS00450202	BS00450202
BS00450604	BS00450607
BS00451032	BS00451032
BS00451034	BS00451034
BS00451222	BS00451223
BS00451367	BS00451368
BS00451790	BS00451791
BS00451792	BS00451793
BS00451949	BS00451949
BS00451993	BS00451995
BS00452057	BS00452116
BS00452176	BS00452235
BS00452318	BS00452318
BS00452320	BS00452320
BS00452322	BS00452322
BS00452323	BS00452339
BS00452340	BS00452341
BS00452343	BS00452344
BS00452743	BS00452745
BS00453189	BS00453190
BS00453241	BS00453256
BS00453257	BS00453258
BS00453259	BS00453259
BS00453260	BS00453260
BS00453261	BS00453261
BS00453262	BS00453262
BS00453319	BS00453319
BS00453321	BS00453332
BS00453338	BS00453338
BS00453364	BS00453364
BS00453383	BS00453384
BS00453508	BS00453508
BS00453515	BS00453516
BS00453651	BS00453651
BS00453664	BS00453664
BS00453705	BS00453713
BS00453749	BS00453750
BS00453763	BS00453767
BS00453768	BS00453769
BS00454238	BS00454239
BS00454867	BS00454867
BS00454932	BS00454940

Schedule A to Appendix II

BS00002937	BS00002953
BS00002954	BS00003050
BS00003131	BS00003132
BS00003133	BS00003135
BS00003136	BS00003173
BS00003174	BS00003174
BS00003175	BS00003176
BS00003177	BS00003219
BS00003222	BS00003234
BS00003235	BS00003560
BS00003561	BS00003570
BS00003571	BS00003597
BS00003600	BS00003600
BS00003601	BS00003606
BS00003607	BS00003626
BS00003629	BS00003636
BS00003637	BS00003646
BS00003647	BS00003656
BS00003657	BS00003666
BS00003667	BS00003667
BS00003669	BS00003669
BS00003670	BS00003778
BS00003779	BS00004091
BS00004092	BS00004093
BS00004094	BS00004094
BS00004095	BS00004102
BS00004103	BS00004104
BS00004105	BS00004110
BS00004111	BS00004114
BS00004115	BS00004115
BS00004116	BS00004117
BS00004118	BS00004119
BS00004120	BS00004297
BS00004298	BS00004728
BS00004729	BS00004954
BS00004955	BS00005010
BS00005011	BS00005011
BS00005012	BS00005012
BS00005013	BS00005013
BS00005014	BS00005015
BS00005016	BS00005016
BS00005017	BS00005044
BS00005045	BS00005054
BS00005055	BS00005059
BS00005060	BS00005064
BS00005065	BS00005065
BS00005066	BS00005081

BS00455031	BS00455032
BS00455033	BS00455035
BS00455036	BS00455038
BS00455039	BS00455040
BS00455041	BS00455042
BS00455043	BS00455046
BS00455047	BS00455049
BS00455050	BS00455052
BS00455053	BS00455056
BS00455057	BS00455058
BS00455101	BS00455101
BS00455102	BS00455102
BS00455140	BS00455140
BS00455149	BS00455154
BS00455155	BS00455160
BS00455280	BS00455287
BS00455384	BS00455385
BS00455895	BS00455904
BS00456368	BS00456369
BS00456395	BS00456395
BS00456396	BS00456397
BS00456406	BS00456407
BS00456457	BS00456457
BS00456460	BS00456461
BS00456462	BS00456463
BS00456510	BS00456511
BS00456513	BS00456516
BS00456595	BS00456615
BS00456648	BS00456657
BS00456689	BS00456690
BS00456691	BS00456692
BS00456843	BS00456843
BS00456844	BS00456845
BS00456853	BS00456853
BS00456856	BS00456857
BS00457545	BS00457545
BS00457616	BS00457616
BS00457617	BS00457618
BS00457619	BS00457619
BS00457716	BS00457717
BS00457722	BS00457724
BS00457725	BS00457727
BS00457947	BS00457968
BS00457971	BS00457992
BS00458160	BS00458183
BS00458696	BS00458719
BS00459035	BS00459043

Schedule A to Appendix II

BS00005082	BS00005082
BS00005083	BS00005104
BS00005105	BS00005113
BS00005114	BS00005128
BS00005129	BS00005141
BS00005142	BS00005153
BS00005154	BS00005154
BS00005155	BS00005161
BS00005162	BS00005177
BS00005178	BS00005190
BS00005191	BS00005192
BS00005193	BS00005204
BS00005205	BS00005205
BS00005206	BS00005214
BS00005215	BS00005215
BS00005216	BS00005227
BS00005228	BS00005248
BS00005249	BS00005269
BS00005270	BS00005270
BS00005271	BS00005289
BS00005290	BS00005290
BS00005291	BS00005299
BS00005300	BS00005316
BS00005317	BS00005323
BS00005324	BS00005334
BS00005335	BS00005358
BS00005359	BS00005369
BS00005370	BS00005370
BS00005371	BS00005391
BS00005392	BS00005406
BS00005407	BS00005407
BS00005408	BS00005415
BS00005416	BS00005426
BS00005427	BS00005427
BS00005428	BS00005445
BS00005446	BS00005462
BS00005463	BS00005463
BS00005464	BS00005467
BS00005468	BS00005483
BS00005484	BS00005484
BS00005485	BS00005500
BS00005501	BS00005514
BS00005515	BS00005533
BS00005534	BS00005555
BS00005556	BS00005556
BS00005557	BS00005565
BS00005566	BS00005586

BS00459083	BS00459092
BS00459093	BS00459102
BS00459225	BS00459234
BS00461773	BS00461773
BS00464028	BS00464030
BS00464031	BS00464033
BS00472192	BS00472339
BS00472340	BS00472487
BS00473121	BS00473121
BS00473122	BS00473122
BS00473391	BS00473456
BS00473457	BS00473522
BS00474135	BS00474199
BS00474200	BS00474264
BS00474588	BS00474653
BS00474654	BS00474719
BS00475942	BS00476013
BS00476014	BS00476085
BS00476751	BS00476824
BS00476825	BS00476898
BS00477610	BS00477683
BS00477684	BS00477757
BS00478677	BS00478753
BS00478754	BS00478830
BS00479427	BS00479505
BS00479506	BS00479584
BS00479916	BS00479997
BS00479998	BS00480079
BS00480421	BS00480510
BS00480797	BS00480797
BS00481969	BS00482064
BS00482065	BS00482160
BS00482956	BS00483052
BS00483053	BS00483149
BS00483447	BS00483447
BS00483448	BS00483448
BS00483452	BS00483466
BS00483943	BS00484035
BS00484036	BS00484128
BS00484449	BS00484460
BS00484463	BS00484474
BS00484942	BS00485036
BS00485037	BS00485131
BS00486782	BS00486884
BS00486885	BS00486987
BS00487538	BS00488547
BS00490247	BS00490348

Schedule A to Appendix II

BS00005587	BS00005606
BS00005607	BS00005607
BS00005608	BS00005616
BS00005617	BS00005617
BS00005618	BS00005638
BS00005639	BS00005639
BS00005640	BS00005665
BS00005666	BS00005666
BS00005667	BS00005672
BS00005673	BS00005673
BS00005674	BS00005680
BS00005681	BS00005681
BS00005682	BS00005695
BS00005696	BS00005696
BS00005697	BS00005713
BS00005714	BS00005714
BS00005715	BS00005721
BS00005722	BS00005738
BS00005739	BS00005740
BS00005741	BS00005746
BS00005747	BS00005748
BS00005749	BS00005749
BS00005750	BS00005751
BS00005752	BS00005752
BS00005753	BS00005765
BS00005766	BS00005767
BS00005768	BS00005768
BS00005769	BS00005769
BS00005770	BS00005771
BS00005772	BS00005786
BS00005787	BS00005787
BS00005788	BS00005793
BS00005794	BS00005794
BS00005795	BS00005795
BS00005796	BS00005814
BS00005815	BS00005816
BS00005817	BS00005831
BS00005832	BS00005846
BS00005847	BS00005847
BS00005848	BS00005863
BS00005864	BS00005865
BS00005866	BS00005866
BS00005867	BS00005874
BS00005875	BS00005875
BS00005876	BS00005900
BS00005901	BS00005901
BS00005902	BS00005913

BS00490349	BS00490450
BS00490766	BS00490766
BS00490783	BS00490784
BS00490793	BS00490815
BS00490816	BS00490828
BS00490829	BS00490850
BS00490854	BS00490860
BS00490865	BS00490869
BS00491386	BS00491486
BS00491487	BS00491587
BS00493567	BS00493671
BS00493672	BS00493776
BS00495157	BS00495262
BS00495263	BS00495368
BS00496931	BS00497037
BS00497038	BS00497144
BS00498722	BS00498737
BS00498738	BS00498753
BS00498764	BS00498869
BS00498870	BS00498975
BS00500913	BS00501018
BS00501019	BS00501124
BS00502890	BS00502999
BS00503000	BS00503109
BS00503110	BS00503219
BS00503220	BS00503329
BS00503342	BS00503453
BS00503454	BS00503565
BS00505932	BS00506036
BS00506037	BS00506141
BS00506659	BS00506682
BS00506694	BS00506790
BS00506791	BS00506887
BS00508476	BS00508574
BS00508575	BS00508673
BS00508676	BS00508775
BS00508776	BS00508875
BS00510912	BS00510935
BS00515137	BS00515137
BS00515138	BS00515170
BS00515554	BS00515644
BS00515650	BS00515661
BS00516303	BS00516393
BS00516394	BS00516484
BS00516489	BS00516495
BS00516705	BS00516954
BS00522926	BS00522928

Schedule A to Appendix II

BS00005914	BS00005914
BS00005915	BS00005932
BS00005933	BS00005933
BS00005934	BS00005939
BS00005940	BS00005940
BS00005941	BS00005954
BS00005955	BS00005955
BS00005956	BS00005968
BS00005969	BS00005970
BS00005971	BS00005995
BS00005996	BS00006010
BS00006011	BS00006028
BS00006029	BS00006039
BS00006040	BS00006050
BS00006051	BS00006054
BS00006055	BS00006059
BS00006060	BS00006071
BS00006072	BS00006074
BS00006075	BS00006090
BS00006091	BS00006091
BS00006092	BS00006098
BS00006099	BS00006100
BS00006101	BS00006102
BS00006103	BS00006107
BS00006108	BS00006108
BS00006109	BS00006119
BS00006120	BS00006121
BS00006122	BS00006132
BS00006133	BS00006143
BS00006144	BS00006147
BS00006148	BS00006150
BS00006151	BS00006155
BS00006156	BS00006156
BS00006157	BS00006158
BS00006159	BS00006159
BS00006160	BS00006166
BS00006167	BS00006176
BS00006177	BS00006184
BS00006185	BS00006188
BS00006189	BS00006223
BS00006224	BS00006236
BS00006237	BS00006249
BS00006250	BS00006253
BS00006254	BS00006266
BS00006267	BS00006276
BS00006277	BS00006285
BS00006286	BS00006287

BS00522932	BS00522934
BS00522936	BS00522939
BS00522940	BS00522944
BS00523271	BS00523275
BS00523495	BS00523497
BS00523533	BS00523534
BS00523648	BS00523650
BS00523713	BS00523733
BS00523758	BS00523761
BS00524353	BS00524369
BS00524617	BS00524620
BS00524671	BS00524674
BS00525006	BS00525039
BS00525141	BS00525153
BS00525154	BS00525156
BS00525175	BS00525194
BS00525200	BS00525203
BS00525204	BS00525217
BS00525553	BS00525558
BS00525607	BS00525613
BS00525821	BS00525839
BS00525840	BS00525842
BS00525862	BS00525877
BS00525880	BS00525882
BS00525887	BS00525890
BS00525891	BS00525895
BS00525896	BS00525897
BS00525898	BS00525899
BS00525900	BS00525901
BS00525916	BS00525921
BS00525956	BS00525957
BS00525958	BS00525959
BS00525960	BS00525962
BS00525963	BS00525963
BS00526057	BS00526057
BS00526248	BS00526254
BS00526265	BS00526270
BS00526480	BS00526486
BS00526487	BS00526509
BS00526510	BS00526521
BS00526522	BS00526534
BS00526535	BS00526549
BS00526613	BS00526626
BS00526641	BS00526668
BS00526680	BS00526681
BS00526843	BS00526844
BS00526845	BS00526846

Schedule A to Appendix II

BS00006288	BS00006333
BS00006334	BS00006452
BS00006453	BS00006454
BS00006455	BS00006474
BS00006475	BS00006619
BS00006620	BS00006741
BS00006742	BS00006744
BS00006745	BS00006784
BS00006785	BS00006814
BS00006815	BS00006827
BS00006828	BS00006960
BS00006961	BS00006999
BS00007000	BS00007002
BS00007003	BS00007004
BS00007005	BS00007017
BS00007018	BS00007020
BS00007021	BS00007027
BS00007028	BS00007028
BS00007029	BS00007062
BS00007063	BS00007067
BS00007068	BS00007074
BS00007075	BS00007085
BS00007086	BS00007088
BS00007089	BS00007090
BS00007091	BS00007093
BS00007094	BS00007095
BS00007096	BS00007097
BS00007098	BS00007099
BS00007100	BS00007102
BS00007103	BS00007107
BS00007108	BS00007123
BS00007124	BS00007140
BS00007141	BS00007156
BS00007157	BS00007236
BS00007237	BS00007249
BS00007250	BS00007268
BS00007269	BS00007330
BS00007331	BS00007392
BS00007393	BS00007587
BS00007588	BS00007594
BS00007595	BS00007601
BS00007602	BS00007608
BS00007609	BS00007661
BS00007662	BS00007669
BS00007670	BS00007680
BS00007681	BS00007733
BS00007734	BS00007786

BS00526847	BS00526852
BS00526927	BS00526939
BS00526950	BS00526967
BS00526990	BS00526992
BS00527103	BS00527105
BS00527128	BS00527129
BS00527130	BS00527132
BS00527147	BS00527156
BS00527159	BS00527163
BS00527168	BS00527172
BS00527338	BS00527358
BS00527544	BS00527633
BS00527638	BS00527648
BS00527649	BS00527658
BS00527713	BS00527717
BS00527746	BS00527773
BS00527784	BS00527793
BS00527794	BS00527800
BS00527801	BS00527831
BS00527871	BS00527892
BS00527898	BS00527899
BS00527904	BS00527906
BS00527936	BS00527942
BS00527959	BS00527971
BS00527975	BS00527989
BS00527992	BS00527993
BS00528000	BS00528021
BS00528035	BS00528039
BS00528040	BS00528051
BS00528055	BS00528056
BS00528057	BS00528063
BS00528064	BS00528102
BS00528103	BS00528106
BS00528107	BS00528118
BS00528119	BS00528119
BS00528120	BS00528131
BS00528132	BS00528132
BS00528133	BS00528163
BS00528166	BS00528169
BS00528170	BS00528185
BS00528186	BS00528196
BS00528200	BS00528202
BS00528203	BS00528207
BS00528208	BS00528212
BS00528252	BS00528253
BS00528254	BS00528259
BS00528260	BS00528260

Schedule A to Appendix II

BS00007787	BS00007792
BS00007793	BS00007797
BS00007798	BS00007801
BS00007802	BS00007811
BS00007812	BS00007815
BS00007816	BS00007867
BS00007868	BS00007871
BS00007872	BS00007875
BS00007876	BS00007928
BS00007929	BS00007935
BS00007936	BS00007939
BS00007940	BS00007943
BS00007944	BS00007996
BS00007997	BS00008000
BS00008001	BS00008010
BS00008011	BS00008067
BS00008068	BS00008072
BS00008073	BS00008129
BS00008130	BS00008133
BS00008134	BS00008137
BS00008138	BS00008141
BS00008142	BS00008150
BS00008151	BS00008205
BS00008206	BS00008258
BS00008259	BS00008262
BS00008263	BS00008266
BS00008267	BS00008318
BS00008319	BS00008327
BS00008328	BS00008331
BS00008332	BS00008384
BS00008385	BS00008394
BS00008395	BS00008398
BS00008399	BS00008404
BS00008405	BS00008411
BS00008412	BS00008418
BS00008419	BS00008428
BS00008429	BS00008437
BS00008438	BS00008444
BS00008445	BS00008448
BS00008449	BS00008455
BS00008456	BS00008468
BS00008469	BS00008472
BS00008473	BS00008476
BS00008477	BS00008480
BS00008481	BS00008484
BS00008485	BS00008494
BS00008495	BS00008498

BS00528263	BS00528276
BS00528277	BS00528284
BS00528285	BS00528287
BS00528288	BS00528289
BS00528290	BS00528291
BS00528293	BS00528294
BS00528295	BS00528296
BS00528297	BS00528308
BS00528387	BS00528390
BS00528392	BS00528396
BS00528397	BS00528402
BS00528403	BS00528442
BS00528446	BS00528456
BS00528457	BS00528461
BS00528462	BS00528462
BS00528463	BS00528482
BS00528483	BS00528487
BS00528488	BS00528544
BS00528580	BS00528581
BS00528949	BS00528952
BS00528956	BS00528965
BS00529013	BS00529016
BS00529081	BS00529084
BS00529085	BS00529088
BS00529143	BS00529146
BS00529147	BS00529161
BS00529212	BS00529234
BS00529235	BS00529288
BS00529306	BS00529306
BS00529315	BS00529324
BS00529325	BS00529335
BS00529379	BS00529407
BS00529408	BS00529425
BS00529426	BS00529434
BS00529435	BS00529444
BS00529445	BS00529454
BS00529455	BS00529456
BS00529457	BS00529463
BS00529464	BS00529465
BS00529466	BS00529470
BS00529471	BS00529490
BS00529491	BS00529492
BS00529517	BS00529528
BS00529529	BS00529540
BS00529541	BS00529545
BS00529546	BS00529555
BS00529556	BS00529567

Schedule A to Appendix II

BS00008499	BS00008503
BS00008504	BS00008556
BS00008557	BS00008566
BS00008567	BS00008570
BS00008571	BS00008574
BS00008575	BS00008581
BS00008582	BS00008583
BS00008584	BS00008585
BS00008586	BS00008587
BS00008588	BS00008589
BS00008590	BS00008591
BS00008592	BS00008602
BS00008603	BS00008604
BS00008605	BS00008606
BS00008607	BS00008612
BS00008613	BS00008621
BS00008622	BS00008625
BS00008626	BS00008638
BS00008639	BS00008692
BS00008693	BS00008695
BS00008696	BS00008702
BS00008703	BS00008709
BS00008710	BS00008717
BS00008718	BS00008726
BS00008727	BS00008750
BS00008751	BS00008766
BS00008767	BS00008776
BS00008777	BS00008786
BS00008787	BS00008796
BS00008797	BS00008804
BS00008805	BS00008813
BS00008814	BS00008821
BS00008822	BS00008828
BS00008829	BS00008837
BS00008838	BS00008844
BS00008845	BS00008851
BS00008852	BS00008859
BS00008860	BS00008868
BS00008869	BS00008869
BS00008870	BS00008871
BS00008872	BS00008879
BS00008880	BS00008887
BS00008888	BS00008893
BS00008894	BS00008909
BS00008910	BS00009011
BS00009012	BS00009109
BS00009110	BS00009133

BS00529570	BS00529575
BS00529576	BS00529579
BS00529580	BS00529583
BS00529584	BS00529587
BS00529588	BS00529589
BS00529590	BS00529593
BS00529594	BS00529601
BS00529602	BS00529603
BS00529604	BS00529607
BS00529608	BS00529625
BS00529626	BS00529640
BS00529641	BS00529642
BS00530055	BS00530057
BS00530178	BS00530199
BS00530223	BS00530224
BS00532289	BS00532310
BS00532311	BS00532331
BS00532332	BS00532353
BS00532354	BS00532361
BS00532362	BS00532368
BS00532369	BS00532377
BS00532378	BS00532391
BS00532392	BS00532406
BS00532407	BS00532420
BS00532421	BS00532433
BS00532434	BS00532446
BS00532447	BS00532459
BS00532460	BS00532471
BS00532472	BS00532483
BS00532484	BS00532495
BS00532497	BS00532502
BS00532503	BS00532509
BS00532510	BS00532515
BS00532516	BS00532531
BS00532532	BS00532547
BS00532548	BS00532563
BS00532564	BS00532576
BS00532577	BS00532589
BS00532590	BS00532602
BS00532605	BS00532615
BS00532616	BS00532626
BS00532627	BS00532638
BS00532640	BS00532648
BS00532649	BS00532657
BS00532658	BS00532666
BS00532668	BS00532679
BS00532680	BS00532691

Schedule A to Appendix II

BS00009134	BS00009351
BS00009352	BS00009371
BS00009372	BS00009377
BS00009378	BS00009385
BS00009386	BS00009403
BS00009404	BS00009409
BS00009410	BS00009423
BS00009424	BS00009431
BS00009432	BS00009443
BS00009444	BS00009541
BS00009542	BS00009639
BS00009640	BS00009651
BS00009652	BS00009663
BS00009664	BS00009691
BS00009692	BS00009697
BS00009698	BS00009709
BS00009710	BS00009813
BS00009814	BS00009917
BS00009918	BS00010021
BS00010022	BS00010039
BS00010040	BS00010051
BS00010052	BS00010057
BS00010058	BS00010065
BS00010066	BS00010071
BS00010072	BS00010089
BS00010090	BS00010193
BS00010194	BS00010205
BS00010206	BS00010217
BS00010218	BS00010241
BS00010242	BS00010347
BS00010348	BS00010453
BS00010454	BS00010559
BS00010560	BS00010589
BS00010590	BS00010607
BS00010608	BS00010625
BS00010626	BS00010681
BS00010682	BS00010693
BS00010694	BS00010699
BS00010700	BS00010803
BS00010804	BS00010817
BS00010818	BS00010921
BS00010922	BS00010931
BS00010932	BS00010937
BS00010938	BS00011041
BS00011042	BS00011071
BS00011072	BS00011095
BS00011096	BS00011203

BS00532692	BS00532703
BS00532704	BS00532724
BS00532725	BS00532744
BS00532745	BS00532764
BS00532765	BS00532785
BS00532786	BS00532805
BS00532806	BS00532825
BS00532827	BS00532845
BS00532846	BS00532863
BS00532864	BS00532881
BS00532883	BS00532890
BS00532891	BS00532898
BS00532899	BS00532907
BS00532908	BS00532924
BS00532925	BS00532940
BS00532941	BS00532956
BS00532957	BS00532963
BS00532964	BS00532969
BS00532970	BS00532976
BS00532977	BS00532987
BS00532988	BS00532998
BS00532999	BS00533009
BS00533010	BS00533033
BS00533034	BS00533057
BS00533058	BS00533080
BS00533081	BS00533091
BS00533092	BS00533102
BS00533103	BS00533113
BS00533115	BS00533135
BS00533136	BS00533156
BS00533157	BS00533177
BS00533178	BS00533192
BS00533193	BS00533206
BS00533207	BS00533219
BS00533221	BS00533227
BS00533228	BS00533235
BS00533236	BS00533242
BS00533243	BS00533261
BS00533262	BS00533272
BS00533273	BS00533283
BS00533284	BS00533294
BS00533296	BS00533313
BS00533314	BS00533331
BS00533332	BS00533349
BS00533350	BS00533363
BS00533364	BS00533380
BS00533381	BS00533395

Schedule A to Appendix II

BS00011204	BS00011311
BS00011312	BS00011415
BS00011416	BS00011439
BS00011440	BS00011457
BS00011458	BS00011561
BS00011562	BS00011665
BS00011666	BS00011683
BS00011684	BS00011689
BS00011690	BS00011793
BS00011794	BS00011803
BS00011804	BS00011905
BS00011906	BS00011923
BS00011924	BS00011929
BS00011930	BS00011933
BS00011934	BS00012037
BS00012038	BS00012061
BS00012062	BS00012067
BS00012068	BS00012151
BS00012152	BS00012155
BS00012156	BS00012159
BS00012160	BS00012187
BS00012188	BS00012197
BS00012198	BS00012299
BS00012300	BS00012403
BS00012404	BS00012427
BS00012428	BS00012445
BS00012446	BS00012549
BS00012550	BS00012573
BS00012574	BS00012677
BS00012678	BS00012695
BS00012696	BS00012745
BS00012746	BS00012937
BS00012938	BS00012945
BS00012946	BS00013043
BS00013044	BS00013141
BS00013142	BS00013145
BS00013146	BS00013243
BS00013244	BS00013283
BS00013284	BS00013323
BS00013324	BS00013371
BS00013372	BS00013377
BS00013378	BS00013387
BS00013388	BS00013397
BS00013398	BS00013403
BS00013404	BS00013449
BS00013450	BS00013455
BS00013456	BS00013549

BS00533397	BS00533412
BS00533413	BS00533422
BS00533423	BS00533426
BS00533427	BS00533441
BS00533442	BS00533457
BS00533458	BS00533474
BS00533476	BS00533491
BS00533492	BS00533506
BS00533507	BS00533521
BS00533522	BS00533533
BS00533534	BS00533547
BS00533548	BS00533560
BS00533561	BS00533579
BS00533580	BS00533597
BS00533598	BS00533616
BS00533617	BS00533638
BS00533639	BS00533660
BS00533661	BS00533681
BS00533683	BS00533691
BS00533692	BS00533699
BS00533700	BS00533708
BS00533709	BS00533730
BS00533731	BS00533751
BS00533752	BS00533771
BS00533791	BS00533810
BS00533811	BS00533829
BS00533831	BS00533840
BS00533841	BS00533849
BS00533850	BS00533858
BS00533860	BS00533881
BS00533882	BS00533902
BS00533903	BS00533922
BS00533924	BS00533949
BS00533950	BS00533975
BS00533976	BS00534001
BS00534003	BS00534008
BS00534009	BS00534014
BS00534015	BS00534021
BS00534023	BS00534028
BS00534029	BS00534035
BS00534036	BS00534041
BS00534044	BS00534057
BS00534059	BS00534072
BS00534073	BS00534086
BS00534088	BS00534104
BS00534105	BS00534121
BS00534122	BS00534138

Schedule A to Appendix II

BS00013550	BS00013555
BS00013556	BS00013563
BS00013564	BS00013575
BS00013576	BS00013587
BS00013588	BS00013593
BS00013594	BS00013718
BS00013719	BS00013792
BS00013793	BS00013864
BS00013865	BS00013952
BS00013953	BS00014050
BS00014051	BS00014074
BS00014075	BS00014172
BS00014173	BS00014196
BS00014197	BS00014220
BS00014221	BS00014232
BS00014233	BS00014846
BS00014847	BS00015146
BS00015147	BS00015226
BS00015227	BS00015250
BS00015251	BS00015256
BS00015257	BS00015292
BS00015293	BS00015299
BS00015300	BS00015397
BS00015398	BS00015446
BS00015447	BS00015453
BS00015454	BS00015503
BS00015504	BS00015511
BS00015512	BS00015513
BS00015514	BS00015517
BS00015518	BS00015522
BS00015523	BS00015528
BS00015529	BS00015532
BS00015533	BS00015536
BS00015537	BS00015540
BS00015541	BS00015589
BS00015590	BS00015593
BS00015594	BS00015611
BS00015612	BS00015617
BS00015618	BS00015629
BS00015630	BS00015733
BS00015734	BS00015837
BS00015838	BS00015873
BS00015874	BS00016042
BS00016043	BS00016146
BS00016147	BS00016166
BS00016167	BS00016274
BS00016275	BS00016286

BS00534139	BS00534140
BS00534142	BS00534148
BS00534149	BS00534155
BS00534156	BS00534161
BS00534163	BS00534179
BS00534180	BS00534196
BS00534197	BS00534213
BS00534214	BS00534215
BS00534216	BS00534221
BS00534222	BS00534223
BS00534224	BS00534229
BS00534230	BS00534231
BS00534232	BS00534233
BS00534234	BS00534238
BS00534239	BS00534240
BS00534243	BS00534244
BS00534245	BS00534257
BS00534258	BS00534259
BS00534260	BS00534261
BS00534262	BS00534262
BS00534263	BS00534275
BS00534278	BS00534279
BS00534280	BS00534280
BS00534281	BS00534293
BS00534297	BS00534298
BS00534299	BS00534312
BS00534313	BS00534313
BS00534314	BS00534315
BS00534316	BS00534330
BS00534331	BS00534332
BS00534349	BS00534354
BS00534355	BS00534360
BS00534361	BS00534367
BS00534370	BS00534370
BS00534371	BS00534388
BS00534392	BS00534392
BS00534393	BS00534410
BS00534413	BS00534413
BS00534414	BS00534432
BS00534435	BS00534436
BS00534437	BS00534451
BS00534452	BS00534453
BS00534454	BS00534468
BS00534469	BS00534483
BS00534501	BS00534502
BS00534503	BS00534504
BS00534505	BS00534506

Schedule A to Appendix II

BS00016287	BS00016304
BS00016305	BS00016310
BS00016311	BS00016334
BS00016335	BS00016358
BS00016359	BS00016364
BS00016365	BS00016376
BS00016377	BS00016480
BS00016481	BS00016581
BS00016582	BS00016683
BS00016684	BS00016713
BS00016714	BS00016725
BS00016726	BS00016738
BS00016739	BS00016741
BS00016742	BS00016793
BS00016794	BS00016846
BS00016847	BS00016853
BS00016854	BS00016912
BS00016913	BS00016919
BS00016920	BS00016926
BS00016927	BS00016936
BS00016937	BS00016943
BS00016944	BS00016947
BS00016948	BS00016951
BS00016952	BS00016955
BS00016956	BS00016960
BS00016961	BS00016964
BS00016965	BS00016968
BS00016969	BS00017020
BS00017021	BS00017071
BS00017072	BS00017123
BS00017124	BS00017125
BS00017126	BS00017131
BS00017132	BS00017136
BS00017137	BS00017141
BS00017142	BS00017144
BS00017145	BS00017147
BS00017148	BS00017151
BS00017152	BS00017152
BS00017153	BS00017156
BS00017157	BS00017162
BS00017163	BS00017168
BS00017169	BS00017170
BS00017171	BS00017175
BS00017176	BS00017177
BS00017178	BS00017185
BS00017186	BS00017187
BS00017188	BS00017194

BS00534508	BS00534523
BS00534524	BS00534525
BS00534526	BS00534541
BS00534542	BS00534543
BS00534545	BS00534547
BS00534548	BS00534552
BS00534553	BS00534554
BS00534555	BS00534562
BS00534563	BS00534570
BS00534572	BS00534596
BS00534598	BS00534622
BS00534623	BS00534646
BS00534649	BS00534661
BS00534662	BS00534673
BS00534674	BS00534685
BS00534688	BS00534706
BS00534707	BS00534724
BS00534725	BS00534742
BS00534745	BS00534749
BS00534750	BS00534755
BS00534756	BS00534760
BS00534776	BS00534789
BS00534804	BS00534816
BS00534817	BS00534818
BS00534819	BS00534831
BS00534832	BS00534833
BS00534834	BS00534847
BS00534854	BS00534891
BS00534932	BS00534969
BS00534977	BS00534980
BS00535011	BS00535014
BS00535015	BS00535044
BS00535047	BS00535050
BS00535051	BS00535078
BS00535080	BS00535107
BS00535173	BS00535221
BS00535222	BS00535272
BS00535273	BS00535321
BS00535327	BS00535400
BS00535406	BS00535443
BS00535444	BS00535479
BS00535480	BS00535519
BS00535521	BS00535551
BS00535621	BS00535660
BS00535661	BS00535700
BS00535701	BS00535742
BS00535835	BS00535885

Schedule A to Appendix II

BS00017195	BS00017201
BS00017202	BS00017212
BS00017213	BS00017217
BS00017218	BS00017219
BS00017220	BS00017222
BS00017223	BS00017235
BS00017236	BS00017244
BS00017245	BS00017248
BS00017249	BS00017253
BS00017254	BS00017255
BS00017256	BS00017258
BS00017259	BS00017264
BS00017265	BS00017272
BS00017273	BS00017282
BS00017283	BS00017284
BS00017285	BS00017286
BS00017287	BS00017287
BS00017288	BS00017289
BS00017290	BS00017291
BS00017292	BS00017292
BS00017293	BS00017294
BS00017295	BS00017298
BS00017299	BS00017299
BS00017300	BS00017301
BS00017302	BS00017302
BS00017303	BS00017304
BS00017305	BS00017306
BS00017307	BS00017308
BS00017309	BS00017310
BS00017311	BS00017313
BS00017314	BS00017317
BS00017318	BS00017319
BS00017320	BS00017322
BS00017323	BS00017323
BS00017324	BS00017325
BS00017326	BS00017327
BS00017328	BS00017333
BS00017334	BS00017337
BS00017338	BS00017350
BS00017351	BS00017352
BS00017353	BS00017356
BS00017357	BS00017359
BS00017360	BS00017362
BS00017363	BS00017364
BS00017365	BS00017371
BS00017372	BS00017372
BS00017373	BS00017378

BS00535936	BS00535940
BS00535941	BS00535971
BS00535972	BS00536002
BS00536003	BS00536033
BS00536042	BS00536076
BS00536077	BS00536109
BS00536110	BS00536142
BS00536143	BS00536167
BS00536168	BS00536184
BS00536185	BS00536201
BS00536202	BS00536225
BS00536227	BS00536258
BS00536259	BS00536290
BS00536291	BS00536322
BS00536323	BS00536326
BS00536327	BS00536354
BS00536356	BS00536384
BS00536385	BS00536413
BS00536414	BS00536442
BS00536443	BS00536471
BS00536473	BS00536483
BS00536484	BS00536496
BS00536497	BS00536507
BS00536508	BS00536520
BS00536522	BS00536554
BS00536555	BS00536587
BS00536588	BS00536618
BS00536619	BS00536651
BS00536653	BS00536687
BS00536688	BS00536721
BS00536722	BS00536756
BS00536757	BS00536793
BS00536795	BS00536810
BS00536811	BS00536820
BS00536821	BS00536831
BS00536832	BS00536841
BS00536843	BS00536862
BS00536863	BS00536883
BS00536884	BS00536903
BS00536904	BS00536924
BS00536926	BS00536944
BS00536945	BS00536963
BS00536964	BS00536982
BS00536983	BS00537001
BS00537018	BS00537031
BS00537032	BS00537046
BS00537047	BS00537060

Schedule A to Appendix II

BS00017379	BS00017381
BS00017382	BS00017385
BS00017386	BS00017389
BS00017390	BS00017391
BS00017392	BS00017394
BS00017395	BS00017400
BS00017401	BS00017402
BS00017403	BS00017404
BS00017405	BS00017409
BS00017410	BS00017419
BS00017420	BS00017425
BS00017426	BS00017429
BS00017430	BS00017433
BS00017434	BS00017438
BS00017439	BS00017447
BS00017448	BS00017451
BS00017452	BS00017452
BS00017453	BS00017454
BS00017455	BS00017456
BS00017457	BS00017460
BS00017461	BS00017462
BS00017463	BS00017486
BS00017487	BS00017491
BS00017492	BS00017503
BS00017504	BS00017645
BS00017646	BS00017653
BS00017654	BS00017654
BS00017655	BS00017655
BS00017656	BS00017657
BS00017658	BS00017658
BS00017659	BS00017659
BS00017660	BS00017661
BS00017662	BS00017662
BS00017663	BS00017663
BS00017664	BS00017664
BS00017665	BS00017666
BS00017667	BS00017668
BS00017669	BS00017669
BS00017670	BS00017670
BS00017671	BS00017671
BS00017674	BS00017675
BS00017676	BS00017677
BS00017678	BS00017687
BS00017689	BS00017696
BS00017699	BS00017729
BS00017736	BS00017736
BS00017739	BS00017740

BS00537062	BS00537081
BS00537082	BS00537100
BS00537101	BS00537119
BS00537120	BS00537137
BS00537139	BS00537153
BS00537154	BS00537168
BS00537169	BS00537183
BS00537184	BS00537197
BS00537198	BS00537202
BS00537204	BS00537216
BS00537217	BS00537229
BS00537230	BS00537242
BS00537243	BS00537255
BS00537257	BS00537264
BS00537265	BS00537271
BS00537272	BS00537279
BS00537280	BS00537286
BS00537288	BS00537299
BS00537300	BS00537311
BS00537312	BS00537323
BS00537324	BS00537334
BS00537336	BS00537348
BS00537349	BS00537362
BS00537363	BS00537376
BS00537377	BS00537389
BS00537391	BS00537406
BS00537407	BS00537422
BS00537423	BS00537437
BS00537438	BS00537452
BS00537454	BS00537466
BS00537467	BS00537480
BS00537481	BS00537493
BS00537494	BS00537507
BS00537509	BS00537516
BS00537517	BS00537524
BS00537525	BS00537532
BS00537533	BS00537539
BS00537541	BS00537554
BS00537555	BS00537568
BS00537569	BS00537582
BS00537583	BS00537596
BS00537598	BS00537612
BS00537613	BS00537627
BS00537628	BS00537642
BS00537643	BS00537657
BS00537659	BS00537670
BS00537671	BS00537681

Schedule A to Appendix II

BS00017741	BS00017746
BS00017747	BS00017748
BS00017749	BS00017749
BS00017750	BS00017751
BS00017752	BS00017752
BS00017753	BS00017754
BS00017755	BS00017755
BS00017756	BS00017757
BS00017758	BS00017758
BS00017759	BS00017760
BS00017761	BS00017761
BS00017762	BS00017762
BS00017763	BS00017763
BS00017764	BS00017764
BS00017765	BS00017766
BS00017767	BS00017769
BS00017770	BS00017772
BS00017773	BS00017774
BS00017775	BS00017776
BS00017777	BS00017779
BS00017780	BS00017780
BS00017781	BS00017781
BS00017782	BS00017782
BS00017783	BS00017785
BS00017786	BS00017793
BS00017794	BS00017818
BS00017819	BS00017859
BS00017860	BS00017881
BS00017882	BS00017891
BS00017892	BS00017951
BS00017952	BS00017969
BS00017970	BS00018023
BS00018024	BS00018041
BS00018055	BS00018078
BS00018083	BS00018083
BS00018091	BS00018100
BS00018129	BS00018142
BS00018171	BS00018184
BS00018198	BS00018198
BS00018199	BS00018199
BS00018265	BS00018266
BS00018270	BS00018274
BS00018277	BS00018284
BS00018285	BS00018313
BS00018322	BS00018379
BS00018380	BS00018382
BS00018383	BS00018384

BS00537682	BS00537693
BS00537694	BS00537704
BS00537707	BS00537720
BS00537721	BS00537733
BS00537734	BS00537747
BS00537748	BS00537760
BS00537762	BS00537776
BS00537777	BS00537791
BS00537792	BS00537804
BS00537805	BS00537817
BS00537819	BS00537830
BS00537831	BS00537842
BS00537843	BS00537853
BS00537854	BS00537864
BS00537866	BS00537884
BS00537885	BS00537902
BS00537903	BS00537920
BS00537921	BS00537937
BS00537939	BS00537953
BS00537954	BS00537968
BS00537969	BS00537982
BS00537983	BS00537999
BS00538001	BS00538013
BS00538014	BS00538026
BS00538027	BS00538033
BS00538034	BS00538040
BS00538042	BS00538052
BS00538053	BS00538064
BS00538066	BS00538079
BS00538080	BS00538091
BS00538092	BS00538093
BS00538094	BS00538106
BS00538110	BS00538110
BS00538111	BS00538123
BS00538127	BS00538128
BS00538129	BS00538137
BS00538138	BS00538138
BS00538139	BS00538146
BS00538150	BS00538166
BS00538167	BS00538183
BS00538184	BS00538185
BS00538186	BS00538193
BS00538194	BS00538194
BS00538203	BS00538205
BS00538206	BS00538219
BS00538220	BS00538221
BS00538222	BS00538234

Schedule A to Appendix II

BS00018385	BS00018386
BS00018419	BS00018420
BS00018460	BS00018462
BS00018474	BS00018475
BS00018528	BS00018549
BS00018566	BS00018602
BS00018651	BS00018674
BS00018736	BS00018768
BS00018771	BS00018803
BS00018818	BS00018852
BS00018854	BS00018874
BS00018875	BS00018875
BS00018876	BS00018876
BS00018877	BS00018877
BS00018878	BS00018878
BS00018879	BS00018879
BS00018880	BS00018880
BS00018881	BS00018881
BS00018882	BS00018882
BS00018883	BS00018883
BS00018884	BS00018884
BS00018885	BS00018885
BS00018886	BS00018886
BS00018887	BS00018887
BS00018888	BS00018888
BS00018889	BS00018889
BS00018890	BS00018890
BS00018891	BS00018891
BS00018892	BS00018892
BS00018893	BS00018893
BS00018894	BS00018894
BS00018895	BS00018895
BS00018896	BS00018896
BS00018897	BS00018897
BS00018898	BS00018898
BS00018899	BS00018899
BS00018900	BS00018900
BS00018901	BS00018901
BS00018902	BS00018902
BS00018945	BS00018945
BS00018946	BS00018946
BS00018954	BS00018954
BS00018956	BS00018956
BS00018957	BS00018958
BS00018959	BS00018959
BS00018960	BS00018961
BS00018963	BS00018965

BS00538243	BS00538266
BS00538550	BS00538575
BS00538696	BS00538697
BS00538908	BS00538910
BS00538932	BS00538934
BS00538955	BS00538957
BS00538988	BS00538988
BS00538990	BS00539007
BS00539088	BS00539105
BS00539134	BS00539191
BS00540178	BS00540181
BS00540200	BS00540210
BS00540999	BS00541004
BS00541005	BS00541010
BS00541022	BS00541024
BS00541177	BS00541183
BS00541190	BS00541195
BS00541352	BS00541359
BS00541939	BS00541950
BS00541960	BS00541975
BS00542076	BS00542079
BS00542574	BS00542579
BS00542715	BS00542717
BS00542746	BS00542747
BS00542867	BS00542875
BS00543511	BS00543513
BS00543519	BS00543521
BS00543522	BS00543524
BS00543701	BS00543706
BS00543756	BS00543768
BS00543769	BS00543770
BS00543771	BS00543772
BS00543773	BS00543774
BS00543778	BS00543779
BS00543780	BS00543780
BS00543781	BS00543781
BS00543782	BS00543789
BS00543790	BS00543790
BS00543791	BS00543794
BS00543795	BS00543804
BS00543805	BS00543805
BS00543812	BS00543817
BS00543818	BS00543818
BS00543819	BS00543821
BS00543822	BS00543823
BS00543824	BS00543824
BS00543825	BS00543827

Schedule A to Appendix II

BS00018966	BS00018969
BS00018970	BS00018973
BS00018990	BS00018990
BS00018995	BS00018996
BS00018997	BS00018998
BS00019016	BS00019016
BS00019018	BS00019019
BS00019023	BS00019024
BS00019025	BS00019025
BS00019026	BS00019026
BS00019027	BS00019027
BS00019029	BS00019029
BS00019063	BS00019064
BS00019065	BS00019066
BS00019079	BS00019080
BS00019093	BS00019123
BS00019145	BS00019146
BS00019147	BS00019152
BS00019155	BS00019156
BS00019160	BS00019162
BS00019174	BS00019174
BS00019175	BS00019178
BS00019194	BS00019195
BS00019212	BS00019212
BS00019217	BS00019218
BS00019266	BS00019266
BS00019317	BS00019319
BS00019321	BS00019349
BS00019350	BS00019360
BS00019362	BS00019369
BS00019394	BS00019394
BS00019398	BS00019403
BS00019405	BS00019406
BS00019424	BS00019425
BS00019426	BS00019427
BS00019430	BS00019430
BS00019431	BS00019432
BS00019440	BS00019442
BS00019461	BS00019461
BS00019467	BS00019467
BS00019468	BS00019471
BS00019476	BS00019477
BS00019478	BS00019479
BS00019498	BS00019541
BS00019542	BS00019550
BS00019551	BS00019570
BS00019571	BS00019613

BS00543828	BS00543831
BS00543832	BS00543833
BS00543834	BS00543846
BS00543847	BS00543847
BS00543848	BS00543849
BS00543850	BS00543853
BS00543854	BS00543855
BS00543860	BS00543863
BS00543864	BS00543865
BS00543866	BS00543868
BS00543879	BS00543880
BS00543883	BS00543883
BS00543884	BS00543885
BS00553297	BS00553324
BS00553373	BS00553378
BS00553507	BS00553509
BS00553533	BS00553534
BS00554043	BS00554049
BS00554056	BS00554057
BS00554058	BS00554059
BS00554128	BS00554140
BS00554141	BS00554145
BS00554166	BS00554169
BS00554196	BS00554201
BS00554202	BS00554209
BS00554312	BS00554317
BS00554318	BS00554323
BS00554324	BS00554330
BS00554331	BS00554334
BS00554335	BS00554340
BS00554341	BS00554346
BS00554347	BS00554352
BS00554353	BS00554358
BS00554359	BS00554368
BS00554369	BS00554374
BS00554375	BS00554380
BS00554381	BS00554386
BS00554387	BS00554393
BS00554394	BS00554399
BS00554400	BS00554409
BS00554410	BS00554417
BS00554418	BS00554423
BS00554424	BS00554429
BS00554430	BS00554435
BS00554436	BS00554441
BS00554442	BS00554445
BS00554446	BS00554451

Schedule A to Appendix II

BS00019614	BS00019620
BS00019621	BS00019694
BS00019695	BS00019695
BS00019696	BS00019703
BS00019704	BS00019710
BS00019711	BS00019738
BS00019739	BS00019749
BS00019750	BS00019759
BS00019809	BS00019810
BS00019913	BS00019925
BS00019936	BS00019954
BS00020021	BS00020023
BS00020066	BS00020075
BS00020163	BS00020181
BS00020244	BS00020248
BS00020249	BS00020276
BS00020309	BS00020330
BS00020342	BS00020342
BS00020343	BS00020348
BS00020349	BS00020358
BS00020359	BS00020363
BS00020364	BS00020364
BS00020365	BS00020372
BS00020373	BS00020375
BS00020376	BS00020377
BS00020378	BS00020379
BS00020380	BS00020381
BS00020382	BS00020383
BS00020390	BS00020393
BS00020398	BS00020401
BS00020405	BS00020405
BS00020406	BS00020419
BS00020433	BS00020437
BS00020631	BS00020640
BS00020641	BS00020648
BS00020649	BS00020658
BS00020659	BS00020666
BS00020679	BS00020681
BS00020682	BS00020691
BS00020692	BS00020702
BS00020714	BS00020716
BS00020717	BS00020745
BS00020755	BS00020755
BS00020761	BS00020765
BS00020766	BS00020849
BS00020850	BS00020933
BS00020934	BS00020934

BS00554452	BS00554457
BS00554458	BS00554465
BS00554466	BS00554469
BS00554470	BS00554473
BS00554474	BS00554479
BS00554480	BS00554485
BS00554486	BS00554491
BS00554492	BS00554497
BS00554498	BS00554503
BS00554504	BS00554511
BS00554512	BS00554519
BS00554670	BS00554670
BS00554756	BS00554757
BS00554758	BS00554761
BS00554762	BS00554763
BS00554764	BS00554764
BS00554765	BS00554766
BS00554767	BS00554768
BS00554769	BS00554769
BS00554770	BS00554773
BS00554774	BS00554775
BS00554776	BS00554778
BS00554779	BS00554780
BS00554782	BS00554783
BS00554786	BS00554788
BS00554789	BS00554792
BS00554796	BS00554798
BS00554808	BS00554811
BS00554812	BS00554815
BS00554817	BS00554821
BS00554828	BS00554832
BS00554833	BS00554837
BS00554838	BS00554843
BS00554844	BS00554848
BS00554898	BS00554898
BS00555035	BS00555037
BS00555038	BS00555040
BS00555042	BS00555044
BS00555045	BS00555046
BS00555049	BS00555050
BS00555056	BS00555058
BS00555059	BS00555061
BS00555063	BS00555066
BS00555069	BS00555076
BS00555221	BS00555222
BS00555224	BS00555225
BS00555227	BS00555228

Schedule A to Appendix II

BS00020935	BS00020953
BS00020956	BS00020957
BS00020958	BS00020982
BS00020983	BS00020986
BS00020993	BS00021002
BS00021024	BS00021032
BS00021033	BS00021041
BS00021072	BS00021080
BS00021083	BS00021085
BS00021096	BS00021098
BS00021100	BS00021108
BS00021109	BS00021114
BS00021115	BS00021123
BS00021274	BS00021274
BS00021277	BS00021277
BS00021280	BS00021280
BS00021281	BS00021292
BS00021293	BS00021301
BS00021302	BS00021310
BS00021311	BS00021316
BS00021317	BS00021325
BS00021326	BS00021334
BS00021335	BS00021343
BS00021346	BS00021378
BS00021379	BS00021404
BS00021405	BS00021406
BS00021408	BS00021416
BS00021417	BS00021422
BS00021424	BS00021425
BS00021426	BS00021428
BS00021661	BS00021669
BS00021827	BS00021835
BS00021841	BS00021924
BS00021925	BS00022008
BS00022009	BS00022017
BS00022026	BS00022034
BS00022035	BS00022040
BS00022041	BS00022049
BS00022350	BS00022358
BS00022360	BS00022419
BS00022420	BS00022448
BS00022449	BS00022474
BS00022475	BS00022483
BS00022485	BS00022493
BS00022501	BS00022509
BS00022511	BS00022600
BS00022601	BS00022690

BS00555232	BS00555233
BS00555738	BS00555739
BS00555740	BS00555741
BS00555742	BS00555743
BS00555866	BS00555867
BS00555964	BS00555965
BS00556846	BS00556850
BS00556852	BS00556856
BS00556858	BS00556864
BS00556868	BS00556874
BS00556878	BS00556881
BS00556957	BS00556959
BS00556960	BS00556962
BS00556972	BS00556974
BS00556976	BS00556977
BS00557041	BS00557042
BS00557048	BS00557049
BS00557053	BS00557055
BS00557056	BS00557057
BS00557109	BS00557111
BS00557113	BS00557115
BS00557116	BS00557117
BS00557120	BS00557121
BS00557262	BS00557262
BS00557550	BS00557552
BS00557553	BS00557556
BS00558338	BS00558339
BS00558340	BS00558342
BS00558351	BS00558352
BS00558353	BS00558354
BS00558355	BS00558356
BS00558360	BS00558361
BS00558383	BS00558384
BS00558388	BS00558392
BS00558397	BS00558402
BS00558456	BS00558462
BS00558664	BS00558665
BS00558701	BS00558774
BS00558780	BS00558855
BS00559316	BS00559318
BS00559424	BS00559426
BS00559815	BS00559816
BS00560037	BS00560038
BS00560286	BS00560286
BS00560291	BS00560291
BS00560309	BS00560312
BS00560387	BS00560388

Schedule A to Appendix II

BS00022692	BS00022700
BS00022704	BS00022708
BS00022709	BS00022712
BS00022714	BS00022722
BS00022868	BS00022873
BS00022874	BS00022882
BS00023061	BS00023069
BS00023183	BS00023200
BS00023201	BS00023209
BS00023303	BS00023303
BS00023418	BS00023419
BS00023420	BS00023445
BS00023446	BS00023454
BS00023522	BS00023533
BS00023535	BS00023543
BS00023668	BS00023676
BS00023677	BS00023685
BS00023687	BS00023712
BS00023713	BS00023744
BS00023745	BS00023804
BS00023826	BS00023887
BS00023888	BS00023910
BS00023911	BS00023916
BS00023945	BS00023953
BS00024016	BS00024017
BS00024018	BS00024029
BS00024030	BS00024030
BS00024031	BS00024032
BS00024045	BS00024045
BS00024061	BS00024067
BS00024068	BS00024145
BS00024146	BS00024167
BS00024168	BS00024191
BS00024192	BS00024218
BS00024219	BS00024246
BS00024247	BS00024327
BS00024328	BS00024389
BS00024448	BS00024448
BS00024449	BS00024450
BS00024452	BS00024477
BS00024478	BS00024537
BS00024538	BS00024539
BS00024540	BS00024555
BS00025182	BS00025189
BS00025211	BS00025246
BS00025247	BS00025308
BS00025309	BS00025341

BS00560814	BS00560815
BS00560828	BS00560829
BS00560842	BS00560843
BS00561561	BS00561584
BS00562286	BS00562287
BS00562295	BS00562301
BS00562302	BS00562310
BS00562414	BS00562615
BS00562659	BS00562664
BS00562671	BS00562676
BS00562793	BS00562794
BS00562802	BS00562803
BS00563199	BS00563200
BS00563232	BS00563233
BS00563243	BS00563245
BS00563723	BS00563759
BS00563762	BS00563786
BS00563789	BS00563797
BS00563976	BS00563977
BS00564300	BS00564301
BS00564845	BS00564846
BS00564902	BS00564903
BS00564967	BS00564968
BS00564973	BS00564974
BS00565861	BS00565874
BS00565905	BS00565918
BS00566173	BS00566173
BS00566281	BS00566282
BS00566286	BS00566287
BS00566288	BS00566289
BS00566291	BS00566292
BS00566296	BS00566297
BS00566298	BS00566299
BS00566300	BS00566301
BS00566302	BS00566303
BS00566304	BS00566305
BS00566379	BS00566382
BS00566383	BS00566386
BS00567391	BS00567391
BS00567392	BS00567393
BS00567440	BS00567440
BS00567540	BS00567541
BS00567664	BS00567664
BS00567772	BS00567772
BS00567774	BS00567774
BS00567973	BS00567973
BS00568065	BS00568066

Schedule A to Appendix II

BS00025342	BS00025342
BS00025343	BS00025343
BS00025532	BS00025553
BS00025560	BS00025576
BS00025624	BS00025624
BS00025627	BS00025627
BS00025628	BS00025628
BS00025629	BS00025630
BS00025631	BS00025631
BS00025669	BS00025681
BS00025686	BS00025686
BS00025691	BS00025691
BS00025740	BS00025745
BS00025755	BS00025756
BS00025757	BS00025758
BS00025796	BS00025803
BS00025849	BS00025851
BS00025852	BS00025856
BS00025876	BS00025878
BS00025882	BS00025883
BS00025902	BS00025902
BS00025920	BS00025926
BS00025927	BS00025933
BS00025938	BS00025938
BS00025956	BS00025956
BS00025957	BS00025958
BS00025965	BS00025970
BS00025983	BS00025990
BS00025991	BS00025998
BS00026224	BS00026224
BS00026246	BS00026253
BS00026314	BS00026318
BS00026329	BS00026334
BS00026357	BS00026359
BS00026360	BS00026362
BS00026392	BS00026394
BS00026399	BS00026401
BS00026423	BS00026429
BS00026431	BS00026433
BS00026446	BS00026448
BS00026449	BS00026452
BS00026490	BS00026495
BS00026503	BS00026506
BS00026513	BS00026514
BS00026517	BS00026517
BS00026518	BS00026518
BS00026519	BS00026519

BS00568605	BS00568606
BS00568607	BS00568617
BS00568618	BS00568619
BS00568620	BS00568630
BS00568805	BS00568805
BS00568831	BS00568833
BS00568857	BS00568858
BS00568931	BS00568933
BS00569055	BS00569055
BS00569062	BS00569063
BS00569227	BS00569227
BS00569282	BS00569284
BS00569286	BS00569286
BS00569291	BS00569291
BS00569294	BS00569295
BS00569300	BS00569302
BS00569305	BS00569306
BS00569307	BS00569310
BS00569315	BS00569321
BS00569369	BS00569370
BS00569724	BS00569734
BS00569737	BS00569747
BS00569759	BS00569769
BS00569784	BS00569784
BS00569906	BS00569907
BS00569937	BS00569953
BS00569955	BS00569987
BS00570004	BS00570004
BS00570674	BS00570681
BS00570683	BS00570690
BS00570789	BS00570789
BS00570790	BS00570790
BS00570824	BS00570824
BS00571048	BS00571049
BS00571050	BS00571051
BS00571193	BS00571207
BS00571249	BS00571251
BS00571339	BS00571339
BS00572125	BS00572125
BS00572158	BS00572159
BS00572160	BS00572165
BS00572166	BS00572167
BS00572168	BS00572173
BS00572811	BS00572812
BS00572813	BS00572814
BS00572835	BS00572836
BS00572838	BS00572839

Schedule A to Appendix II

BS00026520	BS00026520
BS00026521	BS00026522
BS00026523	BS00026524
BS00026525	BS00026525
BS00026526	BS00026526
BS00026527	BS00026528
BS00026529	BS00026529
BS00026530	BS00026532
BS00026533	BS00026536
BS00026537	BS00026537
BS00026538	BS00026541
BS00026542	BS00026542
BS00026543	BS00026543
BS00026544	BS00026544
BS00026545	BS00026545
BS00026546	BS00026546
BS00026547	BS00026547
BS00026548	BS00026549
BS00026550	BS00026551
BS00026552	BS00026558
BS00026559	BS00026559
BS00026560	BS00026567
BS00026568	BS00026575
BS00026586	BS00026588
BS00026644	BS00026645
BS00026650	BS00026651
BS00026656	BS00026656
BS00026661	BS00026662
BS00026663	BS00026664
BS00026665	BS00026667
BS00026674	BS00026679
BS00026683	BS00026688
BS00026689	BS00026694
BS00026705	BS00026711
BS00026803	BS00026809
BS00026810	BS00026816
BS00026825	BS00026827
BS00026835	BS00026837
BS00026855	BS00026861
BS00026866	BS00026869
BS00026893	BS00026897
BS00026973	BS00026978
BS00027003	BS00027003
BS00027004	BS00027005
BS00027044	BS00027049
BS00027071	BS00027071
BS00027080	BS00027081

BS00572840	BS00572841
BS00572842	BS00572843
BS00572865	BS00572866
BS00572867	BS00572868
BS00572869	BS00572870
BS00572871	BS00572872
BS00572873	BS00572874
BS00572875	BS00572876
BS00573052	BS00573054
BS00573335	BS00573335
BS00573336	BS00573336
BS00573434	BS00573434
BS00573464	BS00573465
BS00573643	BS00573644
BS00573654	BS00573656
BS00574358	BS00574358
BS00574359	BS00574359
BS00574360	BS00574361
BS00574362	BS00574363
BS00574975	BS00574975
BS00574976	BS00574987
BS00575422	BS00575422
BS00575423	BS00575423
BS00575439	BS00575439
BS00575440	BS00575447
BS00575546	BS00575547
BS00577726	BS00577727
BS00577774	BS00577775
BS00577779	BS00577781
BS00578171	BS00578171
BS00578596	BS00578597
BS00579646	BS00579646
BS00579647	BS00579648
BS00579649	BS00579650
BS00579665	BS00579665
BS00579666	BS00579674
BS00579815	BS00579815
BS00580024	BS00580025
BS00580030	BS00580031
BS00580519	BS00580521
BS00580522	BS00580524
BS00580596	BS00580599
BS00580600	BS00580603
BS00580607	BS00580610
BS00580641	BS00580645
BS00580646	BS00580650
BS00580672	BS00580675

Schedule A to Appendix II

BS00027082	BS00027083
BS00027134	BS00027138
BS00027149	BS00027149
BS00027150	BS00027151
BS00027152	BS00027153
BS00027154	BS00027154
BS00027155	BS00027156
BS00027157	BS00027168
BS00027198	BS00027203
BS00027204	BS00027207
BS00027226	BS00027226
BS00027227	BS00027267
BS00027269	BS00027270
BS00027299	BS00027321
BS00027332	BS00027332
BS00027333	BS00027338
BS00027346	BS00027351
BS00027352	BS00027357
BS00027362	BS00027367
BS00027412	BS00027418
BS00027425	BS00027431
BS00027436	BS00027442
BS00027447	BS00027451
BS00027455	BS00027463
BS00027488	BS00027488
BS00027508	BS00027512
BS00027513	BS00027517
BS00027524	BS00027526
BS00027576	BS00027577
BS00027578	BS00027579
BS00027580	BS00027580
BS00027581	BS00027583
BS00027584	BS00027587
BS00027588	BS00027589
BS00027590	BS00027590
BS00027591	BS00027593
BS00027594	BS00027599
BS00027600	BS00027604
BS00027605	BS00027610
BS00027611	BS00027613
BS00027614	BS00027619
BS00027620	BS00027623
BS00027624	BS00027626
BS00027627	BS00027632
BS00027633	BS00027635
BS00027636	BS00027663
BS00027664	BS00027670

BS00580719	BS00580722
BS00580749	BS00580750
BS00580756	BS00580757
BS00581132	BS00581135
BS00581146	BS00581150
BS00581167	BS00581171
BS00581174	BS00581178
BS00581184	BS00581188
BS00581189	BS00581194
BS00581211	BS00581216
BS00581217	BS00581222
BS00581223	BS00581228
BS00581229	BS00581235
BS00581405	BS00581406
BS00581411	BS00581412
BS00581664	BS00581665
BS00581669	BS00581670
BS00582072	BS00582072
BS00582769	BS00582769
BS00583199	BS00583199
BS00583674	BS00583697
BS00583968	BS00583973
BS00584249	BS00584287
BS00585253	BS00585258
BS00585292	BS00585298
BS00585322	BS00585328
BS00585331	BS00585337
BS00585372	BS00585378
BS00585419	BS00585425
BS00586003	BS00586004
BS00586289	BS00586290
BS00586293	BS00586294
BS00586520	BS00586527
BS00586637	BS00586644
BS00586743	BS00586746
BS00586788	BS00586788
BS00586810	BS00586811
BS00587037	BS00587038
BS00587051	BS00587052
BS00587082	BS00587084
BS00587162	BS00587162
BS00587163	BS00587163
BS00587187	BS00587188
BS00587189	BS00587190
BS00587537	BS00587537
BS00588467	BS00588468
BS00588477	BS00588478

Schedule A to Appendix II

BS00027671	BS00027677
BS00027678	BS00027683
BS00027684	BS00027689
BS00027690	BS00027696
BS00027732	BS00027733
BS00027741	BS00027741
BS00027774	BS00027783
BS00027784	BS00027793
BS00027794	BS00027803
BS00027813	BS00027814
BS00027822	BS00027825
BS00027826	BS00027832
BS00027847	BS00027851
BS00027852	BS00027856
BS00027857	BS00027862
BS00027863	BS00027868
BS00027869	BS00027874
BS00027884	BS00027885
BS00027886	BS00027890
BS00027891	BS00027893
BS00027907	BS00027913
BS00027946	BS00027951
BS00027952	BS00027953
BS00027972	BS00027977
BS00027978	BS00027981
BS00027986	BS00027989
BS00027996	BS00028006
BS00028051	BS00028055
BS00028058	BS00028058
BS00028150	BS00028151
BS00028172	BS00028173
BS00028190	BS00028196
BS00028202	BS00028207
BS00028208	BS00028213
BS00028215	BS00028219
BS00028286	BS00028293
BS00028296	BS00028299
BS00028300	BS00028303
BS00028304	BS00028305
BS00028375	BS00028377
BS00028381	BS00028386
BS00028387	BS00028392
BS00028393	BS00028395
BS00028400	BS00028405
BS00028406	BS00028411
BS00028412	BS00028417
BS00028418	BS00028419

BS00589332	BS00589333
BS00589534	BS00589534
BS00589541	BS00589542
BS00589543	BS00589544
BS00589545	BS00589547
BS00589549	BS00589551
BS00589574	BS00589577
BS00589598	BS00589601
BS00589602	BS00589605
BS00589610	BS00589613
BS00589764	BS00589765
BS00589766	BS00589767
BS00590701	BS00590704
BS00591518	BS00591518
BS00591520	BS00591521
BS00591523	BS00591524
BS00591670	BS00591683
BS00591689	BS00591702
BS00591710	BS00591710
BS00591722	BS00591722
BS00591732	BS00591732
BS00591889	BS00591889
BS00591944	BS00591944
BS00592075	BS00592076
BS00592081	BS00592083
BS00592085	BS00592087
BS00592089	BS00592091
BS00592163	BS00592166
BS00592170	BS00592173
BS00592553	BS00592554
BS00592702	BS00592702
BS00592703	BS00592703
BS00592710	BS00592710
BS00592711	BS00592711
BS00592712	BS00592712
BS00592746	BS00592746
BS00592816	BS00592817
BS00592826	BS00592827
BS00594031	BS00594032
BS00594041	BS00594042
BS00594154	BS00594155
BS00594178	BS00594179
BS00594223	BS00594224
BS00594240	BS00594259
BS00594597	BS00594597
BS00594883	BS00594963
BS00594974	BS00595054

Schedule A to Appendix II

BS00028420	BS00028423
BS00028433	BS00028435
BS00028441	BS00028443
BS00028575	BS00028576
BS00028579	BS00028584
BS00028661	BS00028662
BS00028664	BS00028665
BS00028671	BS00028672
BS00028765	BS00028773
BS00028775	BS00028775
BS00028776	BS00028794
BS00028801	BS00028804
BS00028831	BS00028845
BS00028892	BS00028896
BS00028904	BS00028906
BS00028907	BS00028909
BS00028931	BS00028931
BS00028961	BS00028966
BS00028972	BS00028977
BS00028978	BS00028983
BS00028986	BS00028989
BS00029005	BS00029007
BS00029012	BS00029012
BS00029084	BS00029085
BS00029311	BS00029370
BS00029478	BS00029479
BS00029562	BS00029570
BS00029571	BS00029575
BS00029583	BS00029588
BS00029626	BS00029634
BS00029801	BS00029806
BS00029807	BS00029809
BS00029813	BS00029823
BS00029829	BS00029839
BS00029840	BS00029847
BS00029848	BS00029879
BS00029892	BS00029897
BS00029956	BS00029956
BS00029957	BS00029959
BS00029960	BS00029962
BS00029963	BS00029964
BS00029965	BS00029965
BS00029966	BS00030260
BS00030261	BS00030263
BS00030264	BS00030266
BS00030267	BS00030268
BS00030269	BS00030269

BS00595078	BS00595079
BS00595939	BS00595939
BS00596028	BS00596030
BS00596080	BS00596080
BS00596199	BS00596200
BS00596367	BS00596449
BS00596757	BS00596762
BS00596888	BS00596894
BS00597417	BS00597428
BS00598594	BS00598595
BS00599070	BS00599120
BS00599122	BS00599153
BS00599182	BS00599185
BS00599187	BS00599232
BS00599241	BS00599260
BS00599913	BS00599921
BS00600100	BS00600149
BS00600258	BS00600262
BS00600604	BS00600638
BS00600642	BS00600676
BS00600711	BS00600711
BS00600714	BS00600714
BS00600719	BS00600719
BS00601049	BS00601100
BS00601104	BS00601155
BS00601448	BS00601448
BS00608638	BS00608640
BS00608641	BS00608643
BS00610939	BS00611014
BS00611505	BS00611652
BS00611965	BS00611965
BS00612320	BS00612464
BS00612465	BS00612609
BS00612800	BS00612943
BS00613297	BS00613441
BS00613605	BS00613678
BS00613681	BS00613813
BS00614286	BS00614418
BS00614921	BS00614994
BS00615457	BS00615533
BS00615704	BS00615825
BS00615961	BS00616039
BS00617110	BS00617191
BS00617686	BS00617775
BS00617776	BS00617785
BS00618062	BS00618062
BS00619324	BS00619324

Schedule A to Appendix II

BS00030270	BS00030272
BS00030273	BS00030274
BS00030275	BS00030276
BS00030277	BS00030279
BS00030280	BS00030281
BS00030282	BS00030284
BS00030285	BS00030285
BS00030286	BS00030286
BS00030287	BS00030295
BS00030296	BS00030297
BS00030298	BS00030307
BS00030308	BS00030311
BS00030312	BS00030327
BS00030328	BS00030340
BS00030413	BS00030418
BS00030419	BS00030430
BS00030456	BS00030474
BS00030673	BS00030674
BS00030701	BS00030708
BS00030713	BS00030714
BS00030717	BS00030717
BS00030718	BS00030718
BS00030719	BS00030719
BS00030722	BS00030733
BS00030739	BS00030741
BS00030752	BS00030753
BS00030801	BS00030837
BS00030870	BS00030870
BS00030873	BS00030873
BS00030874	BS00030875
BS00030878	BS00030878
BS00030881	BS00030883
BS00030884	BS00030884
BS00030938	BS00030953
BS00030997	BS00031063
BS00031167	BS00031233
BS00031234	BS00031299
BS00031331	BS00031352
BS00031368	BS00031515
BS00031516	BS00031670
BS00031671	BS00031694
BS00031695	BS00031729
BS00031803	BS00031868
BS00031881	BS00031902
BS00031903	BS00031934
BS00031946	BS00031955
BS00031956	BS00032052

BS00619939	BS00619940
BS00620442	BS00620443
BS00622852	BS00622852
BS00625898	BS00625913
BS00627682	BS00627683
BS00628085	BS00628196
BS00629498	BS00629499
BS00629500	BS00629550
BS00629632	BS00629632
BS00629736	BS00629738
BS00629744	BS00629744
BS00629745	BS00629748
BS00629820	BS00629821
BS00629830	BS00629831
BS00629840	BS00629840
BS00629900	BS00629900
BS00629965	BS00629992
BS00630269	BS00630393
BS00630452	BS00630453
BS00630475	BS00630475
BS00630476	BS00630477
BS00630478	BS00630478
BS00630479	BS00630480
BS00630703	BS00630706
BS00631031	BS00631032
BS00631457	BS00631487
BS00631680	BS00631681
BS00631684	BS00631755
BS00631756	BS00631757
BS00631957	BS00631957
BS00631969	BS00631969
BS00632109	BS00632128
BS00632172	BS00632191
BS00632244	BS00632298
BS00632872	BS00632889
BS00632942	BS00632961
BS00633008	BS00633025
BS00633078	BS00633097
BS00633317	BS00633321
BS00633325	BS00633329
BS00633347	BS00633370
BS00633373	BS00633396
BS00633807	BS00633807
BS00633811	BS00633811
BS00633936	BS00633937
BS00634053	BS00634054
BS00634096	BS00634096

Schedule A to Appendix II

BS00032053	BS00032182
BS00032235	BS00032283
BS00032284	BS00032323
BS00032324	BS00032372
BS00032379	BS00032415
BS00032416	BS00032440
BS00032441	BS00032683
BS00032684	BS00032902
BS00032903	BS00032930
BS00032931	BS00032965
BS00033290	BS00033331
BS00033610	BS00033644
BS00033784	BS00033814
BS00033836	BS00033856
BS00033857	BS00033910
BS00034016	BS00034067
BS00034315	BS00034387
BS00034388	BS00034440
BS00034441	BS00034501
BS00034502	BS00034574
BS00034575	BS00034647
BS00034899	BS00034978
BS00034979	BS00035052
BS00035053	BS00035130
BS00035131	BS00035223
BS00035299	BS00035385
BS00035386	BS00035463
BS00035464	BS00035520
BS00035521	BS00035576
BS00035577	BS00035613
BS00035614	BS00035645
BS00035686	BS00035734
BS00035811	BS00035845
BS00035846	BS00035855
BS00035856	BS00035955
BS00035956	BS00036042
BS00036043	BS00036054
BS00036077	BS00036226
BS00036227	BS00036294
BS00036295	BS00036659
BS00036660	BS00036793
BS00036794	BS00037203
BS00037204	BS00037817
BS00037818	BS00037922
BS00037923	BS00037926
BS00037927	BS00037932
BS00037933	BS00037940

BS00634097	BS00634098
BS00634460	BS00634460
BS00634470	BS00634470
BS00634471	BS00634471
BS00634499	BS00634529
BS00634716	BS00634719
BS00634767	BS00634768
BS00634770	BS00634778
BS00634780	BS00634788
BS00634888	BS00634889
BS00635166	BS00635166
BS00635170	BS00635190
BS00635222	BS00635230
BS00635237	BS00635246
BS00636393	BS00636393
BS00638209	BS00638273
BS00638274	BS00638338
BS00642156	BS00642156
BS00642214	BS00642246
BS00642296	BS00642303
BS00642305	BS00642312
BS00642621	BS00642669
BS00642670	BS00642718
BS00643204	BS00643255
BS00643256	BS00643307
BS00643308	BS00643359
BS00643361	BS00643412
BS00643413	BS00643464
BS00643685	BS00643914
BS00643958	BS00643958
CDAL-BR00062916	CDAL-BR00062926
CON00000001	CON00000001
CON00000002	CON00000002
CON00000003	CON00000003
CON00000004	CON00000005
CON00000006	CON00000006
CON00000007	CON00000007
CON00000008	CON00000009
CON00000010	CON00000010
CON00000011	CON00000011
CON00000012	CON00000012
CON00000013	CON00000013
CON00000014	CON00000014
CON00000015	CON00000015
CON00000016	CON00000019
CON00000020	CON00000020
CON00000021	CON00000021

Schedule A to Appendix II

BS00037941	BS00037946
BS00037947	BS00037981
BS00037982	BS00037983
BS00037984	BS00037985
BS00037986	BS00037988
BS00037989	BS00037990
BS00037991	BS00037992
BS00037993	BS00037994
BS00037995	BS00037996
BS00037997	BS00037998
BS00038040	BS00038052
BS00038053	BS00038065
BS00038125	BS00038128
BS00038142	BS00038147
BS00038182	BS00038208
BS00038254	BS00038260
BS00038261	BS00038287
BS00038288	BS00038293
BS00038294	BS00038299
BS00038300	BS00038301
BS00038302	BS00038314
BS00038315	BS00038322
BS00038328	BS00038338
BS00038339	BS00038344
BS00038345	BS00038359
BS00038360	BS00038368
BS00038369	BS00038373
BS00038374	BS00038374
BS00038378	BS00038378
BS00038379	BS00038379
BS00038384	BS00038384
BS00038388	BS00038388
BS00038392	BS00038392
BS00038397	BS00038397
BS00038398	BS00038398
BS00038399	BS00038399
BS00038400	BS00038400
BS00038406	BS00038406
BS00038407	BS00038407
BS00038408	BS00038408
BS00038409	BS00038410
BS00038411	BS00038411
BS00038424	BS00038424
BS00038427	BS00038427
BS00038428	BS00038428
BS00038431	BS00038431
BS00038458	BS00038475

CON00000022	CON00000026
CON00000027	CON00000031
CON00000032	CON00000032
CON00000033	CON00000033
CON00000034	CON00000034
CON00000035	CON00000035
CON00000036	CON00000036
CON00000037	CON00000037
CON00000038	CON00000038
CON00000039	CON00000039
CON00000040	CON00000040
CON00000041	CON00000041
CON00000042	CON00000043
CON00000044	CON00000044
CON00000045	CON00000046
CON00000047	CON00000049
CON00000050	CON00000050
CON00000051	CON00000051
CON00000052	CON00000052
CON00000053	CON00000053
CON00000054	CON00000054
CON00000055	CON00000056
CON00000057	CON00000062
CON00000063	CON00000063
CON00000064	CON00000065
CON00000066	CON00000066
CON00000067	CON00000068
CON00000069	CON00000069
CON00000070	CON00000070
CON00000071	CON00000071
CON00000072	CON00000072
CON00000073	CON00000073
CON00000074	CON00000074
CON00000075	CON00000075
CON00000076	CON00000080
CON00000081	CON00000085
CON00000086	CON00000090
CON00000091	CON00000092
CON00000093	CON00000094
CON00000095	CON00000095
CON00000096	CON00000096
CON00000097	CON00000097
CON00000098	CON00000098
CON00000099	CON00000099
CON00000100	CON00000100
CON00000101	CON00000101
CON00000102	CON00000102

Schedule A to Appendix II

BS00038494	BS00038509
BS00038563	BS00038572
BS00038617	BS00038638
BS00038683	BS00038697
BS00038698	BS00038712
BS00038730	BS00038732
BS00038733	BS00038747
BS00038772	BS00038801
BS00038817	BS00038828
BS00038829	BS00038844
BS00038845	BS00038860
BS00038863	BS00038885
BS00038886	BS00038900
BS00038916	BS00038920
BS00038925	BS00038954
BS00038963	BS00038986
BS00038987	BS00038991
BS00038996	BS00039025
BS00039026	BS00039055
BS00039062	BS00039087
BS00039088	BS00039099
BS00039100	BS00039131
BS00039151	BS00039153
BS00039154	BS00039163
BS00039164	BS00039180
BS00039181	BS00039198
BS00039199	BS00039218
BS00039220	BS00039229
BS00039236	BS00039238
BS00039240	BS00039241
BS00039249	BS00039272
BS00039285	BS00039340
BS00039341	BS00039350
BS00039351	BS00039353
BS00039354	BS00039363
BS00039365	BS00039376
BS00039378	BS00039389
BS00039391	BS00039406
BS00039408	BS00039423
BS00039429	BS00039450
BS00039457	BS00039467
BS00039469	BS00039471
BS00039472	BS00039481
BS00039483	BS00039485
BS00039486	BS00039495
BS00039497	BS00039512
BS00039520	BS00039544

CON00000103	CON00000103
CON00000104	CON00000104
CON00000105	CON00000105
CON00000106	CON00000106
CON00000107	CON00000107
CON00000108	CON00000108
CON00000109	CON00000109
CON00000110	CON00000110
CON00000111	CON00000111
CON00000112	CON00000112
CON00000113	CON00000113
CON00000114	CON00000114
CON00000115	CON00000115
CON00000116	CON00000116
CON00000117	CON00000117
CON00000118	CON00000118
CON00000119	CON00000119
CON00000120	CON00000120
CON00000121	CON00000121
CON00000122	CON00000122
CON00000123	CON00000123
CON00000124	CON00000124
CON00000125	CON00000125
CON00000126	CON00000126
CON00000127	CON00000127
CON00000128	CON00000128
CON00000129	CON00000129
CON00000130	CON00000130
CON00000131	CON00000131
CON00000132	CON00000132
CON00000133	CON00000133
CON00000134	CON00000134
CON00000135	CON00000135
CON00000136	CON00000136
CON00000137	CON00000137
CON00000138	CON00000138
CON00000139	CON00000139
CON00000140	CON00000140
CON00000141	CON00000141
CON00000142	CON00000142
CON00000143	CON00000143
CON00000144	CON00000144
CON00000145	CON00000145
CON00000146	CON00000146
CON00000147	CON00000147
CON00000148	CON00000148
CON00000149	CON00000149

Schedule A to Appendix II

BS00039887	BS00039911
BS00039942	BS00039966
BS00039999	BS00040008
BS00040009	BS00040064
BS00040065	BS00040074
BS00040075	BS00040077
BS00040078	BS00040087
BS00040119	BS00040119
BS00040121	BS00040121
BS00040171	BS00040195
BS00040257	BS00040272
BS00040316	BS00040340
BS00040342	BS00040366
BS00040368	BS00040385
BS00040387	BS00040404
BS00040552	BS00040576
BS00040634	BS00040658
BS00040747	BS00040763
BS00040887	BS00040903
BS00040904	BS00040920
BS00040994	BS00041049
BS00041050	BS00041059
BS00041060	BS00041065
BS00041066	BS00041075
BS00041099	BS00041120
BS00041121	BS00041143
BS00041172	BS00041189
BS00041195	BS00041238
BS00041244	BS00041253
BS00041264	BS00041283
BS00041284	BS00041284
BS00041289	BS00041299
BS00041300	BS00041303
BS00041313	BS00041337
BS00041340	BS00041350
BS00041366	BS00041367
BS00041395	BS00041403
BS00041404	BS00041411
BS00041414	BS00041414
BS00041415	BS00041423
BS00041424	BS00041433
BS00041438	BS00041445
BS00041446	BS00041469
BS00041471	BS00041478
BS00041482	BS00041488
BS00041494	BS00041494
BS00041495	BS00041507

CON00000150	CON00000150
CON00000151	CON00000151
CON00000152	CON00000152
CON00000153	CON00000153
CON00000154	CON00000154
CON00000155	CON00000155
CON00000156	CON00000156
CON00000157	CON00000157
CON00000158	CON00000158
CON00000159	CON00000159
CON00000160	CON00000160
CON00000161	CON00000161
CON00000162	CON00000162
CON00000163	CON00000163
CON00000164	CON00000164
CON00000165	CON00000165
CON00000166	CON00000166
CON00000167	CON00000167
CON00000168	CON00000168
CON00000169	CON00000169
CON00000170	CON00000170
CON00000171	CON00000171
CON00000172	CON00000172
CON00000173	CON00000173
CON00000174	CON00000174
CON00000175	CON00000175
CON00000176	CON00000176
CON00000177	CON00000177
CON00000178	CON00000178
CON00000179	CON00000179
CON00000180	CON00000180
CON00000181	CON00000181
CON00000182	CON00000182
CON00000183	CON00000183
CON00000184	CON00000184
CON00000185	CON00000185
CON00000186	CON00000186
CON00000187	CON00000187
CON00000188	CON00000188
CON00000189	CON00000189
CON00000190	CON00000190
CON00000191	CON00000191
CON00000192	CON00000192
CON00000193	CON00000193
CON00000194	CON00000194
CON00000195	CON00000195
CON00000196	CON00000196

Schedule A to Appendix II

BS00041520	BS00041520
BS00041521	BS00041529
BS00041532	BS00041536
BS00041540	BS00041548
BS00041549	BS00041555
BS00041565	BS00041569
BS00041570	BS00041576
BS00041577	BS00041582
BS00041589	BS00041593
BS00041675	BS00041687
BS00041688	BS00041728
BS00041729	BS00041759
BS00041760	BS00041783
BS00041784	BS00041797
BS00041798	BS00041799
BS00041800	BS00041813
BS00041814	BS00041827
BS00041844	BS00041875
BS00041876	BS00041916
BS00041919	BS00041957
BS00041991	BS00042011
BS00042012	BS00042026
BS00042027	BS00042040
BS00042041	BS00042076
BS00042187	BS00042197
BS00042198	BS00042230
BS00042231	BS00042254
BS00042255	BS00042266
BS00042267	BS00042275
BS00042276	BS00042285
BS00042286	BS00042304
BS00042305	BS00042315
BS00042316	BS00042325
BS00042334	BS00042342
BS00042343	BS00042351
BS00042352	BS00042359
BS00042360	BS00042369
BS00042370	BS00042409
BS00042440	BS00042444
BS00042500	BS00042508
BS00042509	BS00042527
BS00042564	BS00042595
BS00042596	BS00042598
BS00042600	BS00042600
BS00042614	BS00042615
BS00042665	BS00042697
BS00042698	BS00042711

CON00000197	CON00000197
CON00000198	CON00000198
CON00000199	CON00000199
CON00000200	CON00000200
CON00000201	CON00000201
CON00000202	CON00000202
CON00000203	CON00000203
CON00000204	CON00000204
CON00000205	CON00000205
CON00000206	CON00000206
CON00000207	CON00000207
CON00000208	CON00000208
CON00000209	CON00000211
CON00000212	CON00000212
CON00000213	CON00000213
CON00000214	CON00000214
CON00000215	CON00000215
CON00000216	CON00000216
CON00000217	CON00000217
CON00000218	CON00000218
CON00000219	CON00000219
CON00000220	CON00000220
CON00000221	CON00000221
CON00000222	CON00000222
CON00000223	CON00000223
CON00000224	CON00000224
CON00000225	CON00000229
CON00000230	CON00000230
CON00000231	CON00000231
CON00000232	CON00000232
CON00000233	CON00000233
CON00000234	CON00000234
CON00000235	CON00000235
CON00000236	CON00000236
CON00000237	CON00000237
CON00000238	CON00000238
CON00000239	CON00000242
CON00000243	CON00000243
CON00000244	CON00000244
CON00000245	CON00000245
CON00000246	CON00000246
CON00000247	CON00000247
CON00000248	CON00000248
CON00000249	CON00000249
CON00000250	CON00000251
CON00000252	CON00000254
CON00000255	CON00000255

Schedule A to Appendix II

BS00042712	BS00042722
BS00042723	BS00042731
BS00042741	BS00042748
BS00042749	BS00042756
BS00042757	BS00042763
BS00042764	BS00042769
BS00042772	BS00042778
BS00042779	BS00042787
BS00042796	BS00042806
BS00042807	BS00042817
BS00042818	BS00042826
BS00042827	BS00042836
BS00042845	BS00042853
BS00042854	BS00042861
BS00042862	BS00042869
BS00042870	BS00042870
BS00042874	BS00042881
BS00042882	BS00042889
BS00042890	BS00042897
BS00042898	BS00042903
BS00042904	BS00042908
BS00042909	BS00042914
BS00042915	BS00042923
BS00042924	BS00042937
BS00042938	BS00042944
BS00042945	BS00042949
BS00042956	BS00042961
BS00042962	BS00042967
BS00042968	BS00042973
BS00042975	BS00042980
BS00042981	BS00042986
BS00042987	BS00042992
BS00042993	BS00042997
BS00042998	BS00043003
BS00043004	BS00043007
BS00043008	BS00043014
BS00043029	BS00043034
BS00043035	BS00043040
BS00043041	BS00043043
BS00043057	BS00043062
BS00043063	BS00043065
BS00043066	BS00043072
BS00043073	BS00043078
BS00043079	BS00043081
BS00043085	BS00043118
BS00043205	BS00043205
BS00043206	BS00043206

CON00000256	CON00000258
CON00000259	CON00000262
GCC-NYAG 0028333	GCC-NYAG 0028339
GCC-NYAG 0028340	GCC-NYAG 0028347
GCC-NYAG 0035481	GCC-NYAG 0035487
GCC-NYAG 0256168	GCC-NYAG 0256168
GCC-NYAG 0256189	GCC-NYAG 0256189
GCC-NYAG 0256321	GCC-NYAG 0256323
GCC-NYAG 0259033	GCC-NYAG 0259040
GCC-NYAG 0259048	GCC-NYAG 0259055
GCC-NYAG 0259056	GCC-NYAG 0259062
GCC-NYAG 0259112	GCC-NYAG 0259124
GCC-NYAG 0259125	GCC-NYAG 0259138
GCC-NYAG 0259139	GCC-NYAG 0259152
GCC-NYAG 0259153	GCC-NYAG 0259165
GCC-NYAG 0259167	GCC-NYAG 0259182
GCC-NYAG 0259230	GCC-NYAG 0259242
GCC-NYAG 0259257	GCC-NYAG 0259269
GCC-NYAG 0259270	GCC-NYAG 0259283
GCC-NYAG 0259374	GCC-NYAG 0259388
GCC-NYAG 0259389	GCC-NYAG 0259403
GCC-NYAG 0259404	GCC-NYAG 0259418
GCC-NYAG 0259419	GCC-NYAG 0259433
GCC-P 0000001	GCC-P 0000001
GCC-P 0000002	GCC-P 0000003
GCC-P 0000005	GCC-P 0000005
GCC-P 0000054	GCC-P 0000055
GCC-P 0000058	GCC-P 0000063
GCC-P 0000096	GCC-P 0000096
GCC-P 0000317	GCC-P 0000317
GCC-P 0000318	GCC-P 0000318
GCC-P 0000321	GCC-P 0000321
GCC-P 0000322	GCC-P 0000322
GCC-P 0000323	GCC-P 0000323
GCC-P 0000324	GCC-P 0000324
GCC-P 0000326	GCC-P 0000327
GCC-P 0000328	GCC-P 0000328
GCC-P 0000329	GCC-P 0000329
GCC-P 0000330	GCC-P 0000330
GCC-P 0000331	GCC-P 0000331
GCC-P 0000337	GCC-P 0000387
GCC-P 0000389	GCC-P 0000389
GCC-P 0000390	GCC-P 0000390
GCC-P 0000391	GCC-P 0000391
GCC-P 0000392	GCC-P 0000392
GCC-P 0000393	GCC-P 0000393
GCC-P 0000394	GCC-P 0000394

Schedule A to Appendix II

BS00043207	BS00043207
BS00043208	BS00043208
BS00043209	BS00043209
BS00043210	BS00043210
BS00043211	BS00043211
BS00043212	BS00043212
BS00043213	BS00043213
BS00043214	BS00043214
BS00043215	BS00043215
BS00043256	BS00043289
BS00043416	BS00043496
BS00043512	BS00043547
BS00043579	BS00043621
BS00043690	BS00043691
BS00043727	BS00043746
BS00043747	BS00043778
BS00043861	BS00043892
BS00043952	BS00043967
BS00044011	BS00044018
BS00044019	BS00044020
BS00044035	BS00044094
BS00044095	BS00044125
BS00044126	BS00044135
BS00044141	BS00044143
BS00044144	BS00044146
BS00044147	BS00044159
BS00044160	BS00044163
BS00044165	BS00044168
BS00044169	BS00044170
BS00044171	BS00044172
BS00044173	BS00044185
BS00044187	BS00044190
BS00044191	BS00044192
BS00044193	BS00044194
BS00044195	BS00044208
BS00044210	BS00044212
BS00044213	BS00044214
BS00044227	BS00044227
BS00044241	BS00044241
BS00044242	BS00044242
BS00044243	BS00044244
BS00044245	BS00044245
BS00044246	BS00044246
BS00044248	BS00044248
BS00044249	BS00044249
BS00044251	BS00044251
BS00044252	BS00044252

GCC-P 0000397	GCC-P 0000397
GCC-P 0000409	GCC-P 0000410
GCC-P 0000440	GCC-P 0000440
GCC-P 0000441	GCC-P 0000441
GCC-P 0000442	GCC-P 0000442
GCC-P 0000451	GCC-P 0000483
GCC-P 0000484	GCC-P 0000551
GCC-P 0000554	GCC-P 0000574
GCC-P 0000575	GCC-P 0000607
GCC-P 0000608	GCC-P 0000614
GCC-P 0000615	GCC-P 0000621
GCC-P 0000622	GCC-P 0000656
GCC-P 0000657	GCC-P 0000686
GCC-P 0000687	GCC-P 0000754
GCC-P 0000755	GCC-P 0000823
GCC-P 0000824	GCC-P 0000852
GCC-P 0000853	GCC-P 0000899
GCC-P 0000902	GCC-P 0000922
GCC-P 0000923	GCC-P 0000955
GCC-P 0000956	GCC-P 0000962
GCC-P 0000963	GCC-P 0000969
GCC-P 0000970	GCC-P 0001004
GCC-P 0001005	GCC-P 0001034
GCC-P 0001035	GCC-P 0001102
GCC-P 0001103	GCC-P 0001171
GCC-P 0001172	GCC-P 0001200
GCC-P 0001201	GCC-P 0001247
GCC-P 0001251	GCC-P 0001265
GCC-P 0001266	GCC-P 0001293
GCC-P 0001294	GCC-P 0001300
GCC-P 0001301	GCC-P 0001307
GCC-P 0001308	GCC-P 0001340
GCC-P 0001341	GCC-P 0001368
GCC-P 0001369	GCC-P 0001437
GCC-P 0001438	GCC-P 0001500
GCC-P 0001501	GCC-P 0001520
GCC-P 0001521	GCC-P 0001567
GCC-P 0001569	GCC-P 0001577
GCC-P 0001578	GCC-P 0001585
GCC-P 0001586	GCC-P 0001592
GCC-P 0001593	GCC-P 0001603
GCC-P 0001604	GCC-P 0001613
GCC-P 0001614	GCC-P 0001620
GCC-P 0001621	GCC-P 0001627
GCC-P 0001628	GCC-P 0001634
GCC-P 0001635	GCC-P 0001643
GCC-P 0001644	GCC-P 0001654

Schedule A to Appendix II

BS00044253	BS00044286
BS00044287	BS00044289
BS00044304	BS00044306
BS00044316	BS00044321
BS00044322	BS00044327
BS00044328	BS00044334
BS00044345	BS00044354
BS00044387	BS00044387
BS00044392	BS00044430
BS00044431	BS00044471
BS00044475	BS00044515
BS00044516	BS00044518
BS00044546	BS00044547
BS00044548	BS00044550
BS00044551	BS00044552
BS00044553	BS00044553
BS00044554	BS00044555
BS00044556	BS00044558
BS00044559	BS00044560
BS00044573	BS00044577
BS00044578	BS00044583
BS00044584	BS00044589
BS00044590	BS00044594
BS00044597	BS00044609
BS00044610	BS00044623
BS00044624	BS00044638
BS00044639	BS00044648
BS00044678	BS00044692
BS00044708	BS00044716
BS00044717	BS00044727
BS00044728	BS00044738
BS00044739	BS00044748
BS00044778	BS00044788
BS00044789	BS00044798
BS00044829	BS00044852
BS00044853	BS00044885
BS00044926	BS00044938
BS00044939	BS00044944
BS00044945	BS00044949
BS00044950	BS00044955
BS00044956	BS00044962
BS00044983	BS00044988
BS00044989	BS00044994
BS00044995	BS00045001
BS00045002	BS00045017
BS00045018	BS00045022
BS00045023	BS00045031

GCC-P 0001655	GCC-P 0001663
GCC-P 0001664	GCC-P 0001699
GCC-P 0001700	GCC-P 0001727
GCC-P 0001728	GCC-P 0001745
GCC-P 0001746	GCC-P 0001764
GCC-P 0001765	GCC-P 0001796
GCC-P 0001797	GCC-P 0001830
GCC-P 0001831	GCC-P 0001854
GCC-P 0001855	GCC-P 0001885
GCC-P 0001886	GCC-P 0001910
GCC-P 0001911	GCC-P 0001938
GCC-P 0001939	GCC-P 0001965
GCC-P 0001967	GCC-P 0001967
GCC-P 0002008	GCC-P 0002008
GCC-P 0002009	GCC-P 0002009
GCC-P 0002028	GCC-P 0002097
GCC-P 0002098	GCC-P 0002157
GCC-P 0002162	GCC-P 0002162
GCC-P 0002163	GCC-P 0002163
GCC-P 0002258	GCC-P 0002316
GCC-P 0002373	GCC-P 0002431
GCC-P 0002488	GCC-P 0002546
GCC-P 0002604	GCC-P 0002623
GCC-P 0002626	GCC-P 0002654
GCC-P 0002656	GCC-P 0002714
GCC-P 0002771	GCC-P 0002829
GCC-P 0002893	GCC-P 0002951
GCC-P 0003008	GCC-P 0003008
GCC-P 0003012	GCC-P 0003012
GCC-P 0003045	GCC-P 0003045
GCC-P 0003046	GCC-P 0003046
GCC-P 0003057	GCC-P 0003057
GCC-P 0003059	GCC-P 0003059
GCC-P 0003061	GCC-P 0003061
GCC-P 0003075	GCC-P 0003113
GCC-P 0003153	GCC-P 0003212
GCC-P 0003431	GCC-P 0003431
GCC-P 0003432	GCC-P 0003432
GCC-P 0003435	GCC-P 0003435
GCC-P 0003436	GCC-P 0003436
GCC-P 0003437	GCC-P 0003437
GCC-P 0003439	GCC-P 0003447
GCC-P 0003448	GCC-P 0003469
GCC-P 0003470	GCC-P 0003474
GCC-P 0003475	GCC-P 0003480
GCC-P 0003481	GCC-P 0003535
GCC-P 0003537	GCC-P 0003548

Schedule A to Appendix II

BS00045032	BS00045038
BS00045067	BS00045072
BS00045080	BS00045087
BS00045119	BS00045128
BS00045129	BS00045136
BS00045190	BS00045190
BS00045206	BS00045206
BS00045207	BS00045207
BS00045208	BS00045208
BS00045209	BS00045209
BS00045210	BS00045210
BS00045211	BS00045211
BS00045212	BS00045212
BS00045222	BS00045222
BS00045233	BS00045244
BS00045245	BS00045254
BS00045255	BS00045319
BS00045320	BS00045348
BS00045349	BS00045374
BS00045375	BS00045405
BS00045406	BS00045433
BS00045434	BS00045457
BS00045458	BS00045468
BS00045469	BS00045475
BS00045482	BS00045491
BS00045492	BS00045501
BS00045502	BS00045509
BS00045510	BS00045517
BS00045518	BS00045524
BS00045525	BS00045531
BS00045532	BS00045536
BS00045537	BS00045541
BS00045542	BS00045551
BS00045552	BS00045558
BS00045559	BS00045563
BS00045570	BS00045574
BS00045593	BS00045594
BS00045600	BS00045602
BS00045608	BS00045648
BS00045649	BS00045728
BS00045729	BS00045737
BS00045738	BS00045747
BS00045748	BS00045757
BS00045758	BS00045768
BS00045769	BS00045779
BS00045787	BS00045795
BS00045796	BS00045804

GCC-P 0003549	GCC-P 0003553
GCC-P 0003554	GCC-P 0003559
GCC-P 0003560	GCC-P 0003615
GCC-P 0003616	GCC-P 0003625
GCC-P 0003627	GCC-P 0003635
GCC-P 0003636	GCC-P 0003657
GCC-P 0003658	GCC-P 0003662
GCC-P 0003663	GCC-P 0003668
GCC-P 0003669	GCC-P 0003723
GCC-P 0003784	GCC-P 0003845
GCC-P 0003882	GCC-P 0003941
GCC-P 0003968	GCC-P 0004029
GCC-P 0004037	GCC-P 0004037
GCC-P 0004108	GCC-P 0004108
GCC-P 0004109	GCC-P 0004109
GCC-P 0004110	GCC-P 0004110
GCC-P 0004111	GCC-P 0004111
GCC-P 0004112	GCC-P 0004112
GCC-P 0004122	GCC-P 0004122
GCC-P 0004240	GCC-P 0004240
GCC-P 0004242	GCC-P 0004242
GCC-P 0004249	GCC-P 0004254
GCC-P 0004255	GCC-P 0004262
GCC-P 0004277	GCC-P 0004277
GCC-P 0004283	GCC-P 0004289
GCC-P 0004295	GCC-P 0004304
GCC-P 0004305	GCC-P 0004312
GCC-P 0004313	GCC-P 0004320
GCC-P 0004321	GCC-P 0004327
GCC-P 0004328	GCC-P 0004338
GCC-P 0004339	GCC-P 0004349
GCC-P 0004350	GCC-P 0004357
GCC-P 0004358	GCC-P 0004365
GCC-P 0004366	GCC-P 0004373
GCC-P 0004374	GCC-P 0004379
GCC-P 0004380	GCC-P 0004387
GCC-P 0004388	GCC-P 0004394
GCC-P 0004397	GCC-P 0004407
GCC-P 0004408	GCC-P 0004408
GCC-P 0004413	GCC-P 0004435
GCC-P 0004436	GCC-P 0004441
GCC-P 0004442	GCC-P 0004448
GCC-P 0004449	GCC-P 0004521
GCC-P 0004533	GCC-P 0004543
GCC-P 0004544	GCC-P 0004544
GCC-P 0004545	GCC-P 0004545
GCC-P 0004550	GCC-P 0004564

Schedule A to Appendix II

BS00045805	BS00045813
BS00045814	BS00045877
BS00045902	BS00045933
BS00045940	BS00045946
BS00045947	BS00045948
BS00045949	BS00045951
BS00045968	BS00045974
BS00045975	BS00046014
BS00046015	BS00046017
BS00046042	BS00046080
BS00046223	BS00046253
BS00046254	BS00046255
BS00046280	BS00046280
BS00046282	BS00046296
BS00046325	BS00046339
BS00046597	BS00046600
BS00046601	BS00046610
BS00046611	BS00046613
BS00046621	BS00046632
BS00046633	BS00046692
BS00046758	BS00046765
BS00046782	BS00046789
BS00046790	BS00046797
BS00046798	BS00046805
BS00046812	BS00046819
BS00046820	BS00046827
BS00046828	BS00046835
BS00046836	BS00046843
BS00046860	BS00046867
BS00046876	BS00046883
BS00046900	BS00046907
BS00046908	BS00046915
BS00046916	BS00046924
BS00046960	BS00046974
BS00046976	BS00046978
BS00046997	BS00047001
BS00047010	BS00047014
BS00047050	BS00047055
BS00047064	BS00047069
BS00047086	BS00047090
BS00047092	BS00047097
BS00047099	BS00047104
BS00047106	BS00047110
BS00047153	BS00047159
BS00047169	BS00047175
BS00047177	BS00047183
BS00047192	BS00047197

GCC-P 0004565	GCC-P 0004570
GCC-P 0004571	GCC-P 0004577
GCC-P 0004578	GCC-P 0004650
GCC-P 0004658	GCC-P 0004659
GCC-P 0004705	GCC-P 0004764
GCC-P 0004816	GCC-P 0004816
GCC-P 0004817	GCC-P 0004817
GCC-P 0004850	GCC-P 0004850
GCC-P 0004851	GCC-P 0004851
GCC-P 0004852	GCC-P 0004852
GCC-P 0004957	GCC-P 0005016
GCC-P 0005065	GCC-P 0005124
GCC-P 0005125	GCC-P 0005125
GCC-P 0005661	GCC-P 0005661
GCC-P 0005665	GCC-P 0005665
GCC-P 0005684	GCC-P 0005684
GCC-P 0005686	GCC-P 0005686
GCC-P 0005714	GCC-P 0005714
GCC-P 0005715	GCC-P 0005715
GCC-P 0005716	GCC-P 0005716
GCC-P 0005717	GCC-P 0005717
GCC-P 0005718	GCC-P 0005718
GCC-P 0005719	GCC-P 0005719
GCC-P 0005720	GCC-P 0005720
GCC-P 0005721	GCC-P 0005721
GCC-P 0005722	GCC-P 0005722
GCC-P 0005723	GCC-P 0005723
GCC-P 0005724	GCC-P 0005724
GCC-P 0005725	GCC-P 0005725
GCC-P 0005726	GCC-P 0005726
GCC-P 0005752	GCC-P 0005752
GCC-P 0005757	GCC-P 0005757
GCC-P 0005772	GCC-P 0005772
GCC-P 0005773	GCC-P 0005773
GCC-P 0005774	GCC-P 0005774
GCC-P 0005823	GCC-P 0005823
GCC-P 0005824	GCC-P 0005824
GCC-P 0005832	GCC-P 0005832
GCC-P 0005833	GCC-P 0005833
GCC-P 0005834	GCC-P 0005838
GCC-P 0005839	GCC-P 0005844
GCC-P 0005849	GCC-P 0005854
GCC-P 0005855	GCC-P 0005860
GCC-P 0005869	GCC-P 0005869
GCC-P 0005870	GCC-P 0005870
GCC-P 0005873	GCC-P 0005873
GCC-P 0005874	GCC-P 0005874

Schedule A to Appendix II

BS00047267	BS00047271
BS00047278	BS00047280
BS00047281	BS00047283
BS00047291	BS00047307
BS00047308	BS00047308
BS00047309	BS00047325
BS00047326	BS00047328
BS00047329	BS00047357
BS00047358	BS00047359
BS00047407	BS00047412
BS00047496	BS00047497
BS00047512	BS00047512
BS00047513	BS00047518
BS00047519	BS00047522
BS00047523	BS00047526
BS00047527	BS00047530
BS00047531	BS00047535
BS00047541	BS00047544
BS00047595	BS00047598
BS00047636	BS00047647
BS00047649	BS00047657
BS00047668	BS00047675
BS00047786	BS00047786
BS00047794	BS00047794
BS00047968	BS00048027
BS00048040	BS00048040
BS00048041	BS00048041
BS00048042	BS00048042
BS00048070	BS00048071
BS00048073	BS00048087
BS00048127	BS00048128
BS00048138	BS00048142
BS00048145	BS00048145
BS00048202	BS00048206
BS00048215	BS00048219
BS00048221	BS00048226
BS00048235	BS00048240
BS00048259	BS00048263
BS00048293	BS00048299
BS00048301	BS00048307
BS00048336	BS00048341
BS00048343	BS00048348
BS00048350	BS00048355
BS00048364	BS00048368
BS00048389	BS00048395
BS00048477	BS00048481
BS00048490	BS00048490

GCC-P 0005934	GCC-P 0005934
GCC-P 0006117	GCC-P 0006117
GCC-P 0006118	GCC-P 0006118
GCC-P 0006119	GCC-P 0006120
GCC-P 0006121	GCC-P 0006122
GCC-P 0006123	GCC-P 0006126
GCC-P 0006127	GCC-P 0006127
GCC-P 0006130	GCC-P 0006131
GCC-P 0006132	GCC-P 0006132
GCC-P 0006133	GCC-P 0006136
GCC-P 0006139	GCC-P 0006140
GCC-P 0006141	GCC-P 0006142
GCC-P 0006143	GCC-P 0006143
GCC-P 0006144	GCC-P 0006145
GCC-P 0006148	GCC-P 0006150
GCC-P 0006151	GCC-P 0006153
GCC-P 0006155	GCC-P 0006155
GCC-P 0006156	GCC-P 0006156
GCC-P 0006158	GCC-P 0006158
GCC-P 0006159	GCC-P 0006159
GCC-P 0006160	GCC-P 0006162
GCC-P 0006165	GCC-P 0006165
GCC-P 0006166	GCC-P 0006166
GCC-P 0006168	GCC-P 0006168
GCC-P 0006173	GCC-P 0006173
GCC-P 0006174	GCC-P 0006174
GCC-P 0006176	GCC-P 0006185
GCC-P 0006186	GCC-P 0006186
GCC-P 0006190	GCC-P 0006199
GCC-P 0006201	GCC-P 0006210
GCC-P 0006212	GCC-P 0006221
GCC-P 0006226	GCC-P 0006226
GCC-P 0006251	GCC-P 0006251
GCC-P 0006471	GCC-P 0006471
GCC-P 0006472	GCC-P 0006472
GCC-P 0006473	GCC-P 0006473
GCC-P 0006510	GCC-P 0006510
GCC-P 0006512	GCC-P 0006512
GCC-P 0006519	GCC-P 0006580
GCC-P 0006589	GCC-P 0006593
GCC-P 0006641	GCC-P 0006642
GCC-P 0006903	GCC-P 0006907
GCC-P 0007296	GCC-P 0007296
GCC-P 0007297	GCC-P 0007337
GCC-P 0007338	GCC-P 0007375
GCC-P 0007710	GCC-P 0007717
GCC-P 0007908	GCC-P 0007919

Schedule A to Appendix II

BS00048491	BS00048497
BS00048499	BS00048500
BS00048501	BS00048502
BS00048503	BS00048504
BS00048513	BS00048513
BS00048514	BS00048514
BS00048515	BS00048523
BS00048526	BS00048533
BS00048561	BS00048561
BS00048562	BS00048568
BS00048569	BS00048569
BS00048570	BS00048571
BS00048572	BS00048572
BS00048573	BS00048574
BS00048575	BS00048575
BS00048576	BS00048577
BS00048578	BS00048579
BS00048580	BS00048582
BS00048583	BS00048591
BS00048592	BS00048593
BS00048594	BS00048595
BS00048596	BS00048597
BS00048598	BS00048599
BS00048600	BS00048600
BS00048601	BS00048607
BS00048608	BS00048609
BS00048615	BS00048615
BS00048621	BS00048622
BS00048623	BS00048623
BS00048626	BS00048627
BS00048628	BS00048629
BS00048634	BS00048641
BS00048643	BS00048643
BS00048645	BS00048646
BS00048647	BS00048651
BS00048652	BS00048661
BS00048662	BS00048663
BS00048664	BS00048664
BS00048666	BS00048667
BS00048668	BS00048669
BS00048672	BS00048672
BS00048673	BS00048673
BS00048674	BS00048675
BS00048685	BS00048686
BS00048689	BS00048690
BS00048691	BS00048691
BS00048695	BS00048696

GCC-P 0008116	GCC-P 0008163
GCC-P 0008165	GCC-P 0008165
GCC-P 0008166	GCC-P 0008166
GCC-P 0008171	GCC-P 0008171
GCC-P 0008172	GCC-P 0008172
GCC-P 0008430	GCC-P 0008430
GCC-P 0008816	GCC-P 0008818
GCC-P 0010596	GCC-P 0010596
GCC-P 0010597	GCC-P 0010597
GCC-P 0015906	GCC-P 0015908
GCC-P 0015909	GCC-P 0015911
GCC-P 0017147	GCC-P 0017147
GCC-P 0018206	GCC-P 0018281
GCC-P 0018772	GCC-P 0018919
GCC-P 0019232	GCC-P 0019232
GCC-P 0019406	GCC-P 0019411
GCC-P 0019587	GCC-P 0019731
GCC-P 0019732	GCC-P 0019876
GCC-P 0020067	GCC-P 0020210
GCC-P 0020564	GCC-P 0020708
GCC-P 0020709	GCC-P 0020709
GCC-P 0020872	GCC-P 0020945
GCC-P 0020948	GCC-P 0021080
GCC-P 0021553	GCC-P 0021685
GCC-P 0021873	GCC-P 0021873
GCC-P 0021874	GCC-P 0021874
GCC-P 0022188	GCC-P 0022261
GCC-P 0022419	GCC-P 0022419
GCC-P 0022422	GCC-P 0022422
GCC-P 0022723	GCC-P 0022723
GCC-P 0022724	GCC-P 0022800
GCC-P 0022802	GCC-P 0022802
GCC-P 0022971	GCC-P 0023092
GCC-P 0023217	GCC-P 0023217
GCC-P 0023225	GCC-P 0023225
GCC-P 0023227	GCC-P 0023227
GCC-P 0023228	GCC-P 0023306
GCC-P 0023484	GCC-P 0023484
GCC-P 0023804	GCC-P 0023804
GCC-P 0023809	GCC-P 0023809
GCC-P 0023812	GCC-P 0023812
GCC-P 0024376	GCC-P 0024376
GCC-P 0024377	GCC-P 0024458
GCC-P 0024746	GCC-P 0024746
GCC-P 0024749	GCC-P 0024749
GCC-P 0024750	GCC-P 0024750
GCC-P 0024751	GCC-P 0024751

Schedule A to Appendix II

BS00048697	BS00048697
BS00048700	BS00048701
BS00048702	BS00048703
BS00048704	BS00048709
BS00048710	BS00048711
BS00048712	BS00048713
BS00048714	BS00048715
BS00048719	BS00048720
BS00048721	BS00048722
BS00048725	BS00048730
BS00048731	BS00048732
BS00048733	BS00048734
BS00048754	BS00048755
BS00048756	BS00048757
BS00048760	BS00048761
BS00048764	BS00048765
BS00048766	BS00048767
BS00048768	BS00048769
BS00048770	BS00048771
BS00048772	BS00048773
BS00048774	BS00048774
BS00048776	BS00048777
BS00048779	BS00048781
BS00048782	BS00048782
BS00048783	BS00048785
BS00048791	BS00048796
BS00048797	BS00048798
BS00048799	BS00048799
BS00048800	BS00048804
BS00048808	BS00048808
BS00048815	BS00048818
BS00048829	BS00048829
BS00048830	BS00048831
BS00048832	BS00048833
BS00048838	BS00048838
BS00049072	BS00049075
BS00049128	BS00049131
BS00049453	BS00049456
BS00049935	BS00049936
BS00049937	BS00050017
BS00050018	BS00050019
BS00050020	BS00050020
BS00050021	BS00050021
BS00050022	BS00050023
BS00050024	BS00050024
BS00050025	BS00050049
BS00050050	BS00050050

GCC-P 0024753	GCC-P 0024753
GCC-P 0024953	GCC-P 0025042
GCC-P 0025043	GCC-P 0025052
GCC-P 0025329	GCC-P 0025329
GCC-P 0025330	GCC-P 0025330
GCC-P 0025442	GCC-P 0025442
GCC-P 0025445	GCC-P 0025445
GCC-P 0025446	GCC-P 0025446
GCC-P 0025448	GCC-P 0025448
GCC-P 0026095	GCC-P 0026095
GCC-P 0026105	GCC-P 0026105
GCC-P 0026480	GCC-P 0026480
GCC-P 0027204	GCC-P 0027205
GCC-P 0027705	GCC-P 0027705
GCC-P 0027707	GCC-P 0027708
GCC-P 0028108	GCC-P 0028108
GCC-P 0028285	GCC-P 0028285
GCC-P 0028291	GCC-P 0028291
GCC-P 0028509	GCC-P 0028509
GCC-P 0029054	GCC-P 0029054
GCC-P 0029055	GCC-P 0029055
GCC-P 0029984	GCC-P 0029984
GCC-P 0029985	GCC-P 0029985
GCC-P 0030265	GCC-P 0030265
GCC-P 0030515	GCC-P 0030515
GCC-P 0030532	GCC-P 0030532
GCC-P 0030542	GCC-P 0030542
GCC-P 0031191	GCC-P 0031198
GCC-P 0031199	GCC-P 0031208
GCC-P 0031612	GCC-P 0031612
GCC-P 0031620	GCC-P 0031620
GCC-P 0031621	GCC-P 0031621
GCC-P 0031755	GCC-P 0031755
GCC-P 0031756	GCC-P 0031756
GCC-P 0031758	GCC-P 0031763
GCC-P 0031764	GCC-P 0031768
GCC-P 0031771	GCC-P 0031776
GCC-P 0031777	GCC-P 0031782
GCC-P 0031789	GCC-P 0031789
GCC-P 0031798	GCC-P 0031798
GCC-P 0031802	GCC-P 0031802
GCC-P 0031809	GCC-P 0031809
GCC-P 0031810	GCC-P 0031810
GCC-P 0032655	GCC-P 0032669
GCC-P 0032670	GCC-P 0032705
GCC-P 0033027	GCC-P 0033042
GCC-P 0033049	GCC-P 0033049

Schedule A to Appendix II

BS00050051	BS00050052
BS00050053	BS00050053
BS00050054	BS00050055
BS00050056	BS00050056
BS00050057	BS00050057
BS00050058	BS00050059
BS00050060	BS00050060
BS00050061	BS00050061
BS00050062	BS00050083
BS00050084	BS00050085
BS00050086	BS00050092
BS00050093	BS00050235
BS00050236	BS00050237
BS00050238	BS00050394
BS00050395	BS00050402
BS00050403	BS00050545
BS00050546	BS00050546
BS00050547	BS00050668
BS00050669	BS00050670
BS00050671	BS00050671
BS00050805	BS00050806
BS00051005	BS00051016
BS00051027	BS00051035
BS00051037	BS00051044
BS00051064	BS00051071
BS00051078	BS00051082
BS00051090	BS00051092
BS00051123	BS00051150
BS00051151	BS00051180
BS00051181	BS00051213
BS00051216	BS00051242
BS00051245	BS00051245
BS00051248	BS00051254
BS00051257	BS00051263
BS00051264	BS00051287
BS00051288	BS00051312
BS00051313	BS00051335
BS00051348	BS00051356
BS00051357	BS00051357
BS00051358	BS00051358
BS00051359	BS00051367
BS00051368	BS00051368
BS00051380	BS00051380
BS00051381	BS00051381
BS00051382	BS00051391
BS00051404	BS00051404
BS00051405	BS00051405

GCC-P 0033050	GCC-P 0033050
GCC-P 0033347	GCC-P 0033347
GCC-P 0033348	GCC-P 0033348
GCC-P 0033435	GCC-P 0033435
GCC-P 0034203	GCC-P 0034203
GCC-P 0034204	GCC-P 0034204
GCC-P 0034206	GCC-P 0034206
GCC-P 0034293	GCC-P 0034293
GCC-P 0034294	GCC-P 0034294
GCC-P 0034573	GCC-P 0034573
GCC-P 0034575	GCC-P 0034575
GCC-P 0034592	GCC-P 0034592
GCC-P 0034593	GCC-P 0034593
GCC-P 0034594	GCC-P 0034594
GCC-P 0034595	GCC-P 0034595
GCC-P 0034691	GCC-P 0034691
GCC-P 0034692	GCC-P 0034692
GCC-P 0034791	GCC-P 0034791
GCC-P 0034793	GCC-P 0034794
GCC-P 0034879	GCC-P 0034885
GCC-P 0034892	GCC-P 0034892
GCC-P 0035196	GCC-P 0035307
GCC-P 0035594	GCC-P 0035602
GCC-P 0035607	GCC-P 0035607
GCC-P 0035608	GCC-P 0035608
GCC-P 0036071	GCC-P 0036071
GCC-P 0036076	GCC-P 0036096
GCC-P 0036097	GCC-P 0036129
GCC-P 0036130	GCC-P 0036136
GCC-P 0036138	GCC-P 0036165
GCC-P 0036166	GCC-P 0036180
GCC-P 0036187	GCC-P 0036218
GCC-P 0036390	GCC-P 0036390
GCC-P 0036391	GCC-P 0036391
GCC-P 0036398	GCC-P 0036398
GCC-P 0036399	GCC-P 0036399
GCC-P 0036577	GCC-P 0036577
GCC-P 0036593	GCC-P 0036593
GCC-P 0036600	GCC-P 0036600
GCC-P 0036602	GCC-P 0036602
GCC-P 0036608	GCC-P 0036609
GCC-P 0036610	GCC-P 0036660
GCC-P 0036668	GCC-P 0036727
GCC-P 0036763	GCC-P 0036780
GCC-P 0036790	GCC-P 0036790
GCC-P 0036952	GCC-P 0037013
GCC-P 0037186	GCC-P 0037187

Schedule A to Appendix II

BS00051406	BS00051415
BS00051416	BS00051416
BS00051425	BS00051425
BS00051443	BS00051443
BS00051444	BS00051452
BS00051460	BS00051460
BS00051469	BS00051469
BS00051470	BS00051476
BS00051478	BS00051484
BS00051485	BS00051485
BS00051487	BS00051487
BS00051498	BS00051498
BS00051499	BS00051499
BS00051500	BS00051506
BS00051507	BS00051513
BS00051521	BS00051521
BS00051522	BS00051529
BS00051530	BS00051537
BS00051538	BS00051545
BS00051546	BS00051546
BS00051548	BS00051548
BS00051686	BS00051696
BS00051731	BS00051731
BS00051732	BS00051732
BS00051736	BS00051736
BS00051738	BS00051738
BS00051739	BS00051739
BS00051740	BS00051740
BS00051742	BS00051742
BS00051745	BS00051745
BS00051746	BS00051746
BS00051748	BS00051748
BS00051749	BS00051749
BS00051754	BS00051755
BS00051843	BS00051852
BS00051858	BS00051871
BS00051872	BS00051874
BS00052201	BS00052235
BS00052913	BS00052970
BS00053355	BS00053415
BS00056904	BS00056947
BS00057916	BS00057953
BS00057954	BS00058002
BS00058333	BS00058396
BS00058397	BS00058460
BS00058620	BS00058657
BS00058660	BS00058667

GCC-P 0037450	GCC-P 0037509
GCC-P 0037514	GCC-P 0037514
GCC-P 0037516	GCC-P 0037516
GCC-P 0039956	GCC-P 0039956
GCC-P 0041534	GCC-P 0041537
GCC-P 0041801	GCC-P 0041801
GCC-P 0041802	GCC-P 0041802
GCC-P 0050679	GCC-P 0050680
GCC-P 0055132	GCC-P 0055134
GCC-P 0055135	GCC-P 0055137
GCC-P 0058342	GCC-P 0058342
GCC-P 0058343	GCC-P 0058343
GCC-P 0062683	GCC-P 0062685
GCC-P 0064377	GCC-P 0064452
GCC-P 0065501	GCC-P 0065565
GCC-P 0065566	GCC-P 0065630
GCC-P 0065885	GCC-P 0065885
GCC-P 0065886	GCC-P 0065886
GCC-P 0066201	GCC-P 0066348
GCC-P 0066349	GCC-P 0066496
GCC-P 0067129	GCC-P 0067129
GCC-P 0067130	GCC-P 0067130
GCC-P 0067399	GCC-P 0067464
GCC-P 0067465	GCC-P 0067530
GCC-P 0067851	GCC-P 0067851
GCC-P 0067852	GCC-P 0067852
GCC-P 0068168	GCC-P 0068232
GCC-P 0068233	GCC-P 0068297
GCC-P 0068612	GCC-P 0068612
GCC-P 0068613	GCC-P 0068613
GCC-P 0068614	GCC-P 0068758
GCC-P 0068759	GCC-P 0068903
GCC-P 0068904	GCC-P 0069048
GCC-P 0069049	GCC-P 0069193
GCC-P 0069225	GCC-P 0069225
GCC-P 0069226	GCC-P 0069226
GCC-P 0069227	GCC-P 0069292
GCC-P 0069293	GCC-P 0069358
GCC-P 0069993	GCC-P 0069993
GCC-P 0069994	GCC-P 0069994
GCC-P 0069999	GCC-P 0070142
GCC-P 0070143	GCC-P 0070286
GCC-P 0070878	GCC-P 0070878
GCC-P 0070879	GCC-P 0070879
GCC-P 0070882	GCC-P 0070953
GCC-P 0070954	GCC-P 0071025
GCC-P 0071420	GCC-P 0071420

Schedule A to Appendix II

BS00058676	BS00058684
BS00058685	BS00058765
BS00058778	BS00058827
BS00058828	BS00058934
BS00058935	BS00059056
BS00059057	BS00059176
BS00059177	BS00059279
BS00059425	BS00059428
BS00059429	BS00059432
BS00059614	BS00059633
BS00059635	BS00059637
BS00059638	BS00059639
BS00059640	BS00059640
BS00059642	BS00059642
BS00059643	BS00059645
BS00059646	BS00059661
BS00059662	BS00059666
BS00059667	BS00059667
BS00059668	BS00059669
BS00059670	BS00059684
BS00059685	BS00059689
BS00059690	BS00059690
BS00059691	BS00059692
BS00059693	BS00059695
BS00059701	BS00059715
BS00059716	BS00059717
BS00059718	BS00059720
BS00060140	BS00060142
BS00060212	BS00060244
BS00060245	BS00060270
BS00060271	BS00060310
BS00060313	BS00060353
BS00060354	BS00060379
BS00060380	BS00060412
BS00060413	BS00060452
BS00060458	BS00060461
BS00060495	BS00060499
BS00060500	BS00060530
BS00060531	BS00060554
BS00060567	BS00060568
BS00060569	BS00060570
BS00060571	BS00060571
BS00060572	BS00060573
BS00060574	BS00060576
BS00060577	BS00060578
BS00060579	BS00060593
BS00060594	BS00060596

GCC-P 0071421	GCC-P 0071565
GCC-P 0071566	GCC-P 0071710
GCC-P 0072328	GCC-P 0072401
GCC-P 0072402	GCC-P 0072475
GCC-P 0072480	GCC-P 0072480
GCC-P 0072481	GCC-P 0072481
GCC-P 0072484	GCC-P 0072616
GCC-P 0072617	GCC-P 0072749
GCC-P 0072750	GCC-P 0072750
GCC-P 0072751	GCC-P 0072751
GCC-P 0072753	GCC-P 0072753
GCC-P 0072754	GCC-P 0072754
GCC-P 0073706	GCC-P 0073706
GCC-P 0073707	GCC-P 0073707
GCC-P 0073708	GCC-P 0073840
GCC-P 0073841	GCC-P 0073973
GCC-P 0074302	GCC-P 0074302
GCC-P 0074303	GCC-P 0074303
GCC-P 0074305	GCC-P 0074305
GCC-P 0074306	GCC-P 0074306
GCC-P 0074310	GCC-P 0074310
GCC-P 0074311	GCC-P 0074311
GCC-P 0074313	GCC-P 0074313
GCC-P 0074314	GCC-P 0074314
GCC-P 0074317	GCC-P 0074317
GCC-P 0074318	GCC-P 0074318
GCC-P 0074320	GCC-P 0074320
GCC-P 0074321	GCC-P 0074321
GCC-P 0074947	GCC-P 0075020
GCC-P 0075021	GCC-P 0075094
GCC-P 0075097	GCC-P 0075097
GCC-P 0075098	GCC-P 0075098
GCC-P 0075099	GCC-P 0075223
GCC-P 0075224	GCC-P 0075348
GCC-P 0075662	GCC-P 0075662
GCC-P 0075664	GCC-P 0075664
GCC-P 0075665	GCC-P 0075665
GCC-P 0075666	GCC-P 0075666
GCC-P 0075667	GCC-P 0075667
GCC-P 0075668	GCC-P 0075668
GCC-P 0076562	GCC-P 0076638
GCC-P 0076639	GCC-P 0076715
GCC-P 0077051	GCC-P 0077051
GCC-P 0077052	GCC-P 0077052
GCC-P 0077053	GCC-P 0077174
GCC-P 0077175	GCC-P 0077296
GCC-P 0077552	GCC-P 0077552

Schedule A to Appendix II

BS00060597	BS00060598
BS00060599	BS00060611
BS00060617	BS00060629
BS00060630	BS00060631
BS00060632	BS00060644
BS00060652	BS00060653
BS00060654	BS00060655
BS00060658	BS00060659
BS00060660	BS00060661
BS00060666	BS00060699
BS00060702	BS00060704
BS00060705	BS00060706
BS00060714	BS00060725
BS00060726	BS00060727
BS00060729	BS00060730
BS00060731	BS00060771
BS00061939	BS00062094
BS00062095	BS00062125
BS00062126	BS00062190
BS00062191	BS00062299
BS00062300	BS00062583
BS00062584	BS00062744
BS00062745	BS00062836
BS00062932	BS00062955
BS00062969	BS00062997
BS00062998	BS00063023
BS00063024	BS00063051
BS00063052	BS00063076
BS00063077	BS00063101
BS00063102	BS00063123
BS00063124	BS00063144
BS00063145	BS00063158
BS00063159	BS00063172
BS00063173	BS00063184
BS00063185	BS00063197
BS00063198	BS00063208
BS00063209	BS00063211
BS00063219	BS00063221
BS00063242	BS00063247
BS00063248	BS00063252
BS00063253	BS00063257
BS00063258	BS00063263
BS00063264	BS00063269
BS00063282	BS00063286
BS00063287	BS00063292
BS00063293	BS00063297
BS00063298	BS00063303

GCC-P 0077553	GCC-P 0077553
GCC-P 0077554	GCC-P 0077554
GCC-P 0077555	GCC-P 0077555
GCC-P 0077565	GCC-P 0077643
GCC-P 0077644	GCC-P 0077722
GCC-P 0077727	GCC-P 0077727
GCC-P 0077728	GCC-P 0077728
GCC-P 0077729	GCC-P 0077729
GCC-P 0077731	GCC-P 0077731
GCC-P 0078082	GCC-P 0078082
GCC-P 0078711	GCC-P 0078711
GCC-P 0078712	GCC-P 0078712
GCC-P 0078714	GCC-P 0078714
GCC-P 0078715	GCC-P 0078715
GCC-P 0078724	GCC-P 0078724
GCC-P 0078725	GCC-P 0078725
GCC-P 0078727	GCC-P 0078727
GCC-P 0078728	GCC-P 0078728
GCC-P 0079106	GCC-P 0079106
GCC-P 0079107	GCC-P 0079107
GCC-P 0079108	GCC-P 0079189
GCC-P 0079190	GCC-P 0079271
GCC-P 0079846	GCC-P 0079846
GCC-P 0079847	GCC-P 0079847
GCC-P 0080243	GCC-P 0080332
GCC-P 0080333	GCC-P 0080342
GCC-P 0080343	GCC-P 0080352
GCC-P 0080904	GCC-P 0080904
GCC-P 0080907	GCC-P 0080907
GCC-P 0081125	GCC-P 0081125
GCC-P 0081126	GCC-P 0081126
GCC-P 0081203	GCC-P 0081203
GCC-P 0081204	GCC-P 0081204
GCC-P 0081209	GCC-P 0081209
GCC-P 0081210	GCC-P 0081210
GCC-P 0081786	GCC-P 0081786
GCC-P 0082569	GCC-P 0082569
GCC-P 0082570	GCC-P 0082665
GCC-P 0082666	GCC-P 0082761
GCC-P 0083263	GCC-P 0083263
GCC-P 0083272	GCC-P 0083272
GCC-P 0083707	GCC-P 0083707
GCC-P 0083710	GCC-P 0083806
GCC-P 0083807	GCC-P 0083903
GCC-P 0084194	GCC-P 0084194
GCC-P 0084836	GCC-P 0084836
GCC-P 0084839	GCC-P 0084931

Schedule A to Appendix II

BS00063308	BS00063313
BS00063314	BS00063318
BS00063319	BS00063324
BS00063336	BS00063341
BS00063342	BS00063346
BS00063347	BS00063351
BS00063358	BS00063363
BS00063364	BS00063370
BS00063371	BS00063377
BS00063383	BS00063389
BS00063390	BS00063399
BS00063400	BS00063406
BS00063407	BS00063414
BS00063415	BS00063423
BS00063424	BS00063432
BS00063433	BS00063444
BS00063455	BS00063464
BS00063465	BS00063470
BS00063485	BS00063494
BS00063495	BS00063504
BS00063505	BS00063514
BS00063547	BS00063559
BS00063571	BS00063573
BS00063594	BS00063633
BS00063634	BS00063692
BS00063693	BS00063717
BS00063718	BS00063719
BS00063722	BS00063723
BS00063724	BS00063725
BS00063729	BS00063730
BS00063731	BS00063732
BS00063733	BS00063734
BS00063735	BS00063736
BS00063737	BS00063738
BS00063739	BS00063749
BS00063750	BS00063761
BS00063762	BS00063773
BS00063774	BS00063786
BS00063851	BS00063878
BS00063962	BS00063979
BS00063986	BS00064009
BS00064010	BS00064042
BS00064050	BS00064057
BS00064058	BS00064066
BS00064076	BS00064086
BS00064087	BS00064097
BS00064120	BS00064129

GCC-P 0084932	GCC-P 0085024
GCC-P 0085774	GCC-P 0085813
GCC-P 0085818	GCC-P 0085819
GCC-P 0086278	GCC-P 0086278
GCC-P 0086279	GCC-P 0086373
GCC-P 0086374	GCC-P 0086468
GCC-P 0087015	GCC-P 0087015
GCC-P 0087017	GCC-P 0087018
GCC-P 0088217	GCC-P 0088217
GCC-P 0088304	GCC-P 0088406
GCC-P 0088407	GCC-P 0088509
GCC-P 0088510	GCC-P 0088510
GCC-P 0088806	GCC-P 0088806
GCC-P 0088815	GCC-P 0088815
GCC-P 0089238	GCC-P 0089238
GCC-P 0089748	GCC-P 0089748
GCC-P 0089809	GCC-P 0089910
GCC-P 0089911	GCC-P 0090012
GCC-P 0090497	GCC-P 0090497
GCC-P 0090498	GCC-P 0090498
GCC-P 0090502	GCC-P 0090506
GCC-P 0091026	GCC-P 0091026
GCC-P 0091027	GCC-P 0091127
GCC-P 0091128	GCC-P 0091228
GCC-P 0092417	GCC-P 0092417
GCC-P 0092418	GCC-P 0092418
GCC-P 0092977	GCC-P 0092977
GCC-P 0092980	GCC-P 0092980
GCC-P 0092982	GCC-P 0093086
GCC-P 0093087	GCC-P 0093191
GCC-P 0093673	GCC-P 0093673
GCC-P 0093678	GCC-P 0093678
GCC-P 0093679	GCC-P 0093679
GCC-P 0093688	GCC-P 0093688
GCC-P 0094974	GCC-P 0094974
GCC-P 0094977	GCC-P 0095082
GCC-P 0095083	GCC-P 0095188
GCC-P 0095192	GCC-P 0095199
GCC-P 0095200	GCC-P 0095209
GCC-P 0096010	GCC-P 0096010
GCC-P 0096019	GCC-P 0096019
GCC-P 0096020	GCC-P 0096020
GCC-P 0096618	GCC-P 0096618
GCC-P 0096619	GCC-P 0096619
GCC-P 0096620	GCC-P 0096620
GCC-P 0096621	GCC-P 0096626
GCC-P 0096627	GCC-P 0096631

Schedule A to Appendix II

BS00064130	BS00064139
BS00064140	BS00064149
BS00064195	BS00064882
BS00064883	BS00064892
BS00064893	BS00064901
BS00064902	BS00064906
BS00064908	BS00064967
BS00064968	BS00064991
BS00065068	BS00065084
BS00065085	BS00065105
BS00065106	BS00065134
BS00065137	BS00065168
BS00065220	BS00065234
BS00065313	BS00065341
BS00065342	BS00065365
BS00065386	BS00065406
BS00065438	BS00065471
BS00065733	BS00065733
BS00065752	BS00065773
BS00065774	BS00065810
BS00065813	BS00065815
BS00065851	BS00065862
BS00065898	BS00065920
BS00065946	BS00066018
BS00066019	BS00066042
BS00066137	BS00066196
BS00066197	BS00066225
BS00067121	BS00067121
BS00067122	BS00067142
BS00067222	BS00067241
BS00067370	BS00067398
BS00067399	BS00067428
BS00067713	BS00067713
BS00067714	BS00067722
BS00067833	BS00067833
BS00067834	BS00067857
BS00067891	BS00067911
BS00068057	BS00068072
BS00068117	BS00068131
BS00068284	BS00068302
BS00068589	BS00068612
BS00068641	BS00068656
BS00068821	BS00068833
BS00068954	BS00069015
BS00069016	BS00069040
BS00069901	BS00069962
BS00069963	BS00069987

GCC-P 0096636	GCC-P 0096641
GCC-P 0096654	GCC-P 0096654
GCC-P 0096665	GCC-P 0096665
GCC-P 0096667	GCC-P 0096667
GCC-P 0096800	GCC-P 0096800
GCC-P 0096801	GCC-P 0096801
GCC-P 0096805	GCC-P 0096805
GCC-P 0096809	GCC-P 0096915
GCC-P 0096916	GCC-P 0097022
GCC-P 0097061	GCC-P 0097061
GCC-P 0098806	GCC-P 0098821
GCC-P 0098822	GCC-P 0098837
GCC-P 0098845	GCC-P 0098845
GCC-P 0098846	GCC-P 0098846
GCC-P 0098847	GCC-P 0098847
GCC-P 0098848	GCC-P 0098848
GCC-P 0098850	GCC-P 0098955
GCC-P 0098956	GCC-P 0099061
GCC-P 0099650	GCC-P 0099650
GCC-P 0099651	GCC-P 0099651
GCC-P 0099824	GCC-P 0099824
GCC-P 0100311	GCC-P 0100352
GCC-P 0100425	GCC-P 0100466
GCC-P 0101204	GCC-P 0101204
GCC-P 0101205	GCC-P 0101205
GCC-P 0101206	GCC-P 0101206
GCC-P 0101207	GCC-P 0101312
GCC-P 0101313	GCC-P 0101418
GCC-P 0101420	GCC-P 0101420
GCC-P 0101516	GCC-P 0101516
GCC-P 0101517	GCC-P 0101517
GCC-P 0102056	GCC-P 0102056
GCC-P 0102057	GCC-P 0102057
GCC-P 0102148	GCC-P 0102148
GCC-P 0102149	GCC-P 0102149
GCC-P 0102150	GCC-P 0102150
GCC-P 0102151	GCC-P 0102151
GCC-P 0102334	GCC-P 0102334
GCC-P 0102335	GCC-P 0102335
GCC-P 0102595	GCC-P 0102595
GCC-P 0103194	GCC-P 0103303
GCC-P 0103304	GCC-P 0103413
GCC-P 0103414	GCC-P 0103523
GCC-P 0103524	GCC-P 0103633
GCC-P 0103646	GCC-P 0103757
GCC-P 0103758	GCC-P 0103869
GCC-P 0104438	GCC-P 0104438

Schedule A to Appendix II

BS00070653	BS00070654
BS00070918	BS00070937
BS00070981	BS00070995
BS00071207	BS00071219
BS00071240	BS00071255
BS00071398	BS00071470
BS00071538	BS00071597
BS00071728	BS00071756
BS00071757	BS00071786
BS00071789	BS00071789
BS00071790	BS00071810
BS00072100	BS00072115
BS00072132	BS00072150
BS00072342	BS00072365
BS00072411	BS00072416
BS00072417	BS00072430
BS00072431	BS00072444
BS00072445	BS00072457
BS00072458	BS00072470
BS00072471	BS00072483
BS00072484	BS00072495
BS00072496	BS00072506
BS00072507	BS00072516
BS00072517	BS00072525
BS00072526	BS00072535
BS00072536	BS00072545
BS00072549	BS00072592
BS00072593	BS00072625
BS00072639	BS00072652
BS00072653	BS00072678
BS00072679	BS00072738
BS00072739	BS00072767
BS00072769	BS00072780
BS00072807	BS00072816
BS00072817	BS00072826
BS00072827	BS00072836
BS00072847	BS00072857
BS00072858	BS00072868
BS00072879	BS00072885
BS00072914	BS00072942
BS00072979	BS00072998
BS00072999	BS00073009
BS00073010	BS00073019
BS00073020	BS00073029
BS00073030	BS00073039
BS00073040	BS00073049
BS00073060	BS00073070

GCC-P 0104439	GCC-P 0104439
GCC-P 0104452	GCC-P 0104452
GCC-P 0104453	GCC-P 0104453
GCC-P 0104833	GCC-P 0104833
GCC-P 0105007	GCC-P 0105007
GCC-P 0105079	GCC-P 0105085
GCC-P 0105364	GCC-P 0105364
GCC-P 0105436	GCC-P 0105468
GCC-P 0105875	GCC-P 0105875
GCC-P 0105876	GCC-P 0105876
GCC-P 0106050	GCC-P 0106050
GCC-P 0106061	GCC-P 0106061
GCC-P 0106068	GCC-P 0106069
GCC-P 0106366	GCC-P 0106366
GCC-P 0106500	GCC-P 0106500
GCC-P 0107070	GCC-P 0107070
GCC-P 0107637	GCC-P 0107741
GCC-P 0107742	GCC-P 0107846
GCC-P 0107885	GCC-P 0107885
GCC-P 0107887	GCC-P 0107887
GCC-P 0108108	GCC-P 0108108
GCC-P 0109047	GCC-P 0109047
GCC-P 0109048	GCC-P 0109048
GCC-P 0109054	GCC-P 0109054
GCC-P 0109057	GCC-P 0109153
GCC-P 0109154	GCC-P 0109250
GCC-P 0109812	GCC-P 0109812
GCC-P 0109815	GCC-P 0109815
GCC-P 0109816	GCC-P 0109816
GCC-P 0110407	GCC-P 0110407
GCC-P 0111280	GCC-P 0111280
GCC-P 0111294	GCC-P 0111294
GCC-P 0111491	GCC-P 0111491
GCC-P 0111493	GCC-P 0111493
GCC-P 0111501	GCC-P 0111501
GCC-P 0111502	GCC-P 0111502
GCC-P 0112067	GCC-P 0112067
GCC-P 0112068	GCC-P 0112068
GCC-P 0112069	GCC-P 0112167
GCC-P 0112168	GCC-P 0112266
GCC-P 0112268	GCC-P 0112268
GCC-P 0112269	GCC-P 0112368
GCC-P 0112564	GCC-P 0112564
GCC-P 0112565	GCC-P 0112565
GCC-P 0112568	GCC-P 0112568
GCC-P 0112597	GCC-P 0112658
GCC-P 0113056	GCC-P 0113056

Schedule A to Appendix II

BS00073071	BS00073079
BS00073232	BS00073240
BS00073255	BS00073261
BS00073292	BS00073304
BS00073400	BS00073401
BS00073408	BS00073467
BS00073468	BS00073499
BS00073500	BS00073540
BS00073541	BS00073573
BS00073691	BS00073697
BS00073753	BS00073755
BS00073756	BS00073759
BS00073760	BS00073763
BS00073764	BS00073766
BS00073967	BS00073973
BS00074042	BS00074082
BS00074083	BS00074108
BS00074109	BS00074141
BS00074143	BS00074157
BS00074158	BS00074170
BS00074171	BS00074182
BS00074183	BS00074194
BS00074195	BS00074206
BS00074235	BS00074236
BS00074237	BS00074239
BS00074240	BS00074241
BS00074243	BS00074244
BS00074245	BS00074246
BS00074247	BS00074248
BS00074250	BS00074251
BS00074252	BS00074254
BS00074255	BS00074257
BS00074258	BS00074259
BS00074260	BS00074262
BS00074263	BS00074264
BS00074266	BS00074267
BS00074268	BS00074270
BS00074271	BS00074272
BS00074369	BS00074426
BS00074440	BS00074460
BS00074461	BS00074478
BS00074479	BS00074492
BS00074510	BS00074540
BS00074638	BS00074674
BS00074710	BS00074751
BS00074752	BS00074786
BS00074787	BS00074820

GCC-P 0113058	GCC-P 0113058
GCC-P 0113100	GCC-P 0113101
GCC-P 0113110	GCC-P 0113110
GCC-P 0113132	GCC-P 0113132
GCC-P 0113143	GCC-P 0113152
GCC-P 0113156	GCC-P 0113156
GCC-P 0113323	GCC-P 0113323
GCC-P 0113336	GCC-P 0113336
GCC-P 0113478	GCC-P 0113537
GCC-P 0113543	GCC-P 0113543
GCC-P 0113546	GCC-P 0113546
GCC-P 0113553	GCC-P 0113553
GCC-P 0113577	GCC-P 0113577
GCC-P 0113769	GCC-P 0113769
GCC-P 0113770	GCC-P 0113770
GCC-P 0114178	GCC-P 0114178
GCC-P 0114179	GCC-P 0114179
GCC-P 0114180	GCC-P 0114180
GCC-P 0114181	GCC-P 0114181
GCC-P 0114242	GCC-P 0114242
GCC-P 0114257	GCC-P 0114257
GCC-P 0114284	GCC-P 0114284
GCC-P 0114286	GCC-P 0114286
GCC-P 0114301	GCC-P 0114301
GCC-P 0114304	GCC-P 0114304
GCC-P 0114309	GCC-P 0114309
GCC-P 0114310	GCC-P 0114310
GCC-P 0114311	GCC-P 0114311
GCC-P 0114336	GCC-P 0114336
GCC-P 0114434	GCC-P 0114434
GCC-P 0114443	GCC-P 0114443
GCC-P 0114456	GCC-P 0114456
GCC-P 0114478	GCC-P 0114478
GCC-P 0114481	GCC-P 0114481
GCC-P 0114644	GCC-P 0114644
GCC-P 0114645	GCC-P 0114645
GCC-P 0114650	GCC-P 0114650
GCC-P 0114693	GCC-P 0114693
GCC-P 0114694	GCC-P 0114694
GCC-P 0114788	GCC-P 0114788
GCC-P 0114789	GCC-P 0114789
GCC-P 0114791	GCC-P 0114791
GCC-P 0114798	GCC-P 0114842
GCC-P 0114843	GCC-P 0114887
GCC-P 0114888	GCC-P 0114932
GCC-P 0114934	GCC-P 0114978
GCC-P 0114979	GCC-P 0115023

Schedule A to Appendix II

BS00074996	BS00075023
BS00075041	BS00075049
BS00075185	BS00075296
BS00075309	BS00075311
BS00075313	BS00075339
BS00075340	BS00075399
BS00075400	BS00075425
BS00075462	BS00075474
BS00075475	BS00075487
BS00075488	BS00075501
BS00075507	BS00075553
BS00075554	BS00075596
BS00075750	BS00075753
BS00075769	BS00075771
BS00075834	BS00075845
BS00075853	BS00075859
BS00075866	BS00075866
BS00075873	BS00075874
BS00075876	BS00075877
BS00076555	BS00076563
BS00076565	BS00076586
BS00076587	BS00076590
BS00076591	BS00076593
BS00076598	BS00076619
BS00076620	BS00076623
BS00076624	BS00076626
BS00076699	BS00076699
BS00076703	BS00076704
BS00076705	BS00076706
BS00076707	BS00076709
BS00076743	BS00076751
BS00076763	BS00076768
BS00076770	BS00076773
BS00076774	BS00076780
BS00076794	BS00076820
BS00077162	BS00077163
BS00077164	BS00077165
BS00077232	BS00077232
BS00077233	BS00077233
BS00077234	BS00077234
BS00077237	BS00077267
BS00077268	BS00077294
BS00077295	BS00077297
BS00077303	BS00077303
BS00077307	BS00077307
BS00077359	BS00077444
BS00077446	BS00077531

GCC-P 0115039	GCC-P 0115039
GCC-P 0115042	GCC-P 0115042
GCC-P 0115048	GCC-P 0115048
GCC-P 0115071	GCC-P 0115071
GCC-P 0115458	GCC-P 0115458
GCC-P 0115463	GCC-P 0115463
GCC-P 0115483	GCC-P 0115483
GCC-P 0115511	GCC-P 0115520
GCC-P 0115541	GCC-P 0115541
GCC-P 0115558	GCC-P 0115558
GCC-P 0115588	GCC-P 0115588
GCC-P 0115592	GCC-P 0115592
GCC-P 0115593	GCC-P 0115593
GCC-P 0115765	GCC-P 0115765
GCC-P 0115814	GCC-P 0115814
GCC-P 0115836	GCC-P 0115836
GCC-P 0115839	GCC-P 0115839
GCC-P 0115845	GCC-P 0115845
GCC-P 0115853	GCC-P 0115853
GCC-P 0115872	GCC-P 0115872
GCC-P 0115880	GCC-P 0115880
GCC-P 0115901	GCC-P 0115901
GCC-P 0115907	GCC-P 0115907
GCC-P 0115908	GCC-P 0115908
GCC-P 0116079	GCC-P 0116080
GCC-P 0116081	GCC-P 0116082
GCC-P 0116198	GCC-P 0116198
GCC-P 0116202	GCC-P 0116202
GCC-P 0116203	GCC-P 0116203
GCC-P 0116204	GCC-P 0116204
GCC-P 0116504	GCC-P 0116504
GCC-P 0116529	GCC-P 0116529
GCC-P 0116530	GCC-P 0116530
GCC-P 0116675	GCC-P 0116897
GCC-P 0116990	GCC-P 0116990
GCC-P 0117005	GCC-P 0117006
GCC-P 0117009	GCC-P 0117009
GCC-P 0117010	GCC-P 0117010
GCC-P 0117015	GCC-P 0117015
GCC-P 0117022	GCC-P 0117022
GCC-P 0117027	GCC-P 0117033
GCC-P 0117040	GCC-P 0117040
GCC-P 0117045	GCC-P 0117045
GCC-P 0117556	GCC-P 0117556
GCC-P 0117560	GCC-P 0117560
GCC-P 0117572	GCC-P 0117572
GCC-P 0117600	GCC-P 0117600

Schedule A to Appendix II

BS00077533	BS00077618
BS00077626	BS00077711
BS00077714	BS00077799
BS00077874	BS00077959
BS00077961	BS00078046
BS00078047	BS00078050
BS00078051	BS00078146
BS00078197	BS00078292
BS00078337	BS00078423
BS00078499	BS00078594
BS00078595	BS00078597
BS00078598	BS00078601
BS00078602	BS00078615
BS00078656	BS00078673
BS00078679	BS00078679
BS00078680	BS00078688
BS00078689	BS00078706
BS00078707	BS00078707
BS00078819	BS00078820
BS00078821	BS00078823
BS00078837	BS00078841
BS00078850	BS00078855
BS00078856	BS00078862
BS00078863	BS00078870
BS00078871	BS00078880
BS00078954	BS00078957
BS00078989	BS00078990
BS00078991	BS00078992
BS00078993	BS00078996
BS00078997	BS00078998
BS00078999	BS00079000
BS00079003	BS00079005
BS00079006	BS00079008
BS00079035	BS00079036
BS00079037	BS00079039
BS00079064	BS00079066
BS00079124	BS00079130
BS00079131	BS00079139
BS00079140	BS00079149
BS00079150	BS00079161
BS00079162	BS00079173
BS00079174	BS00079186
BS00079196	BS00079204
BS00079249	BS00079251
BS00079304	BS00079309
BS00079310	BS00079317
BS00079355	BS00079357

GCC-P 0117601	GCC-P 0117601
GCC-P 0117657	GCC-P 0117657
GCC-P 0117658	GCC-P 0117658
GCC-P 0122952	GCC-P 0122954
GCC-P 0122997	GCC-P 0122999
GCC-P 0123000	GCC-P 0123003
GCC-P 0123005	GCC-P 0123008
GCC-P 0123015	GCC-P 0123018
GCC-P 0123019	GCC-P 0123022
GCC-P 0123023	GCC-P 0123027
GCC-P 0123028	GCC-P 0123031
GCC-P 0123253	GCC-P 0123254
GCC-P 0123256	GCC-P 0123257
GCC-P 0123259	GCC-P 0123260
GCC-P 0123261	GCC-P 0123262
GCC-P 0123267	GCC-P 0123268
GCC-P 0123274	GCC-P 0123275
GCC-P 0123276	GCC-P 0123278
GCC-P 0123280	GCC-P 0123282
GCC-P 0123285	GCC-P 0123290
GCC-P 0123302	GCC-P 0123303
GCC-P 0123304	GCC-P 0123305
GCC-P 0123306	GCC-P 0123308
GCC-P 0123312	GCC-P 0123313
GCC-P 0123319	GCC-P 0123320
GCC-P 0123336	GCC-P 0123338
GCC-P 0123339	GCC-P 0123342
GCC-P 0123454	GCC-P 0123455
GCC-P 0123457	GCC-P 0123458
GCC-P 0123460	GCC-P 0123461
GCC-P 0123468	GCC-P 0123469
GCC-P 0123658	GCC-P 0123659
GCC-P 0123712	GCC-P 0123713
GCC-P 0123714	GCC-P 0123715
GCC-P 0123716	GCC-P 0123717
GCC-P 0123908	GCC-P 0123909
GCC-P 0124242	GCC-P 0124242
GCC-P 0124465	GCC-P 0124465
GCC-P 0124737	GCC-P 0124737
GCC-P 0124738	GCC-P 0124738
GCC-P 0124746	GCC-P 0124747
GCC-P 0124748	GCC-P 0124748
GCC-P 0124749	GCC-P 0124749
GCC-P 0124750	GCC-P 0124750
GCC-P 0124751	GCC-P 0124751
GCC-P 0125101	GCC-P 0125102
GCC-P 0125104	GCC-P 0125104

Schedule A to Appendix II

BS00079366	BS00079372
BS00079373	BS00079380
BS00079381	BS00079389
BS00079390	BS00079392
BS00079393	BS00079402
BS00079405	BS00079415
BS00079416	BS00079428
BS00079429	BS00079442
BS00079445	BS00079458
BS00079459	BS00079473
BS00079474	BS00079476
BS00079480	BS00079482
BS00079483	BS00079486
BS00079490	BS00079493
BS00079532	BS00079533
BS00079538	BS00079542
BS00079543	BS00079547
BS00079548	BS00079552
BS00079653	BS00079653
BS00079693	BS00079693
BS00079723	BS00079725
BS00079730	BS00079731
BS00079732	BS00079734
BS00079735	BS00079738
BS00079740	BS00079743
BS00080138	BS00080139
BS00080140	BS00080141
BS00080226	BS00080227
BS00080274	BS00080277
BS00080278	BS00080279
BS00080280	BS00080282
BS00080283	BS00080286
BS00080297	BS00080297
BS00080320	BS00080320
BS00080323	BS00080325
BS00080449	BS00080451
BS00080455	BS00080455
BS00080456	BS00080457
BS00080458	BS00080460
BS00080461	BS00080463
BS00080464	BS00080467
BS00080526	BS00080531
BS00080534	BS00080535
BS00080536	BS00080538
BS00080545	BS00080548
BS00080643	BS00080659
BS00080665	BS00080666

GCC-P 0125135	GCC-P 0125136
GCC-P 0125300	GCC-P 0125300
GCC-P 0125301	GCC-P 0125301
GCC-P 0125302	GCC-P 0125302
GCC-P 0125828	GCC-P 0125828
GCC-P 0125829	GCC-P 0125829
GCC-P 0125831	GCC-P 0125831
GCC-P 0126318	GCC-P 0126320
GCC-P 0126321	GCC-P 0126323
GCC-P 0126324	GCC-P 0126327
GCC-P 0126342	GCC-P 0126346
GCC-P 0126432	GCC-P 0126436
GCC-P 0126437	GCC-P 0126441
GCC-P 0126480	GCC-P 0126516
GCC-P 0126543	GCC-P 0126543
GCC-P 0126566	GCC-P 0126566
GCC-P 0126624	GCC-P 0126624
GCC-P 0126684	GCC-P 0126687
GCC-P 0126688	GCC-P 0126692
GCC-P 0127520	GCC-P 0127520
GCC-P 0127576	GCC-P 0127576
GCC-P 0127577	GCC-P 0127577
GCC-P 0127652	GCC-P 0127652
GCC-P 0127662	GCC-P 0127662
GCC-P 0127669	GCC-P 0127670
GCC-P 0127679	GCC-P 0127681
GCC-P 0127683	GCC-P 0127686
GCC-P 0127688	GCC-P 0127691
GCC-P 0127693	GCC-P 0127696
GCC-P 0127697	GCC-P 0127703
GCC-P 0127707	GCC-P 0127711
GCC-P 0127719	GCC-P 0127721
GCC-P 0127998	GCC-P 0127999
GCC-P 0128000	GCC-P 0128002
GCC-P 0128004	GCC-P 0128006
GCC-P 0128008	GCC-P 0128010
GCC-P 0128019	GCC-P 0128021
GCC-P 0128023	GCC-P 0128024
GCC-P 0128026	GCC-P 0128027
GCC-P 0128496	GCC-P 0128497
GCC-P 0128540	GCC-P 0128541
GCC-P 0128548	GCC-P 0128549
GCC-P 0128681	GCC-P 0128682
GCC-P 0128884	GCC-P 0128885
GCC-P 0128888	GCC-P 0128889
GCC-P 0128919	GCC-P 0128920
GCC-P 0128921	GCC-P 0128922

Schedule A to Appendix II

BS00080688	BS00080688
BS00080703	BS00080703
BS00080704	BS00080704
BS00080705	BS00080706
BS00080725	BS00080726
BS00080727	BS00080727
BS00080728	BS00080729
BS00080730	BS00080731
BS00080793	BS00080794
BS00080795	BS00080797
BS00080804	BS00080805
BS00080808	BS00080809
BS00080818	BS00080820
BS00080821	BS00080821
BS00080822	BS00080823
BS00080856	BS00080920
BS00080929	BS00080930
BS00081130	BS00081130
BS00081169	BS00081172
BS00081175	BS00081175
BS00081182	BS00081184
BS00081196	BS00081197
BS00081198	BS00081256
BS00081262	BS00081267
BS00081268	BS00081271
BS00081272	BS00081276
BS00081443	BS00081451
BS00081460	BS00081464
BS00081465	BS00081465
BS00081471	BS00081472
BS00081474	BS00081818
BS00081819	BS00081819
BS00081820	BS00082077
BS00082078	BS00082080
BS00082081	BS00082098
BS00082099	BS00082100
BS00082102	BS00082154
BS00082155	BS00082184
BS00082310	BS00082339
BS00082598	BS00082598
BS00082599	BS00082651
BS00082652	BS00082653
BS00082654	BS00082671
BS00082672	BS00082672
BS00082673	BS00082675
BS00082676	BS00082679
BS00082683	BS00082700

GCC-P 0128929	GCC-P 0128929
GCC-P 0128934	GCC-P 0128934
GCC-P 0128994	GCC-P 0128994
GCC-P 0129418	GCC-P 0129420
GCC-P 0129421	GCC-P 0129423
GCC-P 0130017	GCC-P 0130019
GCC-P 0130020	GCC-P 0130022
GCC-P 0130793	GCC-P 0130793
GCC-P 0130795	GCC-P 0130795
GCC-P 0130815	GCC-P 0130815
GCC-P 0130816	GCC-P 0130816
GCC-P 0130818	GCC-P 0130818
GCC-P 0130820	GCC-P 0130820
GCC-P 0130821	GCC-P 0130821
GCC-P 0130823	GCC-P 0130823
GCC-P 0131200	GCC-P 0131200
GCC-P 0131603	GCC-P 0131603
GCC-P 0131605	GCC-P 0131605
GCC-P 0131734	GCC-P 0131734
GCC-P 0131737	GCC-P 0131738
GCC-P 0131739	GCC-P 0131741
GCC-P 0131743	GCC-P 0131743
GCC-P 0131746	GCC-P 0131747
GCC-P 0131748	GCC-P 0131750
GCC-P 0131764	GCC-P 0131765
GCC-P 0131766	GCC-P 0131767
GCC-P 0131768	GCC-P 0131769
GCC-P 0131771	GCC-P 0131772
GCC-P 0131773	GCC-P 0131774
GCC-P 0131778	GCC-P 0131779
GCC-P 0131814	GCC-P 0131815
GCC-P 0131819	GCC-P 0131823
GCC-P 0131824	GCC-P 0131825
GCC-P 0131830	GCC-P 0131834
GCC-P 0131939	GCC-P 0131939
GCC-P 0131953	GCC-P 0131962
GCC-P 0131971	GCC-P 0131976
GCC-P 0132205	GCC-P 0132206
GCC-P 0132371	GCC-P 0132385
GCC-P 0132780	GCC-P 0132780
GCC-P 0132978	GCC-P 0132983
GCC-P 0133078	GCC-P 0133080
GCC-P 0133089	GCC-P 0133091
GCC-P 0133093	GCC-P 0133095
GCC-P 0133197	GCC-P 0133197
GCC-P 0133204	GCC-P 0133204
GCC-P 0133232	GCC-P 0133234

Schedule A to Appendix II

BS00082702	BS00082719
BS00082722	BS00082723
BS00082727	BS00082728
BS00082729	BS00082746
BS00082748	BS00082789
BS00082790	BS00082791
BS00082792	BS00082796
BS00082797	BS00082797
BS00082798	BS00082798
BS00082799	BS00082807
BS00082808	BS00082817
BS00082818	BS00082819
BS00082820	BS00082828
BS00082829	BS00082838
BS00082839	BS00082842
BS00082843	BS00082844
BS00082845	BS00082862
BS00082863	BS00082864
BS00082865	BS00082870
BS00082871	BS00082872
BS00082873	BS00082890
BS00082891	BS00082892
BS00082905	BS00082906
BS00082915	BS00082970
BS00082978	BS00083011
BS00083012	BS00083112
BS00083113	BS00083123
BS00083124	BS00083174
BS00083175	BS00083230
BS00083231	BS00083232
BS00083233	BS00083250
BS00083251	BS00083252
BS00083253	BS00083257
BS00083258	BS00083258
BS00083259	BS00083276
BS00083277	BS00083277
BS00083278	BS00083295
BS00083296	BS00083296
BS00083297	BS00083316
BS00083317	BS00083317
BS00083318	BS00083337
BS00083338	BS00083339
BS00083340	BS00083359
BS00083360	BS00083360
BS00083361	BS00083367
BS00083368	BS00083368
BS00083369	BS00083383

GCC-P 0133244	GCC-P 0133245
GCC-P 0133673	GCC-P 0133673
GCC-P 0133678	GCC-P 0133678
GCC-P 0133980	GCC-P 0133980
GCC-P 0133981	GCC-P 0133981
GCC-P 0133982	GCC-P 0133982
GCC-P 0133987	GCC-P 0133987
GCC-P 0133988	GCC-P 0133988
GCC-P 0133989	GCC-P 0133989
GCC-P 0134368	GCC-P 0134368
GCC-P 0134378	GCC-P 0134378
GCC-P 0134391	GCC-P 0134391
GCC-P 0134401	GCC-P 0134401
GCC-P 0134404	GCC-P 0134404
GCC-P 0134407	GCC-P 0134407
GCC-P 0134408	GCC-P 0134408
GCC-P 0134409	GCC-P 0134409
GCC-P 0134412	GCC-P 0134412
GCC-P 0134413	GCC-P 0134413
GCC-P 0134414	GCC-P 0134414
GCC-P 0134449	GCC-P 0134450
GCC-P 0134462	GCC-P 0134464
GCC-P 0134518	GCC-P 0134520
GCC-P 0134645	GCC-P 0134645
GCC-P 0134768	GCC-P 0134768
GCC-P 0134862	GCC-P 0134862
GCC-P 0135053	GCC-P 0135053
GCC-P 0135294	GCC-P 0135294
GCC-P 0135302	GCC-P 0135302
GCC-P 0135440	GCC-P 0135441
GCC-P 0135454	GCC-P 0135455
GCC-P 0135537	GCC-P 0135538
GCC-P 0135551	GCC-P 0135552
GCC-P 0136931	GCC-P 0136933
GCC-P 0136940	GCC-P 0136943
GCC-P 0136962	GCC-P 0136965
GCC-P 0136987	GCC-P 0136991
GCC-P 0136995	GCC-P 0136999
GCC-P 0137000	GCC-P 0137005
GCC-P 0137006	GCC-P 0137011
GCC-P 0137012	GCC-P 0137014
GCC-P 0137015	GCC-P 0137020
GCC-P 0137021	GCC-P 0137026
GCC-P 0137027	GCC-P 0137032
GCC-P 0137033	GCC-P 0137038
GCC-P 0137040	GCC-P 0137045
GCC-P 0138111	GCC-P 0138112

Schedule A to Appendix II

BS00083384	BS00083384
BS00083385	BS00083404
BS00083405	BS00083406
BS00083407	BS00083440
BS00083441	BS00083442
BS00083446	BS00083446
BS00083447	BS00083461
BS00083462	BS00083463
BS00083464	BS00083468
BS00083469	BS00083469
BS00083470	BS00083484
BS00083485	BS00083485
BS00083486	BS00083489
BS00083490	BS00083490
BS00083491	BS00083505
BS00083506	BS00083506
BS00083507	BS00083513
BS00083514	BS00083514
BS00083515	BS00083516
BS00083517	BS00083518
BS00083519	BS00083519
BS00083521	BS00083521
BS00083522	BS00083523
BS00083524	BS00083525
BS00083526	BS00083527
BS00083528	BS00083529
BS00083530	BS00083531
BS00083532	BS00083532
BS00083533	BS00083535
BS00083536	BS00083539
BS00083547	BS00083547
BS00083555	BS00083555
BS00083559	BS00083560
BS00083562	BS00083563
BS00083567	BS00083567
BS00083570	BS00083570
BS00083578	BS00083578
BS00083580	BS00083580
BS00083586	BS00083587
BS00083588	BS00083588
BS00083593	BS00083593
BS00083595	BS00083596
BS00083597	BS00083602
BS00083603	BS00083603
BS00083605	BS00083605
BS00083610	BS00083610
BS00083621	BS00083621

GCC-P 0138124	GCC-P 0138129
GCC-P 0138130	GCC-P 0138136
GCC-P 0138190	GCC-P 0138191
GCC-P 0138574	GCC-P 0138579
GCC-P 0138588	GCC-P 0138593
GCC-P 0138779	GCC-P 0138779
GCC-P 0138780	GCC-P 0138780
GCC-P 0138787	GCC-P 0138787
GCC-P 0138788	GCC-P 0138788
GCC-P 0138804	GCC-P 0138805
GCC-P 0138806	GCC-P 0138807
GCC-P 0139094	GCC-P 0139094
GCC-P 0139101	GCC-P 0139106
GCC-P 0139350	GCC-P 0139351
GCC-P 0139352	GCC-P 0139352
GCC-P 0139426	GCC-P 0139426
GCC-P 0139459	GCC-P 0139460
GCC-P 0139532	GCC-P 0139532
GCC-P 0139836	GCC-P 0139836
GCC-P 0140309	GCC-P 0140317
GCC-P 0140762	GCC-P 0140762
GCC-P 0140787	GCC-P 0140787
GCC-P 0140832	GCC-P 0140833
GCC-P 0141587	GCC-P 0141589
GCC-P 0141682	GCC-P 0141683
GCC-P 0141729	GCC-P 0141729
GCC-P 0141730	GCC-P 0141730
GCC-P 0141747	GCC-P 0141747
GCC-P 0141751	GCC-P 0141751
GCC-P 0141754	GCC-P 0141754
GCC-P 0141916	GCC-P 0141918
GCC-P 0141920	GCC-P 0141920
GCC-P 0142153	GCC-P 0142153
GCC-P 0142169	GCC-P 0142169
GCC-P 0143732	GCC-P 0143764
GCC-P 0145074	GCC-P 0145083
GCC-P 0145181	GCC-P 0145190
GCC-P 0145191	GCC-P 0145194
GCC-P 0145202	GCC-P 0145211
GCC-P 0145244	GCC-P 0145253
GCC-P 0145311	GCC-P 0145320
GCC-P 0145382	GCC-P 0145383
GCC-P 0145384	GCC-P 0145385
GCC-P 0145387	GCC-P 0145388
GCC-P 0145396	GCC-P 0145397
GCC-P 0145398	GCC-P 0145399
GCC-P 0145401	GCC-P 0145402

Schedule A to Appendix II

BS00083626	BS00083627
BS00083633	BS00083633
BS00083635	BS00083635
BS00083636	BS00083637
BS00083638	BS00083640
BS00083641	BS00083643
BS00083652	BS00083654
BS00083656	BS00083659
BS00083660	BS00083660
BS00083669	BS00083669
BS00083747	BS00083750
BS00084859	BS00084859
BS00084895	BS00084935
BS00084974	BS00084975
BS00085003	BS00085006
BS00085656	BS00085659
BS00085677	BS00085682
BS00086781	BS00086785
BS00086786	BS00086787
BS00086788	BS00086788
BS00087500	BS00087501
BS00088203	BS00088205
BS00089569	BS00089572
BS00089574	BS00089581
BS00089612	BS00089618
BS00089628	BS00089631
BS00089659	BS00089660
BS00090352	BS00090360
BS00090370	BS00090383
BS00090414	BS00090415
BS00090417	BS00090419
BS00090421	BS00090424
BS00090434	BS00090436
BS00090438	BS00090440
BS00090442	BS00090444
BS00090451	BS00090745
BS00091160	BS00091163
BS00092113	BS00092116
BS00092118	BS00092121
BS00092123	BS00092136
BS00092138	BS00092188
BS00092190	BS00092240
BS00092258	BS00092314
BS00092316	BS00092321
BS00092325	BS00092332
BS00092333	BS00092339
BS00092340	BS00092340

GCC-P 0145406	GCC-P 0145407
GCC-P 0145414	GCC-P 0145415
GCC-P 0145417	GCC-P 0145426
GCC-P 0145431	GCC-P 0145440
GCC-P 0145455	GCC-P 0145464
GCC-P 0145491	GCC-P 0145500
GCC-P 0145531	GCC-P 0145540
GCC-P 0145583	GCC-P 0145585
GCC-P 0145586	GCC-P 0145589
GCC-P 0145608	GCC-P 0145617
GCC-P 0145639	GCC-P 0145648
GCC-P 0146035	GCC-P 0146035
GCC-P 0146601	GCC-P 0146601
GCC-P 0146602	GCC-P 0146602
GCC-P 0146632	GCC-P 0146633
GCC-P 0147462	GCC-P 0148350
GCC-P 0149486	GCC-P 0149486
GCC-P 0149487	GCC-P 0149488
GCC-P 0149553	GCC-P 0149553
GCC-P 0149797	GCC-P 0149798
GCC-P 0149800	GCC-P 0149801
GCC-P 0149941	GCC-P 0149941
GCC-P 0150408	GCC-P 0150408
GCC-P 0150568	GCC-P 0150569
GCC-P 0151637	GCC-P 0151638
GCC-P 0151639	GCC-P 0151649
GCC-P 0151650	GCC-P 0151651
GCC-P 0151652	GCC-P 0151662
GCC-P 0151684	GCC-P 0151684
GCC-P 0151687	GCC-P 0151687
GCC-P 0151691	GCC-P 0151691
GCC-P 0151695	GCC-P 0151695
GCC-P 0152946	GCC-P 0152946
GCC-P 0152971	GCC-P 0152971
GCC-P 0152973	GCC-P 0152974
GCC-P 0152978	GCC-P 0152978
GCC-P 0154140	GCC-P 0154141
GCC-P 0154187	GCC-P 0154188
GCC-P 0154189	GCC-P 0154190
GCC-P 0154191	GCC-P 0154192
GCC-P 0154313	GCC-P 0154315
GCC-P 0154713	GCC-P 0154713
GCC-P 0154714	GCC-P 0154714
GCC-P 0154726	GCC-P 0154726
GCC-P 0154764	GCC-P 0154766
GCC-P 0155051	GCC-P 0155051
GCC-P 0155052	GCC-P 0155052

Schedule A to Appendix II

BS00092341	BS00092342
BS00092343	BS00092344
BS00092345	BS00092346
BS00092347	BS00092348
BS00092349	BS00092392
BS00092407	BS00092408
BS00092452	BS00092454
BS00092809	BS00092823
BS00092840	BS00092842
BS00092912	BS00092912
BS00092915	BS00092915
BS00092917	BS00093002
BS00093224	BS00093319
BS00093496	BS00093496
BS00093497	BS00093498
BS00093499	BS00093501
BS00093504	BS00093533
BS00093534	BS00093563
BS00093594	BS00093649
BS00093650	BS00093707
BS00093708	BS00093744
BS00093787	BS00093844
BS00093985	BS00094013
BS00094038	BS00094043
BS00094075	BS00094121
BS00094134	BS00094229
BS00094231	BS00094334
BS00094721	BS00094725
BS00094741	BS00094757
BS00094793	BS00094800
BS00094823	BS00094849
BS00094850	BS00094866
BS00094867	BS00094895
BS00095011	BS00095039
BS00095040	BS00095079
BS00095107	BS00095128
BS00095129	BS00095149
BS00095279	BS00095280
BS00095281	BS00095293
BS00095303	BS00095306
BS00095309	BS00095354
BS00095355	BS00095400
BS00095405	BS00095450
BS00095451	BS00095496
BS00095500	BS00095546
BS00095857	BS00095901
BS00095902	BS00095946

GCC-P 0155053	GCC-P 0155053
GCC-P 0155088	GCC-P 0155088
GCC-P 0155098	GCC-P 0155099
GCC-P 0155169	GCC-P 0155169
GCC-P 0155230	GCC-P 0155230
GCC-P 0155235	GCC-P 0155237
GCC-P 0155238	GCC-P 0155240
GCC-P 0155249	GCC-P 0155249
GCC-P 0155250	GCC-P 0155250
GCC-P 0155251	GCC-P 0155251
GCC-P 0155252	GCC-P 0155252
GCC-P 0155253	GCC-P 0155253
GCC-P 0155254	GCC-P 0155255
GCC-P 0155256	GCC-P 0155256
GCC-P 0155257	GCC-P 0155257
GCC-P 0155258	GCC-P 0155259
GCC-P 0155264	GCC-P 0155265
GCC-P 0155269	GCC-P 0155270
GCC-P 0155271	GCC-P 0155272
GCC-P 0155273	GCC-P 0155274
GCC-P 0155275	GCC-P 0155278
GCC-P 0155279	GCC-P 0155282
GCC-P 0155285	GCC-P 0155288
GCC-P 0155426	GCC-P 0155430
GCC-P 0155478	GCC-P 0155478
GCC-P 0155527	GCC-P 0155527
GCC-P 0155787	GCC-P 0155787
GCC-P 0155788	GCC-P 0155792
GCC-P 0156217	GCC-P 0156217
GCC-P 0156335	GCC-P 0156335
GCC-P 0156648	GCC-P 0156648
GCC-P 0157699	GCC-P 0157699
GCC-P 0157820	GCC-P 0157820
GCC-P 0158502	GCC-P 0158502
GCC-P 0158503	GCC-P 0158504
GCC-P 0158953	GCC-P 0158953
GCC-P 0159000	GCC-P 0159000
GCC-P 0159001	GCC-P 0159001
GCC-P 0159034	GCC-P 0159034
GCC-P 0160111	GCC-P 0160111
GCC-P 0160122	GCC-P 0160122
GCC-P 0160124	GCC-P 0160124
GCC-P 0160180	GCC-P 0160180
GCC-P 0160183	GCC-P 0160183
GCC-P 0160186	GCC-P 0160186
GCC-P 0160566	GCC-P 0160566
GCC-P 0160580	GCC-P 0160580

Schedule A to Appendix II

BS00095947	BS00095991
BS00095992	BS00096036
BS00096037	BS00096083
BS00096084	BS00096130
BS00096136	BS00096181
BS00096182	BS00096227
BS00096228	BS00096273
BS00096274	BS00096319
BS00096325	BS00096369
BS00096370	BS00096414
BS00096415	BS00096461
BS00096462	BS00096508
BS00096515	BS00096590
BS00096642	BS00096672
BS00096673	BS00096730
BS00096772	BS00096773
BS00096775	BS00096878
BS00096880	BS00096982
BS00096984	BS00097086
BS00097088	BS00097190
BS00097192	BS00097294
BS00097296	BS00097398
BS00097400	BS00097502
BS00097504	BS00097606
BS00097608	BS00097711
BS00097713	BS00097844
BS00097846	BS00097951
BS00097953	BS00098058
BS00098060	BS00098164
BS00098166	BS00098167
BS00098169	BS00098201
BS00098204	BS00098220
BS00098222	BS00098242
BS00098274	BS00098377
BS00098379	BS00098482
BS00098484	BS00098587
BS00098589	BS00098692
BS00098694	BS00098797
BS00098799	BS00098900
BS00098902	BS00099040
BS00099043	BS00099193
BS00099194	BS00099201
BS00099202	BS00099204
BS00099209	BS00099312
BS00101004	BS00101031
BS00101933	BS00101943
BS00101944	BS00101945

GCC-P 0162585	GCC-P 0162585
GCC-P 0162592	GCC-P 0162592
GCC-P 0164070	GCC-P 0164071
GCC-P 0164073	GCC-P 0164074
GCC-P 0164094	GCC-P 0164095
GCC-P 0164121	GCC-P 0164122
GCC-P 0164123	GCC-P 0164124
GCC-P 0164125	GCC-P 0164126
GCC-P 0164153	GCC-P 0164153
GCC-P 0164154	GCC-P 0164154
GCC-P 0164155	GCC-P 0164156
GCC-P 0164157	GCC-P 0164158
GCC-P 0164159	GCC-P 0164160
GCC-P 0164161	GCC-P 0164162
GCC-P 0164393	GCC-P 0164394
GCC-P 0165053	GCC-P 0165053
GCC-P 0165484	GCC-P 0165484
GCC-P 0165485	GCC-P 0165485
GCC-P 0165568	GCC-P 0165569
GCC-P 0165571	GCC-P 0165572
GCC-P 0165588	GCC-P 0165590
GCC-P 0165594	GCC-P 0165596
GCC-P 0165598	GCC-P 0165599
GCC-P 0165600	GCC-P 0165602
GCC-P 0167567	GCC-P 0167567
GCC-P 0167568	GCC-P 0167568
GCC-P 0167569	GCC-P 0167569
GCC-P 0167570	GCC-P 0167571
GCC-P 0167572	GCC-P 0167573
GCC-P 0167575	GCC-P 0167576
GCC-P 0167714	GCC-P 0167714
GCC-P 0167715	GCC-P 0167715
GCC-P 0168853	GCC-P 0168853
GCC-P 0168959	GCC-P 0168959
GCC-P 0168963	GCC-P 0168963
GCC-P 0168999	GCC-P 0168999
GCC-P 0169061	GCC-P 0169061
GCC-P 0169065	GCC-P 0169066
GCC-P 0169158	GCC-P 0170433
GCC-P 0170506	GCC-P 0170506
GCC-P 0170507	GCC-P 0170507
GCC-P 0171955	GCC-P 0171955
GCC-P 0172013	GCC-P 0172013
GCC-P 0172048	GCC-P 0172048
GCC-P 0172620	GCC-P 0172620
GCC-P 0172624	GCC-P 0172624
GCC-P 0172626	GCC-P 0172626

Schedule A to Appendix II

BS00101946	BS00101955
BS00101956	BS00101966
BS00101967	BS00101977
BS00101978	BS00101985
BS00101986	BS00101995
BS00101996	BS00102006
BS00102007	BS00102018
BS00102019	BS00102028
BS00102068	BS00102076
BS00102077	BS00102085
BS00102086	BS00102096
BS00102097	BS00102105
BS00102106	BS00102114
BS00102117	BS00102125
BS00102126	BS00102133
BS00102134	BS00102141
BS00102142	BS00102154
BS00102155	BS00102165
BS00102166	BS00102175
BS00102176	BS00102185
BS00102186	BS00102196
BS00102207	BS00102217
BS00102218	BS00102228
BS00102232	BS00102242
BS00102243	BS00102254
BS00102255	BS00102265
BS00102266	BS00102273
BS00102274	BS00102281
BS00102287	BS00102296
BS00102297	BS00102306
BS00102307	BS00102309
BS00102313	BS00102322
BS00102325	BS00102333
BS00102427	BS00102452
BS00104476	BS00104481
BS00104482	BS00104484
BS00104485	BS00104487
BS00104509	BS00104510
BS00104511	BS00104512
BS00104513	BS00104514
BS00104515	BS00104516
BS00104523	BS00104561
BS00104562	BS00104578
BS00104584	BS00104584
BS00104598	BS00104600
BS00104605	BS00104606
BS00104620	BS00104667

GCC-P 0172716	GCC-P 0172716
GCC-P 0172717	GCC-P 0172717
GCC-P 0172725	GCC-P 0172725
GCC-P 0172726	GCC-P 0172726
GCC-P 0172993	GCC-P 0172993
GCC-P 0173016	GCC-P 0173016
GCC-P 0173018	GCC-P 0173018
GCC-P 0173020	GCC-P 0173020
GCC-P 0173028	GCC-P 0173028
GCC-P 0173030	GCC-P 0173030
GCC-P 0173540	GCC-P 0173541
GCC-P 0173542	GCC-P 0173543
GCC-P 0173596	GCC-P 0173597
GCC-P 0173601	GCC-P 0173602
GCC-P 0173603	GCC-P 0173604
GCC-P 0174215	GCC-P 0174215
GCC-P 0174239	GCC-P 0174239
GCC-P 0175001	GCC-P 0175002
GCC-P 0175056	GCC-P 0175114
GCC-P 0175521	GCC-P 0175521
GCC-P 0175522	GCC-P 0175522
GCC-P 0175524	GCC-P 0175524
GCC-P 0175941	GCC-P 0175941
GCC-P 0176010	GCC-P 0176010
GCC-P 0176013	GCC-P 0176013
GCC-P 0176016	GCC-P 0176016
GCC-P 0176090	GCC-P 0176090
GCC-P 0176091	GCC-P 0176091
GCC-P 0176093	GCC-P 0176093
GCC-P 0176095	GCC-P 0176095
GCC-P 0176096	GCC-P 0176096
GCC-P 0176098	GCC-P 0176098
GCC-P 0176822	GCC-P 0176822
GCC-P 0176823	GCC-P 0176823
GCC-P 0177123	GCC-P 0177184
GCC-P 0177227	GCC-P 0177228
GCC-P 0177229	GCC-P 0177230
GCC-P 0177234	GCC-P 0177235
GCC-P 0177458	GCC-P 0177517
GCC-P 0178054	GCC-P 0178115
GCC-P 0178625	GCC-P 0178626
GCC-P 0178627	GCC-P 0178628
GCC-P 0178637	GCC-P 0178638
GCC-P 0178648	GCC-P 0178709
GCC-P 0179531	GCC-P 0179531
GCC-P 0179545	GCC-P 0179554
GCC-P 0180007	GCC-P 0180007

Schedule A to Appendix II

BS00104670	BS00104717
BS00104720	BS00104767
BS00104768	BS00104816
BS00104844	BS00104891
BS00104892	BS00104894
BS00104895	BS00104897
BS00104906	BS00104937
BS00104938	BS00104990
BS00104991	BS00105045
BS00105047	BS00105051
BS00105052	BS00105056
BS00105057	BS00105057
BS00105068	BS00105076
BS00105124	BS00105134
BS00105141	BS00105146
BS00105198	BS00105203
BS00105204	BS00105210
BS00105211	BS00105212
BS00105213	BS00105214
BS00105215	BS00105216
BS00105217	BS00105218
BS00105308	BS00105315
BS00105329	BS00105382
BS00105385	BS00105438
BS00105469	BS00105474
BS00105475	BS00105481
BS00105482	BS00105483
BS00105484	BS00105485
BS00105486	BS00105487
BS00105488	BS00105489
BS00105579	BS00105586
BS00106451	BS00106489
BS00106763	BS00106764
BS00106765	BS00106772
BS00106856	BS00106862
BS00106995	BS00106996
BS00107041	BS00107048
BS00107049	BS00107050
BS00107051	BS00107052
BS00107092	BS00107098
BS00107099	BS00107100
BS00107126	BS00107131
BS00107133	BS00107137
BS00107139	BS00107156
BS00107158	BS00107159
BS00107160	BS00107161
BS00107162	BS00107163

GCC-P 0180021	GCC-P 0180021
GCC-P 0180051	GCC-P 0180051
GCC-P 0180073	GCC-P 0180073
GCC-P 0180077	GCC-P 0180077
GCC-P 0180133	GCC-P 0180133
GCC-P 0180134	GCC-P 0180193
GCC-P 0180299	GCC-P 0180301
GCC-P 0180388	GCC-P 0180447
GCC-P 0180945	GCC-P 0180945
GCC-P 0180946	GCC-P 0180946
GCC-P 0181487	GCC-P 0181548
GCC-P 0182022	GCC-P 0182022
GCC-P 0182024	GCC-P 0182024
GCC-P 0182025	GCC-P 0182025
GCC-P 0182028	GCC-P 0182028
GCC-P 0182029	GCC-P 0182029
GCC-P 0182110	GCC-P 0182110
GCC-P 0182111	GCC-P 0182111
GCC-P 0182115	GCC-P 0182115
GCC-P 0182116	GCC-P 0182116
GCC-P 0182168	GCC-P 0182229
GCC-P 0182296	GCC-P 0182357
GCC-P 0182374	GCC-P 0182374
GCC-P 0182384	GCC-P 0182443
GCC-P 0183242	GCC-P 0183242
GCC-P 0183328	GCC-P 0183329
GCC-P 0183333	GCC-P 0183333
GCC-P 0183334	GCC-P 0183334
GCC-P 0183619	GCC-P 0183680
GCC-P 0183702	GCC-P 0183702
GCC-P 0183704	GCC-P 0183704
GCC-P 0183728	GCC-P 0183732
GCC-P 0183980	GCC-P 0184065
GCC-P 0184314	GCC-P 0184314
GCC-P 0184315	GCC-P 0184315
GCC-P 0184333	GCC-P 0184333
GCC-P 0184380	GCC-P 0184380
GCC-P 0184387	GCC-P 0184387
GCC-P 0184421	GCC-P 0184421
GCC-P 0184557	GCC-P 0184616
GCC-P 0184705	GCC-P 0184766
GCC-P 0184818	GCC-P 0184879
GCC-P 0186231	GCC-P 0186231
GCC-P 0186512	GCC-P 0186571
GCC-P 0186612	GCC-P 0186612
GCC-P 0186613	GCC-P 0186613
GCC-P 0186922	GCC-P 0186981

Schedule A to Appendix II

BS00107164	BS00107170
BS00107171	BS00107172
BS00107173	BS00107179
BS00107219	BS00107222
BS00107350	BS00107351
BS00107352	BS00107355
BS00107356	BS00107356
BS00108295	BS00108326
BS00108349	BS00108409
BS00108436	BS00108437
BS00108459	BS00108460
BS00108468	BS00108469
BS00108488	BS00108504
BS00108515	BS00108547
BS00108569	BS00108629
BS00108630	BS00108644
BS00108658	BS00108659
BS00108743	BS00108773
BS00108774	BS00108840
BS00108841	BS00108864
BS00108888	BS00108889
BS00108899	BS00108900
BS00108924	BS00108955
BS00108957	BS00108983
BS00109061	BS00109063
BS00109088	BS00109148
BS00109156	BS00109222
BS00109235	BS00109237
BS00109241	BS00109244
BS00109252	BS00109256
BS00109264	BS00109265
BS00109369	BS00109395
BS00109435	BS00109469
BS00109470	BS00109470
BS00109471	BS00109510
BS00109511	BS00109511
BS00109512	BS00109549
BS00109550	BS00109550
BS00109551	BS00109560
BS00109898	BS00109903
BS00109904	BS00109980
BS00109981	BS00110009
BS00110040	BS00110044
BS00110126	BS00110259
BS00110635	BS00110636
BS00110646	BS00110647
BS00110666	BS00110670

GCC-P 0187354	GCC-P 0187413
GCC-P 0187857	GCC-P 0187916
GCC-P 0188539	GCC-P 0188600
GCC-P 0189104	GCC-P 0189165
GCC-P 0189587	GCC-P 0189648
GCC-P 0189656	GCC-P 0189715
GCC-P 0190811	GCC-P 0190870
GCC-P 0190930	GCC-P 0190989
GCC-P 0191019	GCC-P 0191078
GCC-P 0191441	GCC-P 0191441
GCC-P 0191591	GCC-P 0191652
GCC-P 0192362	GCC-P 0192423
GCC-P 0192835	GCC-P 0192894
GCC-P 0193610	GCC-P 0193610
GCC-P 0193611	GCC-P 0193611
GCC-P 0193637	GCC-P 0193637
GCC-P 0193971	GCC-P 0194030
GCC-P 0194460	GCC-P 0194519
GCC-P 0194776	GCC-P 0194835
GCC-P 0195006	GCC-P 0195065
GCC-P 0196275	GCC-P 0196276
GCC-P 0197015	GCC-P 0197074
GCC-P 0197651	GCC-P 0197652
GCC-P 0197724	GCC-P 0197725
GCC-P 0197740	GCC-P 0197741
GCC-P 0197744	GCC-P 0197745
GCC-P 0197785	GCC-P 0197844
GCC-P 0198123	GCC-P 0198184
GCC-P 0199370	GCC-P 0199370
GCC-P 0199376	GCC-P 0199376
GCC-P 0199379	GCC-P 0199379
GCC-P 0199388	GCC-P 0199388
GCC-P 0199607	GCC-P 0199668
GCC-P 0199869	GCC-P 0199928
GCC-P 0200237	GCC-P 0200237
GCC-P 0200239	GCC-P 0200239
GCC-P 0200240	GCC-P 0200240
GCC-P 0200622	GCC-P 0200681
GCC-P 0201233	GCC-P 0201292
GCC-P 0201660	GCC-P 0201719
GCC-P 0202196	GCC-P 0202255
GCC-P 0202377	GCC-P 0202377
GCC-P 0202384	GCC-P 0202384
GCC-P 0202387	GCC-P 0202387
GCC-P 0202392	GCC-P 0202392
GCC-P 0202901	GCC-P 0202960
GCC-P 0202961	GCC-P 0203022

Schedule A to Appendix II

BS00110671	BS00110675
BS00110705	BS00110709
BS00110710	BS00110714
BS00111671	BS00111676
BS00111678	BS00111682
BS00111751	BS00111751
BS00111752	BS00111769
BS00111772	BS00111779
BS00111780	BS00111786
BS00111788	BS00111789
BS00111791	BS00111792
BS00111793	BS00111794
BS00111821	BS00111826
BS00111873	BS00111904
BS00111994	BS00111995
BS00111999	BS00112001
BS00112002	BS00112028
BS00112064	BS00112090
BS00112158	BS00112224
BS00112755	BS00112756
BS00112766	BS00112844
BS00112877	BS00112943
BS00112960	BS00112963
BS00113765	BS00113767
BS00113771	BS00113797
BS00113851	BS00113858
BS00113859	BS00113865
BS00113867	BS00113868
BS00113869	BS00113870
BS00113872	BS00113873
BS00113874	BS00113875
BS00113876	BS00113881
BS00113957	BS00113973
BS00113998	BS00114015
BS00114017	BS00114034
BS00114035	BS00114037
BS00114038	BS00114055
BS00114056	BS00114075
BS00114101	BS00114103
BS00114104	BS00114130
BS00114131	BS00114135
BS00114147	BS00114166
BS00114167	BS00114167
BS00114168	BS00114178
BS00114190	BS00114200
BS00114201	BS00114203
BS00114219	BS00114219

GCC-P 0203035	GCC-P 0203035
GCC-P 0203068	GCC-P 0203068
GCC-P 0203314	GCC-P 0203314
GCC-P 0203386	GCC-P 0203386
GCC-P 0204391	GCC-P 0204450
GCC-P 0204466	GCC-P 0204527
GCC-P 0205169	GCC-P 0205228
GCC-P 0207708	GCC-P 0207767
GCC-P 0208549	GCC-P 0208610
GCC-P 0209266	GCC-P 0209269
GCC-P 0209832	GCC-P 0209891
GCC-P 0211088	GCC-P 0211147
GCC-P 0211651	GCC-P 0211712
GCC-P 0212668	GCC-P 0212727
GCC-P 0212913	GCC-P 0212974
GCC-P 0213094	GCC-P 0213094
GCC-P 0213096	GCC-P 0213096
GCC-P 0213108	GCC-P 0213108
GCC-P 0213354	GCC-P 0213413
GCC-P 0213616	GCC-P 0213675
GCC-P 0213985	GCC-P 0214044
GCC-P 0214122	GCC-P 0214183
GCC-P 0214214	GCC-P 0214273
GCC-P 0214335	GCC-P 0214394
GCC-P 0214586	GCC-P 0214587
GCC-P 0214591	GCC-P 0214591
GCC-P 0214767	GCC-P 0214767
GCC-P 0214780	GCC-P 0214780
GCC-P 0214781	GCC-P 0214781
GCC-P 0214782	GCC-P 0214782
GCC-P 0214790	GCC-P 0214790
GCC-P 0214791	GCC-P 0214791
GCC-P 0214792	GCC-P 0214792
GCC-P 0214998	GCC-P 0214998
GCC-P 0215066	GCC-P 0215066
GCC-P 0215074	GCC-P 0215133
GCC-P 0215193	GCC-P 0215193
GCC-P 0215194	GCC-P 0215195
GCC-P 0215196	GCC-P 0215197
GCC-P 0215198	GCC-P 0215199
GCC-P 0215207	GCC-P 0215208
GCC-P 0215211	GCC-P 0215212
GCC-P 0215217	GCC-P 0215218
GCC-P 0215225	GCC-P 0215284
GCC-P 0215351	GCC-P 0215352
GCC-P 0215379	GCC-P 0215438
GCC-P 0215497	GCC-P 0215497

Schedule A to Appendix II

BS00114224	BS00114230
BS00114231	BS00114232
BS00114233	BS00114234
BS00114236	BS00114237
BS00114238	BS00114239
BS00114241	BS00114242
BS00114243	BS00114247
BS00114305	BS00114311
BS00114358	BS00114382
BS00114387	BS00114392
BS00114502	BS00114504
BS00114505	BS00114529
BS00114530	BS00114554
BS00114604	BS00114606
BS00114607	BS00114633
BS00114652	BS00114663
BS00114672	BS00114679
BS00114695	BS00114696
BS00114741	BS00114747
BS00114748	BS00114755
BS00114885	BS00114887
BS00114903	BS00114908
BS00114945	BS00114945
BS00114946	BS00114951
BS00114952	BS00114957
BS00114958	BS00114963
BS00114965	BS00114970
BS00114971	BS00114977
BS00114978	BS00114983
BS00114985	BS00114990
BS00114991	BS00115000
BS00115001	BS00115020
BS00115021	BS00115022
BS00115023	BS00115025
BS00115124	BS00115127
BS00115128	BS00115132
BS00115134	BS00115135
BS00115159	BS00115180
BS00115310	BS00115339
BS00115340	BS00115342
BS00115356	BS00115449
BS00115748	BS00115752
BS00115804	BS00115808
BS00115809	BS00115813
BS00115814	BS00115818
BS00115830	BS00115834
BS00115846	BS00115850

GCC-P 0215500	GCC-P 0215500
GCC-P 0216240	GCC-P 0216301
GCC-P 0216485	GCC-P 0216544
GCC-P 0216607	GCC-P 0216666
GCC-P 0216750	GCC-P 0216809
GCC-P 0216810	GCC-P 0216871
GCC-P 0217121	GCC-P 0217180
GCC-P 0217341	GCC-P 0217400
GCC-P 0217585	GCC-P 0217644
GCC-P 0218016	GCC-P 0218025
GCC-P 0218052	GCC-P 0218061
GCC-P 0218063	GCC-P 0218064
GCC-P 0218065	GCC-P 0218066
GCC-P 0218067	GCC-P 0218069
GCC-P 0218075	GCC-P 0218077
GCC-P 0218078	GCC-P 0218080
GCC-P 0218081	GCC-P 0218083
GCC-P 0218085	GCC-P 0218087
GCC-P 0218088	GCC-P 0218090
GCC-P 0218091	GCC-P 0218094
GCC-P 0218103	GCC-P 0218112
GCC-P 0218273	GCC-P 0218334
GCC-P 0218387	GCC-P 0218446
GCC-P 0218485	GCC-P 0218502
GCC-P 0218773	GCC-P 0218773
GCC-P 0218926	GCC-P 0218926
GCC-P 0218934	GCC-P 0218993
GCC-P 0219093	GCC-P 0219093
GCC-P 0219296	GCC-P 0219357
GCC-P 0219403	GCC-P 0219403
GCC-P 0219441	GCC-P 0219441
GCC-P 0219484	GCC-P 0219484
GCC-P 0219507	GCC-P 0219526
GCC-P 0219533	GCC-P 0219533
GCC-P 0219545	GCC-P 0219564
GCC-P 0219753	GCC-P 0219753
GCC-P 0219798	GCC-P 0219857
GCC-P 0220192	GCC-P 0220192
GCC-P 0220494	GCC-P 0220494
GCC-P 0220533	GCC-P 0220592
GCC-P 0221111	GCC-P 0221112
GCC-P 0221132	GCC-P 0221133
GCC-P 0221235	GCC-P 0221294
GCC-P 0221353	GCC-P 0221370
GCC-P 0221374	GCC-P 0221395
GCC-P 0221497	GCC-P 0221558
GCC-P 0221658	GCC-P 0221719

Schedule A to Appendix II

BS00115851	BS00115855
BS00115857	BS00116029
BS00116586	BS00116586
BS00116587	BS00116604
BS00116656	BS00116656
BS00116669	BS00116670
BS00116713	BS00116718
BS00116719	BS00116724
BS00116748	BS00116772
BS00116782	BS00116787
BS00116788	BS00116793
BS00116797	BS00116802
BS00116803	BS00116808
BS00116834	BS00116839
BS00116840	BS00116845
BS00116847	BS00116870
BS00116871	BS00116881
BS00117005	BS00117031
BS00117051	BS00117072
BS00117073	BS00117096
BS00117112	BS00117135
BS00117136	BS00117157
BS00117159	BS00117163
BS00117187	BS00117191
BS00117210	BS00117218
BS00117291	BS00117309
BS00117327	BS00117393
BS00117396	BS00117404
BS00117442	BS00117443
BS00117446	BS00117449
BS00117451	BS00117472
BS00117473	BS00117497
BS00117508	BS00117532
BS00117534	BS00117555
BS00117556	BS00117580
BS00117581	BS00117605
BS00117606	BS00117627
BS00117629	BS00117650
BS00117672	BS00117676
BS00117790	BS00117826
BS00117911	BS00117935
BS00118209	BS00118246
BS00118890	BS00118908
BS00118909	BS00118929
BS00118961	BS00118966
BS00118967	BS00118972
BS00119006	BS00119010

GCC-P 0221744	GCC-P 0221805
GCC-P 0221947	GCC-P 0221948
GCC-P 0222628	GCC-P 0222628
GCC-P 0222644	GCC-P 0222651
GCC-P 0222708	GCC-P 0222716
GCC-P 0222804	GCC-P 0222813
GCC-P 0222823	GCC-P 0222832
GCC-P 0222926	GCC-P 0222948
GCC-P 0222956	GCC-P 0222965
GCC-P 0222972	GCC-P 0222981
GCC-P 0223222	GCC-P 0223222
GCC-P 0223419	GCC-P 0223478
GCC-P 0223628	GCC-P 0223628
GCC-P 0223629	GCC-P 0223632
GCC-P 0223897	GCC-P 0223898
GCC-P 0224102	GCC-P 0224102
GCC-P 0224245	GCC-P 0224247
GCC-P 0224251	GCC-P 0224258
GCC-P 0224260	GCC-P 0224267
GCC-P 0224269	GCC-P 0224276
GCC-P 0224309	GCC-P 0224311
GCC-P 0224435	GCC-P 0224435
GCC-P 0224470	GCC-P 0224470
GCC-P 0224631	GCC-P 0224635
GCC-P 0224636	GCC-P 0224640
GCC-P 0225119	GCC-P 0225264
GCC-P 0225272	GCC-P 0225421
GCC-P 0225471	GCC-P 0225482
GCC-P 0225484	GCC-P 0225495
GCC-P 0226150	GCC-P 0226159
GCC-P 0226177	GCC-P 0226186
GCC-P 0226199	GCC-P 0226208
GCC-P 0226215	GCC-P 0226224
GCC-P 0226295	GCC-P 0226304
GCC-P 0226326	GCC-P 0226335
GCC-P 0226444	GCC-P 0226453
GCC-P 0226472	GCC-P 0226489
GCC-P 0226491	GCC-P 0226508
GCC-P 0227296	GCC-P 0227355
GCC-P 0227433	GCC-P 0227434
GCC-P 0227699	GCC-P 0227759
GCC-P 0227819	GCC-P 0227878
GCC-P 0228031	GCC-P 0228092
GCC-P 0228127	GCC-P 0228188
GCC-P 0228192	GCC-P 0228192
GCC-P 0228788	GCC-P 0228801
GCC-P 0229149	GCC-P 0229150

Schedule A to Appendix II

BS00119079	BS00119086
BS00119091	BS00119149
BS00119152	BS00119152
BS00119154	BS00119194
BS00119195	BS00119204
BS00119210	BS00119220
BS00119228	BS00119239
BS00119241	BS00119502
BS00119593	BS00119598
BS00119599	BS00119604
BS00119615	BS00119620
BS00119621	BS00119626
BS00119634	BS00119639
BS00119640	BS00119645
BS00120402	BS00120406
BS00120407	BS00120411
BS00120590	BS00120594
BS00120595	BS00120599
BS00120614	BS00120616
BS00120617	BS00120622
BS00120646	BS00120658
BS00120666	BS00120704
BS00120705	BS00120707
BS00120708	BS00120710
BS00120711	BS00120711
BS00120713	BS00120739
BS00120740	BS00120771
BS00120873	BS00120875
BS00120876	BS00120876
BS00120878	BS00120904
BS00120907	BS00120938
BS00120939	BS00120941
BS00120950	BS00120987
BS00121024	BS00121026
BS00121627	BS00121629
BS00122232	BS00122272
BS00122300	BS00122322
BS00122324	BS00122364
BS00122369	BS00122396
BS00122398	BS00122438
BS00122439	BS00122461
BS00122462	BS00122464
BS00122465	BS00122467
BS00122468	BS00122472
BS00122473	BS00122475
BS00122476	BS00122478
BS00122479	BS00122481

GCC-P 0229191	GCC-P 0229195
GCC-P 0229318	GCC-P 0229322
GCC-P 0229323	GCC-P 0229327
GCC-P 0229328	GCC-P 0229332
GCC-P 0229333	GCC-P 0229337
GCC-P 0229338	GCC-P 0229343
GCC-P 0229344	GCC-P 0229348
GCC-P 0229883	GCC-P 0229894
GCC-P 0229896	GCC-P 0229907
GCC-P 0230072	GCC-P 0230083
GCC-P 0230100	GCC-P 0230111
GCC-P 0230124	GCC-P 0230135
GCC-P 0230137	GCC-P 0230148
GCC-P 0230154	GCC-P 0230165
GCC-P 0230169	GCC-P 0230180
GCC-P 0230182	GCC-P 0230193
GCC-P 0230196	GCC-P 0230207
GCC-P 0230209	GCC-P 0230220
GCC-P 0230222	GCC-P 0230233
GCC-P 0230305	GCC-P 0230314
GCC-P 0230406	GCC-P 0230417
GCC-P 0230419	GCC-P 0230430
GCC-P 0230432	GCC-P 0230443
GCC-P 0230446	GCC-P 0230457
GCC-P 0230459	GCC-P 0230470
GCC-P 0230476	GCC-P 0230487
GCC-P 0230545	GCC-P 0230546
GCC-P 0230547	GCC-P 0230548
GCC-P 0230549	GCC-P 0230550
GCC-P 0230551	GCC-P 0230552
GCC-P 0230554	GCC-P 0230565
GCC-P 0230567	GCC-P 0230578
GCC-P 0230580	GCC-P 0230591
GCC-P 0230607	GCC-P 0230618
GCC-P 0230620	GCC-P 0230631
GCC-P 0230633	GCC-P 0230644
GCC-P 0230647	GCC-P 0230658
GCC-P 0230663	GCC-P 0230674
GCC-P 0230677	GCC-P 0230688
GCC-P 0230701	GCC-P 0230712
GCC-P 0230714	GCC-P 0230725
GCC-P 0230788	GCC-P 0230799
GCC-P 0230800	GCC-P 0230800
GCC-P 0230801	GCC-P 0230814
GCC-P 0230818	GCC-P 0230831
GCC-P 0230835	GCC-P 0230850
GCC-P 0230852	GCC-P 0230867

Schedule A to Appendix II

BS00122482	BS00122488
BS00122492	BS00122496
BS00122497	BS00122501
BS00122528	BS00122532
BS00122533	BS00122537
BS00122708	BS00122725
BS00122726	BS00122736
BS00122882	BS00122895
BS00122911	BS00122916
BS00122921	BS00122942
BS00122995	BS00123035
BS00123143	BS00123151
BS00123301	BS00123302
BS00123758	BS00123763
BS00123764	BS00123769
BS00123859	BS00123935
BS00123936	BS00123963
BS00123965	BS00123967
BS00124486	BS00124488
BS00124494	BS00124495
BS00124496	BS00124498
BS00124499	BS00124501
BS00124619	BS00124685
BS00124686	BS00124687
BS00124688	BS00124728
BS00124729	BS00124737
BS00124738	BS00124768
BS00124807	BS00124814
BS00124881	BS00124885
BS00124886	BS00124887
BS00124919	BS00124921
BS00124952	BS00124953
BS00124989	BS00124990
BS00125026	BS00125027
BS00125054	BS00125054
BS00125055	BS00125068
BS00125069	BS00125081
BS00125804	BS00125808
BS00125836	BS00125840
BS00125928	BS00125931
BS00125972	BS00126038
BS00126042	BS00126066
BS00126077	BS00126130
BS00126131	BS00126139
BS00126171	BS00126224
BS00126456	BS00126496
BS00126500	BS00126504

GCC-P 0230869	GCC-P 0230884
GCC-P 0231424	GCC-P 0231426
GCC-P 0231427	GCC-P 0231429
GCC-P 0231435	GCC-P 0231437
GCC-P 0231462	GCC-P 0231464
GCC-P 0231484	GCC-P 0231487
GCC-P 0231488	GCC-P 0231491
GCC-P 0231532	GCC-P 0231535
GCC-P 0231536	GCC-P 0231539
GCC-P 0231552	GCC-P 0231560
GCC-P 0231561	GCC-P 0231565
GCC-P 0231634	GCC-P 0231640
GCC-P 0231833	GCC-P 0231833
GCC-P 0231842	GCC-P 0231843
GCC-P 0231844	GCC-P 0231845
GCC-P 0232239	GCC-P 0232247
GCC-P 0232561	GCC-P 0232562
GCC-P 0232598	GCC-P 0232603
GCC-P 0232605	GCC-P 0232610
GCC-P 0232635	GCC-P 0232636
GCC-P 0234399	GCC-P 0234399
GCC-P 0234828	GCC-P 0234829
GCC-P 0235109	GCC-P 0235113
GCC-P 0235749	GCC-P 0235799
GCC-P 0235801	GCC-P 0235832
GCC-P 0236258	GCC-P 0236261
GCC-P 0236265	GCC-P 0236310
GCC-P 0236594	GCC-P 0236595
GCC-P 0236596	GCC-P 0236597
GCC-P 0236602	GCC-P 0236621
GCC-P 0237142	GCC-P 0237142
GCC-P 0237169	GCC-P 0237169
GCC-P 0237377	GCC-P 0237438
GCC-P 0237440	GCC-P 0237501
GCC-P 0237630	GCC-P 0237691
GCC-P 0238486	GCC-P 0238494
GCC-P 0238565	GCC-P 0238624
GCC-P 0238684	GCC-P 0238743
GCC-P 0239134	GCC-P 0239193
GCC-P 0239286	GCC-P 0239347
GCC-P 0239796	GCC-P 0239857
GCC-P 0239863	GCC-P 0239863
GCC-P 0239866	GCC-P 0239867
GCC-P 0239868	GCC-P 0239869
GCC-P 0239873	GCC-P 0239932
GCC-P 0240034	GCC-P 0240083
GCC-P 0240804	GCC-P 0240838

Schedule A to Appendix II

BS00126505	BS00126509
BS00126541	BS00126545
BS00126546	BS00126550
BS00126649	BS00126649
BS00126664	BS00126669
BS00126670	BS00126683
BS00126684	BS00126699
BS00126700	BS00126707
BS00126712	BS00126729
BS00126738	BS00126769
BS00132728	BS00132844
BS00132856	BS00132925
BS00133056	BS00133078
BS00133081	BS00133107
BS00133108	BS00133130
BS00133133	BS00133173
BS00133176	BS00133216
BS00133217	BS00133243
BS00133244	BS00133266
BS00133273	BS00133275
BS00133637	BS00133641
BS00133642	BS00133646
BS00133651	BS00133655
BS00133656	BS00133660
BS00133662	BS00133663
BS00133669	BS00133670
BS00134190	BS00134191
BS00134266	BS00134266
BS00134305	BS00134359
BS00134486	BS00134488
BS00134493	BS00134495
BS00134498	BS00134499
BS00134500	BS00134523
BS00134537	BS00134559
BS00134562	BS00134584
BS00134586	BS00134587
BS00134689	BS00134759
BS00134764	BS00134834
BS00134843	BS00134913
BS00135169	BS00135285
BS00135287	BS00135288
BS00135292	BS00135311
BS00135312	BS00135314
BS00135317	BS00135320
BS00135327	BS00135330
BS00135334	BS00135360
BS00135361	BS00135383

GCC-P 0240841	GCC-P 0240875
GCC-P 0240891	GCC-P 0240950
GCC-P 0241010	GCC-P 0241069
GCC-P 0241215	GCC-P 0241215
GCC-P 0241217	GCC-P 0241217
GCC-P 0241219	GCC-P 0241219
GCC-P 0241222	GCC-P 0241222
GCC-P 0241227	GCC-P 0241227
GCC-P 0241230	GCC-P 0241230
GCC-P 0241231	GCC-P 0241245
GCC-P 0241246	GCC-P 0241247
GCC-P 0241249	GCC-P 0241249
GCC-P 0241566	GCC-P 0241617
GCC-P 0241621	GCC-P 0241672
GCC-P 0242116	GCC-P 0242116
GCC-P 0242117	GCC-P 0242117
GCC-P 0242263	GCC-P 0242263
GCC-P 0242467	GCC-P 0242474
GCC-P 0242508	GCC-P 0242531
GCC-P 0242564	GCC-P 0242587
GCC-P 0242620	GCC-P 0242643
GCC-P 0242676	GCC-P 0242699
GCC-P 0242732	GCC-P 0242755
GCC-P 0242788	GCC-P 0242811
GCC-P 0242844	GCC-P 0242867
GCC-P 0242900	GCC-P 0242923
GCC-P 0242956	GCC-P 0242979
GCC-P 0243012	GCC-P 0243035
GCC-P 0243068	GCC-P 0243091
GCC-P 0243124	GCC-P 0243147
GCC-P 0243180	GCC-P 0243203
GCC-P 0243236	GCC-P 0243259
GCC-P 0243292	GCC-P 0243315
GCC-P 0243348	GCC-P 0243371
GCC-P 0243404	GCC-P 0243427
GCC-P 0243460	GCC-P 0243498
GCC-P 0243500	GCC-P 0243538
GCC-P 0243540	GCC-P 0243578
GCC-P 0243585	GCC-P 0243609
GCC-P 0243641	GCC-P 0243665
GCC-P 0243697	GCC-P 0243721
GCC-P 0243752	GCC-P 0243776
GCC-P 0243807	GCC-P 0243831
GCC-P 0243862	GCC-P 0243886
GCC-P 0243930	GCC-P 0243954
GCC-P 0243985	GCC-P 0244009
GCC-P 0244030	GCC-P 0244054

Schedule A to Appendix II

BS00135404	BS00135412
BS00135413	BS00135439
BS00135440	BS00135462
BS00135463	BS00135471
BS00135472	BS00135498
BS00135499	BS00135521
BS00135524	BS00135534
BS00135535	BS00135561
BS00135562	BS00135584
BS00136263	BS00136281
BS00137373	BS00137396
BS00137401	BS00137428
BS00137441	BS00137441
BS00138050	BS00138053
BS00138054	BS00138108
BS00138119	BS00138125
BS00138127	BS00138140
BS00138289	BS00138293
BS00138751	BS00138789
BS00138790	BS00138811
BS00138823	BS00138827
BS00138835	BS00138862
BS00138863	BS00138886
BS00138928	BS00138932
BS00138933	BS00138937
BS00138938	BS00138940
BS00139099	BS00139102
BS00139136	BS00139138
BS00139236	BS00139236
BS00139237	BS00139239
BS00139291	BS00139318
BS00141347	BS00141378
BS00141379	BS00141438
BS00141439	BS00141471
BS00141472	BS00141533
BS00141534	BS00141534
BS00141535	BS00141566
BS00141567	BS00141626
BS00141627	BS00141659
BS00141660	BS00141721
BS00141723	BS00141724
BS00141726	BS00141727
BS00141988	BS00141988
BS00142119	BS00142121
BS00142939	BS00142939
BS00142941	BS00142941
BS00142943	BS00142943

GCC-P 0244056	GCC-P 0244080
GCC-P 0244082	GCC-P 0244107
GCC-P 0244109	GCC-P 0244134
GCC-P 0244150	GCC-P 0244175
GCC-P 0244191	GCC-P 0244216
GCC-P 0244232	GCC-P 0244262
GCC-P 0244281	GCC-P 0244309
GCC-P 0244407	GCC-P 0244417
GCC-P 0244442	GCC-P 0244455
GCC-P 0244577	GCC-P 0244591
GCC-P 0244618	GCC-P 0244619
GCC-P 0244800	GCC-P 0244800
GCC-P 0244901	GCC-P 0244901
GCC-P 0245306	GCC-P 0245308
GCC-P 0245349	GCC-P 0245350
GCC-P 0245354	GCC-P 0245354
GCC-P 0245403	GCC-P 0245414
GCC-P 0245830	GCC-P 0245830
GCC-P 0245834	GCC-P 0245834
GCC-P 0245845	GCC-P 0245845
GCC-P 0245963	GCC-P 0245964
GCC-P 0245965	GCC-P 0245968
GCC-P 0245973	GCC-P 0245977
GCC-P 0245979	GCC-P 0245979
GCC-P 0246046	GCC-P 0246057
GCC-P 0246077	GCC-P 0246077
GCC-P 0246091	GCC-P 0246094
GCC-P 0246095	GCC-P 0246096
GCC-P 0246576	GCC-P 0246576
GCC-P 0246932	GCC-P 0246933
GCC-P 0247768	GCC-P 0247768
GCC-P 0247840	GCC-P 0247840
GCC-P 0247841	GCC-P 0247841
GCC-P 0247962	GCC-P 0247962
GCC-P 0248059	GCC-P 0248183
GCC-P 0248270	GCC-P 0248271
GCC-P 0248283	GCC-P 0248284
GCC-P 0248285	GCC-P 0248286
GCC-P 0248287	GCC-P 0248288
GCC-P 0248289	GCC-P 0248290
GCC-P 0248291	GCC-P 0248292
GCC-P 0248293	GCC-P 0248295
GCC-P 0248296	GCC-P 0248297
GCC-P 0248298	GCC-P 0248300
GCC-P 0248301	GCC-P 0248303
GCC-P 0248304	GCC-P 0248305
GCC-P 0248361	GCC-P 0248361

Schedule A to Appendix II

BS00142944	BS00142945
BS00142963	BS00142964
BS00142966	BS00142966
BS00142968	BS00142969
BS00143037	BS00143042
BS00143054	BS00143054
BS00143055	BS00143060
BS00143073	BS00143074
BS00143079	BS00143079
BS00143080	BS00143081
BS00143179	BS00143179
BS00143183	BS00143184
BS00143186	BS00143186
BS00143188	BS00143189
BS00143248	BS00143250
BS00143254	BS00143259
BS00143260	BS00143273
BS00143274	BS00143292
BS00143299	BS00143316
BS00143809	BS00143811
BS00143815	BS00143815
BS00143816	BS00143874
BS00143893	BS00143893
BS00143894	BS00143913
BS00143935	BS00143938
BS00143996	BS00143996
BS00144005	BS00144015
BS00144152	BS00144153
BS00144154	BS00144155
BS00144158	BS00144179
BS00144211	BS00144460
BS00144497	BS00144665
BS00144886	BS00144886
BS00144894	BS00144897
BS00144934	BS00144934
BS00145027	BS00145029
BS00145377	BS00145389
BS00145551	BS00145561
BS00145584	BS00145584
BS00145668	BS00145672
BS00145909	BS00145909
BS00145922	BS00145922
BS00146228	BS00146228
BS00146285	BS00146285
BS00146290	BS00146291
BS00146374	BS00146374
BS00146400	BS00146401

GCC-P 0248362	GCC-P 0248363
GCC-P 0248364	GCC-P 0248364
GCC-P 0248365	GCC-P 0248366
GCC-P 0248367	GCC-P 0248367
GCC-P 0248368	GCC-P 0248368
GCC-P 0248539	GCC-P 0248540
GCC-P 0248548	GCC-P 0248552
GCC-P 0248553	GCC-P 0248558
GCC-P 0248696	GCC-P 0248699
GCC-P 0248779	GCC-P 0248782
GCC-P 0249035	GCC-P 0249042
GCC-P 0249268	GCC-P 0249269
GCC-P 0249270	GCC-P 0249271
GCC-P 0249748	GCC-P 0249778
GCC-P 0249982	GCC-P 0249982
GCC-P 0249983	GCC-P 0249983
GCC-P 0249988	GCC-P 0249988
GCC-P 0249989	GCC-P 0249989
GCC-P 0250009	GCC-P 0250080
GCC-P 0250081	GCC-P 0250081
GCC-P 0250084	GCC-P 0250155
GCC-P 0250156	GCC-P 0250157
GCC-P 0250789	GCC-P 0250789
GCC-P 0250801	GCC-P 0250801
GCC-P 0251127	GCC-P 0251138
GCC-P 0251147	GCC-P 0251201
GCC-P 0251777	GCC-P 0251794
GCC-P 0251847	GCC-P 0251866
GCC-P 0251912	GCC-P 0251929
GCC-P 0251982	GCC-P 0252001
GCC-P 0252404	GCC-P 0252408
GCC-P 0252412	GCC-P 0252416
GCC-P 0252681	GCC-P 0252697
GCC-P 0253137	GCC-P 0253137
GCC-P 0253138	GCC-P 0253138
GCC-P 0253139	GCC-P 0253139
GCC-P 0253157	GCC-P 0253157
GCC-P 0253158	GCC-P 0253158
GCC-P 0253712	GCC-P 0253713
GCC-P 0253715	GCC-P 0253716
GCC-P 0253803	GCC-P 0253804
GCC-P 0254221	GCC-P 0254227
GCC-P 0254230	GCC-P 0254230
GCC-P 0254232	GCC-P 0254232
GCC-P 0254238	GCC-P 0254239
GCC-P 0254240	GCC-P 0254241
GCC-P 0254254	GCC-P 0254254

Schedule A to Appendix II

BS00146402	BS00146402
BS00146403	BS00146403
BS00146404	BS00146404
BS00146416	BS00146417
BS00146418	BS00146418
BS00146419	BS00146419
BS00146436	BS00146438
BS00146476	BS00146480
BS00146497	BS00146497
BS00146572	BS00146577
BS00146578	BS00146580
BS00146581	BS00146583
BS00146603	BS00146606
BS00146625	BS00146626
BS00146627	BS00146628
BS00146629	BS00146630
BS00146631	BS00146632
BS00146715	BS00146715
BS00146759	BS00146760
BS00146828	BS00146829
BS00146830	BS00146831
BS00146832	BS00146833
BS00146835	BS00146836
BS00146964	BS00147064
BS00147305	BS00147305
BS00147336	BS00147336
BS00147358	BS00147360
BS00147361	BS00147363
BS00147398	BS00147419
BS00147420	BS00147445
BS00147451	BS00147451
BS00147452	BS00147453
BS00147463	BS00147466
BS00147498	BS00147538
BS00147554	BS00147559
BS00147560	BS00147562
BS00147563	BS00147565
BS00147710	BS00147710
BS00147716	BS00147716
BS00147814	BS00147814
BS00147817	BS00147817
BS00147858	BS00147858
BS00147867	BS00147872
BS00147873	BS00147875
BS00147876	BS00147878
BS00147953	BS00147969
BS00148214	BS00148216

GCC-P 0254257	GCC-P 0254257
GCC-P 0254258	GCC-P 0254258
GCC-P 0254285	GCC-P 0254315
GCC-P 0254371	GCC-P 0254411
GCC-P 0254413	GCC-P 0254443
GCC-P 0254499	GCC-P 0254539
GCC-P 0254585	GCC-P 0254591
GCC-P 0254695	GCC-P 0254698
GCC-P 0254732	GCC-P 0254735
GCC-P 0254786	GCC-P 0254787
GCC-P 0254788	GCC-P 0254789
GCC-P 0254791	GCC-P 0254799
GCC-P 0254801	GCC-P 0254809
GCC-P 0254987	GCC-P 0254988
GCC-P 0255500	GCC-P 0255500
GCC-P 0255503	GCC-P 0255503
GCC-P 0255554	GCC-P 0255554
GCC-P 0255815	GCC-P 0255816
GCC-P 0255817	GCC-P 0255818
GCC-P 0256004	GCC-P 0256004
GCC-P 0256005	GCC-P 0256006
GCC-P 0256018	GCC-P 0256018
GCC-P 0256021	GCC-P 0256022
GCC-P 0256134	GCC-P 0256155
GCC-P 0256245	GCC-P 0256274
GCC-P 0257463	GCC-P 0257463
GCC-P 0257464	GCC-P 0257464
GCC-P 0257589	GCC-P 0257590
GCC-P 0257628	GCC-P 0257628
GCC-P 0257631	GCC-P 0257631
GCC-P 0257640	GCC-P 0257640
GCC-P 0257641	GCC-P 0257641
GCC-P 0257667	GCC-P 0257667
GCC-P 0257830	GCC-P 0257831
GCC-P 0257836	GCC-P 0257837
GCC-P 0257838	GCC-P 0257839
GCC-P 0257840	GCC-P 0257842
GCC-P 0257843	GCC-P 0257845
GCC-P 0257846	GCC-P 0257848
GCC-P 0258163	GCC-P 0258173
GCC-P 0258205	GCC-P 0258216
GCC-P 0258251	GCC-P 0258256
GCC-P 0258271	GCC-P 0258279
GCC-P 0258401	GCC-P 0258401
GCC-P 0258548	GCC-P 0258553
GCC-P 0258670	GCC-P 0258670
GCC-P 0258968	GCC-P 0258977

Schedule A to Appendix II

BS00148217	BS00148219
BS00148220	BS00148225
BS00148250	BS00148252
BS00148253	BS00148301
BS00148305	BS00148306
BS00148307	BS00148308
BS00148434	BS00148436
BS00148503	BS00148504
BS00148602	BS00148603
BS00148604	BS00148640
BS00148687	BS00148693
BS00148694	BS00148694
BS00148695	BS00148696
BS00148800	BS00148802
BS00148803	BS00148805
BS00148806	BS00148811
BS00149132	BS00149134
BS00149140	BS00149142
BS00149242	BS00149244
BS00149245	BS00149247
BS00149248	BS00149254
BS00149470	BS00149503
BS00149521	BS00149554
BS00149595	BS00149596
BS00149600	BS00149602
BS00149603	BS00149604
BS00149632	BS00149636
BS00149651	BS00149655
BS00149660	BS00149714
BS00149774	BS00149780
BS00149781	BS00149783
BS00149784	BS00149786
BS00149867	BS00149887
BS00149889	BS00149892
BS00149903	BS00149903
BS00150007	BS00150073
BS00150074	BS00150247
BS00150314	BS00150380
BS00150381	BS00150554
BS00150857	BS00150863
BS00150864	BS00150866
BS00150867	BS00150869
BS00150914	BS00150918
BS00150919	BS00150924
BS00150925	BS00150929
BS00150931	BS00150935
BS00150936	BS00150941

GCC-P 0259669	GCC-P 0259677
GCC-P 0260393	GCC-P 0260393
GCC-P 0262568	GCC-P 0262569
GCC-P 0262635	GCC-P 0262635
GCC-P 0262636	GCC-P 0262636
GCC-P 0262638	GCC-P 0262638
GCC-P 0263160	GCC-P 0263176
GCC-P 0263699	GCC-P 0263832
GCC-P 0264419	GCC-P 0264427
GCC-P 0270559	GCC-P 0270662
GCC-P 0286330	GCC-P 0286357
GCC-P 0286358	GCC-P 0286385
GCC-P 0286402	GCC-P 0286433
GCC-P 0286434	GCC-P 0286463
GCC-P 0286522	GCC-P 0286563
GCC-P 0286734	GCC-P 0286771
GCC-P 0286772	GCC-P 0286785
GCC-P 0286786	GCC-P 0286798
GCC-P 0286799	GCC-P 0286803
GCC-P 0286804	GCC-P 0286821
GCC-P 0286822	GCC-P 0286833
GCC-P 0286834	GCC-P 0286857
GCC-P 0286897	GCC-P 0286914
GCC-P 0286973	GCC-P 0286987
GCC-P 0287036	GCC-P 0287053
GCC-P 0287054	GCC-P 0287060
GCC-P 0287123	GCC-P 0287138
GCC-P 0287139	GCC-P 0287148
GCC-P 0287163	GCC-P 0287175
GCC-P 0287176	GCC-P 0287182
GCC-P 0287196	GCC-P 0287211
GCC-P 0287212	GCC-P 0287220
GCC-P 0287227	GCC-P 0287244
GCC-P 0287264	GCC-P 0287279
GCC-P 0287280	GCC-P 0287285
GCC-P 0287338	GCC-P 0287346
GCC-P 0288915	GCC-P 0289316
GCC-P 0295881	GCC-P 0296499
GCC-P 0301822	GCC-P 0302297
GCC-P 0309189	GCC-P 0309398
GCC-P 0309952	GCC-P 0309964
GCC-P 0310021	GCC-P 0310031
GCC-P 0310032	GCC-P 0310042
GCC-P 0310065	GCC-P 0310079
GCC-P 0310089	GCC-P 0310099
GCC-P 0310110	GCC-P 0310122
GCC-P 0310134	GCC-P 0310139

Schedule A to Appendix II

BS00150955	BS00150955
BS00150981	BS00150984
BS00150985	BS00150988
BS00150989	BS00150992
BS00150993	BS00150996
BS00150997	BS00151000
BS00151001	BS00151004
BS00151005	BS00151008
BS00151009	BS00151012
BS00151016	BS00151136
BS00151142	BS00151142
BS00151186	BS00151189
BS00151193	BS00151196
BS00151199	BS00151200
BS00151240	BS00151242
BS00151333	BS00151339
BS00151340	BS00151342
BS00151343	BS00151345
BS00151775	BS00151776
BS00151842	BS00151843
BS00151845	BS00151851
BS00151852	BS00151854
BS00151855	BS00151857
BS00151890	BS00151892
BS00151967	BS00151967
BS00151970	BS00151973
BS00151980	BS00151980
BS00151981	BS00151985
BS00151988	BS00151988
BS00151989	BS00151992
BS00151995	BS00151996
BS00152153	BS00152153
BS00152154	BS00152155
BS00152156	BS00152158
BS00152159	BS00152160
BS00152292	BS00152293
BS00152295	BS00152299
BS00152312	BS00152312
BS00152314	BS00152318
BS00152369	BS00152373
BS00152571	BS00152572
BS00152573	BS00152575
BS00152576	BS00152582
BS00152583	BS00152585
BS00152586	BS00152588
BS00152621	BS00152627
BS00152664	BS00152665

GCC-P 0310140	GCC-P 0310151
GCC-P 0310167	GCC-P 0310178
GCC-P 0310186	GCC-P 0310191
GCC-P 0310192	GCC-P 0310201
GCC-P 0310216	GCC-P 0310233
GCC-P 0310234	GCC-P 0310246
GCC-P 0310247	GCC-P 0310263
GCC-P 0310264	GCC-P 0310282
GCC-P 0310283	GCC-P 0310297
GCC-P 0310298	GCC-P 0310331
GCC-P 0310332	GCC-P 0310363
GCC-P 0310364	GCC-P 0310373
GCC-P 0310374	GCC-P 0310401
GCC-P 0310402	GCC-P 0310429
GCC-P 0310430	GCC-P 0310445
GCC-P 0310446	GCC-P 0310479
GCC-P 0310480	GCC-P 0310509
GCC-P 0310510	GCC-P 0310557
GCC-P 0310558	GCC-P 0310567
GCC-P 0310568	GCC-P 0310607
GCC-P 0310638	GCC-P 0310675
GCC-P 0310676	GCC-P 0310701
GCC-P 0310744	GCC-P 0310771
GCC-P 0310838	GCC-P 0310852
GCC-P 0310853	GCC-P 0310865
GCC-P 0310871	GCC-P 0310889
GCC-P 0310890	GCC-P 0310902
GCC-P 0310987	GCC-P 0311000
GCC-P 0311001	GCC-P 0311015
GCC-P 0311127	GCC-P 0311134
GCC-P 0311201	GCC-P 0311217
GCC-P 0311278	GCC-P 0311293
GCC-P 0311294	GCC-P 0311302
GCC-P 0311439	GCC-P 0311447
GCC-P 0311468	GCC-P 0311480
GCC-P 0397842	GCC-P 0397843
GCC-P 0397845	GCC-P 0397846
GCC-P 0397850	GCC-P 0397853
GCC-P 0397854	GCC-P 0397856
GCC-P 0397857	GCC-P 0397860
GCC-P 0397861	GCC-P 0397863
GCC-P 0397864	GCC-P 0397867
GCC-P 0397914	GCC-P 0397915
GCC-P 0397917	GCC-P 0397919
GCC-P 0397921	GCC-P 0397923
GCC-P 0397925	GCC-P 0397927
GCC-P 0397931	GCC-P 0397972

Schedule A to Appendix II

BS00152666	BS00152668
BS00152681	BS00152683
BS00152692	BS00152693
BS00153350	BS00153351
BS00154046	BS00154046
BS00154047	BS00154048
BS00154049	BS00154050
BS00154059	BS00154059
BS00154060	BS00154061
BS00154701	BS00154714
BS00154832	BS00154833
BS00154868	BS00155221
BS00155232	BS00155233
BS00155253	BS00155256
BS00155311	BS00155312
BS00155313	BS00155315
BS00155363	BS00155363
BS00155364	BS00155364
BS00155606	BS00155608
BS00155609	BS00155612
BS00155796	BS00155800
BS00155954	BS00155958
BS00156034	BS00156038
BS00156053	BS00156056
BS00156134	BS00156134
BS00156135	BS00156136
BS00156253	BS00156253
BS00156254	BS00156254
BS00156305	BS00156345
BS00156490	BS00156493
BS00156664	BS00156669
BS00156670	BS00156675
BS00156713	BS00156717
BS00156785	BS00156786
BS00156807	BS00156809
BS00156891	BS00156894
BS00156954	BS00156956
BS00156968	BS00156970
BS00157327	BS00157327
BS00157340	BS00157340
BS00157485	BS00157489
BS00157506	BS00157506
BS00157553	BS00157553
BS00157658	BS00157658
BS00157663	BS00157663
BS00157698	BS00157698
BS00157737	BS00157737

GCC-P 0397973	GCC-P 0397993
GCC-P 0397994	GCC-P 0398083
GCC-P 0398084	GCC-P 0398173
GCC-P 0398174	GCC-P 0398220
GCC-P 0398221	GCC-P 0398275
GCC-P 0398276	GCC-P 0398306
GCC-P 0398307	GCC-P 0398325
GCC-P 0398326	GCC-P 0398414
GCC-P 0398415	GCC-P 0398505
GCC-P 0398506	GCC-P 0398548
GCC-P 0398549	GCC-P 0398602
GCC-P 0398605	GCC-P 0398640
GCC-P 0398641	GCC-P 0398664
GCC-P 0398667	GCC-P 0398756
GCC-P 0398757	GCC-P 0398813
GCC-P 0400148	GCC-P 0400150
GCC-P 0400153	GCC-P 0400155
GCC-P 0400577	GCC-P 0400577
GCC-P 0400579	GCC-P 0400579
GCC-P 0400580	GCC-P 0400580
GCC-P 0400745	GCC-P 0400748
GCC-P 0400994	GCC-P 0400994
GCC-P 0401052	GCC-P 0401052
GCC-P 0401054	GCC-P 0401054
GCC-P 0401055	GCC-P 0401059
GCC-P 0401081	GCC-P 0401082
GCC-P 0401110	GCC-P 0401111
GCC-P 0401272	GCC-P 0401298
GCC-P 0402207	GCC-P 0402265
GCC-P 0402576	GCC-P 0402634
GCC-P 0402839	GCC-P 0402897
GCC-P 0403132	GCC-P 0403190
GCC-P 0403365	GCC-P 0403423
GCC-P 0403598	GCC-P 0403656
GCC-P 0403713	GCC-P 0403771
GCC-P 0404079	GCC-P 0404079
GCC-P 0404081	GCC-P 0404081
GCC-P 0404082	GCC-P 0404082
GCC-P 0404110	GCC-P 0404168
GCC-P 0405022	GCC-P 0405022
GCC-P 0405105	GCC-P 0405164
GCC-P 0405269	GCC-P 0405285
GCC-P 0405472	GCC-P 0405481
GCC-P 0405482	GCC-P 0405482
GCC-P 0405743	GCC-P 0405764
GCC-P 0406008	GCC-P 0406069
GCC-P 0406104	GCC-P 0406165

Schedule A to Appendix II

BS00157920	BS00157925
BS00157949	BS00157952
BS00157953	BS00157956
BS00157957	BS00157960
BS00157961	BS00157964
BS00157965	BS00157968
BS00157969	BS00157972
BS00157973	BS00157976
BS00157977	BS00157980
BS00157984	BS00158104
BS00158151	BS00158152
BS00158192	BS00158194
BS00158235	BS00158241
BS00158242	BS00158244
BS00158245	BS00158247
BS00158296	BS00158302
BS00158303	BS00158305
BS00158306	BS00158308
BS00158439	BS00158443
BS00158449	BS00158449
BS00158451	BS00158455
BS00158510	BS00158511
BS00158512	BS00158514
BS00158515	BS00158521
BS00158522	BS00158524
BS00158525	BS00158527
BS00158560	BS00158566
BS00158612	BS00158613
BS00158705	BS00158706
BS00159397	BS00159397
BS00159438	BS00159439
BS00159664	BS00159704
BS00159953	BS00159971
BS00160137	BS00160137
BS00160138	BS00160151
BS00160152	BS00160165
BS00160166	BS00160171
BS00160172	BS00160177
BS00160189	BS00160193
BS00160269	BS00160295
BS00160428	BS00160429
BS00160562	BS00160565
BS00160800	BS00160803
BS00160804	BS00160807
BS00160852	BS00160855
BS00160965	BS00160966
BS00160977	BS00160979

GCC-P 0406169	GCC-P 0406230
GCC-P 0406384	GCC-P 0406443
GCC-P 0406477	GCC-P 0406538
GCC-P 0406693	GCC-P 0406693
GCC-P 0406696	GCC-P 0406696
GCC-P 0406724	GCC-P 0408082
GCC-P 0408096	GCC-P 0408096
GCC-P 0408847	GCC-P 0408871
GCC-P 0411822	GCC-P 0411823
GCC-P 0411824	GCC-P 0411829
GCC-P 0411830	GCC-P 0411891
GCC-P 0412307	GCC-P 0412385
GCC-P 0413302	GCC-P 0413307
GCC-P 0413392	GCC-P 0413392
GCC-P 0413470	GCC-P 0413477
GCC-P 0413729	GCC-P 0413735
GCC-P 0413852	GCC-P 0413911
GCC-P 0413952	GCC-P 0415284
GCC-P 0415460	GCC-P 0415460
GCC-P 0415543	GCC-P 0415545
GCC-P 0415680	GCC-P 0415680
GCC-P 0417031	GCC-P 0417031
GCC-P 0417946	GCC-P 0418005
GCC-P 0418659	GCC-P 0418660
GCC-P 0418661	GCC-P 0418662
GCC-P 0419242	GCC-P 0419301
GCC-P 0421933	GCC-P 0421933
GCC-P 0422442	GCC-P 0422443
GCC-P 0422914	GCC-P 0422915
GCC-P 0424563	GCC-P 0424563
GCC-P 0424682	GCC-P 0424682
GCC-P 0425366	GCC-P 0425366
GCC-P 0425903	GCC-P 0425903
GCC-P 0428920	GCC-P 0428920
GCC-P 0429460	GCC-P 0429519
GCC-P 0431721	GCC-P 0431721
GCC-P 0432184	GCC-P 0432184
GCC-P 0432186	GCC-P 0432186
GCC-P 0432685	GCC-P 0432744
GCC-P 0432830	GCC-P 0432888
GCC-P 0433086	GCC-P 0433144
GCC-P 0433201	GCC-P 0433259
GCC-P 0433316	GCC-P 0433374
GCC-P 0433431	GCC-P 0433489
GCC-P 0433517	GCC-P 0433575
GCC-P 0433632	GCC-P 0433690
GCC-P 0434400	GCC-P 0434458

Schedule A to Appendix II

BS00160980	BS00160980
BS00160981	BS00161006
BS00161035	BS00161059
BS00161061	BS00161081
BS00161769	BS00161784
BS00161815	BS00161841
BS00161843	BS00161919
BS00161951	BS00162005
BS00162008	BS00162062
BS00162063	BS00162089
BS00162121	BS00162197
BS00162316	BS00162342
BS00162344	BS00162420
BS00162452	BS00162452
BS00162454	BS00162480
BS00162490	BS00162566
BS00162598	BS00162598
BS00162600	BS00162626
BS00162629	BS00162644
BS00162729	BS00162729
BS00162733	BS00162759
BS00162760	BS00162760
BS00162790	BS00162830
BS00162833	BS00162873
BS00162877	BS00162877
BS00162957	BS00162957
BS00162958	BS00162958
BS00162960	BS00162960
BS00162962	BS00163027
BS00163079	BS00163082
BS00163156	BS00163222
BS00163279	BS00163317
BS00163404	BS00163444
BS00163460	BS00163500
BS00163503	BS00163543
BS00163573	BS00163573
BS00163632	BS00163640
BS00163641	BS00163650
BS00163673	BS00163673
BS00163674	BS00163714
BS00163872	BS00163912
BS00163923	BS00163924
BS00163960	BS00163963
BS00164028	BS00164110
BS00164111	BS00164112
BS00164114	BS00164117
BS00164118	BS00164142

GCC-P 0434515	GCC-P 0434573
GCC-P 0434602	GCC-P 0434602
GCC-P 0435217	GCC-P 0435275
GCC-P 0435518	GCC-P 0435576
GCC-P 0436007	GCC-P 0436065
GCC-P 0436493	GCC-P 0436551
GCC-P 0436608	GCC-P 0436666
GCC-P 0436874	GCC-P 0436932
GCC-P 0437000	GCC-P 0437058
GCC-P 0437237	GCC-P 0437238
GCC-P 0437246	GCC-P 0437246
GCC-P 0437588	GCC-P 0437646
GCC-P 0437812	GCC-P 0437870
GCC-P 0438016	GCC-P 0438074
GCC-P 0438160	GCC-P 0438160
GCC-P 0438404	GCC-P 0438462
GCC-P 0438534	GCC-P 0438596
GCC-P 0438602	GCC-P 0438664
GCC-P 0438668	GCC-P 0438730
GCC-P 0438757	GCC-P 0438815
GCC-P 0439139	GCC-P 0439197
GCC-P 0439442	GCC-P 0439503
GCC-P 0439571	GCC-P 0439632
GCC-P 0439669	GCC-P 0439730
GCC-P 0439765	GCC-P 0439826
GCC-P 0439983	GCC-P 0440041
GCC-P 0440586	GCC-P 0440646
GCC-P 0440829	GCC-P 0440889
GCC-P 0441095	GCC-P 0441154
GCC-P 0441362	GCC-P 0441421
GCC-P 0441628	GCC-P 0441687
GCC-P 0441747	GCC-P 0441806
GCC-P 0441877	GCC-P 0441936
GCC-P 0442028	GCC-P 0442087
GCC-P 0442210	GCC-P 0442271
GCC-P 0442338	GCC-P 0442397
GCC-P 0442449	GCC-P 0442508
GCC-P 0442811	GCC-P 0442872
GCC-P 0443049	GCC-P 0443110
GCC-P 0443111	GCC-P 0443170
GCC-P 0443715	GCC-P 0443774
GCC-P 0443824	GCC-P 0443885
GCC-P 0443894	GCC-P 0443955
GCC-P 0443964	GCC-P 0444025
GCC-P 0444026	GCC-P 0444027
GCC-P 0444741	GCC-P 0444802
GCC-P 0445045	GCC-P 0445045

Schedule A to Appendix II

BS00164143	BS00164145
BS00164147	BS00164150
BS00164151	BS00164175
BS00164176	BS00164179
BS00164181	BS00164184
BS00164185	BS00164209
BS00164211	BS00164251
BS00164261	BS00164262
BS00164364	BS00164414
BS00164612	BS00170582
BS00170609	BS00170610
BS00170673	BS00170674
BS00170687	BS00170687
BS00170688	BS00170700
BS00170702	BS00170702
BS00170710	BS00170722
BS00170725	BS00170750
BS00170784	BS00170786
BS00170789	BS00170838
BS00170868	BS00170887
BS00170893	BS00170908
BS00170933	BS00170937
BS00170938	BS00170945
BS00170946	BS00170951
BS00170952	BS00170956
BS00171011	BS00171017
BS00171169	BS00171210
BS00171847	BS00171847
BS00171848	BS00171850
BS00171852	BS00171853
BS00171854	BS00171856
BS00171864	BS00171868
BS00171879	BS00171882
BS00172196	BS00172202
BS00172247	BS00172253
BS00172315	BS00172326
BS00172335	BS00172341
BS00172372	BS00172373
BS00172392	BS00172398
BS00172403	BS00172408
BS00172431	BS00172432
BS00172433	BS00172444
BS00172488	BS00172491
BS00172513	BS00172517
BS00172519	BS00172524
BS00172546	BS00172553
BS00172584	BS00172587

GCC-P 0445299	GCC-P 0445299
GCC-P 0445326	GCC-P 0445385
GCC-P 0445387	GCC-P 0445387
GCC-P 0445391	GCC-P 0445391
GCC-P 0445418	GCC-P 0446776
GCC-P 0446870	GCC-P 0446871
GCC-P 0446881	GCC-P 0446881
GCC-P 0448404	GCC-P 0448404
GCC-P 0448405	GCC-P 0448405
GCC-P 0448409	GCC-P 0448409
GCC-P 0448410	GCC-P 0448410
GCC-P 0448413	GCC-P 0448413
GCC-P 0448414	GCC-P 0448414
GCC-P 0448419	GCC-P 0448419
GCC-P 0448420	GCC-P 0448420
GCC-P 0448427	GCC-P 0448427
GCC-P 0448431	GCC-P 0448431
GCC-P 0448432	GCC-P 0448432
GCC-P 0448435	GCC-P 0448435
GCC-P 0448436	GCC-P 0448436
GCC-P 0448441	GCC-P 0448441
GCC-P 0448442	GCC-P 0448442
GCC-P 0448571	GCC-P 0448571
GCC-P 0448618	GCC-P 0448618
GCC-P 0448624	GCC-P 0448624
GCC-P 0448630	GCC-P 0448631
GCC-P 0448928	GCC-P 0448928
GCC-P 0448948	GCC-P 0449007
GCC-P 0449011	GCC-P 0449011
GCC-P 0449037	GCC-P 0449096
GCC-P 0449681	GCC-P 0449740
GCC-P 0449741	GCC-P 0449741
GCC-P 0449758	GCC-P 0449819
GCC-P 0450256	GCC-P 0450317
GCC-P 0450549	GCC-P 0450608
GCC-P 0450668	GCC-P 0450729
GCC-P 0450785	GCC-P 0450844
GCC-P 0450906	GCC-P 0450967
GCC-P 0451533	GCC-P 0451594
GCC-P 0451708	GCC-P 0453040
GCC-P 0453101	GCC-P 0453160
GCC-P 0453388	GCC-P 0453447
GCC-P 0453506	GCC-P 0454838
GCC-P 0454986	GCC-P 0455045
GCC-P 0455059	GCC-P 0455059
GCC-P 0455060	GCC-P 0455060
GCC-P 0455075	GCC-P 0455134

Schedule A to Appendix II

BS00172636	BS00172647
BS00172696	BS00172697
BS00172803	BS00172805
BS00172807	BS00172810
BS00172811	BS00172814
BS00172888	BS00172888
BS00172894	BS00172915
BS00172916	BS00172919
BS00173093	BS00173093
BS00173121	BS00173121
BS00173144	BS00173147
BS00173155	BS00173155
BS00173159	BS00173160
BS00173172	BS00173172
BS00173177	BS00173178
BS00173180	BS00173182
BS00173203	BS00173203
BS00173216	BS00173216
BS00173277	BS00173278
BS00173279	BS00173297
BS00173414	BS00173414
BS00173416	BS00173416
BS00173598	BS00173598
BS00173599	BS00173600
BS00173656	BS00173656
BS00173893	BS00173928
BS00173989	BS00174031
BS00174306	BS00174308
BS00174442	BS00174443
BS00174444	BS00174446
BS00174447	BS00174449
BS00175374	BS00175404
BS00175517	BS00175519
BS00175520	BS00175598
BS00176096	BS00176099
BS00176100	BS00176101
BS00176102	BS00176145
BS00176247	BS00176250
BS00176251	BS00176252
BS00176253	BS00176296
BS00176397	BS00176400
BS00176407	BS00176408
BS00176409	BS00176452
BS00176981	BS00176982
BS00176983	BS00177002
BS00177003	BS00177006
BS00177152	BS00177155

GCC-P 0455260	GCC-P 0455319
GCC-P 0455355	GCC-P 0455414
GCC-P 0455415	GCC-P 0455476
GCC-P 0455959	GCC-P 0456018
GCC-P 0456019	GCC-P 0456080
GCC-P 0456438	GCC-P 0456497
GCC-P 0456918	GCC-P 0456977
GCC-P 0457269	GCC-P 0457330
GCC-P 0457641	GCC-P 0457643
GCC-P 0457895	GCC-P 0457954
GCC-P 0458035	GCC-P 0458094
GCC-P 0458161	GCC-P 0458222
GCC-P 0458524	GCC-P 0458583
GCC-P 0458591	GCC-P 0458652
GCC-P 0458740	GCC-P 0458799
GCC-P 0458859	GCC-P 0458918
GCC-P 0459190	GCC-P 0459249
GCC-P 0459312	GCC-P 0459373
GCC-P 0459408	GCC-P 0459467
GCC-P 0459527	GCC-P 0459586
GCC-P 0459622	GCC-P 0459623
GCC-P 0459749	GCC-P 0459749
GCC-P 0459809	GCC-P 0459868
GCC-P 0459905	GCC-P 0459964
GCC-P 0460024	GCC-P 0460083
GCC-P 0460470	GCC-P 0460531
GCC-P 0460565	GCC-P 0460624
GCC-P 0460712	GCC-P 0460771
GCC-P 0460780	GCC-P 0460841
GCC-P 0460875	GCC-P 0460934
GCC-P 0460969	GCC-P 0460969
GCC-P 0461079	GCC-P 0461138
GCC-P 0461198	GCC-P 0461257
GCC-P 0461308	GCC-P 0461311
GCC-P 0461320	GCC-P 0461379
GCC-P 0461466	GCC-P 0461527
GCC-P 0461567	GCC-P 0461626
GCC-P 0461651	GCC-P 0461651
GCC-P 0461838	GCC-P 0461838
GCC-P 0461882	GCC-P 0461941
GCC-P 0462101	GCC-P 0462162
GCC-P 0462175	GCC-P 0462176
GCC-P 0462212	GCC-P 0462271
GCC-P 0462302	GCC-P 0462302
GCC-P 0462340	GCC-P 0462340
GCC-P 0462383	GCC-P 0462442
GCC-P 0462579	GCC-P 0462638

Schedule A to Appendix II

BS00177591	BS00177592
BS00177612	BS00177623
BS00177625	BS00177632
BS00177650	BS00177661
BS00177670	BS00177677
BS00177972	BS00177973
BS00178100	BS00178101
BS00178228	BS00178229
BS00178821	BS00178825
BS00179452	BS00179490
BS00179569	BS00179592
BS00179612	BS00179614
BS00179615	BS00179617
BS00179618	BS00179620
BS00179621	BS00179623
BS00179627	BS00179659
BS00179681	BS00179682
BS00179683	BS00179702
BS00179703	BS00179710
BS00180288	BS00180320
BS00180321	BS00180333
BS00180347	BS00180379
BS00180585	BS00180600
BS00180601	BS00180615
BS00181202	BS00181216
BS00181579	BS00181594
BS00181609	BS00181613
BS00181643	BS00181647
BS00181648	BS00181652
BS00181654	BS00181689
BS00181691	BS00181726
BS00181751	BS00181914
BS00181916	BS00181955
BS00181956	BS00182111
BS00182112	BS00182275
BS00182278	BS00182433
BS00182434	BS00182473
BS00182476	BS00182631
BS00182632	BS00182671
BS00182673	BS00182828
BS00182829	BS00182868
BS00182869	BS00182870
BS00182871	BS00183034
BS00183055	BS00183093
BS00183099	BS00183262
BS00183263	BS00183302
BS00183305	BS00183460

GCC-P 0462645	GCC-P 0462706
GCC-P 0462725	GCC-P 0462786
GCC-P 0462791	GCC-P 0462852
GCC-P 0463099	GCC-P 0463158
GCC-P 0463266	GCC-P 0463327
GCC-P 0463580	GCC-P 0463580
GCC-P 0463996	GCC-P 0464021
GCC-P 0464701	GCC-P 0464702
GCC-P 0464703	GCC-P 0464704
GCC-P 0464705	GCC-P 0464707
GCC-P 0467159	GCC-P 0467217
GCC-P 0467274	GCC-P 0467332
GCC-P 0469701	GCC-P 0469760
GCC-P 0469788	GCC-P 0469847
GCC-P 0470411	GCC-P 0470413
GCC-P 0471553	GCC-P 0471554
GCC-P 0473062	GCC-P 0473063
GCC-P 0473064	GCC-P 0473065
GCC-P 0473398	GCC-P 0473459
GCC-P 0473617	GCC-P 0473617
GCC-P 0474779	GCC-P 0474779
GCC-P 0474780	GCC-P 0474781
GCC-P 0477778	GCC-P 0477782
GCC-P 0478584	GCC-P 0478590
GCC-P 0478815	GCC-P 0478842
GCC-P 0478934	GCC-P 0478942
GCC-P 0479019	GCC-P 0479019
GCC-P 0479020	GCC-P 0479020
GCC-P 0479022	GCC-P 0479045
GCC-P 0479151	GCC-P 0479151
GCC-P 0479248	GCC-P 0479249
GCC-P 0479268	GCC-P 0479329
GCC-P 0479330	GCC-P 0479330
GCC-P 0479362	GCC-P 0479364
GCC-P 0479365	GCC-P 0479367
GCC-P 0479368	GCC-P 0479368
GCC-P 0479970	GCC-P 0479985
GCC-P 0480956	GCC-P 0480957
GCC-P 0481719	GCC-P 0481723
GCC-P 0481756	GCC-P 0481810
GCC-P 0482365	GCC-P 0482372
GCC-P 0483270	GCC-P 0483271
GCC-P 0483272	GCC-P 0483273
GCC-P 0483288	GCC-P 0483289
GCC-P 0483306	GCC-P 0483307
GCC-P 0483681	GCC-P 0483681
GCC-P 0483683	GCC-P 0483683

Schedule A to Appendix II

BS00183463	BS00183473
BS00183475	BS00183492
BS00183493	BS00183495
BS00183496	BS00183513
BS00183514	BS00183533
BS00183536	BS00183543
BS00183544	BS00183571
BS00183572	BS00183592
BS00183593	BS00183702
BS00183718	BS00183721
BS00184055	BS00184071
BS00184073	BS00184083
BS00184116	BS00184135
BS00184159	BS00184177
BS00184405	BS00184440
BS00184594	BS00184594
BS00184690	BS00184693
BS00184879	BS00184979
BS00185242	BS00185245
BS00185394	BS00185395
BS00185673	BS00185677
BS00185893	BS00185926
BS00185927	BS00185928
BS00185934	BS00185967
BS00185968	BS00185969
BS00186002	BS00186006
BS00186007	BS00186011
BS00186025	BS00186028
BS00186031	BS00186031
BS00186065	BS00186131
BS00187105	BS00187105
BS00187643	BS00187715
BS00187716	BS00187717
BS00188043	BS00188044
BS00188049	BS00188049
BS00188050	BS00188054
BS00188057	BS00188057
BS00188058	BS00188061
BS00188064	BS00188065
BS00188085	BS00188088
BS00188089	BS00188090
BS00188091	BS00188134
BS00188235	BS00188238
BS00188245	BS00188246
BS00188247	BS00188290
BS00188835	BS00188835
BS00188836	BS00188837

GCC-P 0483685	GCC-P 0483685
GCC-P 0483833	GCC-P 0483834
GCC-P 0483835	GCC-P 0483836
GCC-P 0483924	GCC-P 0483924
GCC-P 0483925	GCC-P 0483926
GCC-P 0483929	GCC-P 0483929
GCC-P 0483932	GCC-P 0483933
GCC-P 0483937	GCC-P 0483939
GCC-P 0484392	GCC-P 0485750
GCC-P 0488721	GCC-P 0488756
GCC-P 0488955	GCC-P 0488963
GCC-P 0489068	GCC-P 0489109
GCC-P 0489110	GCC-P 0489151
GCC-P 0489191	GCC-P 0489199
GCC-P 0489218	GCC-P 0490576
GCC-P 0490634	GCC-P 0491992
GCC-P 0492132	GCC-P 0492173
GCC-P 0492517	GCC-P 0492646
GCC-P 0492655	GCC-P 0492691
GCC-P 0492692	GCC-P 0492722
GCC-P 0492723	GCC-P 0492818
GCC-P 0492819	GCC-P 0492858
GCC-P 0492868	GCC-P 0493161
GCC-P 0493162	GCC-P 0493202
GCC-P 0493203	GCC-P 0493287
GCC-P 0493288	GCC-P 0493313
GCC-P 0493320	GCC-P 0493324
GCC-P 0493325	GCC-P 0493337
GCC-P 0493338	GCC-P 0493417
GCC-P 0493418	GCC-P 0493453
GCC-P 0493454	GCC-P 0493471
GCC-P 0493472	GCC-P 0493503
GCC-P 0493504	GCC-P 0493552
GCC-P 0493553	GCC-P 0493567
GCC-P 0493568	GCC-P 0493654
GCC-P 0493655	GCC-P 0493735
GCC-P 0493736	GCC-P 0493831
GCC-P 0493832	GCC-P 0493892
GCC-P 0493893	GCC-P 0493927
GCC-P 0493928	GCC-P 0493997
GCC-P 0494100	GCC-P 0494163
GCC-P 0494164	GCC-P 0494211
GCC-P 0494212	GCC-P 0494281
GCC-P 0494282	GCC-P 0494321
GCC-P 0494322	GCC-P 0494400
GCC-P 0494401	GCC-P 0494490
GCC-P 0494491	GCC-P 0494578

Schedule A to Appendix II

BS00188838	BS00188841
BS00189027	BS00189028
BS00189343	BS00189354
BS00189356	BS00189363
BS00189382	BS00189385
BS00189388	BS00189399
BS00189408	BS00189415
BS00189969	BS00189973
BS00190150	BS00190151
BS00190682	BS00190682
BS00190757	BS00190770
BS00190819	BS00190822
BS00190907	BS00190907
BS00190908	BS00190908
BS00190912	BS00190944
BS00190966	BS00190967
BS00190968	BS00190987
BS00190988	BS00190995
BS00191573	BS00191605
BS00191606	BS00191618
BS00191889	BS00191891
BS00191892	BS00191895
BS00192425	BS00192439
BS00192522	BS00192526
BS00194331	BS00194346
BS00194450	BS00194454
BS00194484	BS00194488
BS00194489	BS00194493
BS00194524	BS00194559
BS00194561	BS00194596
BS00194598	BS00194602
BS00194681	BS00194719
BS00194724	BS00194728
BS00194736	BS00194775
BS00194776	BS00194931
BS00194932	BS00195095
BS00195104	BS00195107
BS00195182	BS00195182
BS00195183	BS00195184
BS00195192	BS00195230
BS00195312	BS00195352
BS00195476	BS00195479
BS00195619	BS00195636
BS00195641	BS00195643
BS00195644	BS00195661
BS00195662	BS00195681
BS00195813	BS00195922

GCC-P 0494579	GCC-P 0494629
GCC-P 0494630	GCC-P 0494667
GCC-P 0494668	GCC-P 0494704
GCC-P 0494705	GCC-P 0494777
GCC-P 0494778	GCC-P 0494819
GCC-P 0494820	GCC-P 0494836
GCC-P 0494837	GCC-P 0494933
GCC-P 0494934	GCC-P 0495018
GCC-P 0495019	GCC-P 0495133
GCC-P 0495134	GCC-P 0495171
GCC-P 0495172	GCC-P 0495209
GCC-P 0495210	GCC-P 0495295
GCC-P 0495296	GCC-P 0495321
GCC-P 0495322	GCC-P 0495347
GCC-P 0495348	GCC-P 0495380
GCC-P 0495381	GCC-P 0495460
GCC-P 0495461	GCC-P 0495523
GCC-P 0495538	GCC-P 0495546
GCC-P 0495547	GCC-P 0495583
GCC-P 0495584	GCC-P 0495629
GCC-P 0496055	GCC-P 0496056
GCC-P 0496073	GCC-P 0496073
GCC-P 0496074	GCC-P 0496074
GCC-P 0496141	GCC-P 0496165
GCC-P 0498449	GCC-P 0498510
GCC-P 0498967	GCC-P 0498972
GCC-P 0499125	GCC-P 0499125
GCC-P 0499778	GCC-P 0499815
GCC-P 0499822	GCC-P 0499822
GCC-P 0499823	GCC-P 0499927
GCC-P 0499930	GCC-P 0499932
GCC-P 0500085	GCC-P 0500085
GCC-P 0501218	GCC-P 0501258
GCC-P 0502679	GCC-P 0502680
GCC-P 0502736	GCC-P 0502738
GCC-P 0503049	GCC-P 0503093
GCC-P 0503823	GCC-P 0503945
GCC-P 0504251	GCC-P 0504270
GCC-P 0504510	GCC-P 0505398
GCC-P 0505402	GCC-P 0505402
GCC-P 0505443	GCC-P 0505456
GCC-P 0505593	GCC-P 0505640
GCC-P 0505664	GCC-P 0505669
GCC-P 0505751	GCC-P 0505758
GCC-P 0505834	GCC-P 0505834
GCC-P 0505951	GCC-P 0505951
GCC-P 0506178	GCC-P 0506183

Schedule A to Appendix II

BS00195937	BS00195939
BS00196022	BS00196025
BS00196076	BS00196078
BS00196223	BS00196224
BS00196305	BS00196306
BS00196335	BS00196364
BS00196366	BS00196395
BS00196418	BS00196418
BS00196422	BS00196423
BS00196424	BS00196435
BS00196436	BS00196437
BS00196456	BS00196459
BS00196708	BS00196710
BS00196711	BS00196713
BS00196780	BS00196782
BS00196783	BS00196785
BS00196788	BS00196827
BS00197127	BS00197129
BS00197130	BS00197132
BS00197135	BS00197174
BS00197484	BS00197486
BS00197487	BS00197489
BS00197491	BS00197530
BS00197722	BS00197725
BS00197946	BS00197946
BS00198277	BS00198280
BS00198541	BS00198545
BS00198578	BS00198591
BS00198843	BS00198939
BS00199003	BS00199099
BS00199261	BS00199285
BS00199506	BS00199506
BS00199665	BS00199681
BS00199692	BS00199768
BS00199799	BS00199853
BS00199893	BS00199928
BS00199979	BS00200004
BS00200016	BS00200017
BS00200143	BS00200164
BS00200165	BS00200190
BS00200191	BS00200192
BS00200208	BS00200210
BS00200211	BS00200213
BS00200214	BS00200216
BS00200217	BS00200219
BS00200269	BS00200270
BS00200339	BS00200341

GCC-P 0506425	GCC-P 0506978
GCC-P 0506979	GCC-P 0507508
GCC-P 0507509	GCC-P 0507552
GCC-P 0507553	GCC-P 0507725
GCC-P 0507726	GCC-P 0507752
GCC-P 0507753	GCC-P 0507769
GCC-P 0507770	GCC-P 0507785
GCC-P 0507786	GCC-P 0507803
GCC-P 0507804	GCC-P 0507818
GCC-P 0507819	GCC-P 0507833
GCC-P 0507834	GCC-P 0507848
GCC-P 0507849	GCC-P 0507921
GCC-P 0507922	GCC-P 0507983
GCC-P 0507984	GCC-P 0508056
GCC-P 0508057	GCC-P 0508102
GCC-P 0508103	GCC-P 0508180
GCC-P 0508181	GCC-P 0508186
GCC-P 0508187	GCC-P 0508205
GCC-P 0508206	GCC-P 0508257
GCC-P 0508258	GCC-P 0508313
GCC-P 0508314	GCC-P 0508419
GCC-P 0508420	GCC-P 0508492
GCC-P 0508493	GCC-P 0508538
GCC-P 0508539	GCC-P 0508596
GCC-P 0508597	GCC-P 0509128
GCC-P 0509129	GCC-P 0509371
GCC-P 0509372	GCC-P 0509468
GCC-P 0509469	GCC-P 0509477
GCC-P 0509478	GCC-P 0509491
GCC-P 0509492	GCC-P 0509583
GCC-P 0509584	GCC-P 0509614
GCC-P 0509615	GCC-P 0509659
GCC-P 0509660	GCC-P 0509669
GCC-P 0509670	GCC-P 0509679
GCC-P 0509680	GCC-P 0509689
GCC-P 0509690	GCC-P 0509699
GCC-P 0509700	GCC-P 0509701
GCC-P 0509702	GCC-P 0509704
GCC-P 0509705	GCC-P 0509713
GCC-P 0509714	GCC-P 0509722
GCC-P 0509723	GCC-P 0509767
GCC-P 0509768	GCC-P 0509785
GCC-P 0509786	GCC-P 0509817
GCC-P 0509818	GCC-P 0509874
GCC-P 0509875	GCC-P 0509883
GCC-P 0509884	GCC-P 0509892
GCC-P 0509893	GCC-P 0510009

Schedule A to Appendix II

BS00200342	BS00200344
BS00200345	BS00200347
BS00200348	BS00200350
BS00200351	BS00200376
BS00200398	BS00200398
BS00200400	BS00200400
BS00200401	BS00200439
BS00200440	BS00200440
BS00200442	BS00200442
BS00200447	BS00200447
BS00200448	BS00200464
BS00200465	BS00200465
BS00200534	BS00200534
BS00200756	BS00200756
BS00200773	BS00200870
BS00200871	BS00200871
BS00201233	BS00201233
BS00201251	BS00201277
BS00201362	BS00201438
BS00201455	BS00201509
BS00201542	BS00201568
BS00201571	BS00201597
BS00201599	BS00201675
BS00201676	BS00201730
BS00201778	BS00201779
BS00201837	BS00201839
BS00201974	BS00202014
BS00202017	BS00202025
BS00202026	BS00202035
BS00202273	BS00202282
BS00202283	BS00202292
BS00202293	BS00202303
BS00202304	BS00202316
BS00202329	BS00202369
BS00202394	BS00202420
BS00202421	BS00202421
BS00202423	BS00202499
BS00202500	BS00202554
BS00202948	BS00202954
BS00202955	BS00202961
BS00202990	BS00202996
BS00202997	BS00203003
BS00203609	BS00203628
BS00203737	BS00203756
BS00203791	BS00203791
BS00203827	BS00203827
BS00203847	BS00203865

GCC-P 0510010	GCC-P 0510079
GCC-P 0510080	GCC-P 0510231
GCC-P 0510232	GCC-P 0510555
GCC-P 0510556	GCC-P 0510819
GCC-P 0510820	GCC-P 0511190
GCC-P 0511191	GCC-P 0511597
GCC-P 0511598	GCC-P 0511950
GCC-P 0512094	GCC-P 0512102
GCC-P 0512103	GCC-P 0512112
GCC-P 0512113	GCC-P 0512124
GCC-P 0512125	GCC-P 0512135
GCC-P 0512136	GCC-P 0512148
GCC-P 0512149	GCC-P 0512161
GCC-P 0512162	GCC-P 0512174
GCC-P 0512175	GCC-P 0512188
GCC-P 0512189	GCC-P 0512203
GCC-P 0512204	GCC-P 0512216
GCC-P 0512217	GCC-P 0512227
GCC-P 0512228	GCC-P 0512242
GCC-P 0512243	GCC-P 0512257
GCC-P 0512258	GCC-P 0512272
GCC-P 0512273	GCC-P 0512294
GCC-P 0512295	GCC-P 0512317
GCC-P 0512318	GCC-P 0512342
GCC-P 0512343	GCC-P 0512369
GCC-P 0512370	GCC-P 0512399
GCC-P 0512400	GCC-P 0512450
GCC-P 0512451	GCC-P 0512457
GCC-P 0513198	GCC-P 0513205
GCC-P 0513222	GCC-P 0513232
GCC-P 0513430	GCC-P 0513439
GCC-P 0513483	GCC-P 0513506
GCC-P 0513947	GCC-P 0514296
GCC-P_Audio_0000001	
GCC-P_Audio_0000002	
GCC-P_Audio_0000002.0001	GCC-P_Audio_0000002.0004
GCC-P_Audio_0000003	
GCC-P_Audio_0000003.0001	GCC-P_Audio_0000003.0003
GCC-P_Audio_0000004	
GCC-P_Audio_0000004.0001	GCC-P_Audio_0000004.0004
GCC-P_Audio_0000005	
GCC-P_Audio_0000005.0001	GCC-P_Audio_0000005.0003
GCC-P_Audio_0000006	
GCC-P_Audio_0000006.0001	GCC-P_Audio_0000006.0004
GCC-P_Audio_0000007	
GCC-P_Audio_0000007.0001	GCC-P_Audio_0000007.0003
GCC-P_Audio_0000008	

Schedule A to Appendix II

BS00203867	BS00203889
BS00203896	BS00203899
BS00203900	BS00203931
BS00203947	BS00203970
BS00203994	BS00204020
BS00204200	BS00204203
BS00204225	BS00204265
BS00204270	BS00204274
BS00204416	BS00204458
BS00204550	BS00204626
BS00204627	BS00204654
BS00204673	BS00204673
BS00204674	BS00204714
BS00204724	BS00204754
BS00204793	BS00204800
BS00204811	BS00204842
BS00204874	BS00204892
BS00204894	BS00204895
BS00204907	BS00204924
BS00204939	BS00204956
BS00204957	BS00204974
BS00204996	BS00204996
BS00204997	BS00204998
BS00205005	BS00205014
BS00205015	BS00205028
BS00205061	BS00205071
BS00205129	BS00205129
BS00205243	BS00205244
BS00205332	BS00205334
BS00205338	BS00205344
BS00205351	BS00205354
BS00205367	BS00205367
BS00205368	BS00205369
BS00205434	BS00205435
BS00205470	BS00205474
BS00205569	BS00205609
BS00205613	BS00205616
BS00205621	BS00205627
BS00205631	BS00205649
BS00205796	BS00205825
BS00205826	BS00205855
BS00206362	BS00206363
BS00206485	BS00206488
BS00206510	BS00206512
BS00206587	BS00206590
BS00206643	BS00206755
BS00207025	BS00207071

GCC-P_Audio_0000008.0001	GCC-P_Audio_0000008.0003
GCC-P_Audio_0000009	
GCC-P_Audio_0000009.0001	GCC-P_Audio_0000009.0003
GCC-P_Audio_0000010	
GCC-P_Audio_0000010.0001	GCC-P_Audio_0000010.0003
GCC-P_Audio_0000011	
GCC-P_Audio_0000011.0001	GCC-P_Audio_0000011.0003
GCC-P_Audio_0000012	
GCC-P_Audio_0000012.0001	GCC-P_Audio_0000012.0003
GCC-P_Audio_0000013	
GCC-P_Audio_0000013.0001	GCC-P_Audio_0000013.0004
GCC-P_Audio_0000014	
GCC-P_Audio_0000014.0001	GCC-P_Audio_0000014.0004
GCC-P_Audio_0000015	
GCC-P_Audio_0000015.0001	GCC-P_Audio_0000015.0003
GCC-P_Audio_0000016	
GCC-P_Audio_0000016.0001	GCC-P_Audio_0000016.0003
GCC-P_Audio_0000017	
GCC-P_Audio_0000017.0001	GCC-P_Audio_0000017.0003
GCC-P_Audio_0000018	
GCC-P_Audio_0000018.0001	GCC-P_Audio_0000018.0003
GCC-P_Audio_0000019	
GCC-P_Audio_0000019.0001	GCC-P_Audio_0000019.0003
GCC-P_Audio_0000020	
GCC-P_Audio_0000020.0001	GCC-P_Audio_0000020.0003
GCC-P_Audio_0000021	
GCC-P_Audio_0000021.0001	GCC-P_Audio_0000021.0007
GCC-P_Audio_0000022	
GCC-P_Audio_0000022.0001	GCC-P_Audio_0000022.0003
GCC-P_Audio_0000023	
GCC-P_Audio_0000023.0001	GCC-P_Audio_0000023.0003
GCC-P_Audio_0000024	
GCC-P_Audio_0000024.0001	GCC-P_Audio_0000024.0004
GCC-P_Audio_0000025	
GCC-P_Audio_0000025.0001	GCC-P_Audio_0000025.0004
GCC-P_Audio_0000026	
GCC-P_Audio_0000026.0001	GCC-P_Audio_0000026.0003
GCC-P_Audio_0000027	
GCC-P_Audio_0000027.0001	GCC-P_Audio_0000027.0003
GCC-P_Audio_0000028	
GCC-P_Audio_0000028.0001	GCC-P_Audio_0000028.0003
GCC-P_Audio_0000029	
GCC-P_Audio_0000029.0001	GCC-P_Audio_0000029.0003
GCC-P_Audio_0000030	
GCC-P_Audio_0000030.0001	GCC-P_Audio_0000030.0004
GCC-P_Audio_0000031	
GCC-P_Audio_0000031.0001	GCC-P_Audio_0000031.0003

Schedule A to Appendix II

BS00207320	BS00207366
BS00207621	BS00207667
BS00207710	BS00207716
BS00207730	BS00207731
BS00207732	BS00207778
BS00207779	BS00207780
BS00207807	BS00207809
BS00208080	BS00208126
BS00208382	BS00208428
BS00208437	BS00208473
BS00208474	BS00208509
BS00208511	BS00208533
BS00208592	BS00208594
BS00208612	BS00208652
BS00208661	BS00208664
BS00208679	BS00208692
BS00208693	BS00208706
BS00208707	BS00208725
BS00208726	BS00208731
BS00208732	BS00208736
BS00208737	BS00208755
BS00208756	BS00208793
BS00208837	BS00208843
BS00208845	BS00208848
BS00208849	BS00208871
BS00208872	BS00208873
BS00208879	BS00208884
BS00208887	BS00208888
BS00209019	BS00209025
BS00209047	BS00209050
BS00209138	BS00209144
BS00209150	BS00209187
BS00209188	BS00209190
BS00209197	BS00209199
BS00209239	BS00209247
BS00209250	BS00209258
BS00209430	BS00209430
BS00209431	BS00209453
BS00209465	BS00209468
BS00209471	BS00209508
BS00209513	BS00209637
BS00209638	BS00209780
BS00209922	BS00209923
BS00209924	BS00209930
BS00209935	BS00209942
BS00210012	BS00210057
BS00210175	BS00210330

GCC-P_Audio_0000032	
GCC-P_Audio_0000032.0001	GCC-P_Audio_0000032.0003
GCC-P_Audio_0000033	
GCC-P_Audio_0000033.0001	GCC-P_Audio_0000033.0004
GCC-P_Audio_0000034	
GCC-P_Audio_0000034.0001	GCC-P_Audio_0000034.0003
GCC-P_Audio_0000035	
GCC-P_Audio_0000035.0001	GCC-P_Audio_0000035.0003
GCC-P_Audio_0000036	
GCC-P_Audio_0000036.0001	GCC-P_Audio_0000036.0003
GCC-P_Audio_0000037	
GCC-P_Audio_0000037.0001	GCC-P_Audio_0000037.0003
GCC-P_Audio_0000038	
GCC-P_Audio_0000038.0001	GCC-P_Audio_0000038.0004
GCC-P_Audio_0000039	
GCC-P_Audio_0000039.0001	GCC-P_Audio_0000039.0003
GCC-P_Audio_0000040	
GCC-P_Audio_0000040.0001	GCC-P_Audio_0000040.0005
GCC-P_Audio_0000041	
GCC-P_Audio_0000041.0001	GCC-P_Audio_0000041.0004
GCC-P_Audio_0000042	
GCC-P_Audio_0000042.0001	GCC-P_Audio_0000042.0003
GCC-P_Audio_0000043	
GCC-P_Audio_0000043.0001	GCC-P_Audio_0000043.0003
GCC-P_Audio_0000044	
GCC-P_Audio_0000044.0001	GCC-P_Audio_0000044.0003
GCC-P_Audio_0000045	
GCC-P_Audio_0000045.0001	GCC-P_Audio_0000045.0003
GCC-P_Audio_0000046	
GCC-P_Audio_0000046.0001	GCC-P_Audio_0000046.0003
GCC-P_Audio_0000047	
GCC-P_Audio_0000047.0001	GCC-P_Audio_0000047.0003
GCC-P_Audio_0000048	
GCC-P_Audio_0000048.0001	GCC-P_Audio_0000048.0003
GCC-P_Audio_0000049	
GCC-P_Audio_0000049.0001	GCC-P_Audio_0000049.0003
GCC-P_Audio_0000050	
GCC-P_Audio_0000050.0001	GCC-P_Audio_0000050.0003
GCC-P_Audio_0000051	
GCC-P_Audio_0000051.0001	GCC-P_Audio_0000051.0003
GCC-P_Audio_0000052	
GCC-P_Audio_0000053	
GCC-P_Audio_0000054	
GCC-P0393099	GCC-P0393101
GCC-P0393213	GCC-P0393218
GCC-P0393600	GCC-P0393607
GCC-P0397791	GCC-P0397793

Schedule A to Appendix II

BS00210331	BS00210370
BS00210372	BS00210527
BS00210528	BS00210567
BS00210572	BS00210735
BS00210736	BS00210775
BS00210780	BS00210943
BS00210944	BS00210983
BS00211679	BS00211679
BS00211861	BS00211865
BS00211866	BS00211870
BS00211929	BS00211933
BS00212120	BS00212124
BS00212125	BS00212126
BS00212127	BS00212142
BS00212161	BS00212165
BS00212166	BS00212167
BS00212168	BS00212183
BS00212520	BS00212520
BS00212521	BS00212596
BS00212597	BS00212612
BS00213166	BS00213169
BS00213623	BS00213625
BS00213902	BS00213905
BS00213923	BS00213926
BS00214234	BS00214236
BS00214344	BS00214365
BS00214785	BS00214789
BS00214795	BS00214795
BS00214796	BS00214797
BS00214930	BS00214936
BS00215652	BS00215652
BS00215682	BS00215682
BS00215973	BS00215974
BS00216563	BS00216565
BS00216979	BS00216979
BS00217374	BS00217374
BS00217375	BS00217376
BS00217380	BS00217380
BS00217736	BS00217737
BS00217739	BS00217740
BS00217816	BS00217817
BS00217828	BS00217832
BS00217989	BS00218044
BS00218052	BS00218085
BS00218086	BS00218186
BS00218187	BS00218197
BS00218198	BS00218248

GCC-P0514327	GCC-P0514666
GCC-P0515226	GCC-P0516113
GCC-P0530039	GCC-P0530510
GCC-P0531808	GCC-P0532544
GCC-P0532545	GCC-P0532940
GCC-P0533284	GCC-P0533598
GCCSAA00026370	GCCSAA00026375
GCCSAA00026402	GCCSAA00026409
GCCSAA00026863	GCCSAA00026886
GCCSAA00027209	GCCSAA00027216
GCCSAA00041675	GCCSAA00041676
GCCSAA00041691	GCCSAA00041691
GCCSAA00041709	GCCSAA00041710
GCCSAA00041789	GCCSAA00041789
GCCSAA00041921	GCCSAA00041923
GCCSAA00044575	GCCSAA00044582
GCCSAA00044598	GCCSAA00044604
GCCSAA00044652	GCCSAA00044664
GCCSAA00044679	GCCSAA00044692
GCCSAA00044693	GCCSAA00044705
GCCSAA00044768	GCCSAA00044780
GCCSAA00044808	GCCSAA00044821
GCCSAA00044909	GCCSAA00044923
GCCSAA00044924	GCCSAA00044938
GCCSAA00044939	GCCSAA00044953
GCCSAA00044954	GCCSAA00044968
GCCSAA00046518	GCCSAA00046577
GCCSAA00046635	GCCSAA00046692
GCCSAA00047752	GCCSAA00047811
GCCSAB00003892	GCCSAB00003953
GCCSAB00008313	GCCSAB00008345
GCCSAB00011050	GCCSAB00011111
GCCSAB00065005	GCCSAB00065031
GCCSAC00000109	GCCSAC00000132
GCCSAC00000461	GCCSAC00000475
GCCSAC00000476	GCCSAC00000501
IVYSIPC00090170	IVYSIPC00090170
IVYSIPC00090239	IVYSIPC00090239
IVYSIPC00090241	IVYSIPC00090241
IVYSIPC00090247	IVYSIPC00090247
IVYSIPC00152183	IVYSIPC00156016
IVYSIPC00156765	IVYSIPC00156785
IVYSIPC00173818	IVYSIPC00173825
IVYSIPC00173958	IVYSIPC00173958
IVYSIPC00173964	IVYSIPC00173964
IVYSIPC00174791	IVYSIPC00174798
IVYSIPC00174831	IVYSIPC00174831

Schedule A to Appendix II

BS00218249	BS00218304
BS00218327	BS00218327
BS00218430	BS00218432
BS00218672	BS00218682
BS00218935	BS00218935
BS00218948	BS00218948
BS00219155	BS00219155
BS00219259	BS00219260
BS00219264	BS00219265
BS00219271	BS00219272
BS00219281	BS00219282
BS00219283	BS00219283
BS00219284	BS00219284
BS00219285	BS00219285
BS00219297	BS00219298
BS00219299	BS00219299
BS00219300	BS00219300
BS00219354	BS00219358
BS00219375	BS00219375
BS00219451	BS00219456
BS00219457	BS00219459
BS00219460	BS00219462
BS00219486	BS00219489
BS00219498	BS00219499
BS00219500	BS00219501
BS00219502	BS00219503
BS00219504	BS00219505
BS00219509	BS00219510
BS00219511	BS00219512
BS00219513	BS00219514
BS00219515	BS00219516
BS00219619	BS00219647
BS00219650	BS00219670
BS00219674	BS00219675
BS00219676	BS00219677
BS00219678	BS00219679
BS00219681	BS00219682
BS00219713	BS00219768
BS00219776	BS00219809
BS00219810	BS00219910
BS00219911	BS00219921
BS00219922	BS00219972
BS00219973	BS00220028
BS00220142	BS00220147
BS00220148	BS00220150
BS00220151	BS00220153
BS00220201	BS00220201

IVYSIPC00175125	IVYSIPC00175157
IVYSIPC00175164	IVYSIPC00175196
IVYSIPC00182570	IVYSIPC00182646
IVYSIPC00183045	IVYSIPC00183186
IVYSIPC00183190	IVYSIPC00183331
IVYSIPC00183359	IVYSIPC00183500
IVYSIPC00192746	IVYSIPC00192900
IVYSIPC00228343	IVYSIPC00228505
IVYSIPC00233916	IVYSIPC00234078
IVYSIPC00311296	IVYSIPC00311740
IVYSIPC00370752	IVYSIPC00370752
IVYSIPC00372981	IVYSIPC00372981
IVYSIPC00372985	IVYSIPC00372985
IVYSIPC00375112	IVYSIPC00375129
IVYSIPC00375303	IVYSIPC00375320
IVYSIPC00408399	IVYSIPC00408399
IVYSIPC00431742	IVYSIPC00432197
IVYSIPC00432200	IVYSIPC00433218
IVYSIPC00441933	IVYSIPC00442034
IVYSIPC00465575	IVYSIPC00465912
IVYSIPC00465914	IVYSIPC00466251
IVYSIPC00471666	IVYSIPC00472730
IVYSIPC00472896	IVYSIPC00473926
IVYSIPC00508490	IVYSIPC00508490
IVYSIPC00515983	IVYSIPC00516084
IVYSIPC00557437	IVYSIPC00557513
IVYSIPC00557658	IVYSIPC00557820
IVYSIPC00561333	IVYSIPC00561495
IVYSIPC00561499	IVYSIPC00561661
IVYSIPC00561665	IVYSIPC00561827
IVYSIPC00566517	IVYSIPC00566679
IVYSIPC00566681	IVYSIPC00566843
IVYSIPC00566845	IVYSIPC00567007
IVYSIPC00567010	IVYSIPC00567172
IVYSIPC00571758	IVYSIPC00573173
IVYSIPC00574684	IVYSIPC00576099
IVYSIPC00577330	IVYSIPC00577492
IVYSIPC00584750	IVYSIPC00584750
IVYSIPC00584754	IVYSIPC00584754
IVYSIPC00585350	IVYSIPC00585491
LAZA-BR00000006	
LAZA-BR00000007	
LAZA-BR00000058	
MADTBB01147856	MADTBB01148474
MADTBB01148476	MADTBB01149087
MADTBB01297951	MADTBB01299145
MADTBB01445388	MADTBB01446576

Schedule A to Appendix II

BS00220249	BS00220279
BS00220288	BS00220288
BS00220312	BS00220317
BS00220318	BS00220320
BS00220321	BS00220323
BS00220349	BS00220387
BS00220388	BS00220404
BS00220417	BS00220455
BS00220456	BS00220472
BS00220524	BS00220525
BS00220557	BS00220559
BS00220560	BS00220562
BS00220563	BS00220568
BS00220682	BS00220707
BS00220983	BS00220985
BS00220986	BS00220988
BS00220989	BS00220994
BS00221031	BS00221032
BS00221058	BS00221060
BS00221187	BS00221189
BS00221190	BS00221192
BS00221193	BS00221199
BS00221213	BS00221218
BS00221487	BS00221488
BS00221507	BS00221508
BS00221512	BS00221514
BS00221515	BS00221516
BS00221601	BS00221607
BS00221608	BS00221610
BS00221611	BS00221613
BS00221631	BS00221634
BS00221845	BS00221911
BS00221912	BS00222085
BS00222515	BS00222556
BS00222583	BS00222624
BS00222933	BS00222939
BS00222940	BS00222942
BS00222943	BS00222945
BS00222979	BS00222982
BS00223043	BS00223122
BS00223123	BS00223229
BS00223402	BS00223403
BS00223494	BS00223500
BS00223501	BS00223503
BS00223504	BS00223506
BS00223747	BS00223747
BS00223748	BS00223749

MADTBB01451626	MADTBB01452806
MADTBB01452808	MADTBB01453990
MADTBB01453992	MADTBB01455176
MADTBB01774565	MADTBB01775066
MADTBB01823580	MADTBB01824795
MADTBB01841926	MADTBB01843129
MADTBB01856622	MADTBB01856799
MADTBB01906938	MADTBB01908102
MADTBB02054983	MADTBB02055354
MADTBB02055356	MADTBB02055720
MADTBB02078035	MADTBB02078395
MADTBB02116028	MADTBB02117237
MADTBB02389389	MADTBB02389401
MADTBB02413353	MADTBB02413361
MADTBB02601410	MADTBB02602550
MADTEE00340294	MADTEE00340299
MADTSS00015502	MADTSS00015688
MADTSS00044845	MADTSS00045306
MADTSS00049787	MADTSS00050424
MADTSS00051064	MADTSS00051711
MADTSS00051713	MADTSS00052362
MADTSS00053008	MADTSS00053324
MADTSS00054084	MADTSS00054728
MADTSS00054730	MADTSS00055374
MADTSS00083186	MADTSS00083805
MADTSS00086536	MADTSS00087100
MADTSS00089444	MADTSS00090049
MADTSS00185228	MADTSS00185384
MADTSS00284055	MADTSS00284155
MADTSS00284156	MADTSS00284257
MADTSS00296919	MADTSS00301685
MADTSS00453159	MADTSS00453457
MADTSS00585166	MADTSS00585190
MDPTPP02971612	MDPTPP02971617
MDPTPP02989295	MDPTPP02989302
MDPTPP02989303	MDPTPP02989304
MDPTPP02989368	MDPTPP02989375
MDPTPP02989377	MDPTPP02989385
MDPTPP02989388	MDPTPP02989391
MDPTPP02989392	MDPTPP02989392
MDPTPP02989393	MDPTPP02989394
MDPTPP02989395	MDPTPP02989395
MDPTPP02989396	MDPTPP02989397
MDPTPP02989398	MDPTPP02989398
MDPTPP02990985	MDPTPP02991000
MDPTPP03077704	MDPTPP03077711
MDPTPP03077712	MDPTPP03077712

Schedule A to Appendix II

BS00223974	BS00224046
BS00224071	BS00224075
BS00224205	BS00224211
BS00224212	BS00224214
BS00224215	BS00224217
BS00224245	BS00224245
BS00224246	BS00224250
BS00224354	BS00224354
BS00224355	BS00224358
BS00224361	BS00224362
BS00224625	BS00224626
BS00224926	BS00224950
BS00225016	BS00225017
BS00225023	BS00225027
BS00225040	BS00225044
BS00225045	BS00225049
BS00225410	BS00225421
BS00225579	BS00225586
BS00225606	BS00225607
BS00225608	BS00225610
BS00225611	BS00225617
BS00225618	BS00225620
BS00225621	BS00225623
BS00225656	BS00225662
BS00225695	BS00225696
BS00225697	BS00225699
BS00225702	BS00225705
BS00225715	BS00225716
BS00226651	BS00226655
BS00226690	BS00226695
BS00226696	BS00226772
BS00226808	BS00226812
BS00226839	BS00226844
BS00227005	BS00227009
BS00227156	BS00227156
BS00227157	BS00227158
BS00227169	BS00227170
BS00227609	BS00227609
BS00227651	BS00227654
BS00227669	BS00227672
BS00227689	BS00227702
BS00227716	BS00227721
BS00227791	BS00227791
BS00227792	BS00227793
BS00227827	BS00228180
BS00228263	BS00228264
BS00228265	BS00228267

MDPTPP03077713	MDPTPP03077723
MDPTPP03077724	MDPTPP03077725
MDPTPP03077726	MDPTPP03077733
MDPTPP03165582	MDPTPP03165589
MDPTPP03165590	MDPTPP03165591
MDPTPP03165656	MDPTPP03165663
MDPTPP03165665	MDPTPP03165673
MDPTPP03165676	MDPTPP03165679
MDPTPP03165680	MDPTPP03165680
MDPTPP03165681	MDPTPP03165682
MDPTPP03165683	MDPTPP03165683
MDPTPP03165684	MDPTPP03165685
MDPTPP03165686	MDPTPP03165686
MDPTPP03166024	MDPTPP03166039
MDPTPP03166042	MDPTPP03166059
MDPTPP03166074	MDPTPP03166075
MDPTPP03166076	MDPTPP03166076
MDPTPP03182597	MDPTPP03182611
MDPTPP03182612	MDPTPP03182612
MDPTPP03182613	MDPTPP03182619
MDPTPP03182620	MDPTPP03182620
MDPTPP03182621	MDPTPP03182629
MDPTPP03182630	MDPTPP03182630
MDPTPP03182631	MDPTPP03182639
MDPTPP03182640	MDPTPP03182641
MDPTPP03182642	MDPTPP03182650
MDPTPP03182651	MDPTPP03182651
MDPTPP03182652	MDPTPP03182661
MDPTPP03182662	MDPTPP03182663
MDPTPP03182664	MDPTPP03182672
MDPTPP03182673	MDPTPP03182673
MDPTPP03182674	MDPTPP03182677
MDPTPP03182678	MDPTPP03182678
MDPTPP03182679	MDPTPP03182687
MDPTPP03182688	MDPTPP03182688
MDPTPP03182689	MDPTPP03182700
MDPTPP03182701	MDPTPP03182702
MDPTPP03182703	MDPTPP03182712
MDPTPP03182713	MDPTPP03182714
MDPTPP03182715	MDPTPP03182719
MDPTPP03182720	MDPTPP03182721
MDPTPP03182722	MDPTPP03182727
MDPTPP03182728	MDPTPP03182728
MDPTPP03182729	MDPTPP03182737
MDPTPP03182738	MDPTPP03182738
MDPTPP03182739	MDPTPP03182747
MDPTPP03182748	MDPTPP03182748

Schedule A to Appendix II

BS00228289	BS00228321
BS00229395	BS00229427
BS00230004	BS00230005
BS00230008	BS00230012
BS00230448	BS00230462
BS00230463	BS00230479
BS00230480	BS00230494
BS00230513	BS00230530
BS00230599	BS00230603
BS00230673	BS00230708
BS00230710	BS00230745
BS00230824	BS00230828
BS00230830	BS00230834
BS00230839	BS00231002
BS00231069	BS00231224
BS00231225	BS00231264
BS00231269	BS00231432
BS00231486	BS00231486
BS00231530	BS00231530
BS00231531	BS00231532
BS00231603	BS00231641
BS00231724	BS00231764
BS00231857	BS00231858
BS00232043	BS00232060
BS00232061	BS00232080
BS00232148	BS00232149
BS00232163	BS00232170
BS00232220	BS00232329
BS00232335	BS00232336
BS00232344	BS00232354
BS00232481	BS00232486
BS00232490	BS00232490
BS00232737	BS00232738
BS00232740	BS00232742
BS00232778	BS00232779
BS00232780	BS00232816
BS00232927	BS00232929
BS00233260	BS00233262
BS00233263	BS00233266
BS00233305	BS00233305
BS00233307	BS00233310
BS00233318	BS00233320
BS00233321	BS00233399
BS00233418	BS00233420
BS00233475	BS00233478
BS00233671	BS00233672
BS00233673	BS00233692

MDPTPP03182749	MDPTPP03182760
MDPTPP03182761	MDPTPP03182762
MDPTPP03182763	MDPTPP03182778
MDPTPP03182779	MDPTPP03182780
MDPTPP03182781	MDPTPP03182791
MDPTPP03182792	MDPTPP03182794
MDPTPP03182795	MDPTPP03182810
MDPTPP03182811	MDPTPP03182811
MDPTPP03182812	MDPTPP03182829
MDPTPP03182830	MDPTPP03182831
MDPTPP03182832	MDPTPP03182839
MDPTPP03182840	MDPTPP03182840
MDPTPP03182841	MDPTPP03182855
MDPTPP03182856	MDPTPP03182857
MDPTPP03182858	MDPTPP03182871
MDPTPP03182872	MDPTPP03182873
MDPTPP03182874	MDPTPP03182878
MDPTPP03182879	MDPTPP03182879
MDPTPP03182880	MDPTPP03182891
MDPTPP03182892	MDPTPP03182893
MDPTPP03182894	MDPTPP03182906
MDPTPP03182907	MDPTPP03182907
MDPTPP03182908	MDPTPP03182914
MDPTPP03182915	MDPTPP03182915
MDPTPP03182916	MDPTPP03182929
MDPTPP03182930	MDPTPP03182931
MDPTPP03182932	MDPTPP03182945
MDPTPP03182946	MDPTPP03182946
MDPTPP03182947	MDPTPP03182966
MDPTPP03182967	MDPTPP03182968
MDPTPP03182969	MDPTPP03182972
MDPTPP03182973	MDPTPP03182973
MDPTPP03182974	MDPTPP03182990
MDPTPP03182991	MDPTPP03182993
MDPTPP03182994	MDPTPP03183007
MDPTPP03183008	MDPTPP03183009
MDPTPP03183010	MDPTPP03183025
MDPTPP03183026	MDPTPP03183027
MDPTPP03183028	MDPTPP03183039
MDPTPP03183040	MDPTPP03183040
MDPTPP03183041	MDPTPP03183060
MDPTPP03183061	MDPTPP03183062
MDPTPP03183063	MDPTPP03183074
MDPTPP03183075	MDPTPP03183076
MDPTPP03183077	MDPTPP03183090
MDPTPP03183091	MDPTPP03183091
MDPTPP03183092	MDPTPP03183110

Schedule A to Appendix II

BS00233693	BS00233695
BS00234737	BS00234741
BS00234792	BS00234793
BS00235303	BS00235341
BS00235414	BS00235437
BS00235452	BS00235454
BS00235455	BS00235457
BS00235458	BS00235460
BS00235648	BS00235649
BS00235661	BS00235664
BS00235687	BS00235745
BS00235765	BS00235767
BS00235942	BS00235943
BS00235944	BS00235962
BS00235963	BS00235987
BS00236053	BS00236054
BS00236055	BS00236055
BS00236057	BS00236058
BS00236128	BS00236154
BS00236598	BS00236607
BS00236966	BS00237008
BS00237258	BS00237260
BS00237289	BS00237291
BS00237426	BS00237429
BS00237430	BS00237432
BS00237582	BS00237584
BS00237652	BS00237656
BS00237896	BS00237897
BS00237931	BS00237932
BS00237960	BS00238051
BS00238155	BS00238246
BS00238533	BS00238533
BS00238550	BS00238551
BS00238573	BS00238574
BS00238596	BS00238597
BS00238606	BS00238607
BS00238794	BS00238802
BS00238920	BS00238921
BS00238922	BS00238923
BS00238940	BS00238941
BS00238946	BS00238952
BS00238953	BS00238958
BS00238965	BS00238971
BS00238972	BS00238977
BS00238984	BS00238985
BS00238987	BS00238993
BS00239006	BS00239007

MDPTPP03183111	MDPTPP03183111
MDPTPP03183112	MDPTPP03183124
MDPTPP03183125	MDPTPP03183126
MDPTPP03183127	MDPTPP03183139
MDPTPP03183140	MDPTPP03183140
MDPTPP03183141	MDPTPP03183145
MDPTPP03183146	MDPTPP03183146
MDPTPP03183147	MDPTPP03183162
MDPTPP03183163	MDPTPP03183164
MDPTPP03183165	MDPTPP03183175
MDPTPP03183176	MDPTPP03183176
MDPTPP03183177	MDPTPP03183199
MDPTPP03183200	MDPTPP03183201
MDPTPP03183202	MDPTPP03183205
MDPTPP03183206	MDPTPP03183206
MDPTPP03183207	MDPTPP03183219
MDPTPP03183220	MDPTPP03183221
MDPTPP03183222	MDPTPP03183234
MDPTPP03183235	MDPTPP03183235
MDPTPP03183236	MDPTPP03183239
MDPTPP03183240	MDPTPP03183240
MDPTPP03183241	MDPTPP03183259
MDPTPP03183260	MDPTPP03183261
MDPTPP03183262	MDPTPP03183275
MDPTPP03183276	MDPTPP03183276
MDPTPP03183277	MDPTPP03183289
MDPTPP03183290	MDPTPP03183291
MDPTPP03183292	MDPTPP03183296
MDPTPP03183297	MDPTPP03183297
MDPTPP03183298	MDPTPP03183312
MDPTPP03183313	MDPTPP03183313
MDPTPP03183314	MDPTPP03183318
MDPTPP03183319	MDPTPP03183319
MDPTPP03183320	MDPTPP03183332
MDPTPP03183333	MDPTPP03183334
MDPTPP03183335	MDPTPP03183346
MDPTPP03183347	MDPTPP03183347
MDPTPP03183348	MDPTPP03183351
MDPTPP03183352	MDPTPP03183352
MDPTPP03183353	MDPTPP03183356
MDPTPP03183357	MDPTPP03183357
MDPTPP03183358	MDPTPP03183380
MDPTPP03183381	MDPTPP03183382
MDPTPP03183383	MDPTPP03183399
MDPTPP03183400	MDPTPP03183401
MDPTPP03183402	MDPTPP03183407
MDPTPP03183408	MDPTPP03183408

Schedule A to Appendix II

BS00239010	BS00239010
BS00239011	BS00239017
BS00239020	BS00239026
BS00239041	BS00239044
BS00239050	BS00239056
BS00239092	BS00239098
BS00239099	BS00239103
BS00239126	BS00239132
BS00239175	BS00239178
BS00239231	BS00239232
BS00239253	BS00239254
BS00239355	BS00239355
BS00239357	BS00239358
BS00239360	BS00239377
BS00239430	BS00239439
BS00239457	BS00239457
BS00239579	BS00239627
BS00239761	BS00239809
BS00240117	BS00240136
BS00240184	BS00240188
BS00240212	BS00240231
BS00240238	BS00240257
BS00240265	BS00240270
BS00240273	BS00240284
BS00240285	BS00240293
BS00240302	BS00240311
BS00240312	BS00240317
BS00240318	BS00240329
BS00240342	BS00240342
BS00240343	BS00240355
BS00240356	BS00240366
BS00240367	BS00240374
BS00240375	BS00240387
BS00240404	BS00240415
BS00240416	BS00240424
BS00240434	BS00240445
BS00240486	BS00240493
BS00240556	BS00240561
BS00240577	BS00240578
BS00240661	BS00240667
BS00240668	BS00240673
BS00240715	BS00240721
BS00240758	BS00240764
BS00240803	BS00240809
BS00240836	BS00240842
BS00240858	BS00240864
BS00240892	BS00240896

MDPTPP03183409	MDPTPP03183426
MDPTPP03183427	MDPTPP03183427
MDPTPP03183428	MDPTPP03183444
MDPTPP03183445	MDPTPP03183446
MDPTPP03183447	MDPTPP03183452
MDPTPP03183453	MDPTPP03183453
MDPTPP03183454	MDPTPP03183473
MDPTPP03183474	MDPTPP03183475
MDPTPP03183476	MDPTPP03183490
MDPTPP03183491	MDPTPP03183492
MDPTPP03183493	MDPTPP03183501
MDPTPP03183502	MDPTPP03183503
MDPTPP03183504	MDPTPP03183517
MDPTPP03183518	MDPTPP03183518
MDPTPP03183519	MDPTPP03183531
MDPTPP03183532	MDPTPP03183532
MDPTPP03183533	MDPTPP03183538
MDPTPP03183539	MDPTPP03183539
MDPTPP03183540	MDPTPP03183552
MDPTPP03183553	MDPTPP03183553
MDPTPP03183554	MDPTPP03183568
MDPTPP03183569	MDPTPP03183569
MDPTPP03183570	MDPTPP03183577
MDPTPP03183578	MDPTPP03183578
MDPTPP03183579	MDPTPP03183596
MDPTPP03183597	MDPTPP03183597
MDPTPP03183598	MDPTPP03183603
MDPTPP03185223	MDPTPP03185234
MDPTQQ00000010	MDPTQQ00000010
MDPTSS00000001	MDPTSS00000002
MDPTSS00000003	MDPTSS00000004
MDPTSS00000005	MDPTSS00000009
MDPTSS00000010	MDPTSS00000014
MDPTSS00000015	MDPTSS00000019
MDPTSS00000020	MDPTSS00000024
MDPTSS00000025	MDPTSS00000029
MDPTSS00000030	MDPTSS00000034
MDPTSS00000035	MDPTSS00000039
MDPTSS00000040	MDPTSS00000044
MDPTSS00000045	MDPTSS00000046
MDPTSS00000047	MDPTSS00000048
MDPTSS00000049	MDPTSS00000050
MDPTSS00000051	MDPTSS00000052
MDPTSS00000053	MDPTSS00000055
MDPTSS00000056	MDPTSS00000057
MDPTSS00000058	MDPTSS00000059
MDPTSS00000060	MDPTSS00000062

Schedule A to Appendix II

BS00240901	BS00240907
BS00240912	BS00240913
BS00240916	BS00240922
BS00240949	BS00240956
BS00240977	BS00240983
BS00240999	BS00241005
BS00241020	BS00241026
BS00241040	BS00241046
BS00241194	BS00241194
BS00242718	BS00242719
BS00242849	BS00242871
BS00242906	BS00242911
BS00243732	BS00243734
BS00244012	BS00244060
BS00244569	BS00244571
BS00245018	BS00245019
BS00245442	BS00245444
BS00245446	BS00245448
BS00246979	BS00246980
BS00247964	BS00248012
BS00248146	BS00248194
BS00248895	BS00248897
BS00249211	BS00249223
BS00249224	BS00249234
BS00249268	BS00249270
BS00249271	BS00249277
BS00249280	BS00249285
BS00249310	BS00249321
BS00249324	BS00249331
BS00249426	BS00249428
BS00249466	BS00249478
BS00249504	BS00249505
BS00249634	BS00249703
BS00250241	BS00250243
BS00250411	BS00250424
BS00250793	BS00250956
BS00251039	BS00251202
BS00251546	BS00251546
BS00251548	BS00251549
BS00251618	BS00251619
BS00251637	BS00251637
BS00251651	BS00251668
BS00251670	BS00251670
BS00251733	BS00251733
BS00251798	BS00251839
BS00251842	BS00251862
BS00251865	BS00251879

MDPTSS00000063	MDPTSS00000065
MDPTSS00000066	MDPTSS00000069
MDPTSS00000070	MDPTSS00000073
MDPTSS00000074	MDPTSS00000076
MDPTSS00000077	MDPTSS00000079
MDPTSS00000080	MDPTSS00000082
MDPTSS00000083	MDPTSS00000086
MDPTSS00000087	MDPTSS00000090
MDPTSS00000091	MDPTSS00000093
MDPTSS00000094	MDPTSS00000096
MDPTSS00000097	MDPTSS00000099
MDPTSS00000100	MDPTSS00000103
MDPTSS00000104	MDPTSS00000107
MDPTSS00000108	MDPTSS00000110
MDPTSS00000111	MDPTSS00000113
MDPTSS00000114	MDPTSS00000116
MDPTSS00000117	MDPTSS00000119
MDPTSS00000120	MDPTSS00000123
MDPTSS00000124	MDPTSS00000127
MDPTSS00000128	MDPTSS00000130
MDPTSS00000131	MDPTSS00000132
MDPTSS00000133	MDPTSS00000134
MDPTSS00000135	MDPTSS00000136
MDPTSS00000137	MDPTSS00000138
MDPTSS00000139	MDPTSS00000140
MDPTSS00000141	MDPTSS00000143
MDPTSS00000144	MDPTSS00000146
MDPTSS00000147	MDPTSS00000149
MDPTSS00000150	MDPTSS00000152
MDPTSS00000153	MDPTSS00000154
MDPTSS00000155	MDPTSS00000156
MDPTSS00000157	MDPTSS00000159
MDPTSS00000160	MDPTSS00000162
MDPTSS00000163	MDPTSS00000165
MDPTSS00000166	MDPTSS00000168
MDPTSS00000169	MDPTSS00000171
MDPTSS00000172	MDPTSS00000174
MDPTSS00000175	MDPTSS00000177
MDPTSS00000178	MDPTSS00000180
MDPTSS00000181	MDPTSS00000182
MDPTSS00000183	MDPTSS00000184
MDPTSS00000185	MDPTSS00000186
MDPTSS00000187	MDPTSS00000188
MDPTSS00000189	MDPTSS00000190
MDPTSS00000191	MDPTSS00000192
MDPTSS00000193	MDPTSS00000194
MDPTSS00000195	MDPTSS00000196

Schedule A to Appendix II

BS00251882	BS00251912
BS00252055	BS00252062
BS00252187	BS00252199
BS00252671	BS00252682
BS00252683	BS00252691
BS00252707	BS00252718
BS00252719	BS00252728
BS00252754	BS00252765
BS00252785	BS00252797
BS00252800	BS00252810
BS00252811	BS00252822
BS00253169	BS00253187
BS00253234	BS00253246
BS00253247	BS00253257
BS00253306	BS00253317
BS00253391	BS00253402
BS00253441	BS00253453
BS00253463	BS00253474
BS00253519	BS00253529
BS00253538	BS00253550
BS00253551	BS00253563
BS00253572	BS00253585
BS00253632	BS00253644
BS00253672	BS00253683
BS00253684	BS00253696
BS00253701	BS00253714
BS00253740	BS00253751
BS00253754	BS00253766
BS00253787	BS00253798
BS00253822	BS00253822
BS00253834	BS00253845
BS00253859	BS00253869
BS00253870	BS00253881
BS00253891	BS00253901
BS00253902	BS00253913
BS00253914	BS00253924
BS00253925	BS00253935
BS00253936	BS00253947
BS00253963	BS00253973
BS00253979	BS00253994
BS00254006	BS00254016
BS00254017	BS00254026
BS00254027	BS00254038
BS00254046	BS00254056
BS00254065	BS00254075
BS00254083	BS00254093
BS00254142	BS00254152

MDPTSS00000197	MDPTSS00000198
MDPTSS00000199	MDPTSS00000200
MDPTSS00000201	MDPTSS00000202
MDPTSS00000203	MDPTSS00000204
MDPTSS00000205	MDPTSS00000206
MDPTSS00000207	MDPTSS00000208
MDPTSS00000209	MDPTSS00000210
MDPTSS00000211	MDPTSS00000212
MDPTSS00000213	MDPTSS00000214
MDPTSS00000215	MDPTSS00000216
MDPTSS00000217	MDPTSS00000218
MDPTSS00000219	MDPTSS00000220
MDPTSS00000221	MDPTSS00000222
MDPTSS00000223	MDPTSS00000224
MDPTSS00000225	MDPTSS00000226
MDPTSS00000227	MDPTSS00000228
MDPTSS00000229	MDPTSS00000230
MDPTSS00000231	MDPTSS00000232
MDPTSS00000233	MDPTSS00000234
MDPTSS00000235	MDPTSS00000236
MDPTSS00000237	MDPTSS00000238
MDPTSS00000239	MDPTSS00000240
MDPTSS00000241	MDPTSS00000243
MDPTSS00000244	MDPTSS00000246
MDPTSS00000247	MDPTSS00000248
MDPTSS00000249	MDPTSS00000250
MDPTSS00000251	MDPTSS00000253
MDPTSS00000254	MDPTSS00000256
MDPTSS00000257	MDPTSS00000259
MDPTSS00000260	MDPTSS00000262
MDPTSS00000263	MDPTSS00000265
MDPTSS00000266	MDPTSS00000268
MDPTSS00000269	MDPTSS00000271
MDPTSS00000272	MDPTSS00000274
MDPTSS00000275	MDPTSS00000277
MDPTSS00000278	MDPTSS00000280
MDPTSS00000281	MDPTSS00000283
MDPTSS00000284	MDPTSS00000286
MDPTSS00000287	MDPTSS00000289
MDPTSS00000290	MDPTSS00000292
MDPTSS00000293	MDPTSS00000295
MDPTSS00000296	MDPTSS00000298
MDPTSS00000299	MDPTSS00000301
MDPTSS00000302	MDPTSS00000305
MDPTSS00000306	MDPTSS00000309
MDPTSS00000310	MDPTSS00000313
MDPTSS00000720	MDPTSS00000724

Schedule A to Appendix II

BS00254155	BS00254165
BS00254484	BS00254496
BS00254497	BS00254507
BS00254573	BS00254584
BS00254685	BS00254687
BS00254715	BS00254726
BS00254769	BS00254781
BS00254805	BS00254816
BS00254863	BS00254873
BS00254876	BS00254888
BS00254924	BS00254936
BS00254959	BS00254972
BS00254991	BS00255003
BS00255025	BS00255036
BS00255103	BS00255115
BS00255127	BS00255139
BS00255206	BS00255208
BS00255265	BS00255277
BS00255361	BS00255362
BS00255363	BS00255363
BS00255379	BS00255390
BS00255432	BS00255445
BS00255460	BS00255471
BS00255493	BS00255503
BS00255508	BS00255519
BS00255532	BS00255543
BS00255550	BS00255560
BS00255565	BS00255575
BS00255579	BS00255590
BS00256361	BS00256367
BS00257266	BS00257268
BS00258223	BS00258534
BS00258564	BS00258565
BS00259069	BS00259353
BS00260232	BS00260272
BS00260487	BS00260502
BS00260506	BS00260521
BS00260609	BS00260639
BS00260645	BS00260675
BS00260931	BS00260933
BS00261243	BS00261273
BS00261339	BS00261344
BS00261374	BS00261407
BS00261514	BS00261536
BS00261809	BS00261810
BS00261824	BS00262198
BS00262497	BS00262504

MDPTSS00000725	MDPTSS00000729
MDPTSS00000730	MDPTSS00000734
MDPTSS00000735	MDPTSS00000739
MDPTSS00000740	MDPTSS00000744
MDPTSS00000745	MDPTSS00000749
MDPTSS00000750	MDPTSS00000754
MDPTSS00000755	MDPTSS00000759
MDPTSS00000760	MDPTSS00000762
MDPTSS00000763	MDPTSS00000765
MDPTSS00000766	MDPTSS00000768
MDPTSS00000769	MDPTSS00000772
MDPTSS00000773	MDPTSS00000775
MDPTSS00000776	MDPTSS00000785
MDPTSS00000786	MDPTSS00000792
MDPTSS00000793	MDPTSS00000802
MDPTSS00000803	MDPTSS00000803
MDPTSS00000804	MDPTSS00000804
MDPTSS00000805	MDPTSS00000805
MDPTSS00000806	MDPTSS00000806
MDPTSS00000807	MDPTSS00000807
MDPTSS00000808	MDPTSS00000808
MDPTSS00000809	MDPTSS00000809
MDPTSS00000810	MDPTSS00000810
MDPTSS00000811	MDPTSS00000812
MDPTSS00000813	MDPTSS00000814
MDPTSS00000815	MDPTSS00000816
MDPTSS00000817	MDPTSS00000818
MDPTSS00000819	MDPTSS00000820
MDPTSS00000821	MDPTSS00000822
MDPTSS00000823	MDPTSS00000824
MDPTSS00000825	MDPTSS00000826
MDPTSS00000827	MDPTSS00000828
MDPTSS00000829	MDPTSS00000830
MDPTSS00000831	MDPTSS00000832
MDPTSS00000833	MDPTSS00000834
MDPTSS00000835	MDPTSS00000836
MDPTSS00000837	MDPTSS00000838
MDPTSS00000839	MDPTSS00000840
MDPTSS00000841	MDPTSS00000842
MDPTSS00000843	MDPTSS00000844
MDPTSS00000845	MDPTSS00000846
MDPTSS00000847	MDPTSS00000848
MDPTSS00000849	MDPTSS00000850
MDPTSS00000851	MDPTSS00000852
MDPTSS00000853	MDPTSS00000854
MDPTSS00000855	MDPTSS00000856
MDPTSS00000857	MDPTSS00000858

Schedule A to Appendix II

BS00262505	BS00262513
BS00262514	BS00262523
BS00262524	BS00262533
BS00262600	BS00262604
BS00262898	BS00262899
BS00262900	BS00262902
BS00262903	BS00262904
BS00262905	BS00262907
BS00262987	BS00262993
BS00263261	BS00263301
BS00263341	BS00263347
BS00263359	BS00263365
BS00263553	BS00263555
BS00263721	BS00263725
BS00263749	BS00263753
BS00263799	BS00263806
BS00263818	BS00263824
BS00263825	BS00263828
BS00263829	BS00263840
BS00263857	BS00263865
BS00263940	BS00263943
BS00263944	BS00263955
BS00263969	BS00263978
BS00264012	BS00264023
BS00264026	BS00264030
BS00264101	BS00264105
BS00264106	BS00264118
BS00264130	BS00264140
BS00264188	BS00264199
BS00264251	BS00264259
BS00264357	BS00264364
BS00264377	BS00264380
BS00264400	BS00264402
BS00264426	BS00264427
BS00264436	BS00264436
BS00264460	BS00264461
BS00264471	BS00264474
BS00264525	BS00264528
BS00264608	BS00264611
BS00264662	BS00264665
BS00264719	BS00264730
BS00264865	BS00264878
BS00264932	BS00264943
BS00265021	BS00265033
BS00265047	BS00265052
BS00265196	BS00265199
BS00265320	BS00265332

MDPTSS00000859	MDPTSS00000860
MDPTSS00000861	MDPTSS00000862
MDPTSS00000863	MDPTSS00000864
MDPTSS00000865	MDPTSS00000867
MDPTSS00000868	MDPTSS00000869
MDPTSS00000870	MDPTSS00000872
MDPTSS00000873	MDPTSS00000874
MDPTSS00000875	MDPTSS00000877
MDPTSS00001627	MDPTSS00001628
MDPTSS00001629	MDPTSS00001631
MF00715775	MF00715784
MMAD-BRf00006918	
MMAN_02_BR_00000001	
MMAN_02_BR_00000010	
MMAN_02_BR_00000012	
MMAN_02_BR_00000014	
MMAN_02_BR_00000016	
MMAN_02_BR_00000017	
MMAN_02_BR_00000019	
MMAN_02_BR_00000020	
MMAN_02_BR_00000025	
MMAN_02_BR_00000028	
MMAN_02_BR_00000030	
MMAN_02_BR_00000032	
MMAN_02_BR_00000034	
MMAN_02_BR_00000037	
MMAN_02_BR_00000041	
MMAN_02_BR_00000045	
MMAN_02_BR_00000050	
MMAN_02_BR_00000052	
MMAN_02_BR_00000056	
MMAN_02_BR_00000057	
MMAN_02_BR_00000063	
MMAN_02_BR_00000065	
MMAN-BR00000001	
MMAN-BR00000009	
MMAN-BR00000012	
MMAN-BR00000013	
MMAN-BR00000017	
MMAN-BR00000020	
MMAN-BR00000021	
MMAN-BR00000030	
MMAN-BR00000031	
MMAN-BR00000032	
MS00000001	MS00000012
MS00326459	MS00326465
MS00326677	MS00326728

Schedule A to Appendix II

BS00265347	BS00265351
BS00265420	BS00265421
BS00265458	BS00265458
BS00265652	BS00265654
BS00265810	BS00265814
BS00265826	BS00265833
BS00265834	BS00265839
BS00265871	BS00265881
BS00265882	BS00265883
BS00265884	BS00265887
BS00265901	BS00265903
BS00266033	BS00266033
BS00266037	BS00266047
BS00266163	BS00266170
BS00266201	BS00266205
BS00266268	BS00266269
BS00266376	BS00266385
BS00266419	BS00266423
BS00266460	BS00266469
BS00266511	BS00266513
BS00266688	BS00266701
BS00266766	BS00266774
BS00266857	BS00266859
BS00266907	BS00266918
BS00267028	BS00267039
BS00267408	BS00267415
BS00267651	BS00267667
BS00267706	BS00267706
BS00267751	BS00267819
BS00267961	BS00267975
BS00267976	BS00267992
BS00267993	BS00268007
BS00268026	BS00268043
BS00268110	BS00268111
BS00268292	BS00268292
BS00268481	BS00268482
BS00268517	BS00268532
BS00268534	BS00268549
BS00268562	BS00268604
BS00268694	BS00268694
BS00268701	BS00268703
BS00268900	BS00268900
BS00268945	BS00269009
BS00269017	BS00269019
BS00269398	BS00269401
BS00269409	BS00269414
BS00269448	BS00269455

MS00420017	MS00420020
PUBLIC0590359	PUBLIC0590375
RE00000001	RE00000008
RE00000009	RE00000013
RE00000014	RE00000060
RE00000061	RE00000207
RE00000208	RE00000208
RE00000209	RE00000209
RE00000210	RE00000210
RE00000211	RE00000211
RE00000212	RE00000212
RE00000213	RE00000213
RE00000214	RE00000214
RE00000215	RE00000215
RE00000216	RE00000216
RE00000217	RE00000217
RE00000218	RE00000218
RE00000219	RE00000219
RE00000220	RE00000220
RE00000221	RE00000221
RE00000222	RE00000222
RE00000223	RE00000223
RE00000224	RE00000224
RE00000225	RE00000225
RE00000226	RE00000226
RE00000227	RE00000228
RE00000229	RE00000230
RE00000231	RE00000231
RE00000232	RE00000232
RE00000233	RE00000233
RE00000234	RE00000234
RE00000235	RE00000235
RE00000236	RE00000236
RE00000237	RE00000237
RE00000238	RE00000238
RE00000239	RE00000239
RE00000240	RE00000240
RE00000241	RE00000241
RE00000242	RE00000242
RE00000243	RE00000243
RE00000244	RE00000244
RE00000245	RE00000245
RE00000246	RE00000247
RE00000248	RE00000249
RE00000250	RE00000250
RE00000251	RE00000251
RE00000252	RE00000254

Schedule A to Appendix II

BS00269533	BS00269555
BS00269557	BS00269558
BS00269559	BS00269560
BS00269564	BS00269564
BS00269688	BS00269688
BS00270074	BS00270076
BS00270126	BS00270127
BS00270128	BS00270129
BS00270251	BS00270252
BS00270260	BS00270261
BS00270262	BS00270298
BS00270494	BS00270496
BS00271054	BS00271057
BS00271178	BS00271179
BS00271188	BS00271190
BS00271281	BS00271285
BS00271340	BS00271343
BS00271503	BS00271504
BS00271505	BS00271524
BS00272006	BS00272021
BS00272331	BS00272369
BS00272443	BS00272445
BS00272446	BS00272448
BS00272449	BS00272452
BS00272453	BS00272455
BS00272647	BS00272649
BS00273636	BS00273655
BS00273656	BS00273673
BS00273804	BS00273880
BS00274459	BS00274460
BS00274474	BS00274480
BS00274490	BS00274496
BS00274941	BS00274944
BS00274988	BS00274991
BS00275187	BS00275225
BS00275806	BS00275807
BS00275808	BS00275810
BS00275825	BS00275828
BS00275831	BS00275837
BS00275840	BS00275846
BS00275877	BS00275883
BS00275981	BS00275990
BS00276007	BS00276017
BS00276044	BS00276055
BS00276070	BS00276080
BS00276090	BS00276101
BS00276106	BS00276114

RE00000255	RE00000257
RE00000258	RE00000258
RE00000259	RE00000259
RE00000260	RE00000260
RE00000261	RE00000262
RE00000263	RE00000270
RE00000271	RE00000271
RE00000272	RE00000272
RE00000273	RE00000273
RE00000274	RE00000274
RE00000275	RE00000276
RE00000277	RE00000283
RE00000284	RE00000284
RE00000285	RE00000285
RE00000286	RE00000286
RE00000287	RE00000287
RE00000288	RE00000288
RE00000289	RE00000289
RE00000290	RE00000292
RE00000293	RE00000293
RE00000294	RE00000295
RE00000296	RE00000297
RE00000298	RE00000298
RE00000299	RE00000299
RE00000300	RE00000301
RE00000302	RE00000303
RE00000304	RE00000306
RE00000307	RE00000308
RE00000309	RE00000310
RE00000311	RE00000314
RE00000315	RE00000318
RE00000319	RE00000322
RE00000323	RE00000330
RE00000331	RE00000335
RE00000336	RE00000338
RE00000339	RE00000339
RE00000340	RE00000345
RE00000346	RE00000346
RE00000347	RE00000347
RE00000348	RE00000348
RE00000349	RE00000349
RE00000350	RE00000350
RE00000351	RE00000351
RE00000352	RE00000354
RE00000355	RE00000355
RE00000356	RE00000363
RE00000364	RE00000368

Schedule A to Appendix II

BS00276144	BS00276151
BS00276173	BS00276181
BS00276188	BS00276195
BS00276232	BS00276239
BS00276260	BS00276267
BS00276277	BS00276283
BS00276319	BS00276330
BS00276343	BS00276356
BS00276378	BS00276389
BS00276434	BS00276446
BS00276489	BS00276501
BS00276718	BS00276728
BS00276797	BS00276807
BS00276918	BS00276927
BS00276949	BS00276951
BS00277091	BS00277101
BS00277116	BS00277118
BS00277132	BS00277143
BS00277297	BS00277312
BS00277382	BS00277392
BS00277394	BS00277440
BS00277487	BS00277544
BS00277711	BS00277787
BS00277856	BS00277856
BS00277857	BS00277858
BS00277859	BS00277859
BS00277860	BS00277860
BS00277976	BS00277983
BS00278044	BS00278071
BS00278165	BS00278169
BS00278178	BS00278189
BS00278271	BS00278332
BS00278447	BS00278505
BS00278558	BS00278617
BS00278625	BS00278646
BS00278647	BS00278664
BS00278693	BS00278722
BS00278954	BS00278964
BS00278976	BS00278987
BS00279681	BS00279684
BS00279685	BS00279692
BS00279693	BS00279696
BS00279722	BS00279736
BS00279752	BS00279753
BS00279754	BS00279757
BS00279793	BS00279803
BS00279815	BS00279822

RE00000369	RE00000375
RE00000376	RE00000376
RE00000377	RE00000378
RE00000379	RE00000380
RE00000381	RE00000381
RE00000382	RE00000382
RE00000383	RE00000383
RE00000384	RE00000384
RE00000385	RE00000385
RE00000386	RE00000393
RE00000394	RE00000400
RE00000401	RE00000405
RE00000406	RE00000406
RE00000407	RE00000407
RE00000408	RE00000409
RE00000410	RE00000411
RE00000412	RE00000412
RE00000413	RE00000413
RE00000414	RE00000422
RE00000423	RE00000427
RE00000428	RE00000428
RE00000429	RE00000430
RE00000431	RE00000437
RE00000438	RE00000438
RE00000439	RE00000448
RE00000449	RE00000450
RE00000451	RE00000452
RE00000453	RE00000457
RE00000458	RE00000461
RE00000462	RE00000462
RE00000463	RE00000464
RE00000465	RE00000469
RE00000470	RE00000474
RE00000475	RE00000480
RE00000481	RE00000488
RE00000489	RE00000498
RE00000499	RE00000502
RE00000503	RE00000503
RE00000504	RE00000507
RE00000508	RE00000511
RE00000512	RE00000512
RE00000513	RE00000516
RE00000517	RE00000520
RE00000521	RE00000521
RE00000522	RE00000522
RE00000523	RE00000526
RE00000527	RE00000530

Schedule A to Appendix II

BS00279830	BS00279833
BS00279894	BS00279898
BS00279899	BS00279914
BS00279918	BS00279922
BS00283152	BS00283219
BS00283868	BS00283877
BS00283880	BS00283903
BS00288826	BS00288829
BS00288872	BS00288875
BS00288918	BS00288921
BS00288965	BS00288968
BS00289012	BS00289015
BS00289059	BS00289062
BS00289105	BS00289109
BS00289152	BS00289155
BS00289199	BS00289202
BS00296288	BS00296290
BS00297009	BS00297062
BS00297183	BS00297221
BS00300727	BS00300808
BS00300977	BS00301058
BS00301147	BS00301189
BS00301246	BS00301246
BS00301390	BS00301391
BS00304868	BS00304871
BS00305554	BS00305555
BS00305651	BS00305662
BS00305664	BS00305681
BS00305686	BS00305688
BS00305698	BS00305708
BS00306056	BS00306073
BS00306437	BS00306457
BS00306496	BS00306517
BS00306518	BS00306539
BS00306649	BS00306663
BS00306672	BS00306678
BS00306679	BS00306688
BS00306689	BS00306696
BS00306720	BS00306737
BS00306738	BS00306752
BS00306753	BS00306776
BS00306777	BS00306817
BS00306858	BS00306875
BS00306927	BS00306941
BS00306942	BS00306953
BS00306975	BS00306978
BS00306979	BS00307013

RE00000531	RE00000538
RE00000539	RE00000539
RE00000540	RE00000545
RE00000546	RE00000546
RE00000547	RE00000547
RE00000548	RE00000548
RE00000549	RE00000556
RE00000557	RE00000563
RE00000564	RE00000564
RE00000565	RE00000565
RE00000566	RE00000566
RE00000567	RE00000567
RE00000568	RE00000574
RE00000575	RE00000575
RE00000576	RE00000576
RE00000577	RE00000584
RE00000585	RE00000591
RE00000592	RE00000595
RE00000596	RE00000599
RE00000600	RE00000600
RE00000601	RE00000601
RE00000602	RE00000608
RE00000609	RE00000609
RE00000610	RE00000610
RE00000611	RE00000629
RE00000630	RE00000630
RE00000631	RE00000635
RE00000636	RE00000639
RE00000640	RE00000647
RE00000648	RE00000652
RE00000653	RE00000658
RE00000659	RE00000663
RE00000664	RE00000668
RE00000669	RE00000676
RE00000677	RE00000682
RE00000683	RE00000683
RE00000684	RE00000684
RE00000685	RE00000685
RE00000686	RE00000690
RE00000691	RE00000694
RE00000695	RE00000699
RE00000700	RE00000704
RE00000705	RE00000712
RE00000713	RE00000724
RE00000725	RE00000732
RE00000733	RE00000739
RE00000740	RE00000747

Schedule A to Appendix II

BS00307017	BS00307039
BS00307040	BS00307052
BS00307053	BS00307074
BS00307075	BS00307077
BS00307162	BS00307166
BS00307167	BS00307170
BS00307226	BS00307228
BS00307256	BS00307281
BS00307282	BS00307293
BS00307294	BS00307306
BS00307307	BS00307344
BS00307345	BS00307437
BS00307438	BS00307457
BS00307458	BS00307493
BS00307494	BS00307551
BS00307616	BS00307619
BS00307620	BS00307623
BS00307630	BS00307633
BS00307634	BS00307635
BS00307636	BS00307637
BS00307638	BS00307639
BS00307640	BS00307642
BS00307643	BS00307647
BS00307648	BS00307648
BS00307649	BS00307657
BS00307660	BS00307664
BS00307665	BS00307667
BS00307719	BS00307727
BS00307872	BS00307902
BS00307903	BS00307935
BS00307936	BS00307939
BS00307940	BS00307972
BS00307973	BS00307984
BS00308026	BS00308058
BS00308059	BS00308075
BS00308120	BS00308154
BS00308155	BS00308173
BS00308227	BS00308252
BS00308253	BS00308264
BS00308828	BS00308883
BS00309362	BS00309434
BS00309493	BS00309498
BS00310149	BS00310175
BS00310742	BS00310777
BS00310782	BS00310851
BS00310885	BS00310889
BS00311090	BS00311092

RE00000748	RE00000748
RE00000749	RE00000756
RE00000757	RE00000761
RE00000762	RE00000762
RE00000763	RE00000763
RE00000764	RE00000768
RE00000769	RE00000773
RE00000774	RE00000778
RE00000779	RE00000786
RE00000787	RE00000792
RE00000793	RE00000797
RE00000798	RE00000800
RE00000801	RE00000812
RE00000813	RE00000813
RE00000814	RE00000814
RE00000815	RE00000815
RE00000816	RE00000816
RE00000817	RE00000818
RE00000819	RE00000824
RE00000825	RE00000834
RE00000835	RE00000841
RE00000842	RE00000847
RE00000848	RE00000853
RE00000854	RE00000861
RE00000862	RE00000868
RE00000869	RE00000870
RE00000871	RE00000872
RE00000873	RE00000877
RE00000878	RE00000881
RE00000882	RE00000890
RE00000891	RE00000897
RE00000898	RE00000903
RE00000904	RE00000908
RE00000909	RE00000912
RE00000913	RE00000920
RE00000921	RE00000927
RE00000928	RE00000928
RE00000929	RE00000931
RE00000932	RE00000933
RE00000934	RE00000938
RE00000939	RE00000943
RE00000944	RE00000951
RE00000952	RE00000957
RE00000958	RE00000960
RE00000961	RE00000966
RE00000967	RE00000974
RE00000975	RE00000979

Schedule A to Appendix II

BS00311093	BS00311095
BS00311198	BS00311211
BS00311583	BS00311589
BS00311602	BS00311607
BS00311729	BS00311750
BS00312391	BS00312392
BS00312400	BS00312402
BS00312411	BS00312423
BS00312526	BS00312529
BS00312598	BS00312605
BS00312726	BS00312728
BS00312770	BS00312776
BS00312784	BS00312801
BS00313310	BS00313314
BS00313346	BS00313349
BS00313350	BS00313355
BS00313362	BS00313367
BS00313368	BS00313381
BS00313384	BS00313387
BS00313388	BS00313394
BS00313395	BS00313405
BS00313436	BS00313458
BS00313469	BS00313470
BS00313471	BS00313472
BS00313501	BS00313504
BS00313544	BS00313548
BS00313549	BS00313559
BS00313571	BS00313574
BS00313575	BS00313593
BS00313601	BS00313618
BS00313619	BS00313620
BS00313621	BS00313622
BS00313623	BS00313627
BS00313628	BS00313640
BS00313641	BS00313641
BS00313642	BS00313648
BS00313649	BS00313661
BS00313674	BS00313677
BS00313678	BS00313689
BS00313690	BS00313692
BS00313701	BS00313704
BS00313705	BS00313711
BS00313720	BS00313728
BS00313729	BS00313735
BS00313742	BS00313748
BS00313752	BS00313755
BS00313756	BS00313756

RE00000980	RE00000983
RE00000984	RE00000986
RE00000987	RE00000988
RE00000989	RE00000991
RE00000992	RE00000994
RE00000995	RE00001004
RE00001005	RE00001009
RE00001010	RE00001014
RE00001015	RE00001022
RE00001023	RE00001032
RE00001033	RE00001034
RE00001035	RE00001035
RE00001036	RE00001036
RE00001037	RE00001037
RE00001038	RE00001038
RE00001039	RE00001043
RE00001044	RE00001047
RE00001048	RE00001056
RE00001057	RE00001062
RE00001063	RE00001068
RE00001069	RE00001077
RE00001078	RE00001079
RE00001080	RE00001082
RE00001083	RE00001090
RE00001091	RE00001096
RE00001097	RE00001097
RE00001098	RE00001102
RE00001103	RE00001107
RE00001108	RE00001115
RE00001116	RE00001121
RE00001122	RE00001140
RE00001141	RE00001149
RE00001150	RE00001155
RE00001156	RE00001158
RE00001159	RE00001161
RE00001162	RE00001164
RE00001165	RE00001165
RE00001166	RE00001170
RE00001171	RE00001174
RE00001175	RE00001182
RE00001183	RE00001189
RE00001190	RE00001195
RE00001196	RE00001199
RE00001200	RE00001206
RE00001207	RE00001214
RE00001215	RE00001220
RE00001221	RE00001224

Schedule A to Appendix II

BS00313769	BS00313794
BS00313795	BS00313800
BS00313801	BS00313813
BS00313814	BS00313823
BS00313824	BS00313825
BS00313857	BS00313871
BS00313872	BS00313883
BS00313885	BS00313922
BS00313923	BS00313952
BS00313953	BS00313982
BS00313983	BS00314016
BS00314017	BS00314021
BS00314028	BS00314031
BS00314034	BS00314041
BS00314046	BS00314073
BS00314074	BS00314106
BS00314107	BS00314111
BS00314112	BS00314124
BS00314140	BS00314167
BS00314168	BS00314200
BS00314201	BS00314206
BS00314207	BS00314217
BS00314218	BS00314230
BS00314237	BS00314268
BS00314269	BS00314270
BS00314271	BS00314297
BS00314298	BS00314298
BS00314299	BS00314309
BS00314310	BS00314310
BS00314327	BS00314332
BS00314337	BS00314359
BS00314385	BS00314386
BS00314393	BS00314394
BS00314395	BS00314396
BS00314410	BS00314411
BS00314427	BS00314428
BS00314429	BS00314429
BS00314430	BS00314432
BS00314451	BS00314452
BS00314490	BS00314495
BS00314507	BS00314508
BS00314515	BS00314516
BS00314529	BS00314530
BS00314531	BS00314532
BS00314533	BS00314534
BS00314535	BS00314536
BS00314537	BS00314560

RE00001225	RE00001229
RE00001230	RE00001233
RE00001234	RE00001241
RE00001242	RE00001247
RE00001248	RE00001256
RE00001257	RE00001265
RE00001266	RE00001270
RE00001271	RE00001275
RE00001276	RE00001280
RE00001281	RE00001284
RE00001285	RE00001292
RE00001293	RE00001298
RE00001299	RE00001304
RE00001305	RE00001312
RE00001313	RE00001318
RE00001319	RE00001323
RE00001324	RE00001327
RE00001328	RE00001335
RE00001336	RE00001336
RE00001337	RE00001344
RE00001345	RE00001345
RE00001346	RE00001346
RE00001347	RE00001509
RE00001510	RE00001510
RE00001511	RE00001511
RE00001512	RE00001512
RE00001513	RE00001513
RE00001514	RE00001514
RE00001515	RE00001515
RE00001516	RE00001520
RE00001521	RE00001525
RE00001526	RE00001526
RE00001527	RE00001527
RE00001528	RE00001535
RE00001536	RE00001541
RE00001542	RE00001549
RE00001550	RE00001550
RE00001551	RE00001552
RE00001553	RE00001554
RE00001555	RE00001557
RE00001558	RE00001564
RE00001565	RE00001572
RE00001573	RE00001578
RE00001579	RE00001579
RE00001580	RE00001580
RE00001581	RE00001585
RE00001586	RE00001590

Schedule A to Appendix II

BS00314562	BS00314570
BS00314592	BS00314592
BS00314593	BS00314594
BS00314602	BS00314603
BS00314617	BS00314618
BS00314636	BS00314638
BS00314639	BS00314655
BS00314656	BS00314660
BS00314661	BS00314668
BS00314669	BS00314686
BS00314702	BS00314702
BS00314703	BS00314723
BS00314724	BS00314732
BS00314733	BS00314735
BS00314742	BS00314748
BS00314749	BS00314749
BS00314753	BS00314754
BS00314757	BS00314757
BS00314769	BS00314773
BS00314774	BS00314779
BS00314780	BS00314782
BS00314783	BS00314807
BS00314813	BS00314814
BS00314815	BS00314818
BS00315081	BS00315085
BS00315086	BS00315087
BS00315137	BS00315141
BS00315143	BS00315144
BS00315145	BS00315148
BS00315149	BS00315152
BS00315153	BS00315156
BS00317572	BS00317573
BS00317574	BS00317644
BS00317645	BS00317652
BS00317678	BS00317691
BS00317697	BS00317707
BS00317708	BS00317711
BS00317722	BS00317753
BS00317754	BS00317757
BS00317764	BS00317779
BS00317780	BS00317804
BS00317837	BS00317864
BS00317865	BS00317870
BS00317905	BS00317932
BS00318127	BS00318134
BS00318147	BS00318166
BS00318235	BS00318277

RE00001591	RE00001597
RE00001598	RE00001603
RE00001604	RE00001605
RE00001606	RE00001607
RE00001608	RE00001608
RE00001609	RE00001613
RE00001614	RE00001618
RE00001619	RE00001625
RE00001626	RE00001627
RE00001628	RE00001628
RE00001629	RE00001629
RE00001630	RE00001636
RE00001637	RE00001638
RE00001639	RE00001640
RE00001641	RE00001643
RE00001644	RE00001650
RE00001651	RE00001653
RE00001654	RE00001654
RE00001655	RE00001655
RE00001656	RE00001657
RE00001658	RE00001658
RE00001659	RE00001666
RE00001667	RE00001672
RE00001673	RE00001677
RE00001678	RE00001678
RE00001679	RE00001679
RE00001680	RE00001684
RE00001685	RE00001688
RE00001689	RE00001695
RE00001696	RE00001698
RE00001699	RE00001701
RE00001702	RE00001708
RE00001709	RE00001709
RE00001710	RE00001710
RE00001711	RE00001712
RE00001713	RE00001713
RE00001714	RE00001714
RE00001715	RE00001721
RE00001722	RE00001726
RE00001727	RE00001727
RE00001728	RE00001728
RE00001729	RE00001729
RE00001730	RE00001731
RE00001732	RE00001739
RE00001740	RE00001740
RE00001741	RE00001741
RE00001742	RE00001743

Schedule A to Appendix II

BS00318283	BS00318288
BS00318350	BS00318354
BS00318356	BS00318361
BS00318362	BS00318364
BS00318433	BS00318436
BS00318438	BS00318447
BS00318680	BS00318680
BS00319256	BS00319262
BS00319494	BS00319553
BS00319953	BS00319955
BS00319991	BS00319992
BS00320001	BS00320007
BS00320032	BS00320038
BS00320063	BS00320069
BS00320133	BS00320139
BS00320276	BS00320290
BS00320291	BS00320305
BS00320306	BS00320315
BS00320316	BS00320327
BS00320424	BS00320430
BS00320567	BS00320573
BS00320669	BS00320675
BS00320716	BS00320775
BS00321226	BS00321327
BS00330285	BS00330290
BS00330293	BS00330297
BS00330308	BS00330309
BS00330335	BS00330339
BS00330395	BS00330404
BS00330431	BS00330432
BS00330460	BS00330472
BS00330504	BS00330507
BS00330508	BS00330511
BS00330512	BS00330513
BS00330532	BS00330541
BS00330585	BS00330608
BS00330626	BS00330767
BS00330832	BS00330833
BS00330836	BS00330843
BS00331106	BS00331107
BS00331221	BS00331222
BS00332774	BS00332786
BS00333051	BS00333109
BS00333166	BS00333224
BS00333281	BS00333339
BS00333451	BS00333509
BS00333566	BS00333624

RE00001744	RE00001745
RE00001746	RE00001752
RE00001753	RE00001757
RE00001758	RE00001761
RE00001762	RE00001764
RE00001765	RE00001771
RE00001772	RE00001776
RE00001777	RE00001778
RE00001779	RE00001785
RE00001786	RE00001786
RE00001787	RE00001787
RE00001788	RE00001788
RE00001789	RE00001789
RE00001790	RE00001791
RE00001792	RE00001798
RE00001799	RE00001803
RE00001804	RE00001810
RE00001811	RE00001816
RE00001817	RE00001824
RE00001825	RE00001829
RE00001830	RE00001834
RE00001835	RE00001841
RE00001842	RE00001846
RE00001847	RE00001853
RE00001854	RE00001854
RE00001855	RE00001855
RE00001856	RE00001856
RE00001857	RE00001858
RE00001859	RE00001859
RE00001860	RE00001860
RE00001861	RE00001861
RE00001862	RE00001863
RE00001864	RE00001878
RE00001879	RE00001906
RE00001907	RE00001914
RE00001915	RE00001915
RE00001916	RE00001924
RE00001925	RE00001932
RE00001933	RE00001933
RE00001934	RE00001938
RE00001939	RE00001943
RE00001944	RE00001950
RE00001951	RE00001955
RE00001956	RE00001956
RE00001957	RE00001958
RE00001959	RE00001973
RE00001974	RE00001979

Schedule A to Appendix II

BS00333689	BS00333747
BS00333811	BS00333834
BS00333871	BS00333914
BS00333915	BS00333927
BS00333955	BS00334014
BS00334071	BS00334144
BS00334150	BS00334225
BS00334589	BS00334650
BS00334687	BS00334746
BS00334773	BS00334834
BS00334850	BS00334865
BS00335469	BS00335470
BS00335517	BS00335576
BS00335646	BS00335646
BS00335657	BS00335657
BS00335700	BS00335732
BS00335735	BS00335767
BS00335770	BS00335829
BS00335856	BS00335870
BS00335878	BS00335937
BS00335938	BS00335938
BS00336011	BS00336014
BS00336541	BS00336542
BS00337072	BS00337072
BS00337073	BS00337073
BS00337102	BS00337103
BS00337468	BS00337468
BS00337473	BS00337473
BS00337474	BS00337475
BS00337542	BS00337542
BS00337543	BS00337543
BS00337545	BS00337545
BS00337547	BS00337547
BS00337548	BS00337550
BS00337551	BS00337551
BS00337553	BS00337554
BS00337556	BS00337557
BS00337558	BS00337560
BS00337561	BS00337564
BS00337565	BS00337568
BS00337570	BS00337576
BS00337636	BS00337650
BS00337655	BS00337657
BS00339247	BS00339247
BS00339490	BS00339491
BS00339495	BS00339497
BS00339499	BS00339500

RE00001980	RE00001985
RE00001986	RE00001992
RE00001993	RE00001994
RE00001995	RE00002000
RE00002001	RE00002006
RE00002007	RE00002012
RE00002013	RE00002019
RE00002020	RE00002021
RE00002022	RE00002022
RE00002023	RE00002028
RE00002029	RE00002035
RE00002036	RE00002038
RE00002039	RE00002069
RE00002070	RE00002071
RE00002072	RE00002072
RE00002073	RE00002076
RE00002077	RE00002080
RE00002081	RE00002089
RE00002090	RE00002096
RE00002097	RE00002104
RE00002105	RE00002117
RE00002118	RE00002125
RE00002126	RE00002131
RE00002132	RE00002135
RE00002136	RE00002139
RE00002140	RE00002146
RE00002147	RE00002153
RE00002154	RE00002158
RE00002159	RE00002165
RE00002166	RE00002172
RE00002173	RE00002177
RE00002178	RE00002184
RE00002185	RE00002190
RE00002191	RE00002196
RE00002197	RE00002204
RE00002205	RE00002212
RE00002213	RE00002221
RE00002222	RE00002229
RE00002230	RE00002234
RE00002235	RE00002239
RE00002240	RE00002248
RE00002249	RE00002254
RE00002255	RE00002264
RE00002265	RE00002272
RE00002273	RE00002280
RE00002281	RE00002289
RE00002290	RE00002296

Schedule A to Appendix II

BS00339501	BS00339503
BS00340252	BS00340252
BS00340279	BS00340284
BS00340285	BS00340290
BS00340291	BS00340296
BS00340307	BS00340309
BS00340356	BS00340359
BS00340459	BS00340481
BS00340499	BS00340557
BS00340616	BS00340620
BS00340625	BS00340629
BS00340638	BS00340642
BS00340654	BS00340677
BS00340682	BS00340688
BS00340774	BS00340835
BS00340857	BS00340916
BS00341029	BS00341090
BS00341091	BS00341152
BS00341302	BS00341363
BS00341371	BS00341376
BS00341377	BS00341382
BS00341383	BS00341388
BS00341442	BS00341454
BS00341458	BS00341463
BS00341464	BS00341469
BS00341470	BS00341475
BS00341494	BS00341553
BS00341587	BS00341646
BS00341709	BS00341731
BS00341732	BS00341793
BS00341831	BS00341892
BS00341927	BS00341988
BS00341994	BS00342053
BS00342092	BS00342153
BS00342182	BS00342267
BS00342272	BS00342331
BS00342367	BS00342389
BS00342390	BS00342412
BS00342413	BS00342474
BS00342480	BS00342502
BS00342503	BS00342525
BS00342526	BS00342587
BS00342593	BS00342608
BS00342658	BS00342717
BS00342751	BS00342810
BS00342844	BS00342903
BS00342904	BS00342917

RE00002297	RE00002305
RE00002306	RE00002312
RE00002313	RE00002320
RE00002321	RE00002329
RE00002330	RE00002334
RE00002335	RE00002340
RE00002341	RE00002357
RE00002358	RE00002358
RE00002359	RE00002368
RE00002369	RE00002377
RE00002378	RE00002380
RE00002381	RE00002390
RE00002391	RE00002398
RE00002399	RE00002400
RE00002401	RE00002409
RE00002410	RE00002414
RE00002415	RE00002423
RE00002424	RE00002432
RE00002433	RE00002439
RE00002440	RE00002448
RE00002449	RE00002451
RE00002452	RE00002461
RE00002462	RE00002470
RE00002471	RE00002480
RE00002481	RE00002483
RE00002484	RE00002484
RE00002485	RE00002494
RE00002495	RE00002502
RE00002503	RE00002512
RE00002513	RE00002522
RE00002523	RE00002531
RE00002532	RE00002540
RE00002541	RE00002543
RE00002544	RE00002552
RE00002553	RE00002555
RE00002556	RE00002564
RE00002565	RE00002567
RE00002568	RE00002576
RE00002577	RE00002585
RE00002586	RE00002594
RE00002595	RE00002597
RE00002598	RE00002601
RE00002602	RE00002604
RE00002605	RE00002612
RE00002613	RE00002619
RE00002620	RE00002629
RE00002630	RE00002632

Schedule A to Appendix II

BS00342978	BS00343037
BS00343165	BS00343226
BS00343228	BS00343251
BS00343252	BS00343313
BS00343320	BS00343381
BS00343383	BS00343442
BS00343455	BS00343514
BS00343574	BS00343633
BS00343637	BS00343696
BS00343783	BS00343844
BS00343880	BS00343941
BS00343947	BS00344006
BS00344074	BS00344133
BS00344134	BS00344134
BS00344141	BS00344200
BS00344222	BS00344281
BS00344316	BS00344375
BS00344687	BS00344707
BS00344709	BS00344729
BS00344923	BS00344924
BS00345281	BS00345340
BS00345706	BS00345707
BS00345779	BS00345780
BS00345818	BS00345877
BS00345961	BS00345963
BS00346118	BS00346179
BS00346281	BS00346304
BS00346305	BS00346318
BS00346692	BS00346692
BS00346724	BS00346724
BS00347040	BS00347101
BS00347130	BS00347144
BS00347148	BS00347207
BS00347268	BS00347268
BS00347272	BS00347331
BS00347332	BS00347332
BS00347401	BS00347460
BS00347602	BS00347661
BS00347666	BS00347667
BS00347708	BS00347767
BS00347768	BS00347768
BS00347836	BS00347895
BS00347896	BS00347957
BS00347961	BS00348020
BS00348021	BS00348035
BS00348036	BS00348097
BS00348127	BS00348186

RE00002633	RE00002640
RE00002641	RE00002649
RE00002650	RE00002652
RE00002653	RE00002660
RE00002661	RE00002663
RE00002664	RE00002670
RE00002671	RE00002677
RE00002678	RE00002680
RE00002681	RE00002691
RE00002692	RE00002702
RE00002703	RE00002713
RE00002714	RE00002714
RE00002715	RE00002716
RE00002717	RE00002723
RE00002724	RE00002726
RE00002727	RE00002728
RE00002729	RE00002731
RE00002732	RE00002738
RE00002739	RE00002745
RE00002746	RE00002753
RE00002754	RE00002755
RE00002756	RE00002756
RE00002757	RE00002757
RE00002758	RE00002764
RE00002765	RE00002771
RE00002772	RE00002773
RE00002774	RE00002774
RE00002775	RE00002782
RE00002783	RE00002789
RE00002790	RE00002797
RE00002798	RE00002803
RE00002804	RE00002804
RE00002805	RE00002810
RE00002811	RE00002813
RE00002814	RE00002815
RE00002816	RE00002822
RE00002823	RE00002829
RE00002830	RE00002832
RE00002833	RE00002836
RE00002837	RE00002843
RE00002844	RE00002851
RE00002852	RE00002856
RE00002857	RE00002863
RE00002864	RE00002870
RE00002871	RE00002871
RE00002872	RE00002878
RE00002879	RE00002885

Schedule A to Appendix II

BS00348270	BS00348329
BS00348524	BS00348585
BS00348616	BS00348675
BS00348738	BS00348797
BS00348847	BS00348908
BS00348918	BS00348977
BS00348995	BS00348995
BS00348997	BS00348997
BS00349009	BS00349009
BS00349198	BS00349257
BS00349326	BS00349336
BS00349339	BS00349349
BS00349358	BS00349417
BS00349725	BS00349784
BS00349854	BS00349915
BS00349931	BS00349990
BS00350050	BS00350109
BS00350142	BS00350143
BS00350147	BS00350147
BS00350151	BS00350210
BS00350269	BS00350269
BS00350270	BS00350271
BS00350272	BS00350273
BS00350274	BS00350275
BS00350276	BS00350277
BS00350278	BS00350279
BS00350281	BS00350340
BS00350400	BS00350459
BS00350519	BS00350580
BS00350586	BS00350645
BS00350680	BS00350739
BS00350740	BS00350801
BS00350842	BS00350901
BS00350962	BS00351021
BS00351082	BS00351141
BS00351145	BS00351206
BS00351208	BS00351267
BS00351271	BS00351330
BS00351421	BS00351482
BS00351487	BS00351546
BS00351580	BS00351639
BS00351703	BS00351762
BS00351843	BS00351904
BS00351909	BS00351970
BS00351976	BS00352037
BS00352082	BS00352082
BS00352083	BS00352084

RE00002886	RE00002892
RE00002893	RE00002900
RE00002901	RE00002909
RE00002910	RE00002917
RE00002918	RE00002923
RE00002924	RE00002931
RE00002932	RE00002939
RE00002940	RE00002950
RE00002951	RE00002958
RE00002959	RE00002966
RE00002967	RE00002969
RE00002970	RE00002972
RE00002973	RE00002978
RE00002979	RE00002984
RE00002985	RE00002992
RE00002993	RE00002999
RE00003000	RE00003005
RE00003006	RE00003012
RE00003013	RE00003020
RE00003021	RE00003028
RE00003029	RE00003036
RE00003037	RE00003042
RE00003043	RE00003048
RE00003049	RE00003055
RE00003056	RE00003068
RE00003069	RE00003071
RE00003072	RE00003079
RE00003080	RE00003087
RE00003088	RE00003093
RE00003094	RE00003101
RE00003102	RE00003108
RE00003109	RE00003114
RE00003115	RE00003121
RE00003122	RE00003129
RE00003130	RE00003132
RE00003133	RE00003139
RE00003140	RE00003147
RE00003148	RE00003154
RE00003155	RE00003161
RE00003162	RE00003169
RE00003170	RE00003172
RE00003173	RE00003179
RE00003180	RE00003187
RE00003188	RE00003195
RE00003196	RE00003202
RE00003203	RE00003209
RE00003210	RE00003216

Schedule A to Appendix II

BS00352094	BS00352100
BS00352106	BS00352110
BS00352122	BS00352131
BS00352176	BS00352179
BS00352182	BS00352191
BS00352230	BS00352252
BS00352263	BS00352274
BS00352361	BS00352364
BS00352369	BS00352372
BS00352411	BS00352414
BS00352434	BS00352493
BS00352520	BS00352526
BS00352746	BS00352748
BS00352880	BS00352920
BS00352921	BS00352958
BS00353012	BS00353012
BS00353025	BS00353027
BS00353253	BS00353258
BS00353259	BS00353264
BS00353421	BS00353566
BS00353574	BS00353723
BS00353737	BS00353748
BS00353750	BS00353761
BS00354275	BS00354284
BS00354393	BS00354410
BS00354412	BS00354429
BS00354840	BS00354899
BS00355115	BS00355175
BS00355235	BS00355294
BS00355353	BS00355360
BS00355432	BS00355493
BS00355528	BS00355589
BS00355735	BS00355748
BS00355913	BS00355914
BS00356356	BS00356358
BS00356432	BS00356432
BS00356562	BS00356562
BS00356577	BS00356581
BS00356604	BS00356606
BS00356607	BS00356609
BS00356616	BS00356619
BS00356650	BS00356653
BS00356667	BS00356670
BS00356671	BS00356674
BS00356720	BS00356724
BS00356725	BS00356729
BS00356739	BS00356748

RE00003217	RE00003224
RE00003225	RE00003232
RE00003233	RE00003239
RE00003240	RE00003247
RE00003248	RE00003255
RE00003256	RE00003258
RE00003259	RE00003264
RE00003265	RE00003282
RE00003283	RE00003291
RE00003292	RE00003299
RE00003300	RE00003306
RE00003307	RE00003313
RE00003314	RE00003321
RE00003322	RE00003331
RE00003332	RE00003338
RE00003339	RE00003345
RE00003346	RE00003351
RE00003352	RE00003358
RE00003359	RE00003365
RE00003366	RE00003373
RE00003374	RE00003380
RE00003381	RE00003383
RE00003384	RE00003390
RE00003391	RE00003397
RE00003398	RE00003404
RE00003405	RE00003412
RE00003413	RE00003419
RE00003420	RE00003427
RE00003428	RE00003435
RE00003436	RE00003443
RE00003444	RE00003450
RE00003451	RE00003453
RE00003454	RE00003460
RE00003461	RE00003466
RE00003467	RE00003473
RE00003474	RE00003481
RE00003482	RE00003488
RE00003489	RE00003496
RE00003497	RE00003503
RE00003504	RE00003510
RE00003511	RE00003518
RE00003519	RE00003525
RE00003526	RE00003532
RE00003533	RE00003540
RE00003541	RE00003547
RE00003548	RE00003554
RE00003555	RE00003561

Schedule A to Appendix II

BS00356749	BS00356758
BS00356818	BS00356826
BS00357019	BS00357019
BS00357030	BS00357031
BS00357032	BS00357033
BS00357420	BS00357431
BS00357781	BS00357783
BS00357818	BS00357824
BS00357826	BS00357832
BS00357863	BS00357864
BS00358107	BS00358125
BS00358510	BS00358510
BS00359492	BS00359497
BS00359645	BS00359646
BS00359647	BS00359648
BS00359653	BS00359714
BS00359716	BS00359777
BS00359779	BS00359840
BS00359915	BS00359974
BS00360034	BS00360093
BS00360153	BS00360212
BS00360305	BS00360366
BS00360439	BS00360500
BS00360502	BS00360561
BS00360986	BS00360986
BS00360999	BS00361001
BS00361266	BS00361266
BS00361274	BS00361275
BS00361376	BS00361383
BS00361396	BS00361419
BS00361452	BS00361475
BS00361508	BS00361531
BS00361564	BS00361587
BS00361620	BS00361643
BS00361676	BS00361699
BS00361732	BS00361755
BS00361788	BS00361811
BS00361844	BS00361867
BS00361900	BS00361923
BS00361956	BS00361979
BS00362012	BS00362035
BS00362068	BS00362091
BS00362124	BS00362147
BS00362180	BS00362203
BS00362236	BS00362259
BS00362292	BS00362315
BS00362348	BS00362386

RE00003562	RE00003569
RE00003570	RE00003576
RE00003577	RE00003583
RE00003584	RE00003589
RE00003590	RE00003598
RE00003599	RE00003606
RE00003607	RE00003608
RE00003609	RE00003615
RE00003616	RE00003622
RE00003623	RE00003630
RE00003631	RE00003633
RE00003634	RE00003636
RE00003637	RE00003644
RE00003645	RE00003652
RE00003653	RE00003653
RE00003654	RE00003655
RE00003656	RE00003657
RE00003658	RE00003664
RE00003665	RE00003666
RE00003667	RE00003674
RE00003675	RE00003677
RE00003678	RE00003683
RE00003684	RE00003691
RE00003692	RE00003698
RE00003699	RE00003705
RE00003706	RE00003713
RE00003714	RE00003714
RE00003715	RE00003715
RE00003716	RE00003716
RE00003717	RE00003717
RE00003718	RE00003719
RE00003720	RE00003720
RE00003721	RE00003722
RE00003723	RE00003723
RE00003724	RE00003730
RE00003731	RE00003731
RE00003732	RE00003739
RE00003740	RE00003746
RE00003747	RE00003753
RE00003754	RE00003754
RE00003755	RE00003760
RE00003761	RE00003768
RE00003769	RE00003775
RE00003776	RE00003783
RE00003784	RE00003786
RE00003787	RE00003793
RE00003794	RE00003801

Schedule A to Appendix II

BS00362388	BS00362426
BS00362428	BS00362466
BS00362468	BS00362492
BS00362524	BS00362548
BS00362580	BS00362604
BS00362635	BS00362659
BS00362690	BS00362714
BS00362745	BS00362769
BS00362813	BS00362837
BS00362868	BS00362892
BS00362913	BS00362937
BS00362939	BS00362963
BS00362965	BS00362990
BS00362992	BS00363017
BS00363033	BS00363058
BS00363073	BS00363073
BS00363074	BS00363099
BS00363115	BS00363145
BS00363164	BS00363192
BS00363268	BS00363327
BS00363349	BS00363361
BS00363532	BS00363550
BS00363551	BS00363567
BS00363578	BS00363579
BS00363581	BS00363583
BS00363649	BS00363660
BS00363715	BS00363719
BS00363724	BS00363735
BS00364132	BS00364132
BS00364153	BS00364154
BS00364161	BS00364164
BS00364306	BS00364377
BS00364467	BS00364483
BS00364539	BS00364539
BS00364540	BS00364540
BS00364544	BS00364544
BS00364644	BS00364645
BS00364790	BS00364790
BS00364795	BS00364825
BS00364881	BS00364921
BS00364972	BS00364975
BS00365003	BS00365003
BS00365015	BS00365127
BS00365129	BS00365241
BS00365244	BS00365252
BS00365262	BS00365272
BS00365316	BS00365316

RE00003802	RE00003805
RE00003806	RE00003812
RE00003813	RE00003819
RE00003820	RE00003827
RE00003828	RE00003834
RE00003835	RE00003841
RE00003842	RE00003849
RE00003850	RE00003855
RE00003856	RE00003876
RE00003877	RE00003881
RE00003882	RE00003889
RE00003890	RE00003896
RE00003897	RE00003902
RE00003903	RE00003909
RE00003910	RE00003915
RE00003916	RE00003923
RE00003924	RE00003931
RE00003932	RE00003934
RE00003935	RE00003941
RE00003942	RE00003949
RE00003950	RE00003957
RE00003958	RE00003965
RE00003966	RE00003973
RE00003974	RE00003981
RE00003982	RE00003989
RE00003990	RE00003998
RE00003999	RE00004004
RE00004005	RE00004012
RE00004013	RE00004020
RE00004021	RE00004028
RE00004029	RE00004037
RE00004038	RE00004045
RE00004046	RE00004054
RE00004055	RE00004056
RE00004057	RE00004061
RE00004062	RE00004067
RE00004068	RE00004075
RE00004076	RE00004084
RE00004085	RE00004092
RE00004093	RE00004101
RE00004102	RE00004107
RE00004108	RE00004115
RE00004116	RE00004124
RE00004125	RE00004134
RE00004135	RE00004135
RE00004136	RE00004181
RE00004182	RE00004187

Schedule A to Appendix II

BS00365341	BS00365343
BS00365387	BS00365388
BS00365405	BS00365405
BS00365406	BS00365407
BS00365415	BS00365415
BS00365425	BS00365425
BS00365506	BS00365507
BS00365509	BS00365510
BS00365514	BS00365516
BS00365517	BS00365519
BS00365520	BS00365522
BS00365706	BS00365716
BS00365739	BS00365750
BS00365779	BS00365785
BS00365800	BS00365810
BS00365910	BS00365910
BS00366060	BS00366066
BS00366175	BS00366175
BS00366499	BS00366508
BS00366646	BS00366665
BS00366668	BS00366729
BS00366731	BS00366790
BS00366792	BS00366803
BS00380557	BS00380632
BS00380650	BS00380794
BS00380795	BS00380939
BS00380940	BS00381084
BS00381085	BS00381229
BS00381233	BS00381376
BS00381377	BS00381520
BS00381522	BS00381666
BS00381667	BS00381811
BS00381812	BS00381944
BS00381945	BS00382077
BS00382081	BS00382213
BS00382214	BS00382346
BS00382347	BS00382471
BS00382472	BS00382596
BS00382597	BS00382718
BS00382719	BS00382840
BS00383286	BS00383295
BS00383296	BS00383305
BS00384584	BS00384629
BS00384630	BS00384630
BS00384801	BS00384801
BS00385133	BS00385133
BS00385215	BS00385215

RE00004188	RE00004193
RE00004194	RE00004201
RE00004202	RE00004210
RE00004211	RE00004219
RE00004220	RE00004221
RE00004222	RE00004227
RE00004228	RE00004236
RE00004237	RE00004243
RE00004244	RE00004254
RE00004255	RE00004261
RE00004262	RE00004271
RE00004272	RE00004282
RE00004283	RE00004283
RE00004284	RE00004284
RE00004285	RE00004285
RE00004286	RE00004291
RE00004292	RE00004301
RE00004302	RE00004311
RE00004312	RE00004317
RE00004318	RE00004327
RE00004328	RE00004330
RE00004331	RE00004336
RE00004337	RE00004344
RE00004345	RE00004355
RE00004356	RE00004373
RE00004374	RE00004378
RE00004379	RE00004379
RE00004380	RE00004394
RE00004395	RE00004404
RE00004405	RE00004405
RE00004406	RE00004407
RE00004408	RE00004411
RE00004412	RE00004417
RE00004418	RE00004427
RE00004428	RE00004434
RE00004435	RE00004444
RE00004445	RE00004451
RE00004452	RE00004459
RE00004460	RE00004470
RE00004471	RE00004478
RE00004479	RE00004488
RE00004489	RE00004499
RE00004500	RE00004507
RE00004508	RE00004518
RE00004519	RE00004524
RE00004525	RE00004532
RE00004533	RE00004541

Schedule A to Appendix II

BS00387026	BS00387026
BS00389788	BS00389849
BS00390121	BS00390121
BS00390265	BS00390324
BS00392828	BS00392828
BS00393165	BS00393165
BS00394219	BS00394352
BS00394712	BS00394715
BS00394970	BS00394981
BS00395405	BS00395427
BS00395433	BS00395434
BS00395445	BS00395455
BS00395462	BS00395484
BS00395485	BS00395486
BS00395487	BS00395488
BS00395489	BS00395490
BS00395573	BS00395575
BS00395616	BS00395638
BS00395641	BS00395663
BS00395824	BS00395824
BS00396052	BS00396074
BS00396095	BS00396096
BS00396229	BS00396229
BS00396314	BS00396336
BS00396378	BS00396400
BS00396465	BS00396466
BS00396475	BS00396481
BS00396482	BS00396491
BS00396718	BS00396740
BS00397015	BS00397037
BS00397102	BS00397104
BS00397105	BS00397108
BS00397109	BS00397113
BS00397126	BS00397129
BS00397167	BS00397170
BS00397171	BS00397174
BS00397183	BS00397188
BS00397201	BS00397201
BS00397341	BS00397344
BS00397345	BS00397350
BS00398098	BS00398099
BS00398106	BS00398110
BS00398112	BS00398118
BS00398266	BS00398272
BS00398349	BS00398350
BS00398351	BS00398353
BS00398354	BS00398355

RE00004542	RE00004548
RE00004549	RE00004555
RE00004556	RE00004565
RE00004566	RE00004570
RE00004571	RE00004596
RE00004597	RE00004602
RE00004603	RE00004604
RE00004605	RE00004606
RE00004607	RE00004614
RE00004615	RE00004624
RE00004625	RE00004631
RE00004632	RE00004641
RE00004642	RE00004644
RE00004645	RE00004647
RE00004648	RE00004650
RE00004651	RE00004653
RE00004654	RE00004656
RE00004657	RE00004659
RE00004660	RE00004669
RE00004670	RE00004676
RE00004677	RE00004686
RE00004687	RE00004693
RE00004694	RE00004699
RE00004700	RE00004707
RE00004708	RE00004717
RE00004718	RE00004726
RE00004727	RE00004732
RE00004733	RE00004741
RE00004742	RE00004748
RE00004749	RE00004754
RE00004755	RE00004760
RE00004761	RE00004761
RE00004762	RE00004763
RE00004764	RE00004766
RE00004767	RE00004769
RE00004770	RE00004771
RE00004772	RE00004777
RE00004778	RE00004785
RE00004786	RE00004793
RE00004794	RE00004799
RE00004800	RE00004806
RE00004807	RE00004812
RE00004813	RE00004819
RE00004820	RE00004827
RE00004828	RE00004834
RE00004835	RE00004835
RE00004836	RE00004843

Schedule A to Appendix II

BS00398359	BS00398382
BS00398748	BS00398764
BS00398773	BS00398774
BS00398776	BS00398778
BS00398779	BS00398780
BS00398781	BS00398782
BS00398784	BS00398806
BS00398807	BS00398819
BS00398821	BS00398823
BS00398829	BS00398830
BS00398833	BS00398857
BS00398860	BS00398884
BS00398891	BS00398915
BS00398919	BS00398943
BS00398957	BS00398958
BS00398959	BS00398959
BS00398961	BS00398962
BS00398967	BS00398991
BS00398992	BS00398993
BS00398994	BS00398996
BS00399003	BS00399003
BS00399014	BS00399038
BS00399045	BS00399045
BS00399059	BS00399081
BS00399166	BS00399188
BS00399198	BS00399220
BS00399242	BS00399258
BS00399259	BS00399267
BS00399271	BS00399293
BS00399297	BS00399299
BS00399300	BS00399303
BS00400074	BS00400098
BS00400136	BS00400159
BS00400164	BS00400187
BS00400364	BS00400397
BS00400399	BS00400421
BS00400422	BS00400434
BS00400456	BS00400480
BS00400511	BS00400535
BS00400537	BS00400561
BS00400564	BS00400588
BS00400591	BS00400615
BS00400616	BS00400619
BS00400801	BS00400802
BS00400803	BS00400805
BS00400811	BS00400812
BS00400813	BS00400815

RE00004844	RE00004851
RE00004852	RE00004857
RE00004858	RE00004866
RE00004867	RE00004871
RE00004872	RE00004877
RE00004878	RE00004888
RE00004889	RE00004896
RE00004897	RE00004902
RE00004903	RE00004923
RE00004924	RE00004931
RE00004932	RE00004938
RE00004939	RE00004944
RE00004945	RE00004951
RE00004952	RE00004957
RE00004958	RE00004963
RE00004964	RE00004970
RE00004971	RE00004977
RE00004978	RE00004983
RE00004984	RE00004986
RE00004987	RE00004992
RE00004993	RE00005001
RE00005002	RE00005010
RE00005011	RE00005017
RE00005018	RE00005026
RE00005027	RE00005033
RE00005034	RE00005041
RE00005042	RE00005046
RE00005047	RE00005072
RE00005073	RE00005080
RE00005081	RE00005087
RE00005088	RE00005096
RE00005097	RE00005102
RE00005103	RE00005109
RE00005110	RE00005118
RE00005119	RE00005125
RE00005126	RE00005131
RE00005132	RE00005138
RE00005139	RE00005147
RE00005148	RE00005155
RE00005156	RE00005164
RE00005165	RE00005175
RE00005176	RE00005181
RE00005182	RE00005186
RE00005187	RE00005195
RE00005196	RE00005200
RE00005201	RE00005208
RE00005209	RE00005215

Schedule A to Appendix II

BS00400834	BS00400836
BS00400860	BS00400865
BS00400866	BS00400871
BS00400872	BS00400877
BS00401011	BS00401033
BS00401274	BS00401274
BS00401289	BS00401291
BS00401297	BS00401299
BS00401340	BS00401342
BS00401357	BS00401370
BS00401372	BS00401384
BS00401387	BS00401387
BS00401418	BS00401420
BS00401425	BS00401438
BS00401538	BS00401551
BS00401586	BS00401591
BS00401639	BS00401650
BS00401653	BS00401657
BS00401659	BS00401670
BS00401738	BS00401750
BS00401753	BS00401774
BS00401802	BS00401802
BS00401834	BS00401836
BS00401841	BS00401845
BS00401848	BS00401871
BS00401873	BS00401896
BS00401903	BS00401907
BS00401909	BS00401932
BS00401954	BS00401967
BS00401971	BS00401994
BS00402075	BS00402099
BS00402363	BS00402364
BS00402448	BS00402473
BS00402606	BS00402622
BS00402633	BS00402659
BS00402661	BS00402687
BS00404803	BS00404827
BS00404871	BS00404882
BS00404889	BS00404896
BS00404907	BS00404930
BS00404932	BS00404955
BS00404989	BS00405001
BS00405011	BS00405014
BS00405027	BS00405030
BS00405033	BS00405037
BS00405039	BS00405043
BS00405044	BS00405049

RE00005216	RE00005224
RE00005225	RE00005231
RE00005232	RE00005240
RE00005241	RE00005247
RE00005248	RE00005252
RE00005253	RE00005258
RE00005259	RE00005267
RE00005268	RE00005269
RE00005270	RE00005275
RE00005276	RE00005294
RE00005295	RE00005301
RE00005302	RE00005308
RE00005309	RE00005311
RE00005312	RE00005313
RE00005314	RE00005321
RE00005322	RE00005323
RE00005324	RE00005330
RE00005331	RE00005336
RE00005337	RE00005346
RE00005347	RE00005354
RE00005355	RE00005363
RE00005364	RE00005371
RE00005372	RE00005379
RE00005380	RE00005387
RE00005388	RE00005394
RE00005395	RE00005404
RE00005405	RE00005413
RE00005414	RE00005416
RE00005417	RE00005423
RE00005424	RE00005432
RE00005433	RE00005439
RE00005440	RE00005448
RE00005449	RE00005449
RE00005450	RE00005456
RE00005457	RE00005465
RE00005466	RE00005474
RE00005475	RE00005481
RE00005482	RE00005486
RE00005487	RE00005493
RE00005494	RE00005502
RE00005503	RE00005505
RE00005506	RE00005512
RE00005513	RE00005521
RE00005522	RE00005530
RE00005531	RE00005532
RE00005533	RE00005534
RE00005535	RE00005536

Schedule A to Appendix II

BS00405050	BS00405055
BS00405056	BS00405062
BS00405063	BS00405068
BS00405069	BS00405074
BS00405075	BS00405080
BS00405081	BS00405086
BS00405324	BS00405335
BS00405561	BS00405562
BS00405671	BS00405685
BS00405770	BS00405770
BS00405789	BS00405790
BS00406009	BS00406012
BS00406085	BS00406098
BS00406137	BS00406150
BS00406237	BS00406243
BS00406246	BS00406252
BS00406282	BS00406288
BS00406426	BS00406462
BS00406465	BS00406489
BS00407301	BS00407303
BS00407420	BS00407420
BS00407541	BS00407543
BS00407545	BS00407545
BS00407654	BS00407654
BS00407659	BS00407659
BS00408183	BS00408216
BS00408266	BS00408267
BS00408276	BS00408310
BS00408320	BS00408321
BS00408331	BS00408363
BS00408367	BS00408399
BS00408401	BS00408433
BS00408474	BS00408506
BS00408524	BS00408556
BS00408584	BS00408614
BS00408751	BS00408764
BS00408776	BS00408789
BS00408859	BS00408876
BS00409037	BS00409046
BS00409047	BS00409056
BS00409119	BS00409128
BS00409131	BS00409140
BS00409141	BS00409144
BS00409152	BS00409161
BS00409173	BS00409173
BS00409187	BS00409196
BS00409199	BS00409208

RE00005537	RE00005538
RE00005539	RE00005545
RE00005546	RE00005553
RE00005554	RE00005560
RE00005561	RE00005568
RE00005569	RE00005571
RE00005572	RE00005579
RE00005580	RE00005584
RE00005585	RE00005589
RE00005590	RE00005596
RE00005597	RE00005604
RE00005605	RE00005609
RE00005610	RE00005618
RE00005619	RE00005626
RE00005627	RE00005632
RE00005633	RE00005639
RE00005640	RE00005648
RE00005649	RE00005655
RE00005656	RE00005661
RE00005662	RE00005670
RE00005671	RE00005676
RE00005677	RE00005685
RE00005686	RE00005693
RE00005694	RE00005702
RE00005703	RE00005708
RE00005709	RE00005718
RE00005719	RE00005721
RE00005722	RE00005730
RE00005731	RE00005736
RE00005737	RE00005744
RE00005745	RE00005754
RE00005755	RE00005762
RE00005763	RE00005772
RE00005773	RE00005782
RE00005783	RE00005792
RE00005793	RE00005795
RE00005796	RE00005804
RE00005805	RE00005815
RE00005816	RE00005824
RE00005825	RE00005835
RE00005836	RE00005844
RE00005845	RE00005853
RE00005854	RE00005862
RE00005863	RE00005873
RE00005874	RE00005882
RE00005883	RE00005893
RE00005894	RE00005902

Schedule A to Appendix II

BS00409210	BS00409211
BS00409240	BS00409249
BS00409250	BS00409259
BS00409278	BS00409279
BS00409280	BS00409281
BS00409282	BS00409283
BS00409284	BS00409285
BS00409286	BS00409287
BS00409291	BS00409300
BS00409306	BS00409315
BS00409333	BS00409342
BS00409355	BS00409364
BS00409384	BS00409393
BS00409417	BS00409426
BS00409442	BS00409451
BS00410057	BS00410945
BS00411918	BS00411929
BS00412184	BS00412195
BS00412198	BS00412209
BS00413057	BS00414066
BS00414074	BS00414075
BS00415247	BS00415248
BS00415249	BS00415250
BS00415304	BS00415320
BS00415578	BS00415578
BS00415598	BS00415601
BS00415778	BS00415779
BS00415822	BS00415844
BS00415845	BS00415857
BS00415858	BS00415879
BS00415883	BS00415883
BS00415927	BS00415927
BS00416047	BS00416047
BS00416193	BS00416197
BS00416306	BS00416321
BS00416408	BS00416409
BS00416510	BS00416510
BS00416514	BS00416514
BS00416546	BS00416547
BS00417300	BS00417300
BS00417632	BS00418529
BS00419672	BS00419694
BS00419695	BS00419707
BS00419902	BS00419924
BS00419959	BS00419981
BS00420072	BS00420073
BS00420878	BS00420878

RE00005903	RE00005913
RE00005914	RE00005921
RE00005922	RE00005932
RE00005933	RE00005939
RE00005940	RE00005958
RE00005959	RE00005966
RE00005967	RE00005972
RE00005973	RE00005983
RE00005984	RE00005993
RE00005994	RE00006002
RE00006003	RE00006008
RE00006009	RE00006019
RE00006020	RE00006029
RE00006030	RE00006032
RE00006033	RE00006041
RE00006042	RE00006050
RE00006051	RE00006057
RE00006058	RE00006085
RE00006086	RE00006096
RE00006097	RE00006098
RE00006099	RE00006102
RE00006103	RE00006113
RE00006114	RE00006122
RE00006123	RE00006128
RE00006129	RE00006134
RE00006135	RE00006143
RE00006144	RE00006154
RE00006155	RE00006165
RE00006166	RE00006175
RE00006176	RE00006186
RE00006187	RE00006190
RE00006191	RE00006200
RE00006201	RE00006210
RE00006211	RE00006219
RE00006220	RE00006230
RE00006231	RE00006237
RE00006238	RE00006247
RE00006248	RE00006258
RE00006259	RE00006268
RE00006269	RE00006278
RE00006279	RE00006285
RE00006286	RE00006296
RE00006297	RE00006306
RE00006307	RE00006315
RE00006316	RE00006324
RE00006325	RE00006333
RE00006334	RE00006343

Schedule A to Appendix II

BS00420879	BS00420880
BS00421317	BS00421317
BS00421318	BS00421329
BS00421446	BS00422721
BS00422758	BS00422759
BS00423020	BS00423042
BS00423526	BS00423549
BS00423550	BS00423551
BS00423558	BS00423560
BS00423573	BS00423597
BS00423601	BS00423625
BS00423631	BS00423654
BS00423660	BS00423683
BS00423697	BS00423699
BS00423706	BS00423730
BS00423733	BS00423757
BS00423792	BS00423792
BS00424132	BS00424136
BS00424142	BS00424146
BS00424157	BS00424163
BS00424169	BS00424175
BS00424183	BS00424206
BS00424364	BS00424364
BS00424365	BS00424366
BS00424572	BS00424572
BS00424659	BS00424660
BS00425006	BS00425007
BS00425338	BS00425343
BS00425344	BS00425349
BS00425350	BS00425355
BS00425498	BS00425510
BS00425542	BS00425544
BS00425589	BS00425602
BS00425761	BS00425761
BS00425925	BS00425938
BS00425940	BS00425953
BS00425982	BS00426005
BS00426341	BS00426341
BS00426538	BS00426543
BS00426547	BS00426558
BS00426628	BS00426641
BS00426882	BS00426887
BS00426958	BS00426969
BS00426972	BS00426976
BS00426978	BS00426989
BS00427282	BS00427294
BS00427319	BS00427332

RE00006344	RE00006351
RE00006352	RE00006378
RE00006379	RE00006387
RE00006388	RE00006396
RE00006397	RE00006403
RE00006404	RE00006413
RE00006414	RE00006421
RE00006422	RE00006441
RE00006442	RE00006450
RE00006451	RE00006457
RE00006458	RE00006467
RE00006468	RE00006476
RE00006477	RE00006486
RE00006487	RE00006495
RE00006496	RE00006506
RE00006507	RE00006516
RE00006517	RE00006522
RE00006523	RE00006531
RE00006532	RE00006540
RE00006541	RE00006549
RE00006550	RE00006555
RE00006556	RE00006564
RE00006565	RE00006573
RE00006574	RE00006581
RE00006582	RE00006590
RE00006591	RE00006599
RE00006600	RE00006607
RE00006608	RE00006635
RE00006636	RE00006644
RE00006645	RE00006654
RE00006655	RE00006664
RE00006665	RE00006674
RE00006675	RE00006685
RE00006686	RE00006695
RE00006696	RE00006705
RE00006706	RE00006714
RE00006715	RE00006721
RE00006722	RE00006731
RE00006732	RE00006741
RE00006742	RE00006751
RE00006752	RE00006760
RE00006761	RE00006770
RE00006771	RE00006780
RE00006781	RE00006790
RE00006791	RE00006793
RE00006794	RE00006803
RE00006804	RE00006813

Schedule A to Appendix II

BS00427351	BS00427352
BS00427599	BS00427603
BS00427610	BS00427610
BS00427624	BS00427624
BS00427625	BS00427626
BS00427705	BS00427728
BS00427729	BS00427751
BS00427755	BS00427768
BS00427804	BS00427827
BS00427879	BS00427883
BS00427886	BS00427890
BS00427947	BS00427947
BS00427972	BS00427995
BS00428000	BS00428000
BS00428004	BS00428027
BS00428034	BS00428034
BS00428048	BS00428071
BS00428078	BS00428100
BS00428101	BS00428125
BS00428388	BS00428413
BS00428568	BS00428593
BS00428660	BS00428685
BS00428974	BS00429000
BS00429012	BS00429038
BS00429047	BS00429073
BS00429085	BS00429111
BS00429161	BS00429187
BS00429190	BS00429216
BS00429218	BS00429244
BS00429246	BS00429272
BS00429276	BS00429302
BS00429312	BS00429338
BS00429340	BS00429366
BS00429519	BS00429545
BS00429665	BS00429691
BS00429693	BS00429719
BS00429721	BS00429745
BS00429802	BS00429828
BS00430096	BS00430122
BS00430272	BS00430294
BS00430297	BS00430308
BS00430311	BS00430318
BS00430321	BS00430328
BS00430339	BS00430362
BS00430365	BS00430372
BS00430386	BS00430409
BS00430414	BS00430437

RE00006814	RE00006822
RE00006823	RE00006833
RE00006834	RE00006843
RE00006844	RE00006853
RE00006854	RE00006862
RE00006863	RE00006870
RE00006871	RE00006887
RE00006888	RE00006897
RE00006898	RE00006906
RE00006907	RE00006915
RE00006916	RE00006924
RE00006925	RE00006935
RE00006936	RE00006944
RE00006945	RE00006953
RE00006954	RE00006960
RE00006961	RE00006967
RE00006968	RE00006976
RE00006977	RE00006985
RE00006986	RE00006995
RE00006996	RE00007002
RE00007003	RE00007012
RE00007013	RE00007021
RE00007022	RE00007031
RE00007032	RE00007041
RE00007042	RE00007051
RE00007052	RE00007058
RE00007059	RE00007067
RE00007068	RE00007076
RE00007077	RE00007085
RE00007086	RE00007097
RE00007098	RE00007106
RE00007107	RE00007116
RE00007117	RE00007126
RE00007127	RE00007135
RE00007136	RE00007144
RE00007145	RE00007153
RE00007154	RE00007162
RE00007163	RE00007168
RE00007169	RE00007177
RE00007178	RE00007186
RE00007187	RE00007194
RE00007195	RE00007224
RE00007225	RE00007233
RE00007234	RE00007242
RE00007243	RE00007249
RE00007250	RE00007258
RE00007259	RE00007267

Schedule A to Appendix II

BS00430561	BS00430584
BS00430648	BS00430671
BS00430884	BS00430907
BS00431291	BS00431314
BS00431434	BS00431449
BS00431591	BS00431596
BS00432118	BS00432118
BS00432515	BS00432545
BS00432547	BS00432577
BS00432579	BS00432614
BS00432820	BS00432850
BS00432852	BS00432882
BS00432920	BS00432950
BS00432966	BS00433001
BS00433085	BS00433101
BS00433275	BS00433305
BS00433475	BS00433505
BS00433511	BS00433516
BS00433517	BS00433522
BS00433573	BS00433573
BS00433829	BS00433829
BS00434021	BS00434053
BS00434054	BS00434085
BS00434334	BS00434364
BS00434550	BS00434553
BS00434635	BS00434635
BS00434636	BS00434666
BS00434699	BS00434730
BS00434966	BS00434972
BS00434990	BS00435021
BS00435027	BS00435033
BS00435037	BS00435072
BS00435155	BS00435161
BS00435164	BS00435164
BS00435170	BS00435176
BS00435205	BS00435216
BS00435218	BS00435232
BS00435234	BS00435248
BS00435280	BS00435294
BS00435312	BS00435324
BS00435326	BS00435340
BS00435377	BS00435391
BS00435393	BS00435405
BS00435406	BS00435419
BS00435420	BS00435434
BS00435442	BS00435456
BS00435534	BS00435548

RE00007268	RE00007276
RE00007277	RE00007286
RE00007287	RE00007294
RE00007295	RE00007301
RE00007302	RE00007308
RE00007309	RE00007317
RE00007318	RE00007325
RE00007326	RE00007333
RE00007334	RE00007341
RE00007342	RE00007348
RE00007349	RE00007351
RE00007352	RE00007358
RE00007359	RE00007365
RE00007366	RE00007372
RE00007373	RE00007401
RE00007402	RE00007408
RE00007409	RE00007415
RE00007416	RE00007423
RE00007424	RE00007433
RE00007434	RE00007440
RE00007441	RE00007448
RE00007449	RE00007457
RE00007458	RE00007459
RE00007460	RE00007467
RE00007468	RE00007475
RE00007476	RE00007481
RE00007482	RE00007487
RE00007488	RE00007495
RE00007496	RE00007503
RE00007504	RE00007510
RE00007511	RE00007517
RE00007518	RE00007524
RE00007525	RE00007532
RE00007533	RE00007539
RE00007540	RE00007547
RE00007548	RE00007556
RE00007557	RE00007564
RE00007565	RE00007572
RE00007573	RE00007579
RE00007580	RE00007586
RE00007587	RE00007593
RE00007594	RE00007601
RE00007602	RE00007609
RE00007610	RE00007617
RE00007618	RE00007624
RE00007625	RE00007649
RE00007650	RE00007652

Schedule A to Appendix II

BS00435549	BS00435564
BS00435567	BS00435598
BS00435600	BS00435632
BS00435633	BS00435664
BS00435681	BS00435693
BS00435694	BS00435712
BS00435717	BS00435722
BS00435735	BS00435747
BS00435811	BS00435820
BS00435822	BS00435836
BS00435838	BS00435869
BS00435901	BS00435915
BS00435921	BS00435924
BS00435925	BS00435928
BS00435961	BS00435961
BS00435962	BS00435962
BS00435971	BS00435972
BS00435984	BS00436010
BS00436069	BS00436099
BS00436146	BS00436160
BS00436353	BS00436358
BS00436360	BS00436374
BS00436375	BS00436379
BS00436380	BS00436394
BS00436440	BS00436444
BS00436496	BS00436528
BS00436719	BS00436754
BS00436761	BS00436786
BS00436909	BS00436944
BS00437092	BS00437106
BS00437124	BS00437141
BS00437145	BS00437145
BS00437146	BS00437172
BS00437260	BS00437290
BS00437342	BS00437342
BS00437344	BS00437345
BS00437346	BS00437347
BS00437348	BS00437349
BS00437354	BS00437356
BS00437372	BS00437375
BS00437457	BS00437471
BS00437484	BS00437513
BS00437514	BS00437515
BS00437521	BS00437550
BS00437561	BS00437561
BS00437565	BS00437579
BS00437592	BS00437592

RE00007653	RE00007655
RE00007656	RE00007662
RE00007663	RE00007687
RE00007688	RE00007695
RE00007696	RE00007703
RE00007704	RE00007713
RE00007714	RE00007721
RE00007722	RE00007729
RE00007730	RE00007734
RE00007735	RE00007742
RE00007743	RE00007749
RE00007750	RE00007755
RE00007756	RE00007774
RE00007775	RE00007776
RE00007777	RE00007783
RE00007784	RE00007790
RE00007791	RE00007798
RE00007799	RE00007801
RE00007802	RE00007804
RE00007805	RE00007812
RE00007813	RE00007820
RE00007821	RE00007828
RE00007829	RE00007835
RE00007836	RE00007865
RE00007866	RE00007871
RE00007872	RE00007879
RE00007880	RE00007882
RE00007883	RE00007885
RE00007886	RE00007888
RE00007889	RE00007890
RE00007891	RE00007895
RE00007896	RE00007900
RE00007901	RE00007906
RE00007907	RE00007913
RE00007914	RE00007918
RE00007919	RE00007926
RE00007927	RE00007932
RE00007933	RE00007938
RE00007939	RE00007941
RE00007942	RE00007944
RE00007945	RE00007950
RE00007951	RE00007979
RE00007980	RE00007987
RE00007988	RE00007993
RE00007994	RE00007999
RE00008000	RE00008006
RE00008007	RE00008012

Schedule A to Appendix II

BS00437598	BS00437627
BS00437631	BS00437660
BS00437663	BS00437692
BS00437841	BS00437870
BS00437872	BS00437901
BS00437935	BS00437964
BS00438160	BS00438183
BS00438185	BS00438217
BS00438251	BS00438275
BS00438285	BS00438294
BS00438362	BS00438392
BS00438430	BS00438455
BS00438525	BS00438558
BS00438561	BS00438594
BS00438601	BS00438635
BS00438637	BS00438670
BS00438686	BS00438692
BS00438693	BS00438699
BS00438707	BS00438713
BS00438714	BS00438720
BS00438758	BS00438790
BS00438792	BS00438824
BS00438827	BS00438859
BS00438862	BS00438869
BS00438870	BS00438877
BS00438881	BS00438913
BS00438919	BS00438951
BS00438995	BS00439027
BS00439032	BS00439040
BS00439049	BS00439056
BS00439076	BS00439083
BS00439087	BS00439118
BS00439187	BS00439219
BS00439221	BS00439253
BS00439283	BS00439315
BS00439329	BS00439359
BS00439364	BS00439396
BS00439460	BS00439490
BS00439522	BS00439529
BS00439594	BS00439624
BS00439638	BS00439668
BS00439673	BS00439705
BS00439706	BS00439731
BS00439732	BS00439761
BS00439767	BS00439798
BS00439828	BS00439860
BS00439899	BS00439929

RE00008013	RE00008019
RE00008020	RE00008021
RE00008022	RE00008026
RE00008027	RE00008032
RE00008033	RE00008037
RE00008038	RE00008043
RE00008044	RE00008049
RE00008050	RE00008057
RE00008058	RE00008062
RE00008063	RE00008068
RE00008069	RE00008073
RE00008074	RE00008092
RE00008093	RE00008097
RE00008098	RE00008102
RE00008103	RE00008107
RE00008108	RE00008112
RE00008113	RE00008117
RE00008118	RE00008124
RE00008125	RE00008130
RE00008131	RE00008136
RE00008137	RE00008142
RE00008143	RE00008148
RE00008149	RE00008155
RE00008156	RE00008161
RE00008162	RE00008166
RE00008167	RE00008172
RE00008173	RE00008177
RE00008178	RE00008183
RE00008184	RE00008190
RE00008191	RE00008197
RE00008198	RE00008204
RE00008205	RE00008209
RE00008210	RE00008217
RE00008218	RE00008223
RE00008224	RE00008230
RE00008231	RE00008235
RE00008236	RE00008240
RE00008241	RE00008246
RE00008247	RE00008252
RE00008253	RE00008258
RE00008259	RE00008264
RE00008265	RE00008269
RE00008270	RE00008275
RE00008276	RE00008282
RE00008283	RE00008289
RE00008290	RE00008296
RE00008297	RE00008305

Schedule A to Appendix II

BS00439946	BS00439978
BS00439981	BS00440013
BS00440060	BS00440085
BS00440133	BS00440134
BS00440248	BS00440248
BS00440413	BS00440413
BS00440448	BS00440448
BS00440450	BS00440480
BS00440634	BS00440644
BS00440645	BS00440658
BS00440661	BS00440662
BS00440664	BS00440666
BS00440667	BS00440696
BS00440749	BS00440779
BS00440820	BS00440845
BS00440847	BS00440908
BS00440928	BS00440936
BS00440938	BS00440967
BS00441001	BS00441034
BS00441043	BS00441051
BS00441052	BS00441052
BS00441056	BS00441057
BS00441061	BS00441061
BS00441070	BS00441099
BS00441122	BS00441122
BS00441123	BS00441123
BS00441134	BS00441159
BS00441240	BS00441270
BS00441302	BS00441302
BS00441329	BS00441329
BS00441335	BS00441339
BS00441340	BS00441354
BS00441377	BS00441412
BS00441500	BS00441514
BS00441858	BS00441889
BS00441894	BS00441925
BS00441927	BS00441986
BS00441987	BS00442018
BS00442169	BS00442200
BS00442201	BS00442201
BS00442435	BS00442444
BS00442458	BS00442467
BS00442469	BS00442470
BS00442471	BS00442473
BS00442474	BS00442476
BS00442477	BS00442479
BS00442480	BS00442482

RE00008306	RE00008311
RE00008312	RE00008317
RE00008318	RE00008324
RE00008325	RE00008331
RE00008332	RE00008337
RE00008338	RE00008343
RE00008344	RE00008350
RE00008351	RE00008356
RE00008357	RE00008365
SSKW00006400	SSKW00006400
SSMT00000488	SSMT00000547
SSMT00000589	SSMT00000646
SSMT00013702	SSMT00013702
SSMT00014339	SSMT00014340
SSMT00014465	SSMT00014471
SSMT00014889	SSMT00014889
SSMT00015673	SSMT00015679
SSMT02121252	SSMT02121479
UBPAMMERKIN00000001	UBPAMMERKIN00000001
UBPAMMERKIN00000004	UBPAMMERKIN00000004
UBPAMMERKIN00000005	UBPAMMERKIN00000005
UBPAMMERKIN00000006	UBPAMMERKIN00000006
UBPAMMERKIN00000010	UBPAMMERKIN00000010
UBPAMMERKIN00000011	UBPAMMERKIN00000012
UBPAMMERKIN00000013	UBPAMMERKIN00000014
UBPAMMERKIN00000017	UBPAMMERKIN00000018
UBPAMMERKIN00000041	UBPAMMERKIN00000072
UBPAMMERKIN00000085	UBPAMMERKIN00000087
UBPAMMERKIN00000098	UBPAMMERKIN00000099
UBPAMMERKIN00000210	UBPAMMERKIN00000212
UBPAMMERKIN00000329	UBPAMMERKIN00000329
UBPAMMERKIN00000330	UBPAMMERKIN00000362
UBPAMMERKIN00000421	UBPAMMERKIN00000424
UBPAMMERKIN00000425	UBPAMMERKIN00000426
UBPAMMERKIN00000456	UBPAMMERKIN00000463
UBPAMMERKIN00000496	UBPAMMERKIN00000496
UBPAMMERKIN00000532	UBPAMMERKIN00000536
UBPAMMERKIN00000559	UBPAMMERKIN00000560
UBPAMMERKIN00000562	UBPAMMERKIN00000562
UBPAMMERKIN00000563	UBPAMMERKIN00000564
UBPAMMERKIN00000570	UBPAMMERKIN00000570
UBPAMMERKIN00000574	UBPAMMERKIN00000574
UBPAMMERKIN00000604	UBPAMMERKIN00000605
UBPAMMERKIN00000814	UBPAMMERKIN00000814
UBPAMMERKIN00001143	UBPAMMERKIN00001144
UBPAMMERKIN00001145	UBPAMMERKIN00001267
UBPAMMERKIN00001283	UBPAMMERKIN00001285

Schedule A to Appendix II

BS00442483	BS00442485
BS00442486	BS00442488
BS00442489	BS00442492
BS00442493	BS00442496
BS00442504	BS00442513
BS00442630	BS00442631
BS00442632	BS00442646
BS00442651	BS00442656
BS00442657	BS00442659
BS00443081	BS00443081
BS00443096	BS00443115
BS00443165	BS00443195
BS00443196	BS00443196
BS00443478	BS00443558
BS00443569	BS00443649
BS00443671	BS00443672
BS00444150	BS00444164
BS00444252	BS00444261
BS00444311	BS00444320
BS00444491	BS00444512
BS00444514	BS00444535
BS00444675	BS00444683
BS00444684	BS00444684
BS00444747	BS00444748
BS00445028	BS00445032
BS00445548	BS00445555
BS00445557	BS00445564
BS00445566	BS00445573
BS00445783	BS00445823
BS00445891	BS00445931
BS00446315	BS00446324
BS00446328	BS00446337
BS00446340	BS00446342
BS00446344	BS00446353
BS00446372	BS00446381
BS00446401	BS00446410
BS00446470	BS00446472
BS00446475	BS00446484
BS00446640	BS00446641
BS00446686	BS00446714
BS00446737	BS00446738
BS00446787	BS00446788
BS00446809	BS00446811
BS00446947	BS00446948
BS00447002	BS00447002
BS00447123	BS00447137
BS00447338	BS00447340

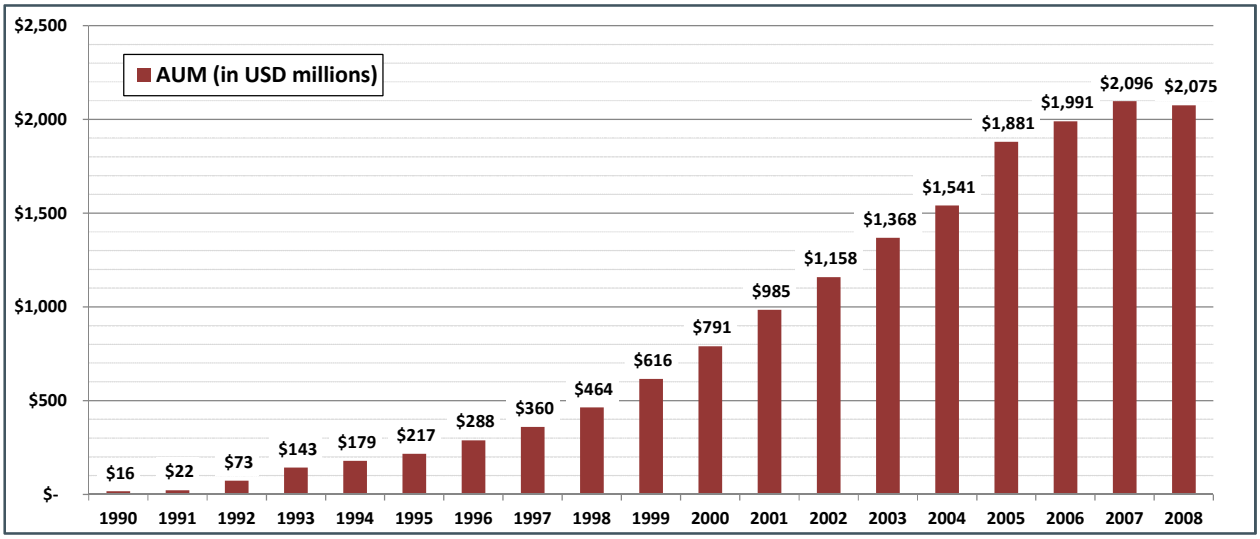
UBPAMMERKIN00001314	UBPAMMERKIN00001316
UBPAMMERKIN00001318	UBPAMMERKIN00001324
UBPAMMERKIN00001329	UBPAMMERKIN00001329
UBPAMMERKIN00001390	UBPAMMERKIN00001391
UBPAMMERKIN00001393	UBPAMMERKIN00001394
UBPAMMERKIN00001510	UBPAMMERKIN00001510
UBPAMMERKIN00001515	UBPAMMERKIN00001516
UBPAMMERKIN00001537	UBPAMMERKIN00001537
UBPAMMERKIN00001619	UBPAMMERKIN00001620
UBPAMMERKIN00001657	UBPAMMERKIN00001657
UBPAMMERKIN00001669	UBPAMMERKIN00001669
UBPAMMERKIN00001678	UBPAMMERKIN00001678
UBPAMMERKIN00001682	UBPAMMERKIN00001682
UBPAMMERKIN00001683	UBPAMMERKIN00001683
UBPAMMERKIN00001703	UBPAMMERKIN00001704
UBPAMMERKIN00001710	UBPAMMERKIN00001710
UBPAMMERKIN00001711	UBPAMMERKIN00001713
UBPAMMERKIN00001715	UBPAMMERKIN00001715
UBPAMMERKIN00001716	UBPAMMERKIN00001716
UBPAMMERKIN00001717	UBPAMMERKIN00001719
UBPAMMERKIN00001720	UBPAMMERKIN00001725
UBPAMMERKIN00001726	UBPAMMERKIN00001727
UBPAMMERKIN00001739	UBPAMMERKIN00001739
UBPAMMERKIN00001743	UBPAMMERKIN00001744
UBPAMMERKIN00002021	UBPAMMERKIN00002023
UBPAMMERKIN00002070	UBPAMMERKIN00002071
UBPAMMERKIN00002465	UBPAMMERKIN00002489
UBPAMMERKIN00002492	UBPAMMERKIN00002492
UBPAMMERKIN00002493	UBPAMMERKIN00002494
UBPAMMERKIN00002543	UBPAMMERKIN00002543
UBPAMMERKIN00002548	UBPAMMERKIN00002548
UBPAMMERKIN00002555	UBPAMMERKIN00002557
UBPAMMERKIN00002562	UBPAMMERKIN00002604
UBPAMMERKIN00002605	UBPAMMERKIN00002998
UBPAMMERKIN00002999	UBPAMMERKIN00003321
UBPAMMERKIN00003322	UBPAMMERKIN00003453
UBPAMMERKIN00005281	UBPAMMERKIN00005282
UBPAMMERKIN00006282	UBPAMMERKIN00006283
UBPAMMERKIN00006305	UBPAMMERKIN00006307
UBPAMMERKIN00007309	UBPAMMERKIN00007313
UBPAMMERKIN00007314	UBPAMMERKIN00007317
UBPAMMERKIN00007318	UBPAMMERKIN00007322
UBPAMMERKIN00007455	UBPAMMERKIN00007455
UBPAMMERKIN00008135	UBPAMMERKIN00008135
UBPAMMERKIN00008670	UBPAMMERKIN00008686
UBPAMMERKIN00008717	UBPAMMERKIN00008717
UBPAMMERKIN00008718	UBPAMMERKIN00008723

Schedule A to Appendix II

BS00447482	BS00447483
BS00447630	BS00447631

UBPAMMERKIN00008728	UBPAMMERKIN00008728
UBPAMMERKIN00008729	UBPAMMERKIN00008730
UBPAMMERKIN00008765	UBPAMMERKIN00008766
UBPAMMERKIN00008872	UBPAMMERKIN00008874
UBPAMMERKIN00008897	UBPAMMERKIN00008897
YU 0000053	YU 0000172

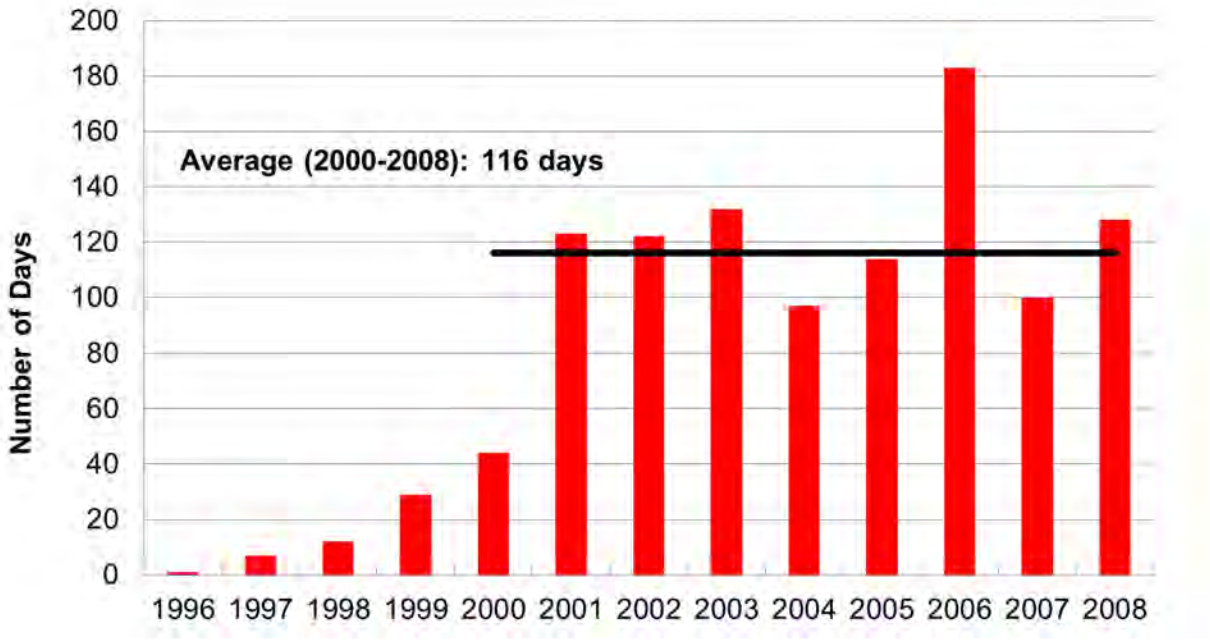
Appendix III: Merkin AUM Invested with BLMIS



Appendix IV: Option Volume Schedules

Schedule 1: Call Option Positions Exceeded the CBOE Market Open Interest

On average for 116 days out of a year, the number of call options purportedly owned by the Merkin BLMIS Accounts exceeded the total number of available call options in the market between 2000 and 2008

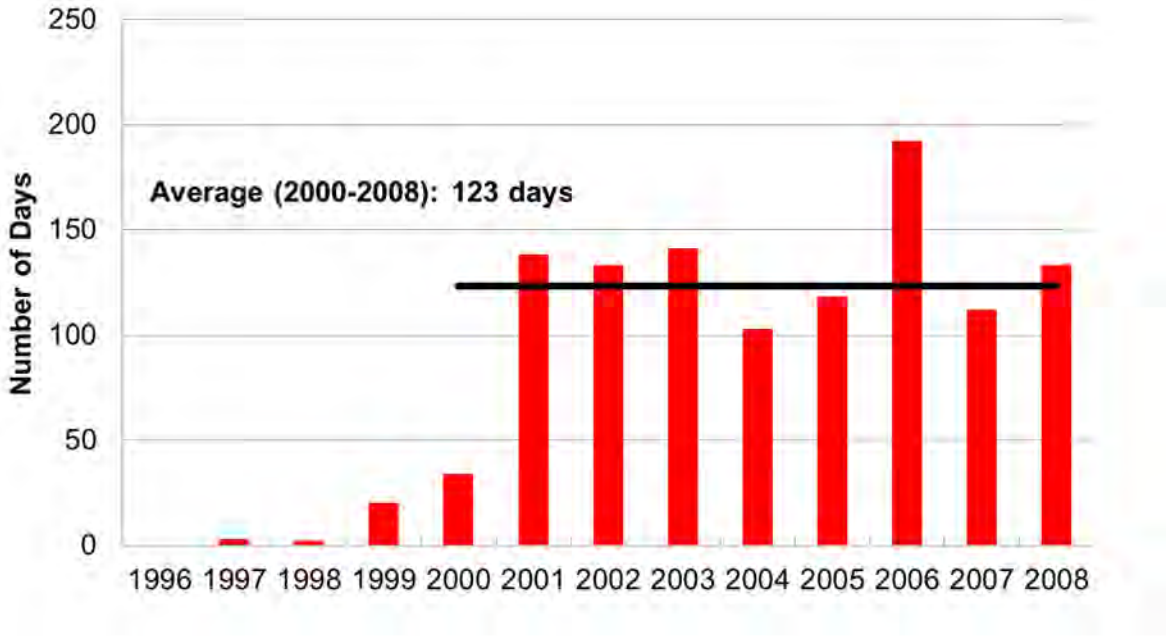


Number of Days Call Option Positions in the Merkin BLMIS Accounts Exceeded the CBOE Market Open Interest

- The bar graph shows the number of days in each year when the Merkin BLMIS Accounts purportedly controlled more call options than the total number of contracts available in the market (i.e., open interest) for that day.
- The horizontal axis represents each year from 1996 through 2008.
- The vertical axis represents the number of days.
- The black line represents the average number of days when call option positions in the Merkin BLMIS Accounts exceed the total market volume, which is 116 days.

Schedule 2: Put Option Positions Exceeded the CBOE Market Open Interest

On average, 123 days out of the year, the number of put options purportedly owned by the Merkin BLMIS Accounts exceeded the total number of available put options in the market between 2000 and 2008



Number of Days Put Option Positions in the Merkin BLMIS Accounts Exceeded the CBOE Market Open Interest

- The bar graph shows the number of days in each year when the Merkin BLMIS Accounts purportedly controlled more put options than the total number of contracts available in the market (i.e., open interest) for that day.
- The horizontal axis represents each year from 1996 through 2008.
- The vertical axis represents the number of days.
- The black line represents the average number of days when put option positions in the Merkin BLMIS Accounts exceed the total market volume, which is 123 days.

Appendix V: Out-of-Range, Market Exposure and Dividend Schedules

Schedule 3: Out-of-Range Equity Trades by Year

BLMIS purportedly executed equity transactions outside the daily range.

Year	Total Equity Transactions	Txns Above High	Txns Below Low	Out-of-Range Equity Transactions	Percent Out-of-Range	Value Gained: Buys below low	Value Gained: Sells above high	Value Lost: Buys above high	Value Lost: Sells below low	Total Gain/(Loss) from Out-of-Range Trades
1990	60	2	6	8	13.3%	$ 3,198	$ 768	$ -	$ -	$ 3,966
1991	252	12	16	28	11.1%	$ 7,333	$ 246,439	$ -	$ (153,732)	$ 100,041
1992	335	6	6	12	3.6%	$ 8,581	$ 10,300	$ (6,650)	$ (224)	$ 12,007
1993	725	24	52	76	10.5%	$ 98,585	$ 45,039	$ (13,816)	$ (37,342)	$ 92,465
1994	1,093	27	93	120	11.0%	$ 59,699	$ 40,007	$ -	$ -	$ 99,706
1995	991	4	17	21	2.1%	$ 27,631	$ 2,104	$ -	$ -	$ 29,736
1996	1,490	4	98	102	6.8%	$ 2,440,713	$ 88,944	$ (14,711)	$ -	$ 2,514,947
1997	1,362	-	-	-	0.0%	$ -	$ -	$ -	$ -	$ -
1998	1,914	12	102	114	6.0%	$ 4,359,097	$ 10,575	$ (64,471)	$ (19,568)	$ 4,285,633
1999	1,745	4	2	6	0.3%	$ 4,387	$ 135,069	$ -	$ -	$ 139,456
2000	3,168	8	-	8	0.3%	$ -	$ 6,292	$ -	$ -	$ 6,292
2001	3,386	16	22	38	1.1%	$ 478,988	$ 98,034	$ -	$ -	$ 577,022
2002	6,382	24	64	88	1.4%	$ 63,302	$ 108,844	$ -	$ -	$ 172,146
2003	7,033	205	81	286	4.1%	$ 1,139,945	$ 1,373,955	$ (923,804)	$ (241,631)	$ 1,348,464
2004	4,968	24	27	51	1.0%	$ 51,187	$ 42,451	$ -	$ -	$ 93,638
2005	3,981	12	-	12	0.3%	$ -	$ 33,981	$ -	$ -	$ 33,981
2006	3,861	6	6	12	0.3%	$ 18,426	$ 266,280	$ -	$ -	$ 284,705
2007	4,341	-	-	-	0.0%	$ -	$ -	$ -	$ -	$ -
2008	2,134	3	-	3	0.1%	$ -	$ 525,159	$ -	$ -	$ 525,159
Total	**49,221**	**393**	**592**	**985**	**2.0%**	**$ 8,761,073**	**$ 3,034,241**	**$ (1,023,451)**	**$ (452,497)**	**$ 10,319,366**

Schedule 4: Out-of-Range Option Trades by Year

BLMIS purportedly executed option transactions outside the daily range.

Year	Total Option Transactions	Txns Above High	Txns Below Low	Out-of-Range Option Transactions	Percent Out-of-Range	Value Gained: Buys below low	Value Gained: Sells above high	Value Lost: Buys above high	Value Lost: Sells below low	Total Gain/(Loss) from Out-of-Range Trades
1990	28	4	8	12	42.9%	$ 8,998	$ 6,967	$ -	$ (58)	$ 15,906
1991	190	34	12	46	24.2%	$ 10,614	$ 74,913	$ (15,162)	$ (59)	$ 70,305
1992	191	54	0	54	28.3%	$ -	$ 234,837	$ (17,495)	$ -	$ 217,342
1993	148	40	0	40	27.0%	$ -	$ 513,098	$ (56,920)	$ -	$ 456,179
1994	244	65	4	69	28.3%	$ 8,028	$ 818,625	$ (406,429)	$ (7,768)	$ 412,457
1995	168	24	2	26	15.5%	$ -	$ 263,252	$ (194,868)	$ (8,486)	$ 59,898
1996	180	16	4	20	11.1%	$ 7,888	$ 97,381	$ (195,674)	$ (303,875)	$ (394,281)
1997	120	2	2	4	3.3%	$ 2,032,110	$ -	$ (46,175)	$ -	$ 1,985,935
1998	186	2	4	6	3.2%	$ 182,374	$ -	$ (1,075,875)	$ (198,188)	$ (1,091,689)
1999	144	2	8	10	6.9%	$ 724,858	$ -	$ (41,439)	$ -	$ 683,419
2000	244	2	6	8	3.3%	$ -	$ 794,584	$ -	$ (1,453,069)	$ (658,485)
2001	324	8	4	12	3.7%	$ 2,235,000	$ 2,958	$ (460,640)	$ -	$ 1,777,318
2002	424	8	20	28	6.6%	$ 1,747,718	$ 1,535,058	$ -	$ (169,140)	$ 3,113,636
2003	435	12	15	27	6.2%	$ 91,875	$ 414,711	$ (424,753)	$ (6,410,585)	$ (6,328,752)
2004	326	-	0	-	0.0%	$ -	$ -	$ -	$ -	$ -
2005	323	-	0	-	0.0%	$ -	$ -	$ -	$ -	$ -
2006	389	-	5	5	1.3%	$ 667,540	$ -	$ -	$ -	$ 667,540
2007	285	9	6	15	5.3%	$ 20,482,200	$ 772,155	$ (5,461,920)	$ (7,168,770)	$ 8,623,665
2008	195	-	0	-	0.0%	$ -	$ -	$ -	$ -	$ -
Total	**4,544**	**282**	**100**	**382**	**8.4%**	**$ 28,199,203**	**$ 5,528,539**	**$ (8,397,350)**	**$ (15,719,997)**	**$ 9,610,394**

Schedule 5: Out-of-Range Treasury Trades by Year

BLMIS purportedly executed Treasury transactions outside the daily range.

		0 Basis Point Adjustment		1 Basis Point Adjustment		5 Basis Point Adjustment		10 Basis Point Adjustment	
Year	# of Total Treasury Trades	% of Trades Out of Range	# of Trades Out of Range	% of Trades Out of Range	# of Trades Out of Range	% of Trades Out of Range	# of Trades Out of Range	% of Trades Out of Range	# of Trades Out of Range
2000	560	46.3%	259	33.9%	190	13.6%	76	3.2%	18
2001	589	42.1%	248	26.7%	157	11.2%	66	6.5%	38
2002	903	51.2%	462	27.9%	252	4.9%	44	2.7%	24
2003	621	50.2%	312	15.3%	95	0.5%	3	0.0%	0
2004	596	50.3%	300	19.8%	118	2.0%	12	0.5%	3
2005	550	38.4%	211	24.0%	132	3.6%	20	1.3%	7
2006	619	42.5%	263	29.1%	180	14.9%	92	8.4%	52
2007	613	40.3%	247	25.8%	158	14.7%	90	12.2%	75
2008	377	25.5%	96	10.3%	39	0.8%	3	0.8%	3
Total	**5,428**	**44.2%**	**2,398**	**24.3%**	**1,321**	**7.5%**	**406**	**4.1%**	**220**

Schedule 6: Equity Sells Without Hedge Adjustment

BLMIS purportedly sold equity positions without adjusting the corresponding hedge.

Equity Transactions without Corresponding Hedge Adjustment		
Year	Number of Transactions by Year	Cumulative
1991	2	2
1992	32	34
1993	48	82
1994	23	105
1995	36	141
1996	23	164
1997	24	188
1998	2	190
1999	6	196
2000	2	198
2001	52	250
2002	29	279
2003	5	284
2004	6	290
2005	15	305
2006	9	314
2007	6	320
2008	4	324

Schedule 7: Atypical Frequency of Dividends

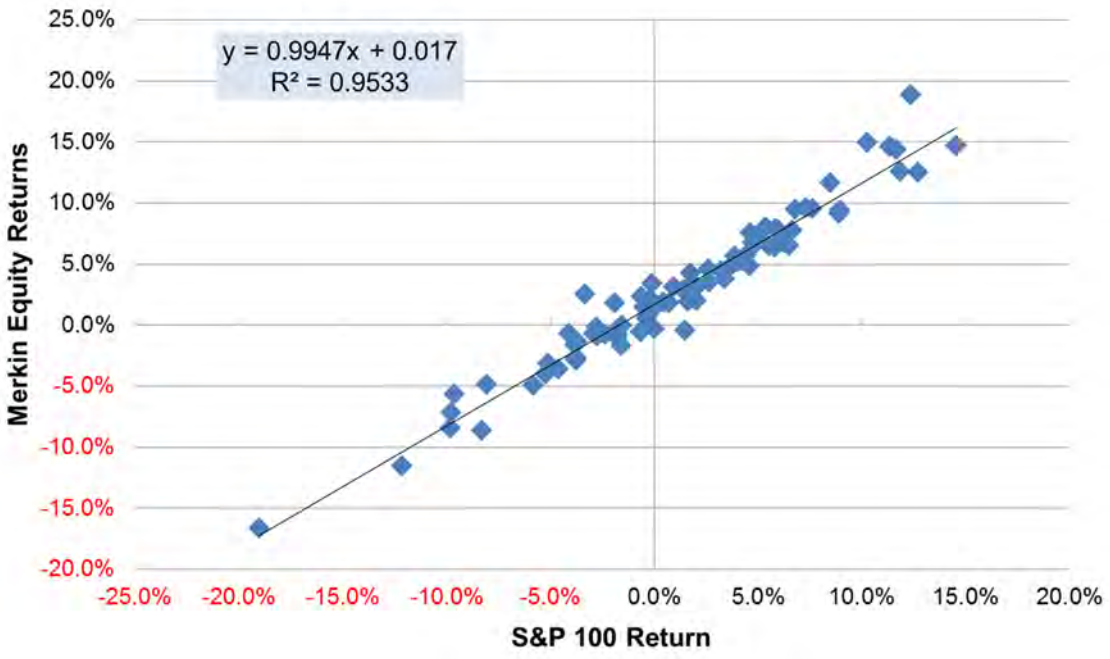
BLMIS purportedly received money market dividends on dates when the money market funds did not pay dividends.

Year	Total Money Market Dividends	Money Market Dividends Paid on Wrong Date	Percent of Money Market Dividends Paid on Wrong Date	Number of Months with 3 or more money market dividends
1995	2	2	100%	0
1996	24	24	100%	0
1997	24	24	100%	0
1998	24	24	100%	0
1999	24	20	83%	0
2000	30	28	93%	0
2001	40	36	90%	0
2002	48	48	100%	0
2003	47	46	98%	2
2004	45	45	100%	3
2005	46	46	100%	2
2006	98	95	97%	8
2007	103	103	100%	7
2008	65	64	98%	3
Total	**620**	**605**	**98%**	**25**

Appendix VI: Alpha Analysis Schedules

Schedule 8: Regression Analysis of Equity Trades Within Baskets

The returns on equity trades for the Merkin BLMIS Accounts are correlated with the returns of the S&P 100

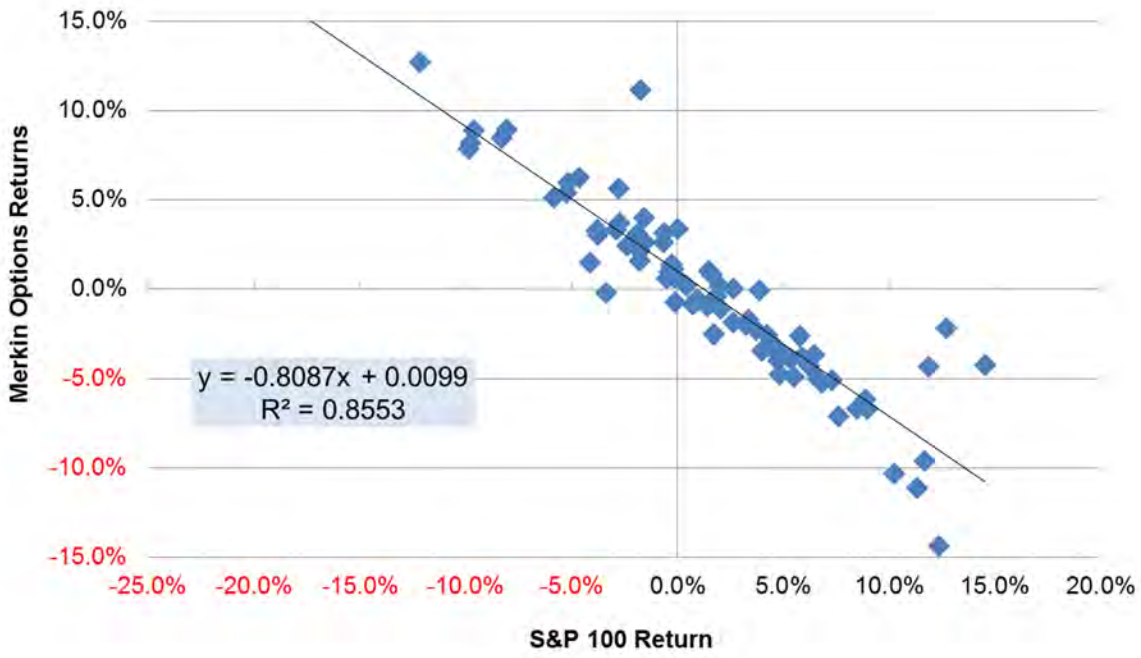


BLMIS Equity Return v. S&P 100 Equity Return

- The chart shows a regression of the returns of the Merkin BLMIS Accounts from the equity portion of the basket trades against the returns from the S&P 100 over the same time period.
- The data reflects basket trades between December 1991 and September 2008. The last basket trade in November 2008 was excluded because there was no corresponding sale of the basket.
- The horizontal axis represents S&P 100 returns.
- The vertical axis represents the returns from the purported purchase and sale of equities in the Merkin BLMIS Accounts.
- The R-Squared factor represents the degree of correlation between the returns of the S&P 100 and the returns from purported equity trades in the Merkin BLMIS Accounts. A lower R-Squared factor represents a weaker correlation, whereas a higher R-Squared represents a stronger correlation. This graph indicates a high R-Squared factor, meaning that the returns from equity are highly correlated with the returns from the S&P 100.

Schedule 9: Regression Analysis of Option Trades Within Baskets

The returns on option trades for the Merkin BLMIS Accounts are correlated with the returns of the S&P 100

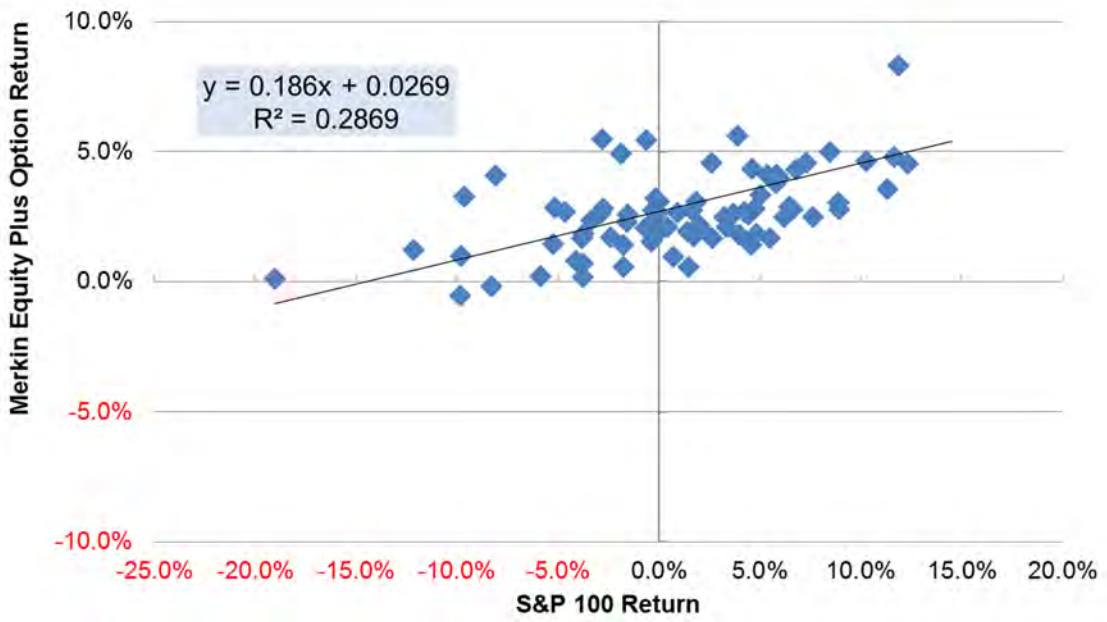


BLMIS Option Return v. S&P 100 Option Return

- The chart shows a regression of the returns from the Merkin BLMIS Accounts from option trades against returns from the S&P 100 over the same time period.
- The horizontal axis represents the returns of the S&P 100.
- The vertical axis represents returns from the purported purchase and sale of options in the Merkin BLMIS Accounts.
- The R-Squared factor represents how correlated the returns are from each basket relative to the performance of the S&P 100. The factor typically ranges between 0 and 1. A lower R-Squared factor represents a weaker correlation, whereas a higher R-Squared represents a stronger correlation. This graph indicates a high R-Squared factor, meaning that the returns from option are highly correlated with the returns from the S&P 100.

Schedule 10: Regression Analysis of Madoff SSC Strategy Using Baskets

The returns for the Merkin BLMIS Accounts were consistently 2% above those of the S&P 100 regardless of market returns



BLMIS Basket Trade Return v. S&P 100
Equity and Option Return

- The chart shows a regression of Merkin's total basket returns (from equities and options) against returns from the S&P 100 over the same time period.
- The horizontal axis represents returns of the S&P 100.
- The vertical axis represents equity and option returns from the Merkin BLMIS Accounts.
- The R-Squared factor represents how correlated basket returns are relative to the performance of the S&P 100. A lower R-Squared factor represents a weaker correlation, whereas a higher R-Squared represents a stronger correlation. This graph indicates a low R-Squared factor, meaning that the returns from basket trade are not highly correlated to the returns from the S&P 100.

Schedule 11: Regression Diagnostics

The Merkin BLMIS Accounts earned returns unaccounted for by index movements with implausible certainty

Regression Characteristics of the Basket Trades			
Parameter	**Equity Returns**	**Option Returns**	**Total Returns**
Slope	0.99	-0.81	0.19
t-slope	40.67	-21.88	5.71
Alpha	1.70%	0.99%	**2.69%**
t-Alpha	11.29	4.36	**13.42**
R-Squared	0.95	0.86	0.29

Regression Characteristics of Basket Trades

- The chart shows that the results of a regression of the Merkin BLMIS basket returns against the S&P 100 returns.
- On average, purported equity trades earned 1.70% above what can be explained by S&P 100 movements.
- On average, purported option trades earned 0.99% above what can be explained by S&P 100 movements.
- On average, purported basket trades earned 2.69% above what can be explained by S&P 100 movements.
- The slope represents the relationship between the returns from Merkin's BLMIS basket trading (including both equities and options) and the returns from investing in the S&P 100. A slope of 1.0 indicates that the return of the Merkin BLMIS Accounts moves in-step with the return from the S&P 100. A slope of 2.0 indicates that the Merkin BLMIS Accounts return twice as much as the return from the S&P 100. A slope of 0.1 indicates that the return from the Merkin BLMIS Accounts is approximately 10% of the return from the S&P 100.
- The alpha in the chart represents the return to the Merkin BLMIS Accounts which is greater than the return from the S&P 100. The alpha indicates that the Merkin BLMIS Accounts return 2.69% above any returns explained by the S&P 100.
- T-Alpha represents the t-statistic for the alpha of the regression. A high t-alpha statistic (13.42 in this case) indicates that the alpha of the regression is significant and statistically different from zero. In fact, the average return for basket trades is 2.69% with a t-stat of 13.42.
- R-Squared represents the square of the degree of correlation between the returns of the Merkin BLMIS Accounts and returns of the S&P 100 (i.e., the proportion of the returns for the Merkin BLMIS Accounts which can be explained by returns from the S&P 100). A low R-Squared indicates that only a small portion of the returns for the Merkin BLMIS Accounts can be explained by the returns of the S&P 100.

Schedule 12: Regression Diagnostics

The Merkin BLMIS Accounts earned returns unaccounted for by index movements with implausible certainty

Period	Equity Alpha	Option Alpha	Total Alpha	Total T-Alpha	Total R-Squared	Number of Baskets
12/1991 - 12/1995	2.16%	2.61%	4.77%	2.97	32.5%	8
12/1991 - 4/2001	1.81%	1.35%	3.15%	9.67	31.7%	43
12/1991 - 8/2005	1.64%	1.04%	2.67%	11.25	30.8%	67
12/1991 - 11/2008	1.70%	0.99%	2.69%	13.42	28.7%	83

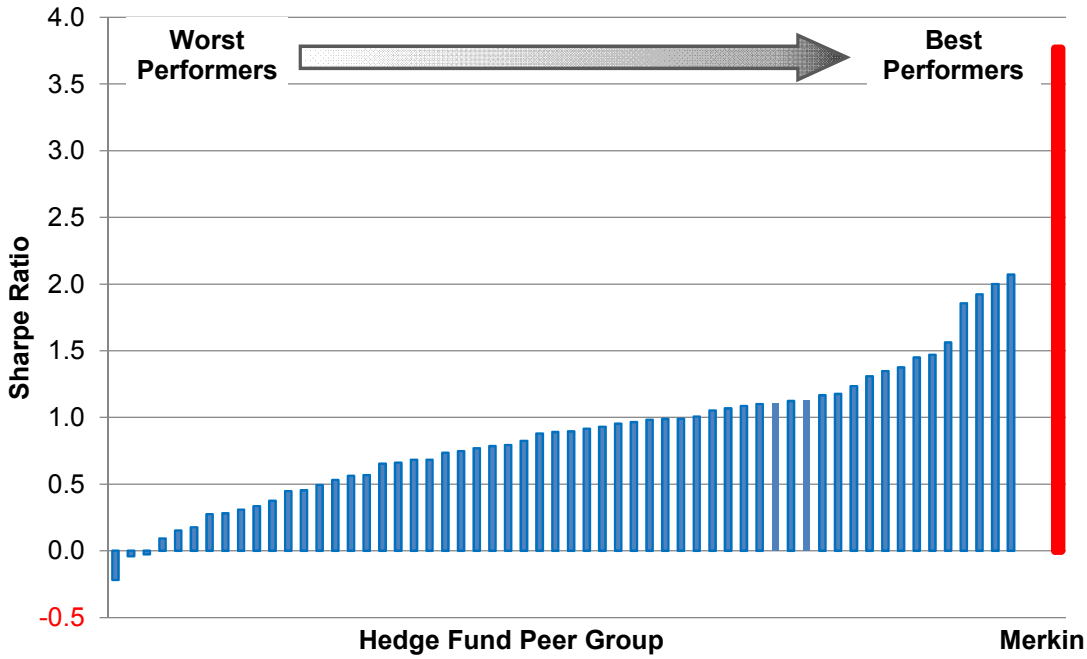
Regression Characteristics of Basket Trades

- The chart shows that the results of a regression of the basket returns for the Merkin BLMIS Accounts against the S&P 100 returns.
- Each regression begins in December 1991, when the Madoff SSC switched to basket trades, and ends in the month indicated.
- On average, basket trades earned 2.69% above what can be explained by S&P 100 movements.
- The alpha in the chart represents the return to the Merkin BLMIS Accounts which is greater than the return from the S&P 100. The alpha indicates that the Merkin BLMIS Accounts return 2.69% above any returns explained by the S&P 100.
- T-Alpha represents the t-statistic for the alpha of the regression. A high t-alpha statistic (13.42 in this case) indicates that the alpha of the regression is significant and statistically different from zero. In fact, the average return for basket trades is 2.69% with a t-stat of 13.42.
- R-Squared represents the square of the degree of correlation between the return of the Merkin BLMIS Accounts and return of the S&P 100 (i.e., the proportion of the returns for the Merkin BLMIS Accounts which can be explained by returns from the S&P 100). A low R-Squared indicates that only a small portion of the Merkin's BLMIS returns can be explained by the returns of the S&P 100.

Appendix VII: Hedge Fund Peer Group Schedules

Schedule 13: 10-Year Sharpe Ratio (Jan 1991 – Dec 2000)

Merkin's Sharpe Ratio far exceeds the Sharpe Ratio of any other fund in the Hedge Fund Peer Group for the period 1991-2000

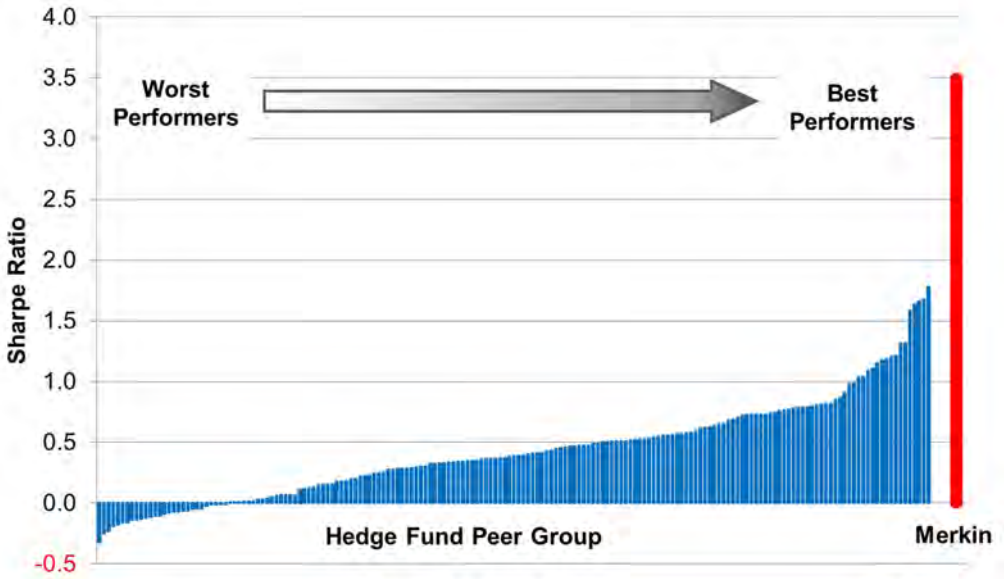


Hedge Fund Peer Group v. Merkin BLMIS Accounts
10 Year Sharpe Ratio (January 1991 – December 2000)

- The chart shows the Sharpe Ratio for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from lowest to highest.
- The Sharpe Ratio measures the amount of return per unit of risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns. A *higher* Sharpe Ratio indicates that the investment is generating *more* return for *less* risk. Sharpe Ratio is a common statistic used to compare performance between two or more funds.
- The Hedge Fund Peer Group was selected from BarclayHedge database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- 1991-2000 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds.

Schedule 14: 10-Year Sharpe Ratio (Jan 1999 – Nov 2008)

Merkin's Sharpe Ratio far exceeds the Sharpe Ratio of any other fund in the Hedge Fund Peer Group for the period 1999-2008

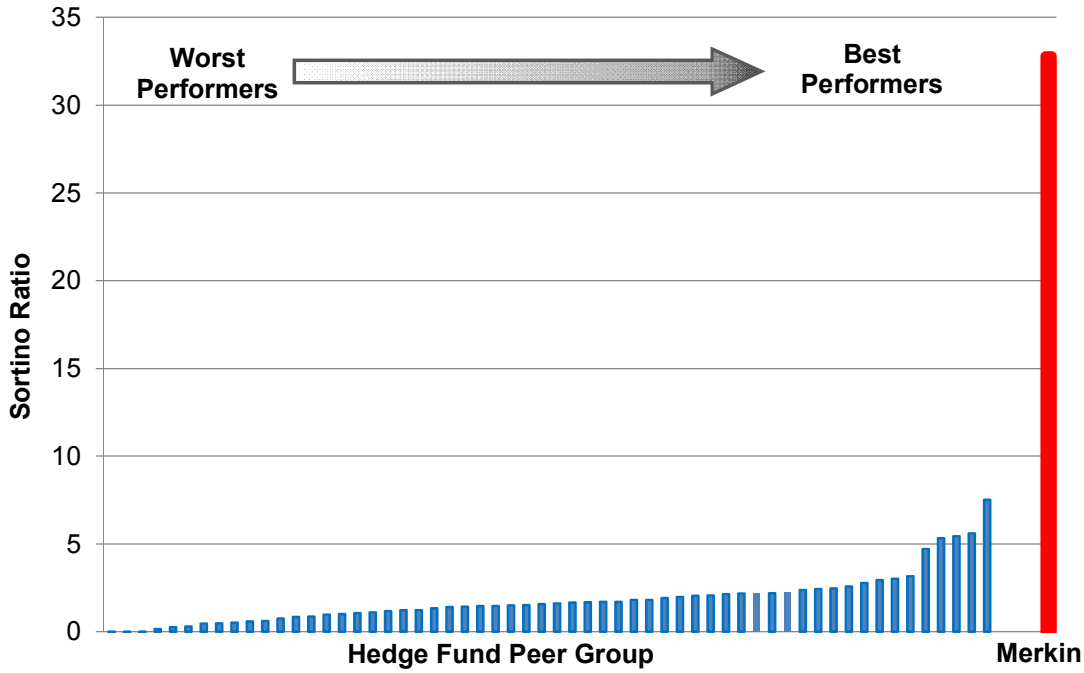


Hedge Fund Peer Group v. Merkin BLMIS Accounts
10 Year Sharpe Ratio (January 1999 – November 2008)

- The chart shows the Sharpe Ratio for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from lowest to highest.
- The Sharpe Ratio measures the amount of return per unit of risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns. A *higher* Sharpe Ratio indicates that the investment is generating *more* return for *less* risk. Sharpe Ratio is a common statistic used to compare performance between two or more funds.
- The Hedge Fund Peer Group was selected from BarclayHedge database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- The 1999-2008 Hedge Fund Peer Group includes 179 funds.

Schedule 15: 10-Year Sortino Ratio (Jan 1991 – Dec 2000)

Merkin's Sortino Ratio exceeds the Sortino Ratios of any other fund in the Hedge Fund Peer Group for the period 1991-2000

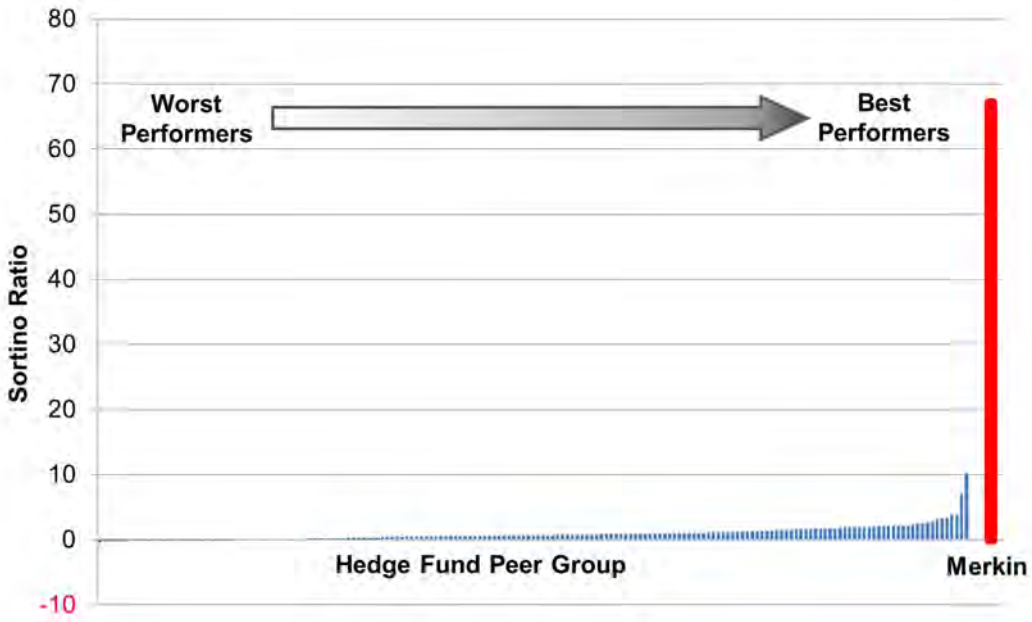


Hedge Fund Peer Group v. Merkin BLMIS Accounts
10 Year Sortino Ratio (January 1991 – December 2000)

- The chart shows the Sortino Ratio for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from lowest to highest.
- The Sortino Ratio measures the amount of return per unit of downside risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns (where each return greater than 0 is set to 0). A *higher* Sortino Ratio indicates that the investment is generating *more* return for *less* risk. Sortino Ratio is a common statistic used to compare performance between two or more funds.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- 1991-2000 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds.

Schedule 16: 10-Year Sortino Ratio (Jan 1999 – Nov 2008)

Merkin's Sortino Ratio far exceeds the Sortino Ratios of any other fund in the Hedge Fund Peer Group for the period 1999-2008

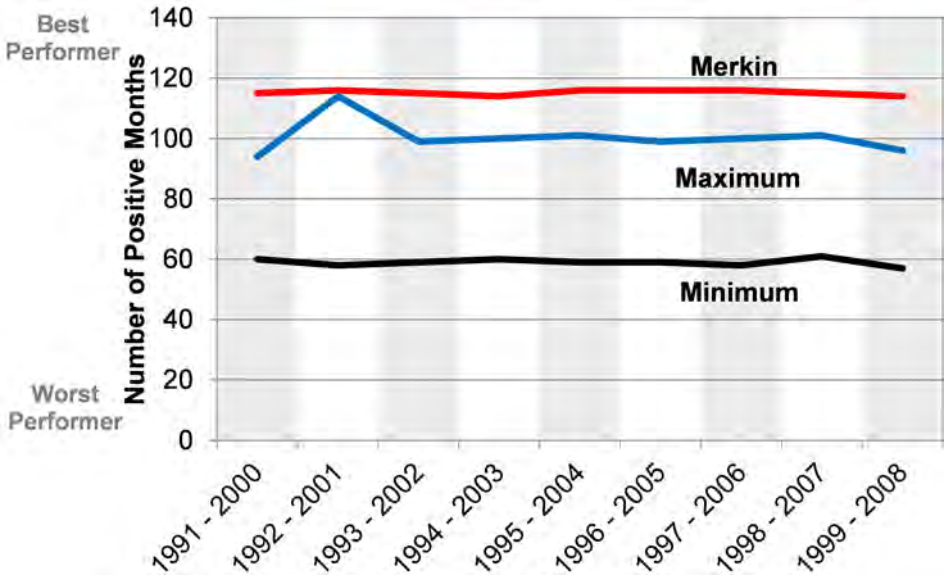


Hedge Fund Peer Group v. Merkin BLMIS Accounts
10 Year Sortino Ratio (January 1999 – November 2008)

- The chart shows the Sortino Ratio for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from lowest to highest.
- The Sortino Ratio measures the amount of return per unit of downside risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns (where each return greater than 0 is set to 0). A *higher* Sortino Ratio indicates that the investment is generating *more* return for *less* risk. Sortino Ratio is a common statistic used to compare performance between two or more funds.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- The 1999-2008 Hedge Fund Peer Group includes 179 funds.

Schedule 17: Number of Months with Positive Returns (Rolling 10-Year Periods)

Merkin had more months with positive returns than any other fund in the Hedge Fund Peer Group for any rolling period

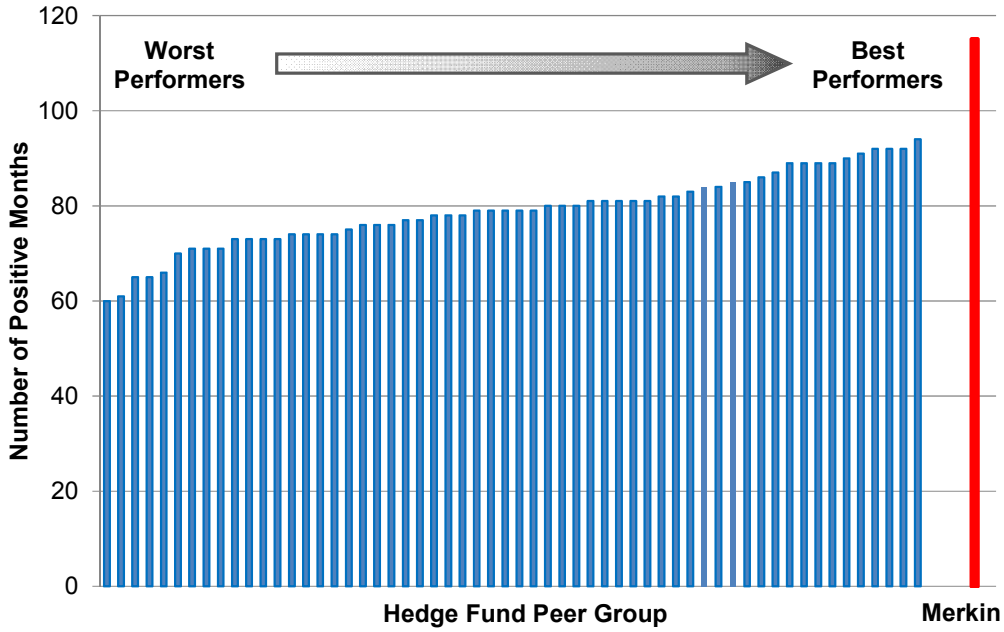


Hedge Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Positive Returns
Rolling 10-Year Periods Ending 2000-2008

- The chart shows the number of months with positive returns for the Merkin BLMIS Accounts and the maximum and minimum number for the Hedge Fund Peer Group for each rolling period.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- 1991-2000 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds.

Schedule 18: Number of Months with Positive Returns (Jan 1991 – Dec 2000)

Merkin had more months with positive returns than any other fund in the Hedge Fund Peer Group for the period 1991–2000

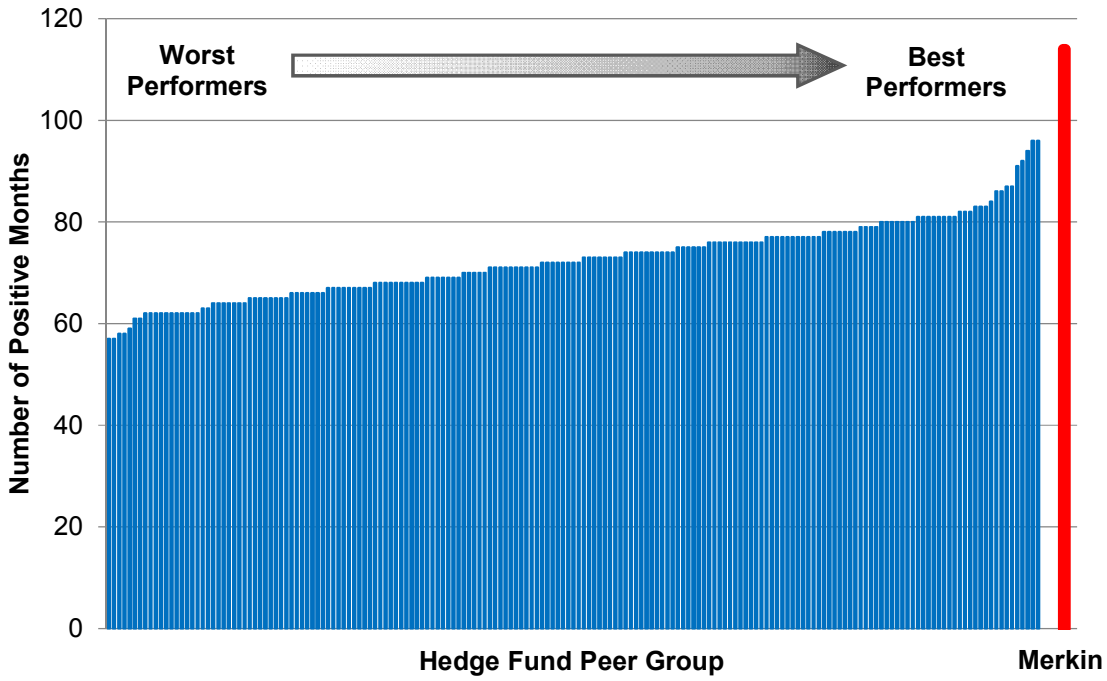


Hedge Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Positive Returns Over a 10 Year Period
(January 1991 – December 2000, 120 months)

- The chart shows the number of months with positive returns for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from lowest to highest.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- 1991-2000 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds.

Schedule 19:
Number of Months with Positive Returns (Jan 1999 – Nov 2008)

Merkin had more months with positive returns than any other fund in the Hedge Fund Peer Group for the period 1999–2008

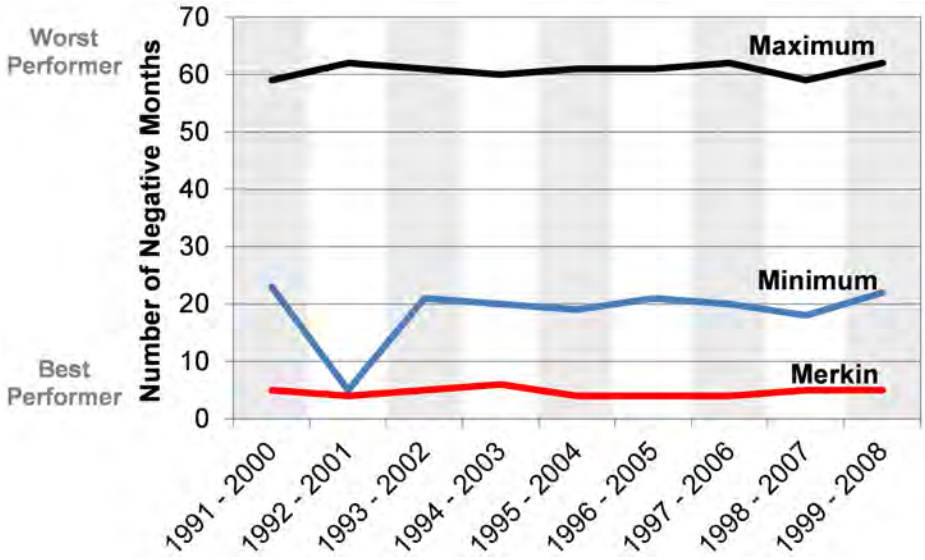


Hedge Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Positive Returns Over a 10 Year Period
(January 1999 – November 2008, 119 months)

- The chart shows the number of months with positive returns for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from lowest to highest.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- The 1999-2008 Hedge Fund Peer Group includes 179 funds.

Schedule 20: Number of Months with Negative Returns (Rolling 10-Year Periods)

Merkin had fewer months with negative returns than any other fund in the Hedge Fund Peer Group for any rolling period

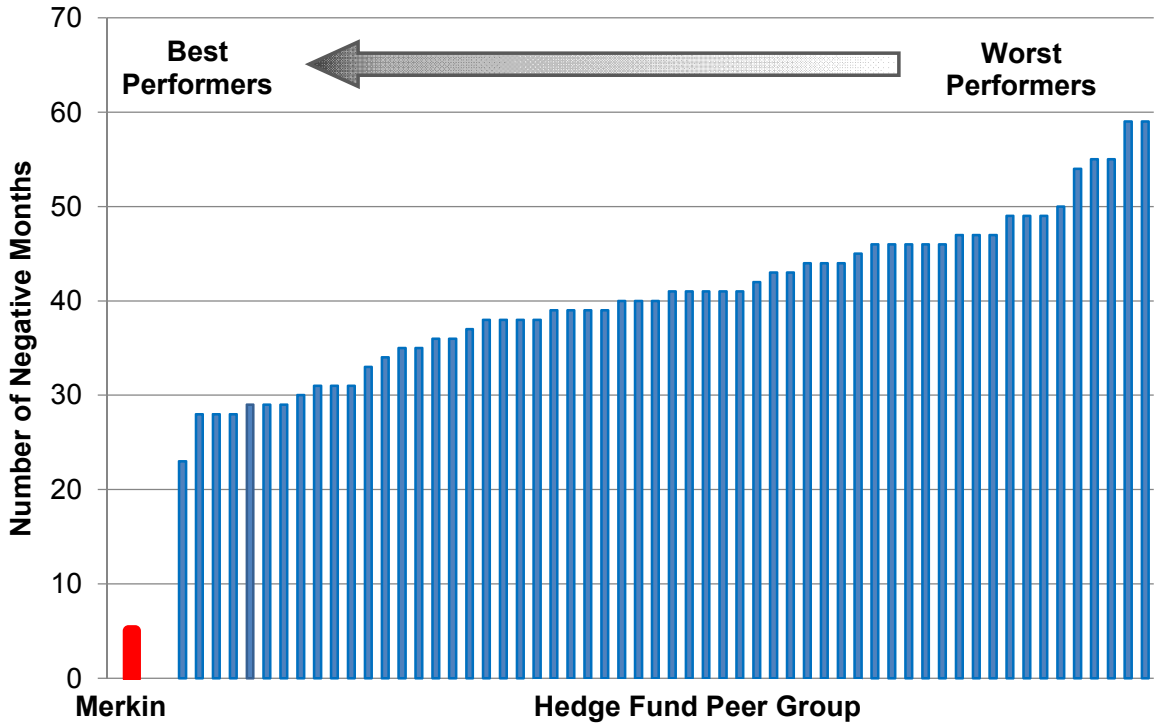


Hedge Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Negative Returns
Rolling 10-Year Periods Ending 2000-2008

- The chart shows the number of months with negative returns for the Merkin BLMIS Accounts and the maximum and minimum number for the Hedge Fund Peer Group for each rolling period.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- 1991-2000 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds.

Schedule 21: Number of Months with Negative Returns (Jan 1991 – Dec 2000)

Merkin had fewer months with negative returns than any other fund in the Hedge Fund Peer Group for the period 1991–2000

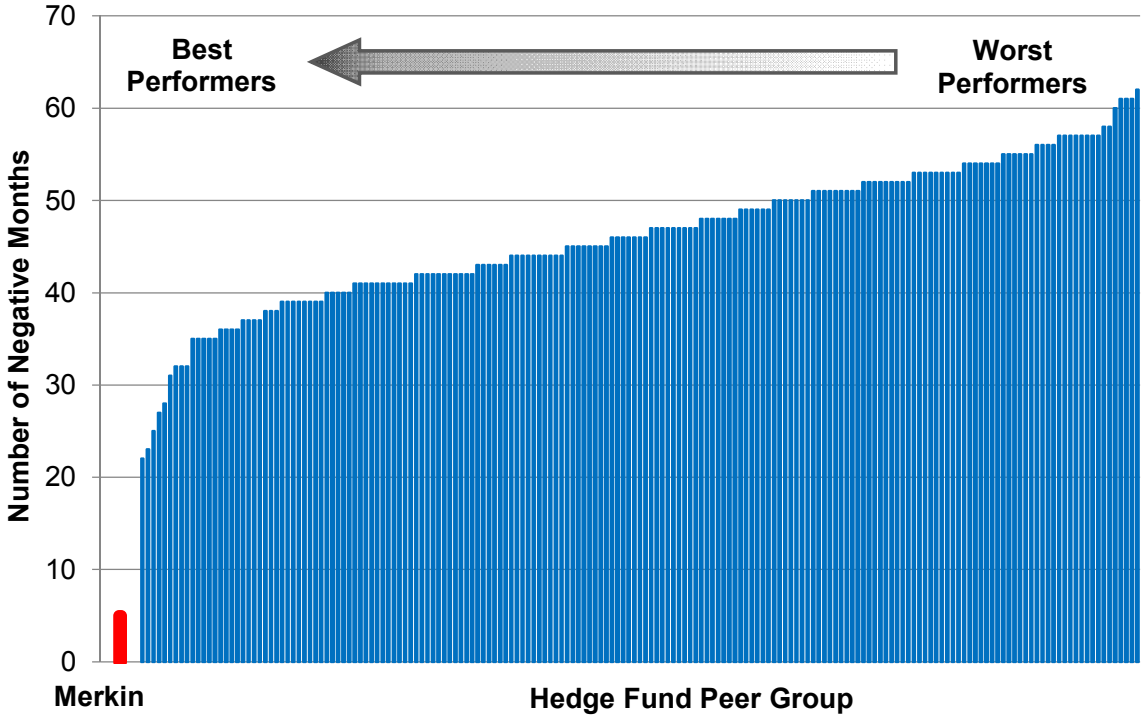


Hedge Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Negative Returns Over a 10 Year Period
(January 1991 – December 2000, 120 months)

- The chart shows the number of months with negative returns for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from lowest to highest.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- 1991-2000 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds.

Schedule 22: Number of Months with Negative Returns (Jan 1999 – Nov 2008)

Merkin had fewer months with negative returns than any other fund in the Hedge Fund Peer Group for the period 1999–2008

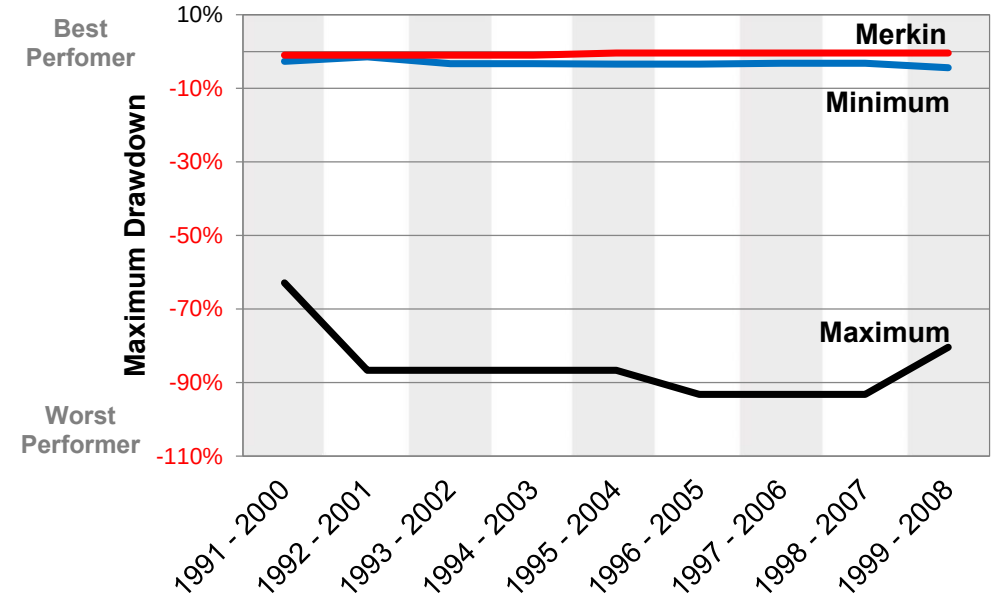


Hedge Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Negative Returns Over a 10 Year Period
(January 1999 – November 2008, 119 months)

- The chart shows the number of months with negative returns for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from lowest to highest.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- The 1999-2008 Hedge Fund Peer Group includes 179 funds.

Schedule 23:
Maximum Drawdown (Rolling 10-Year Periods)

Merkin had a smaller maximum drawdown than any other fund in the Hedge Fund Peer Group for any rolling period



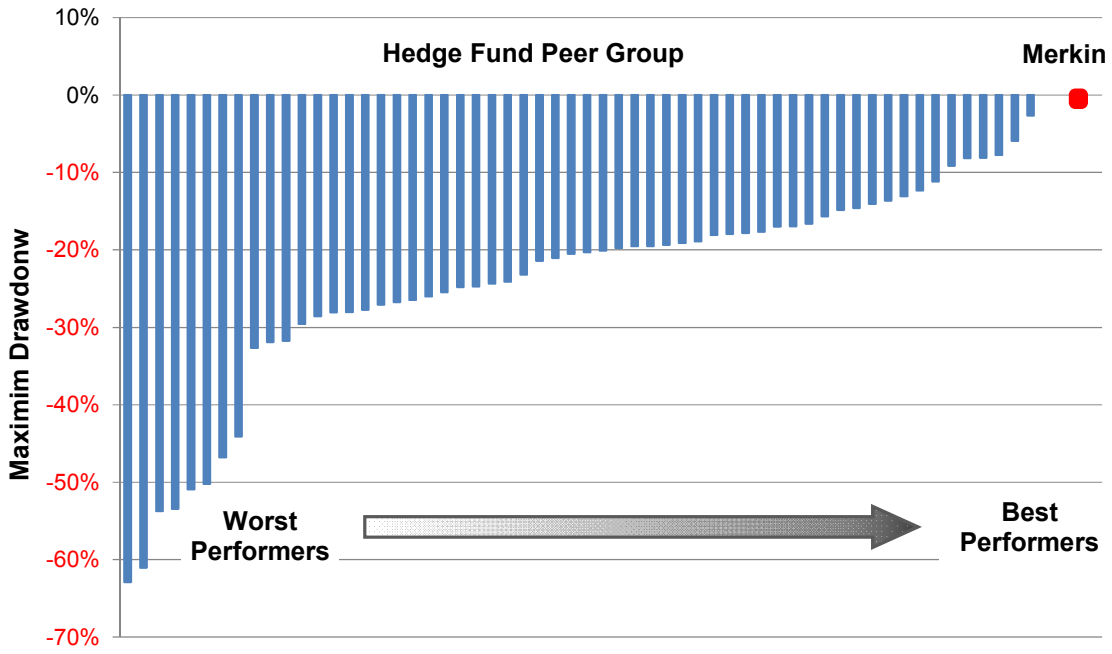
Notes: 2000 is the first year in which there is sufficient data available for a 10 year period. 2008 data is through November 2008; The rolling 10-year period ending December 31, 2001, includes American Masters Broad Market Fund, L.P., which is a fund that invested in House 17.

Hedge Fund Peer Group v. Merkin BLMIS Accounts
Maximum Drawdown
Rolling 10-Year Periods Ending 2000-2008

- The chart shows the maximum drawdown for the Merkin BLMIS Accounts and the minimum (best) and maximum (worst) maximum drawdown for the Hedge Fund Peer Group for each rolling period.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. The maximum drawdown is the largest drop between peak to trough in the period.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- 1991-2000 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds.

Schedule 24: Maximum Drawdown (Jan 1991 – Dec 2000)

Merkin had a smaller maximum drawdown than any other fund in the Hedge Fund Peer Group for the period 1991–2000

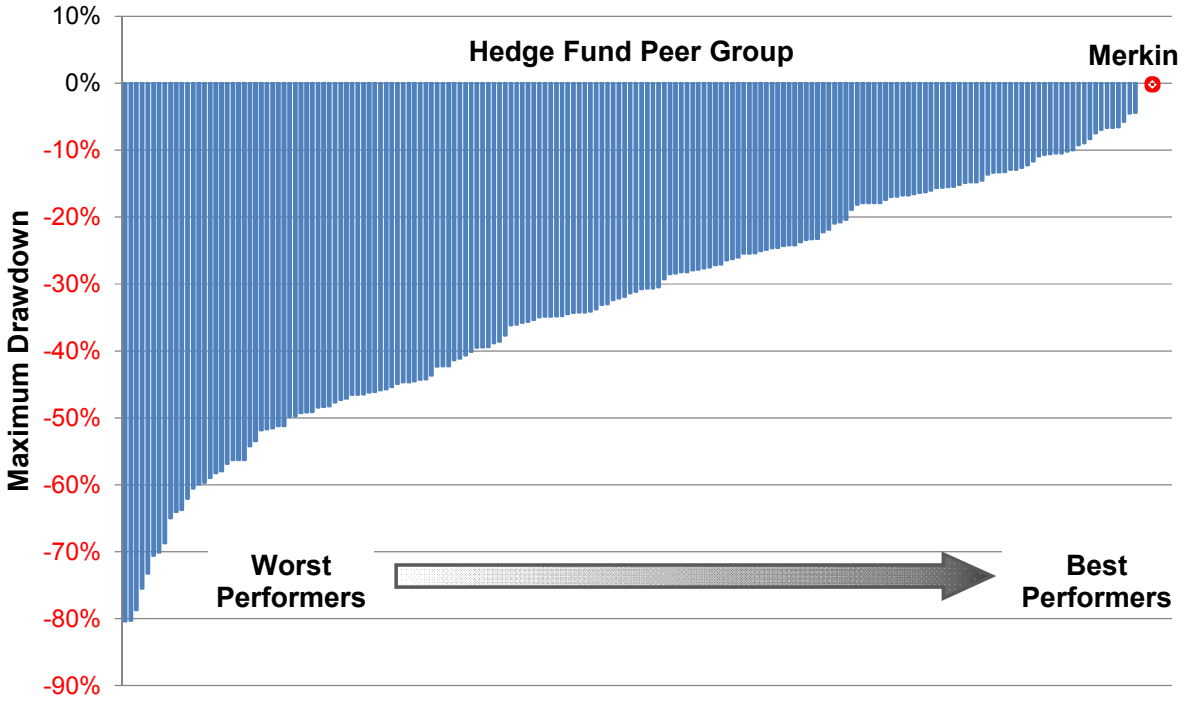


Hedge Fund Peer Group v. Merkin BLMIS Accounts
Maximum Drawdown Over a 10 Year Period
(January 1991 – December 2000)

- The chart shows the maximum drawdown for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from largest to smallest.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. The maximum drawdown is the largest drop between peak to trough in the period.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- 1991-2000 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds.

Schedule 25: Maximum Drawdown (Jan 1999 – Nov 2008)

Merkin had a smaller maximum drawdown than any other fund in the Hedge Fund Peer Group for the period 1999–2008

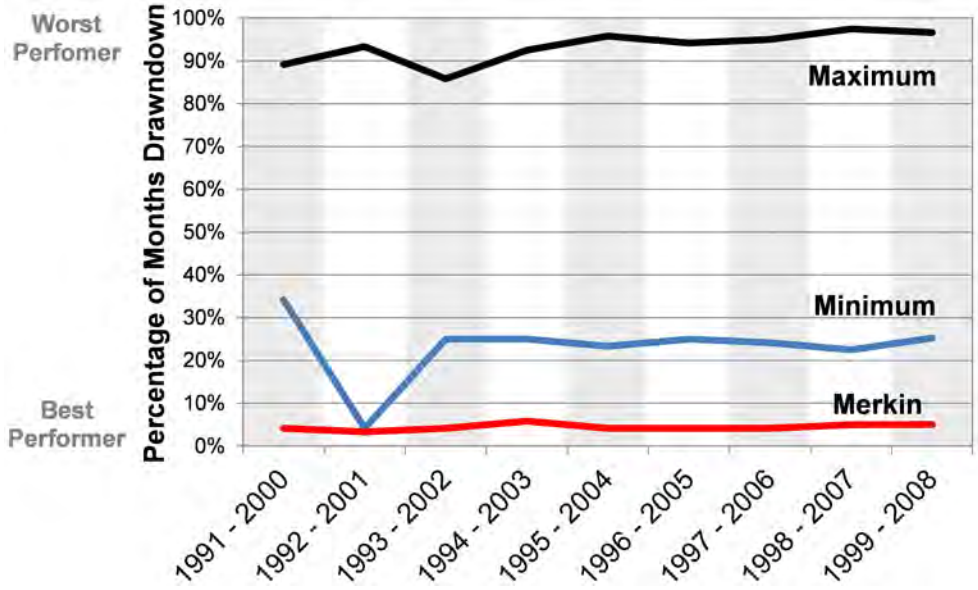


Hedge Fund Peer Group v. Merkin BLMIS Accounts
Maximum Drawdown Over a 10 Year Period
(January 1999 – November 2008)

- The chart shows the maximum drawdown for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from largest to smallest.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. The maximum drawdown is the largest drop between peak to trough in the period.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- The 1999-2008 Hedge Fund Peer Group includes 179 funds.

Schedule 26: Percent of Months in Drawdown (Rolling 10-Year Periods)

Merkin had fewer months in drawdown than any other fund in the Hedge Fund Peer Group for any rolling period

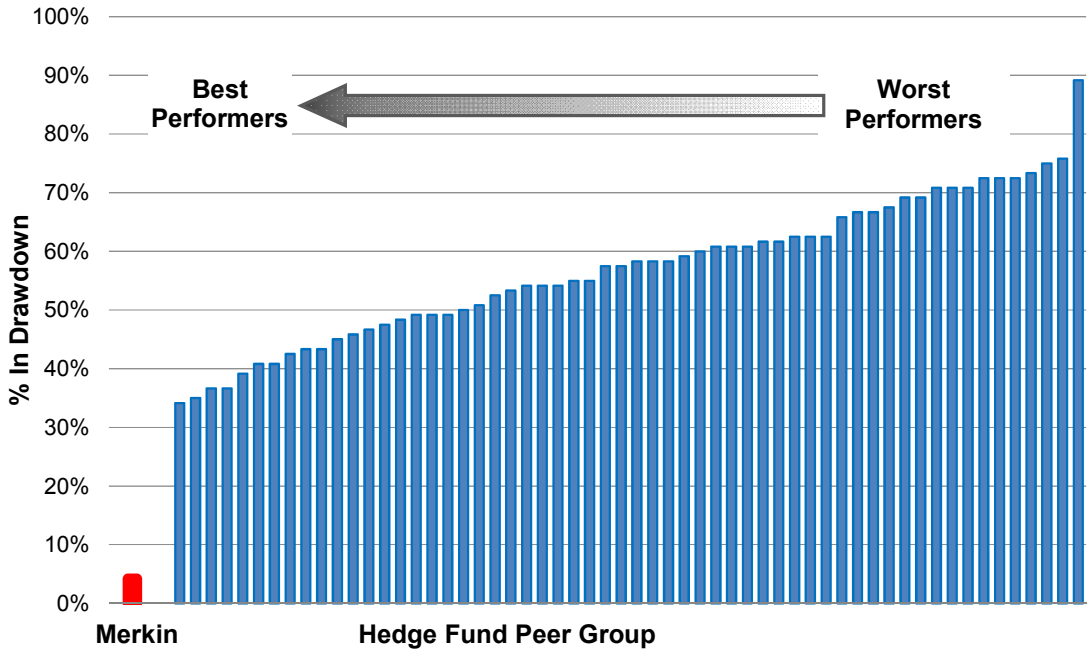


Hedge Fund Peer Group v. Merkin BLMIS Accounts
Percent of Months in Drawdown
Rolling 10-Year Periods Ending 2000-2008

- The chart shows the percent of months in drawdown for the Merkin BLMIS Accounts and the maximum and minimum for the Hedge Fund Peer Group for each rolling period.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Percent in drawdown is the percentage of months in which the current portfolio is below the previous high.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- 1991-2000 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds.

Schedule 27: Percent of Months in Drawdown (Jan 1991 – Dec 2000)

Merkin had fewer months in drawdown than any other fund in the Hedge Fund Peer Group for the period 1991–2000

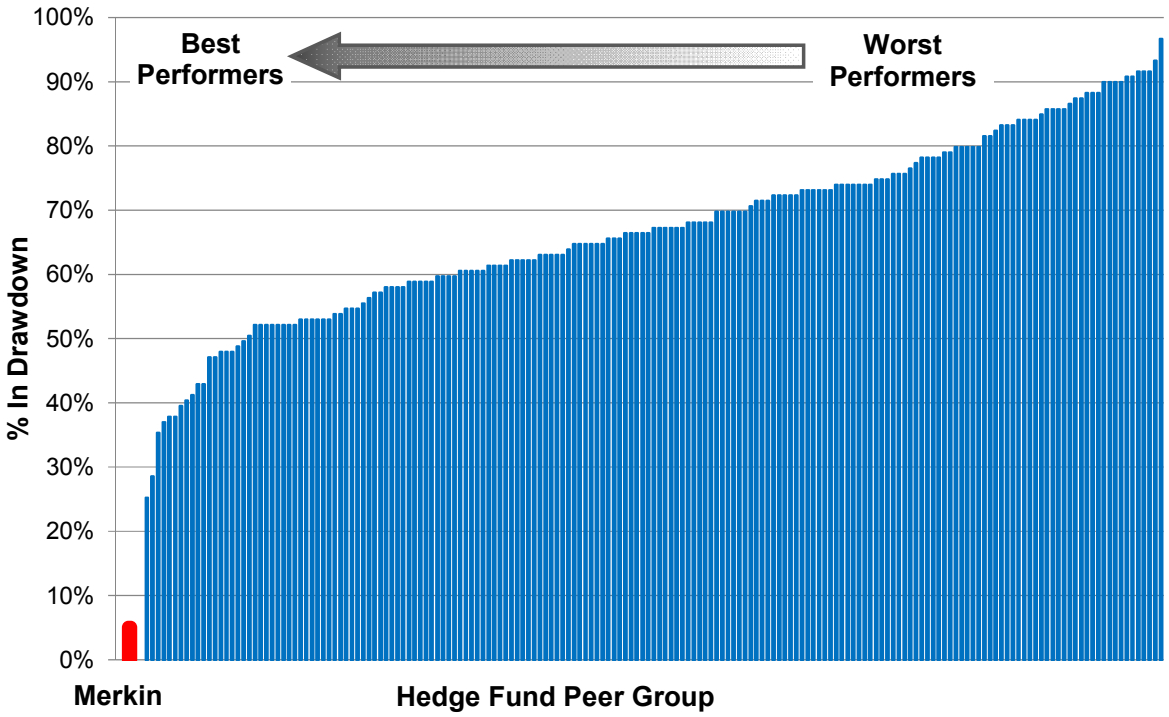


Hedge Fund Peer Group v. Merkin BLMIS Accounts
Percent of Months in Drawdown Over a 10 Year Period
(January 1991 – December 2000)

- The chart shows the percent of months in drawdown for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from lowest to highest.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Percent in drawdown is the percentage of months in which the current portfolio is below the previous high.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- 1991-2000 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 58 funds.

Schedule 28: Percent of Months in Drawdown (Jan 1999 – Nov 2008)

Merkin had fewer months in drawdown than any other fund in the Hedge Fund Peer Group for the period 1999–2008



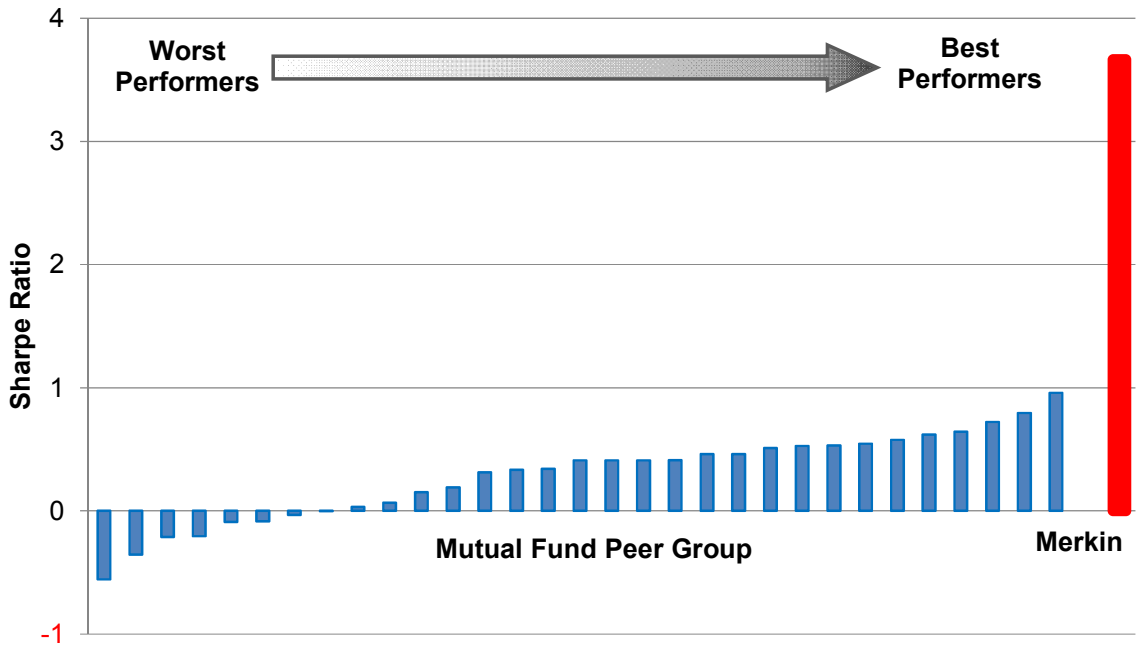
Hedge Fund Peer Group v. Merkin BLMIS Accounts
Percent of Months in Drawdown Over a 10 Year Period
(January 1999 – November 2008)

- The chart shows the percent of months in drawdown for the Merkin BLMIS Accounts and every fund in the Hedge Fund Peer Group sorted from lowest to highest.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Percent in drawdown is the percentage of months in which the current portfolio is below the previous high.
- The Hedge Fund Peer Group was selected from BarclayHedge Hedge Fund database, a leading database used by investment professionals for purposes of analyzing hedge fund performance. I used hedge funds classified by BarclayHedge as: (i) equity market neutral; (ii) equity long/short; and (iii) equity long-bias.
- The 1999-2008 Hedge Fund Peer Group includes 179 funds.

Appendix VIII: Mutual Fund Peer Group Schedules

Schedule 29: 10-Year Sharpe Ratio (Jan 1996 – Dec 2005)

Merkin's Sharpe Ratio far exceeds the Sharpe Ratio of any other fund in the Mutual Fund Peer Group for the period 1996-2005

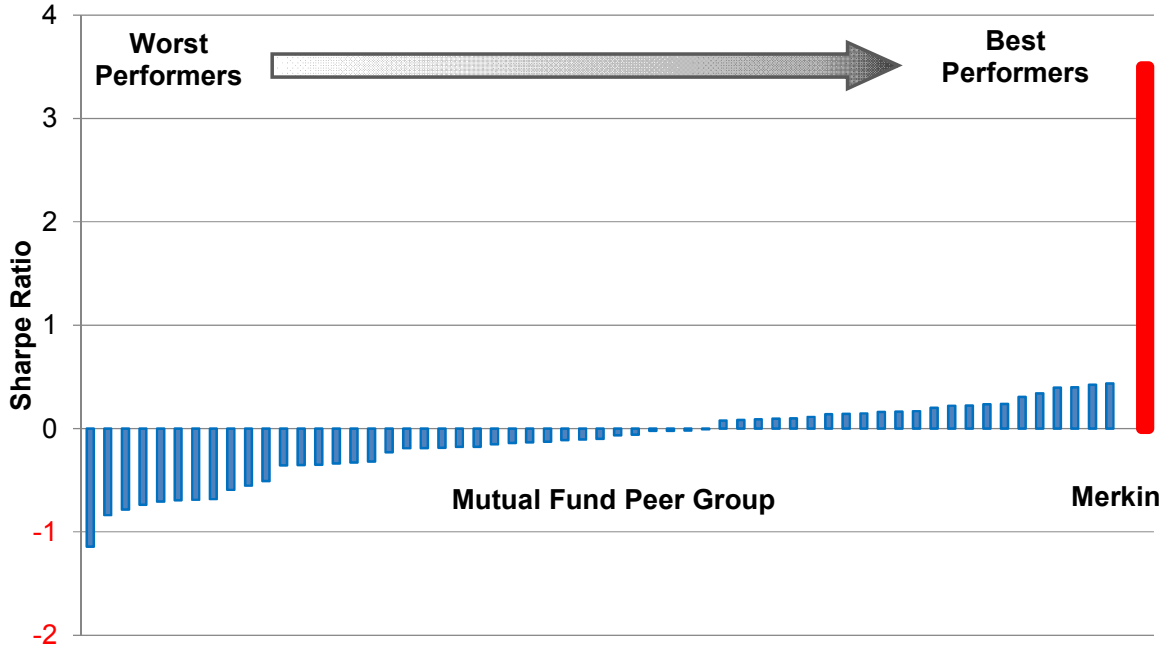


Mutual Fund Peer Group v. Merkin BLMIS Accounts
10 Year Sharpe Ratio (January 1996 – December 2005)

- The chart shows the Sharpe Ratio for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from lowest to highest.
- The Sharpe Ratio measures the amount of return per unit of risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns. A *higher* Sharpe Ratio indicates that the investment is generating *more* return for *less* risk. Sharpe Ratio is a common statistic used to compare performance between two or more funds.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- 1996-2005 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

Schedule 30: 10-Year Sharpe Ratio (Jan 1999 – Nov 2008)

Merkin's Sharpe Ratio far exceeds the Sharpe Ratio of any other fund in the Mutual Fund Peer Group for the period 1999-2008

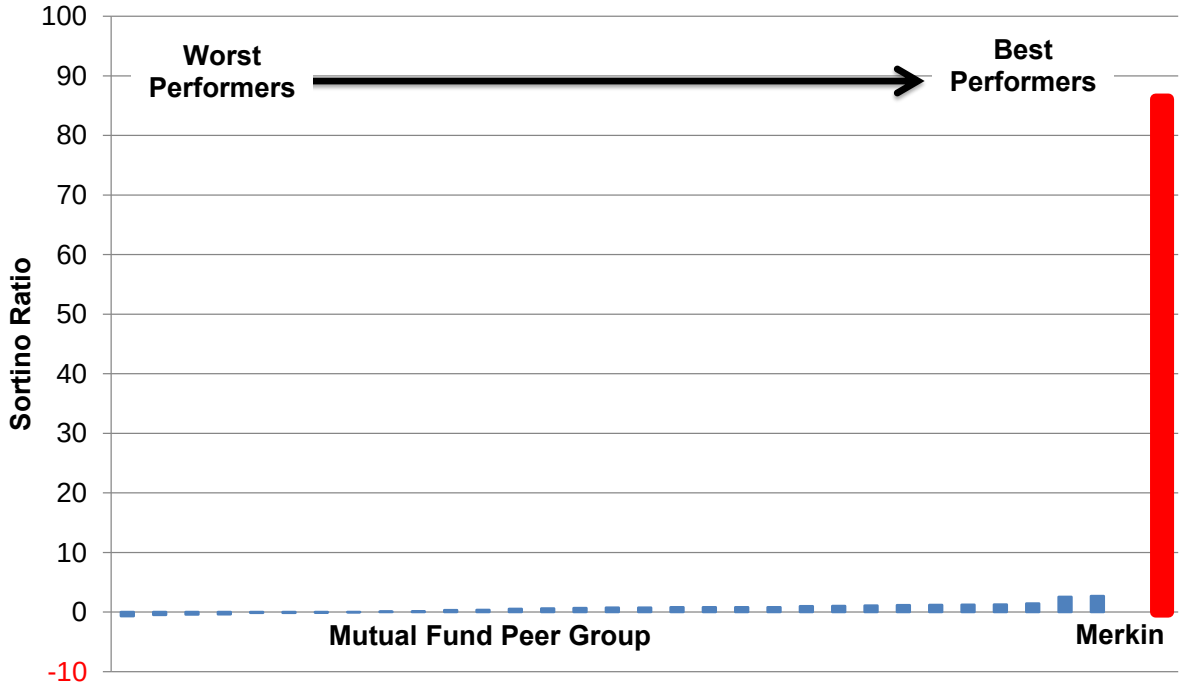


Mutual Fund Peer Group v. Merkin BLMIS Accounts
10 Year Sharpe Ratio (January 1999 – November 2008)

- The chart shows the Sharpe Ratio for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from lowest to highest.
- The Sharpe Ratio measures the amount of return per unit of risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns. A *higher* Sharpe Ratio indicates that the investment is generating *more* return for *less* risk. Sharpe Ratio is a common statistic used to compare performance between two or more funds.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- The 1999-2008 Mutual Fund Peer Group includes 59 funds.

Schedule 31: 10-Year Sortino Ratio (Jan 1996 – Dec 2005)

Merkin's Sortino Ratio far exceeds the Sortino Ratio for any other fund in the Mutual Fund Peer Group for the period 1996-2005

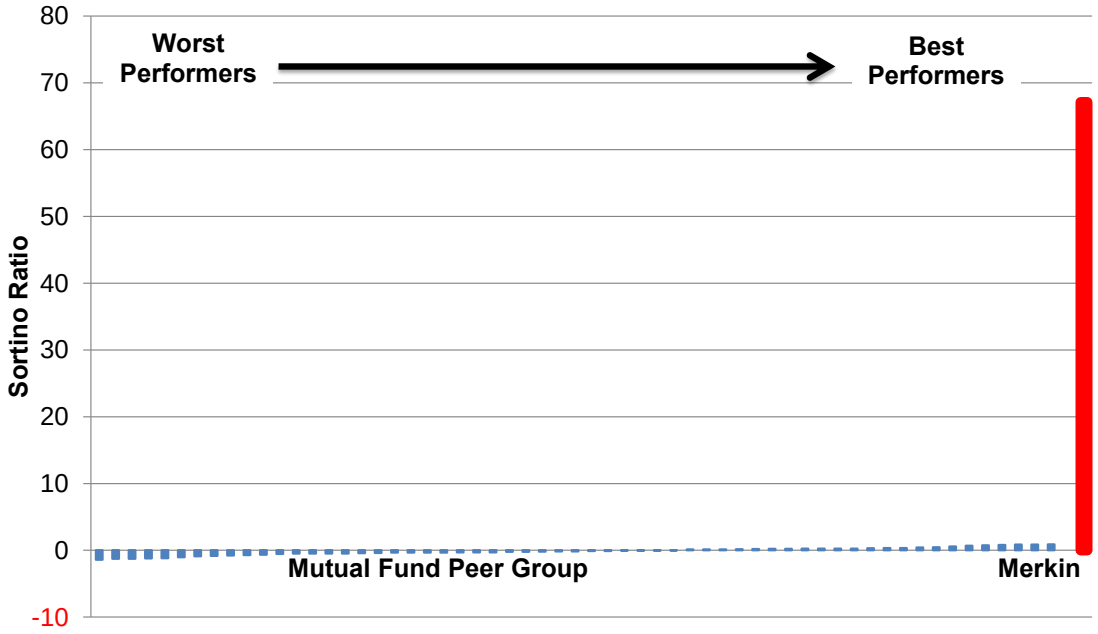


Mutual Fund Peer Group v. Merkin BLMIS Accounts
10 Year Sortino Ratio (January 1996 – December 2005)

- The chart shows the Sortino Ratio for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from lowest to highest.
- The Sortino Ratio measures the amount of return per unit of downside risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns (where each return greater than 0 is set to 0). A *higher* Sortino Ratio indicates that the investment is generating *more* return for *less* risk. Sortino Ratio is a common statistic used to compare performance between two or more funds.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- 1996-2005 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

Schedule 32: 10-Year Sortino Ratio (Jan 1999 – Nov 2008)

Merkin's Sortino Ratio far exceeds the Sortino Ratio for any other fund in the Mutual Fund Peer Group for the period 1999-2008



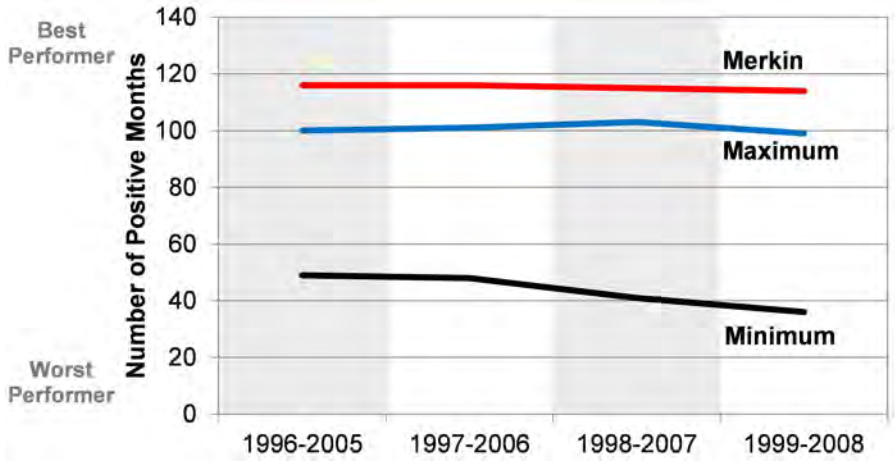
Note: 2008 data is through November 2008.

Mutual Fund Peer Group v. Merkin BLMIS Accounts
10 Year Sortino Ratio (January 1999 – November 2008)

- The chart shows the Sortino Ratio for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from lowest to highest.
- The Sortino Ratio measures the amount of return per unit of downside risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns (where each return greater than 0 is set to 0). A *higher* Sortino Ratio indicates that the investment is generating *more* return for *less* risk. Sortino Ratio is a common statistic used to compare performance between two or more funds.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- The 1999-2008 Mutual Fund Peer Group includes 59 funds.

Schedule 33: Number of Months with Positive Returns (Rolling 10-Year Periods)

Merkin had more months with positive returns than any other fund in the Mutual Fund Peer Group for any rolling period

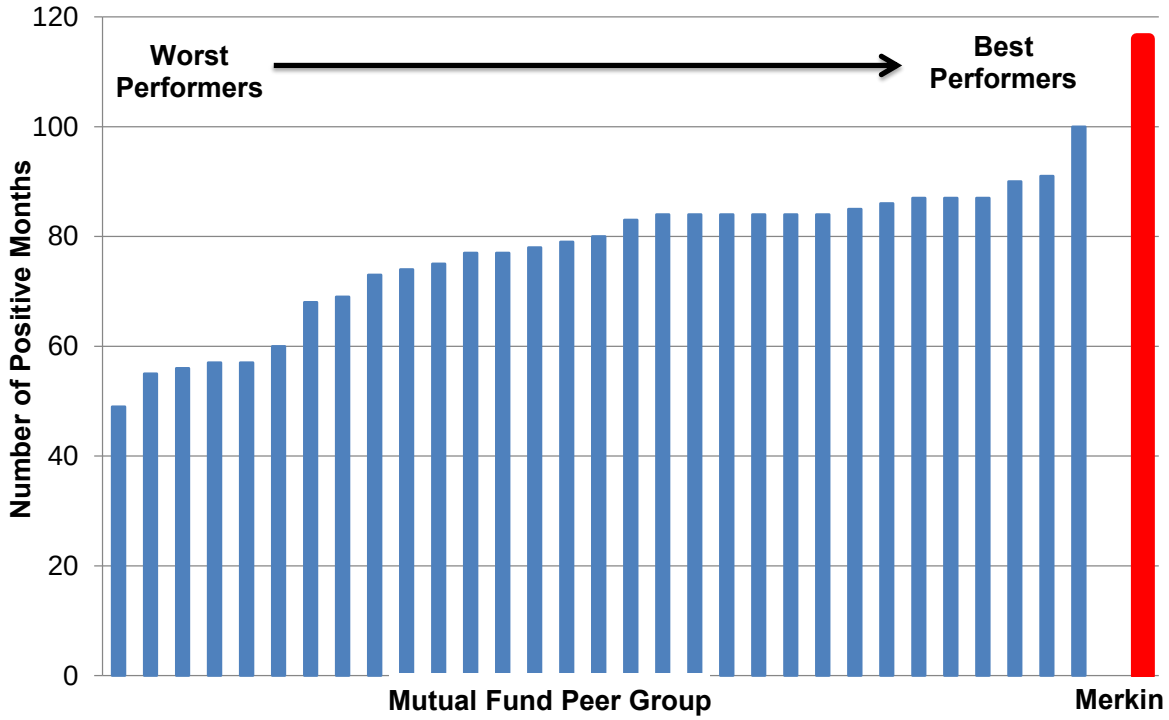


Mutual Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Positive Returns
Rolling 10-Year Periods Ending 2005-2008

- The chart shows the number of months with positive returns for the Merkin BLMIS Accounts and the maximum and minimum number for the Mutual Fund Peer Group for each rolling period.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- 1996-2005 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

Schedule 34: Number of Months with Positive Returns (Jan 1996 – Dec 2005)

Merkin had more months with positive returns than any other fund in the Mutual Fund Peer Group for the period 1996-2005



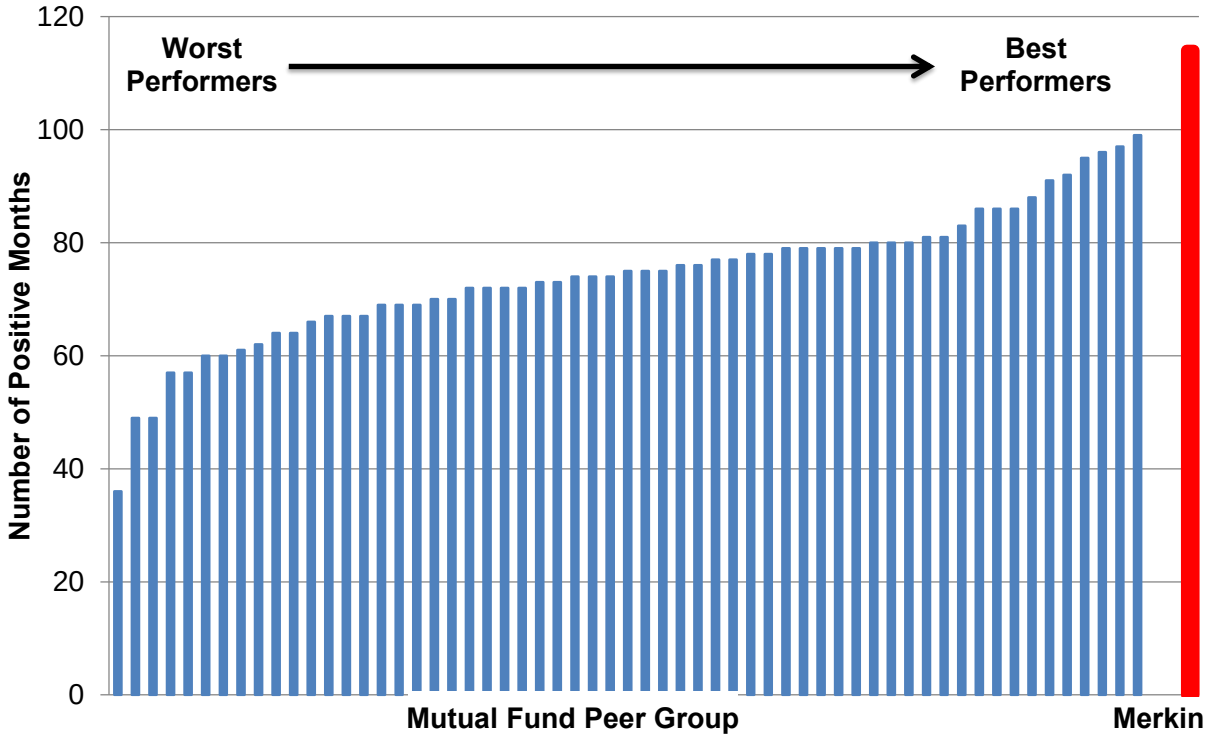
Sources: StorQM Customer Statements (weighted average across Merkin accounts), Morningstar Direct Database

Mutual Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Positive Returns Over a 10 Year Period
(January 1996 – December 2005, 120 months)

- The chart shows the number of months with positive returns for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from lowest to highest.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- 1996-2005 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

Schedule 35: Number of Months with Positive Returns (Jan 1999 – Nov 2008)

Merkin had more months with positive returns than any other fund in the Mutual Fund Peer Group for the period 1999-2008



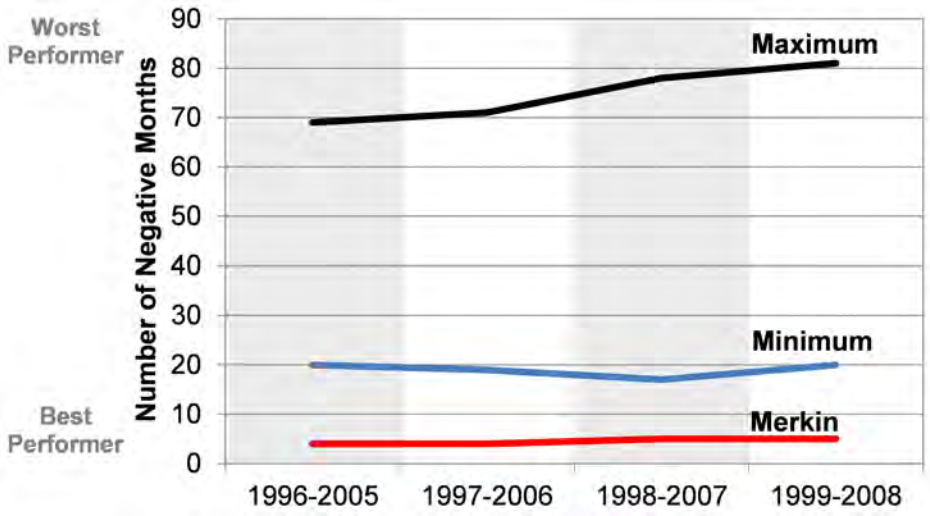
Note: 2008 data is through November 2008.

Mutual Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Positive Returns Over a 10 Year Period
(January 1999 – November 2008, 119 months)

- The chart shows the number of months with positive returns for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from lowest to highest.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- The 1999-2008 Mutual Fund Peer Group includes 59 funds.

Schedule 36: Number of Months with Negative Returns (Rolling 10-Year Periods)

Merkin had fewer months with negative returns than any other fund in the Mutual Fund Peer Group for any rolling period

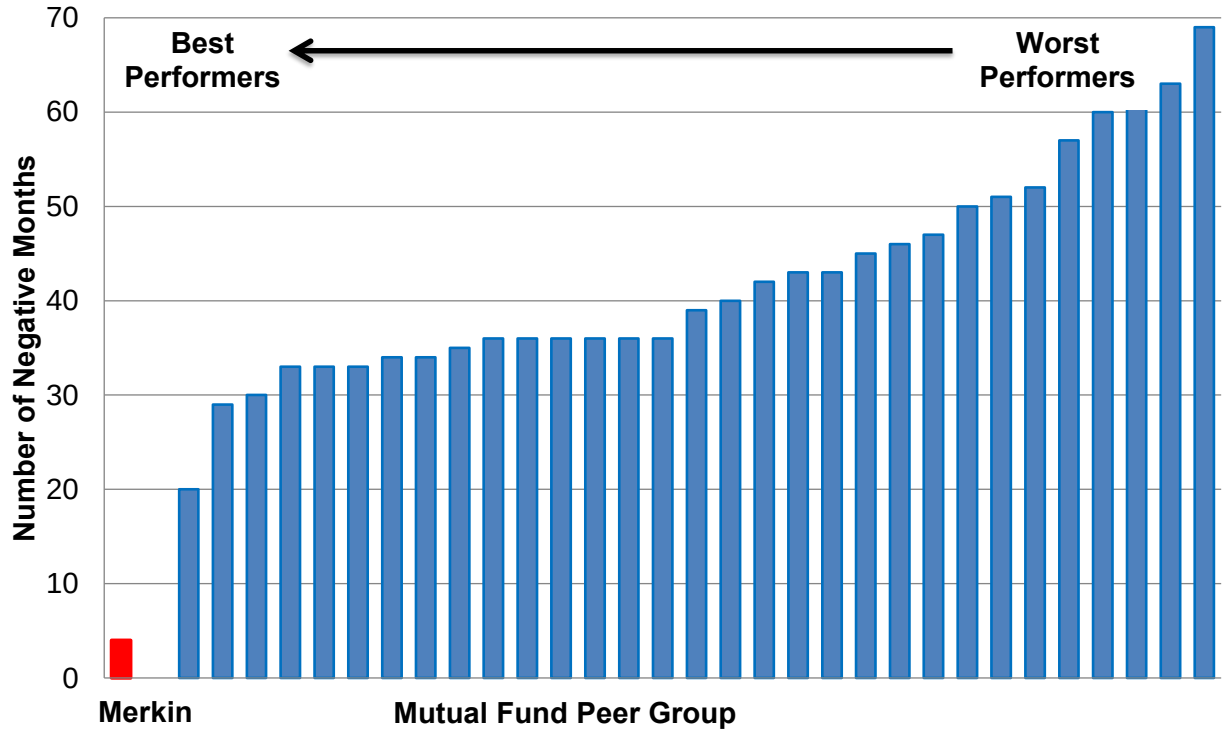


Mutual Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Negative Returns
Rolling 10-Year Periods Ending 2005-2008

- The chart shows the number of months with negative returns for the Merkin BLMIS Accounts and the maximum and minimum number for the Mutual Fund Peer Group for each rolling period.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- 1996-2005 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

Schedule 37: Number of Months with Negative Returns (Jan 1996 – Dec 2005)

Merkin had fewer months with negative returns than any other fund in the Mutual Fund Peer Group for the period 1996–2005



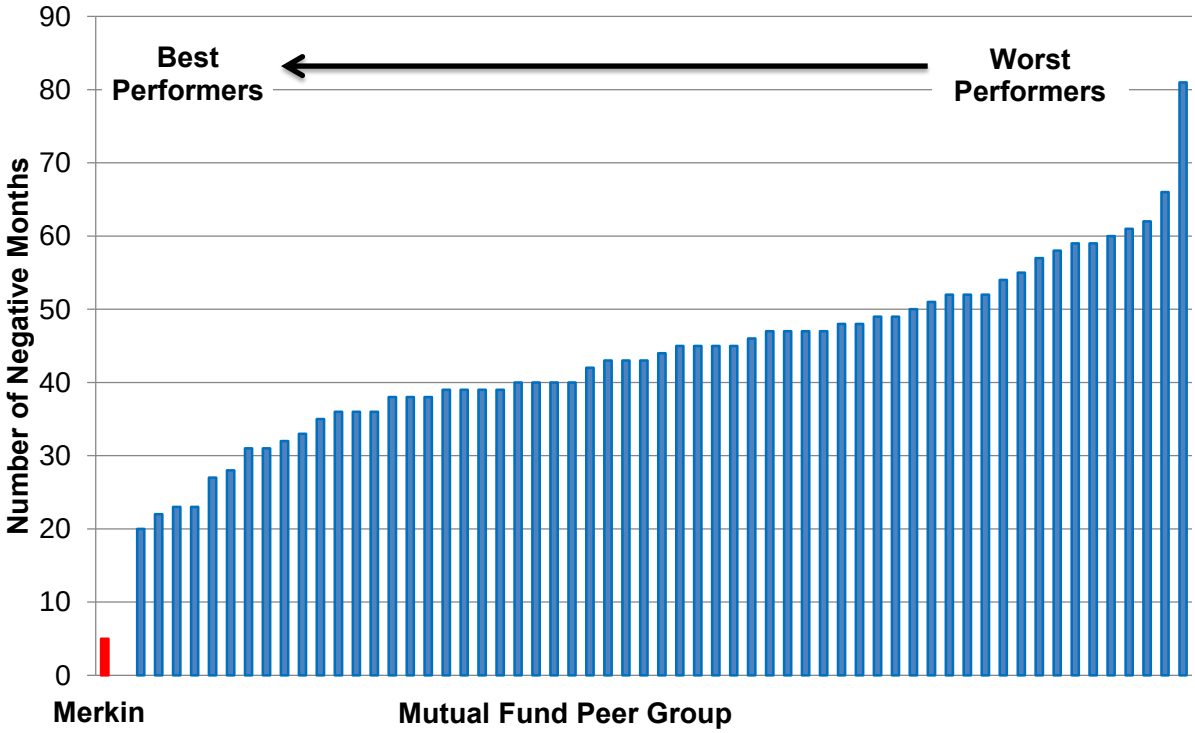
Sources: StorQM Customer Statements (weighted average across Merkin accounts), Morningstar Direct Database

Mutual Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Negative Returns Over a 10 Year Period
(January 1996 – December 2005, 120 months)

- The chart shows the number of months with negative returns for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from lowest to highest.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- 1996-2005 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

Schedule 38: Number of Months with Negative Returns (Jan 1999 – Nov 2008)

Merkin had fewer months with negative returns than any other fund in the Mutual Fund Peer Group for the period 1999–2008



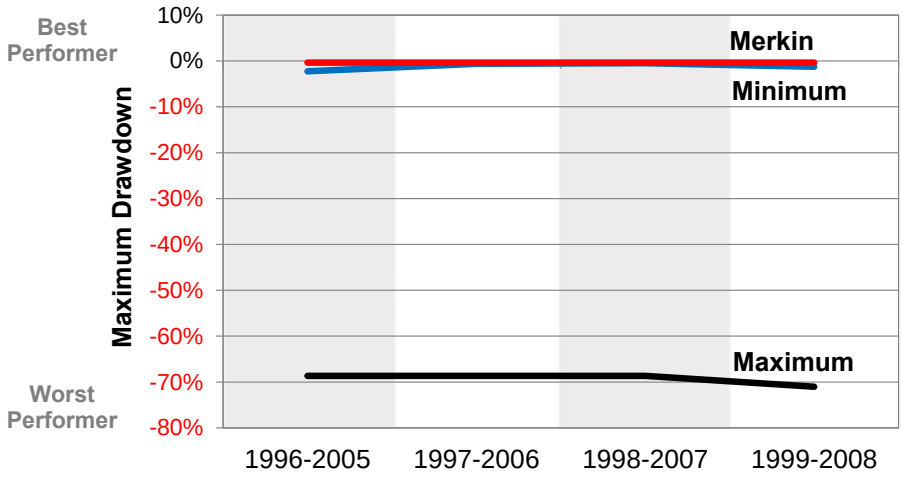
Note: 2008 data is through November 2008.

Mutual Fund Peer Group v. Merkin BLMIS Accounts
Number of Months with Negative Returns Over a 10 Year Period
(January 1999 – November 2008, 119 months)

- The chart shows the number of months with negative returns for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from lowest to highest.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- The 1999-2008 Mutual Fund Peer Group includes 59 funds.

Schedule 39: Maximum Drawdown (Rolling 10-Year Periods)

Merkin had a smaller maximum drawdown than any other fund in the Mutual Fund Peer Group for any rolling period

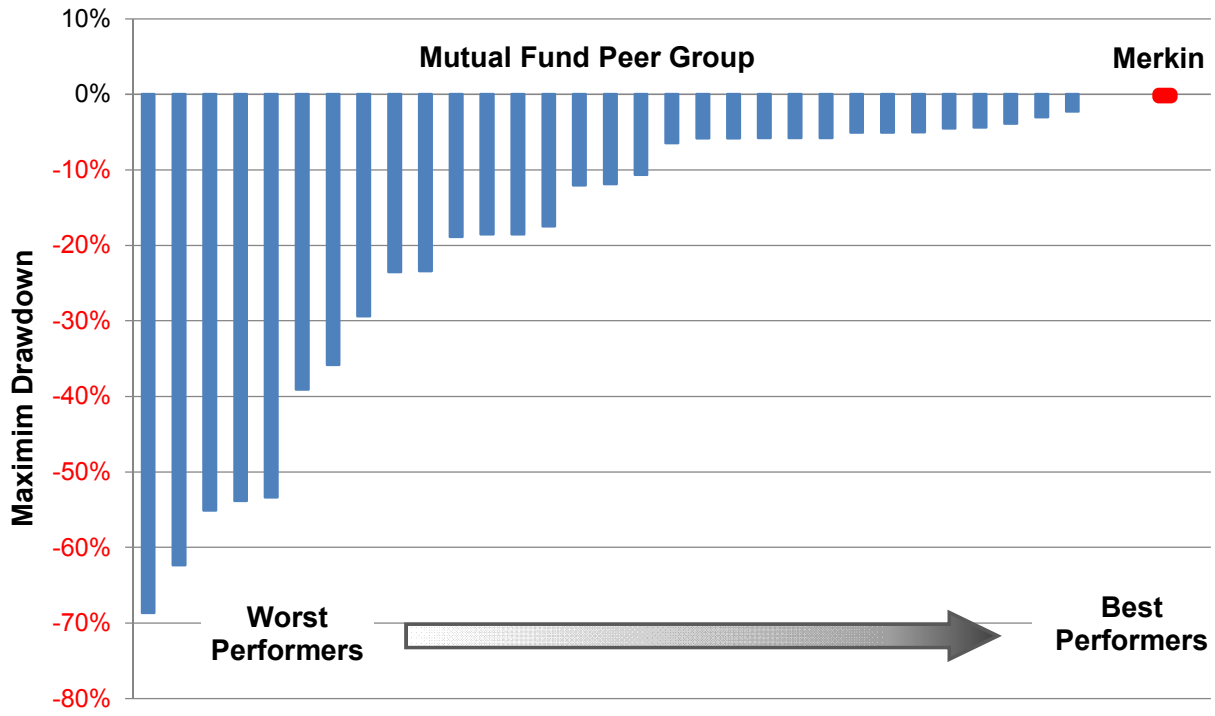


Mutual Fund Peer Group v. Merkin BLMIS Accounts
Maximum Drawdown
Rolling 10-Year Periods Ending 2005-2008

- The chart shows the maximum drawdown for the Merkin BLMIS Accounts and the minimum (best) and maximum (worst) maximum drawdown for the Mutual Fund Peer Group for each rolling period.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. The maximum drawdown is the largest drop between peak to trough in the period.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- 1996-2005 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

Schedule 40: Maximum Drawdown (Jan 1996 – Dec 2005)

Merkin had a smaller maximum drawdown than any other fund in the Mutual Fund Peer Group for the period 1996–2005

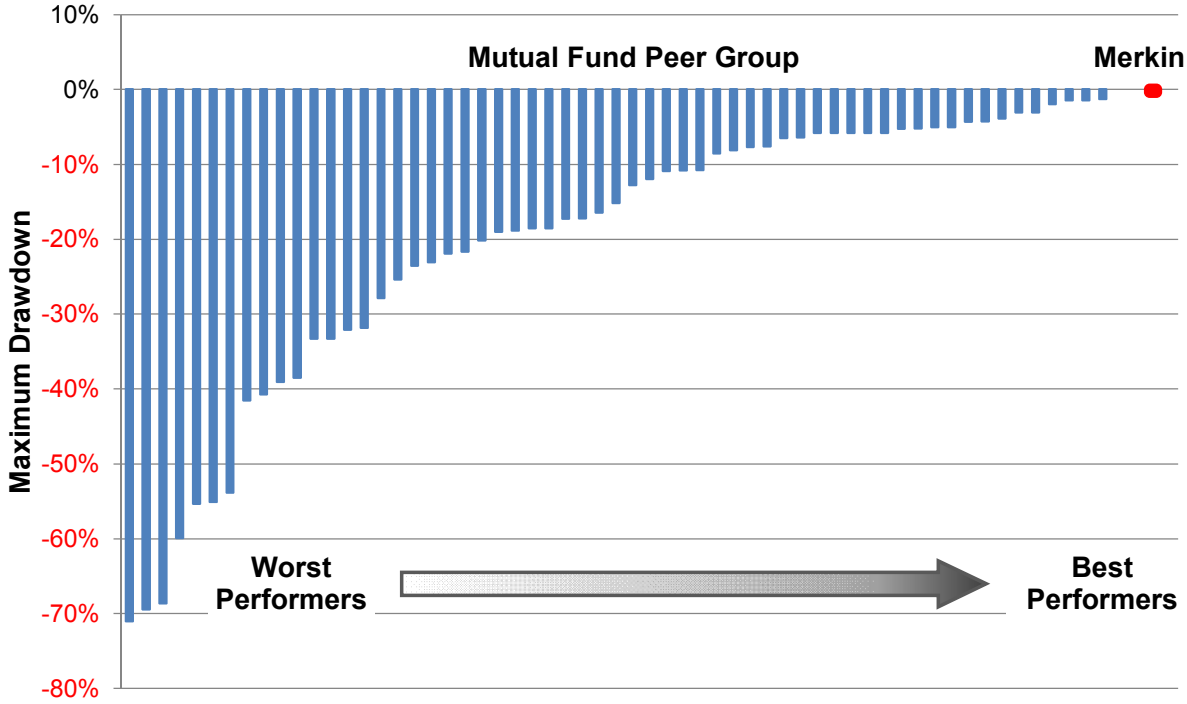


Mutual Fund Peer Group v. Merkin BLMIS Accounts
Maximum Drawdown Over a 10 Year Period
(January 1996 – December 2005)

- The chart shows the maximum drawdown for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from largest to smallest.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. The maximum drawdown is the largest drop between peak to trough in the period.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- 1996-2005 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

Schedule 41: Maximum Drawdown (Jan 1999 – Nov 2008)

Merkin had a smaller maximum drawdown than any other fund in the Mutual Fund Peer Group for the period 1999–2008

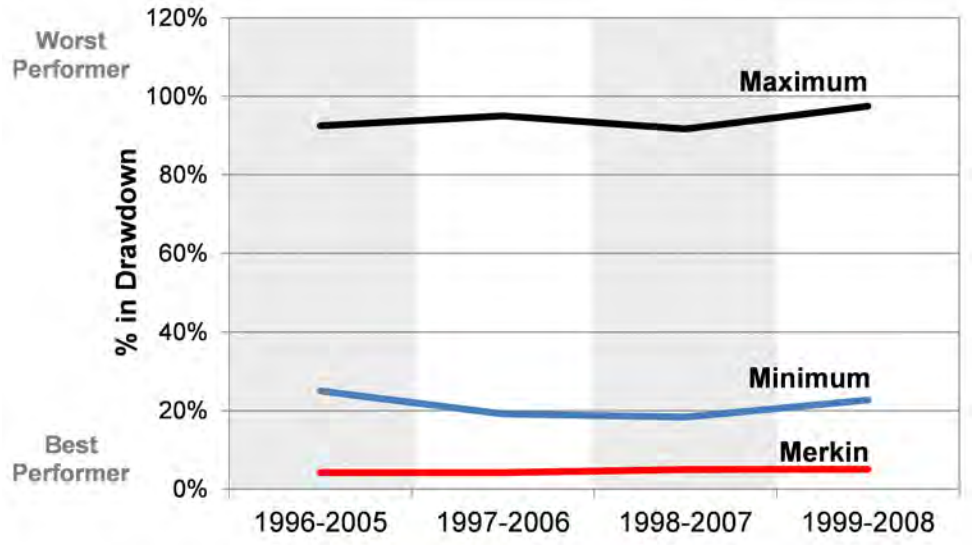


Mutual Fund Peer Group v. Merkin BLMIS Accounts
Maximum Drawdown Over a 10 Year Period
(January 1999 – November 2008)

- The chart shows the maximum drawdown for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from largest to smallest.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. The maximum drawdown is the largest drop between peak to trough in the period.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- The 1999-2008 Mutual Fund Peer Group includes 59 funds.

Schedule 42: Percent of Months in Drawdown (Rolling 10-Year Periods)

Merkin had fewer months in drawdown than any other fund in the Mutual Fund Peer Group for any rolling period

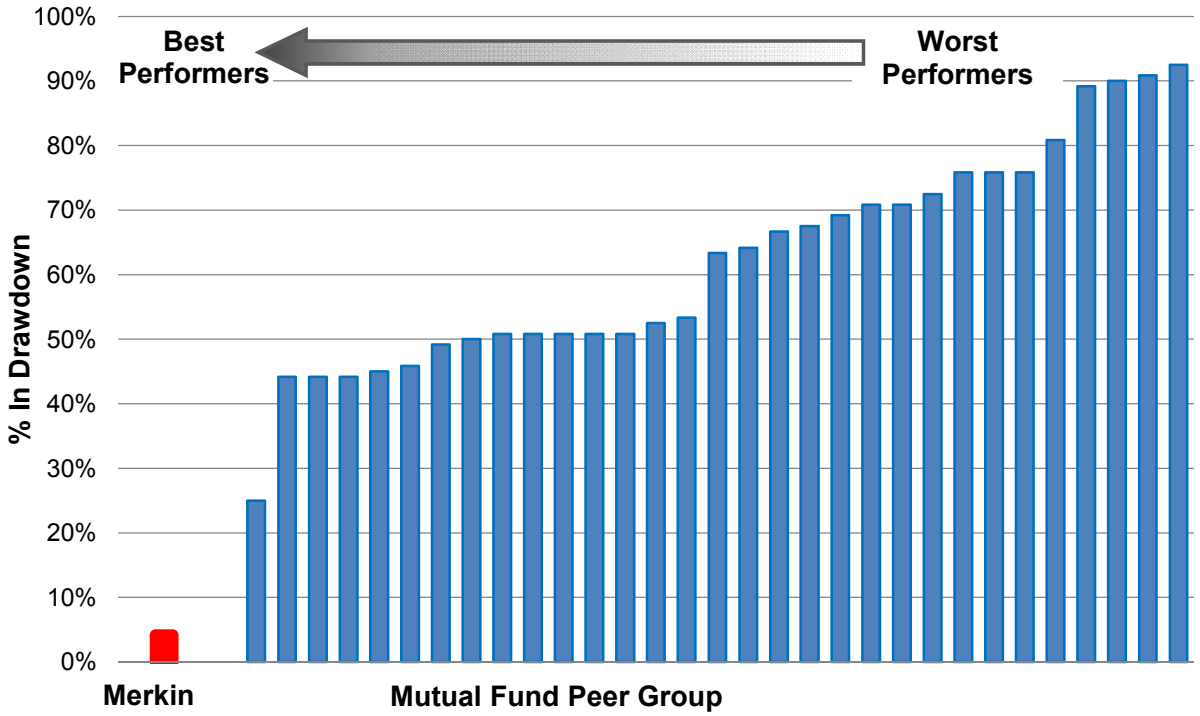


Mutual Fund Peer Group v. Merkin BLMIS Accounts
Percent of Months in Drawdown
Rolling 10-Year Periods Ending 2005-2008

- The chart shows the percent of months in drawdown for the Merkin BLMIS Accounts and the maximum and minimum for the Mutual Fund Peer Group for each rolling period.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Percent in drawdown is the percentage of months in which the current portfolio is below the previous high.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- 1996-2005 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

Schedule 43: Percent of Months in Drawdown (Jan 1996 – Dec 2005)

Merkin had fewer months in drawdown than any other fund in the Mutual Fund Peer Group for the period 1996–2005

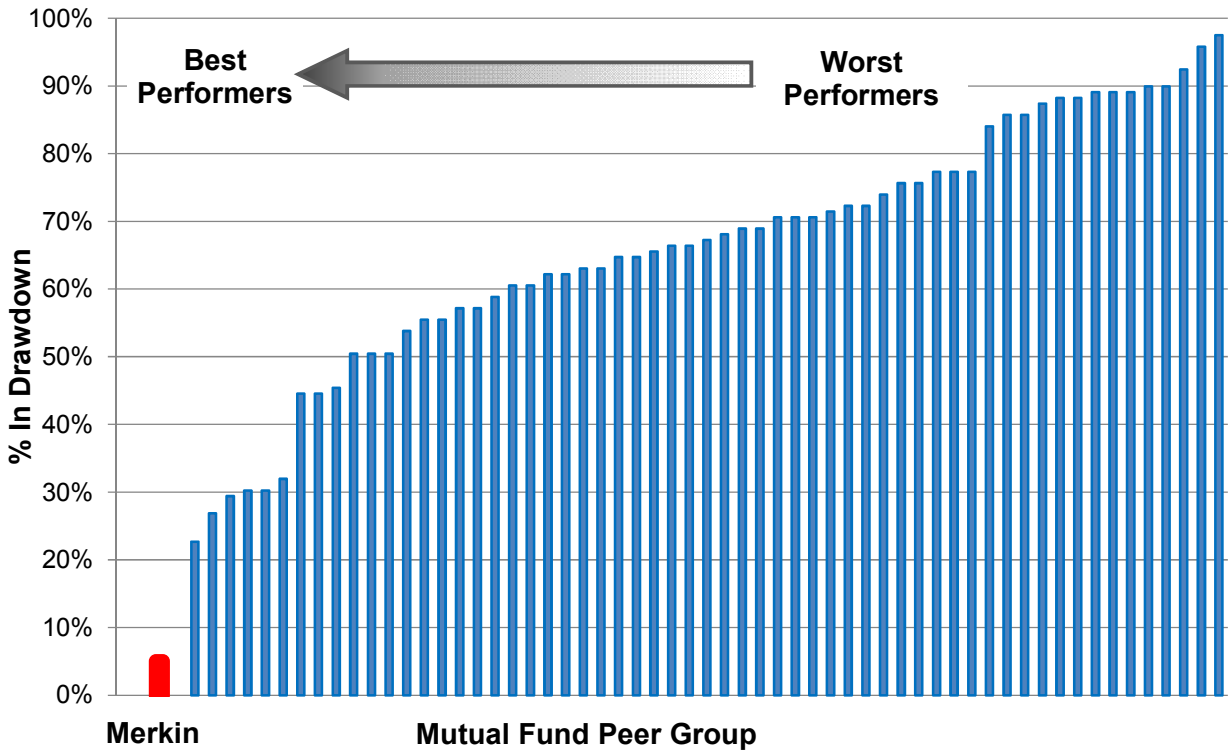


Mutual Fund Peer Group v. Merkin BLMIS Accounts
Percent of Months in Drawdown Over a 10 Year Period
(January 1996 – December 2005)

- The chart shows the percent of months in drawdown for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from lowest to highest.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Percent in drawdown is the percentage of months in which the current portfolio is below the previous high.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- 1996-2005 is the first 10 year period in the dataset with at least 30 funds. The peer group for this period includes 31 funds.

Schedule 44: Percent of Months in Drawdown (Jan 1999 – Nov 2008)

Merkin had fewer months in drawdown than any other fund in the Mutual Fund Peer Group for the period 1999–2008

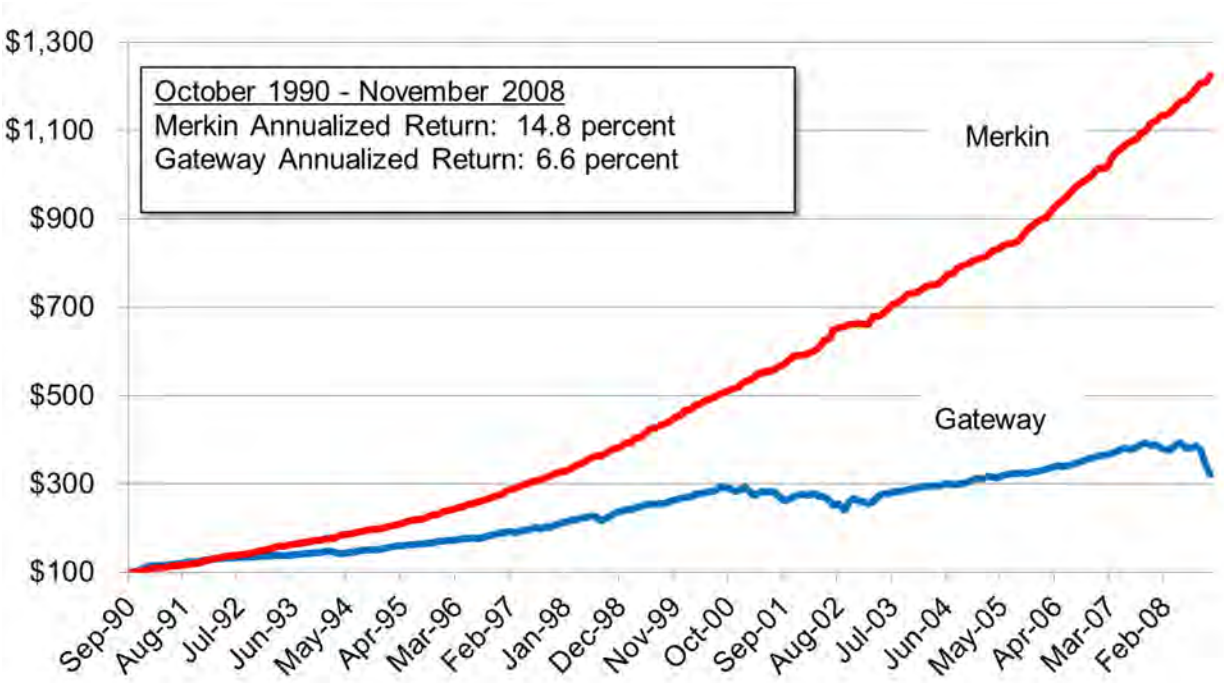


Mutual Fund Peer Group v. Merkin BLMIS Accounts
Percent of Months in Drawdown Over a 10 Year Period
(January 1999 – November 2008)

- The chart shows the percent of months in drawdown for the Merkin BLMIS Accounts and every fund in the Mutual Fund Peer Group sorted from lowest to highest.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Percent in drawdown is the percentage of months in which the current portfolio is below the previous high.
- The Mutual Fund Peer Group was selected from Morningstar, an industry-leading provider of mutual fund data. I used mutual funds with the Global Classification "Alternative" and the Morningstar Classification "Hedge Fund." These are the same classifications as Gateway, a mutual fund implementing an SSC strategy.
- The 1999-2008 Mutual Fund Peer Group includes 59 funds.

Schedule 45: Gateway Comparison of Indexed Returns

Merkin's BLMIS returns far exceed returns for Gateway for the period October 1990 – November 2008



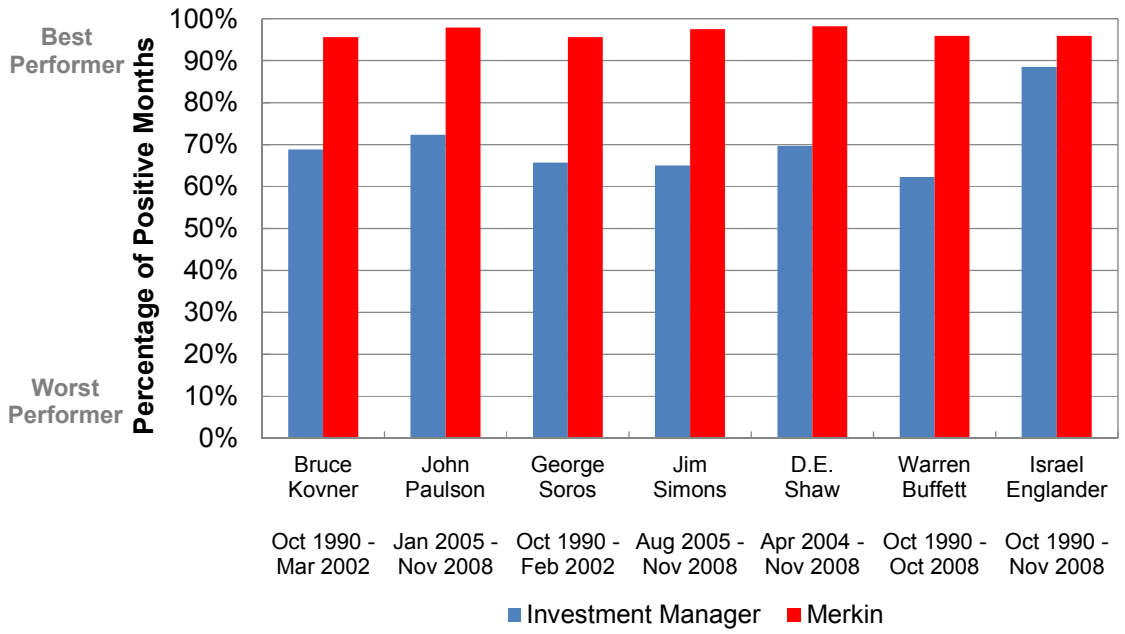
Gateway v. Merkin BLMIS Accounts
Index of Monthly Returns (September 30, 1990 = $100)

- The chart shows Indexed Monthly Returns for the Merkin BLMIS Accounts and Gateway.
- Indexed Returns show the compounding of returns, and calculate what would happen if $100 was invested in each of the two vehicles. By November 2008 the $100 invested with BLMIS would be worth $1,226 as compared to $322 if invested in Gateway.
- The horizontal axis shows the year.
- The vertical axis shows how much the investment would be worth in each year.

Appendix IX: Elite Investment Advisors Peer Group Schedules

Schedule 46: Elite Investment Advisors Percentage of Positive Months

Merkin had more months of positive returns than Elite Investment Advisors

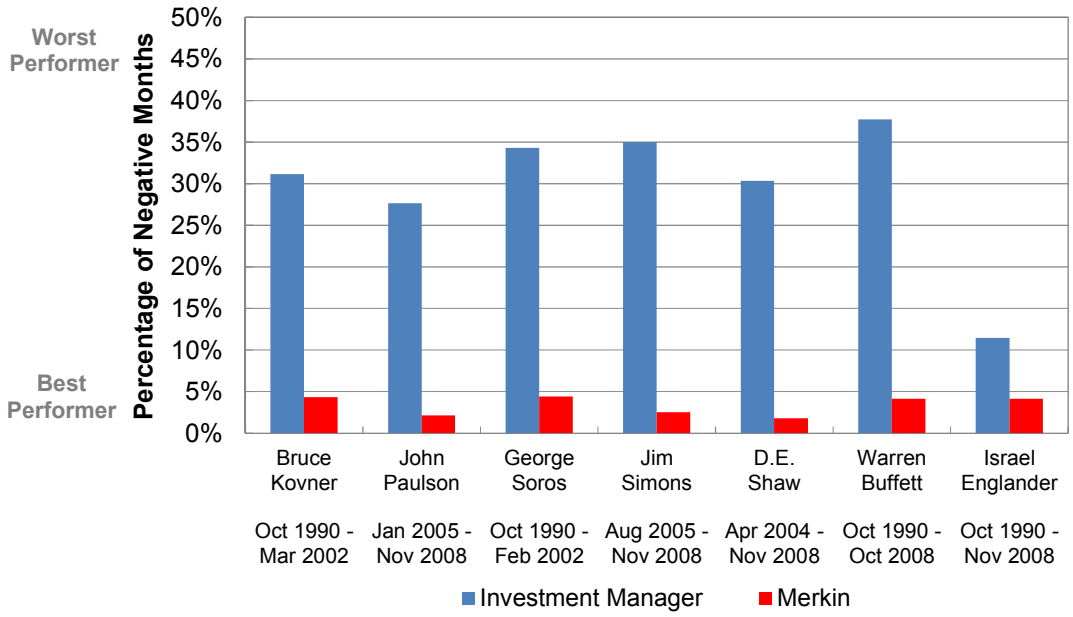


Elite Investment Advisors v. Merkin BLMIS Accounts
Percentage of Positive Months
Over Maximum Time Period Available by Manager

- The chart shows the percentage of months with positive returns for Merkin and for the Elite Investment Advisors. This metric is shown as a percentage of total months rather than the number of months given that the date periods differ for each advisor

Schedule 47: Elite Investment Advisors Percentage of Negative Months

Merkin had fewer months of negative returns than the Elite Investment Advisors

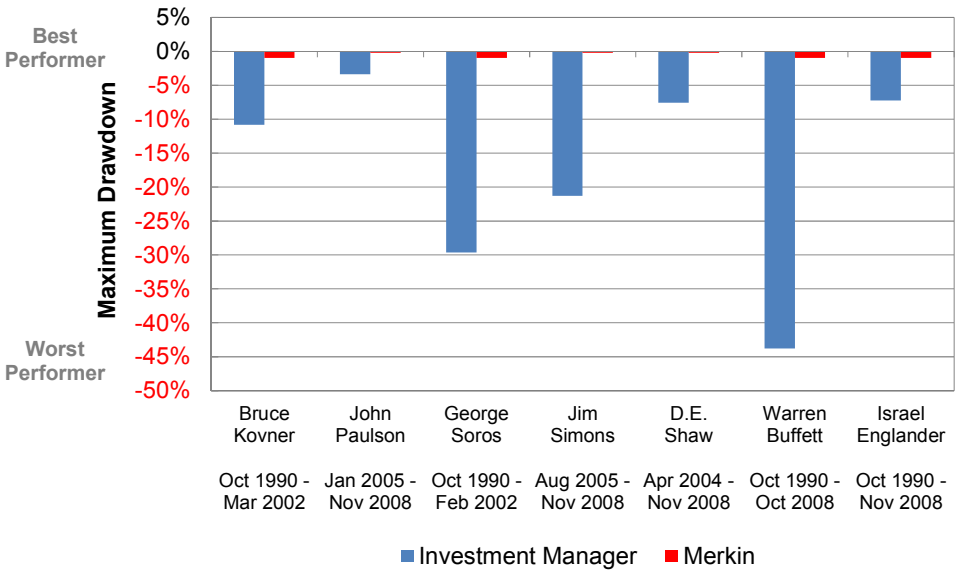


Elite Investment Advisors v. Merkin BLMIS Accounts
Percentage of Negative Months
Over Maximum Time Period Available by Manager

- The chart shows the percentage of months with negative returns for Merkin and for the Elite Investment Advisors. This metric is shown as a percentage of total months rather than the number of months given that the date periods differ for each advisor

Schedule 48: Elite Investment Advisors Maximum Drawdown

Merkin had a smaller maximum drawdown than the Elite Investment Advisors

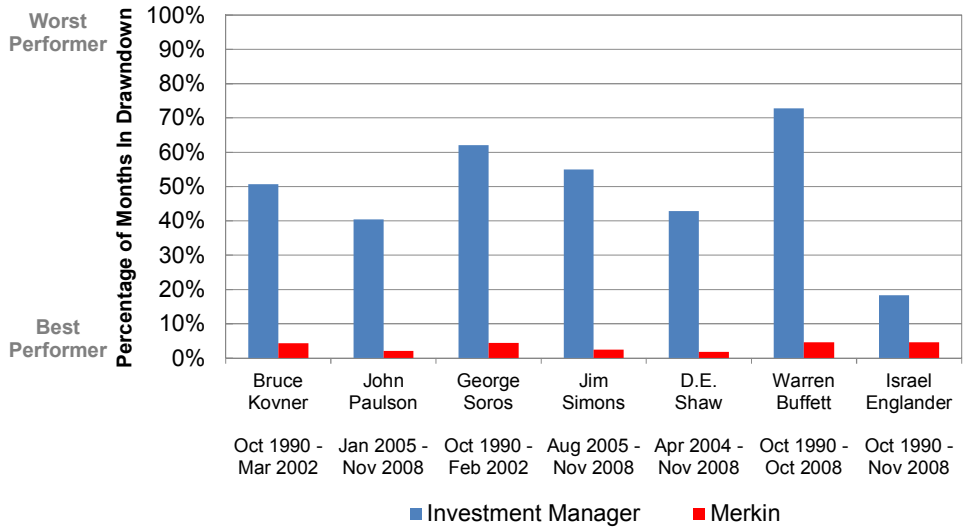


Elite Investment Advisors v. Merkin BLMIS Accounts
Maximum Drawdown
Over Maximum Time Period Available by Manager

- The chart shows the maximum drawdown for Merkin and for Elite Investment Advisors.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. The maximum drawdown is the largest drop between peak to trough in the period.

Schedule 49: Elite Investment Advisors Months in Drawdown

Merkin had fewer months in drawdown than the Elite Investment Advisors



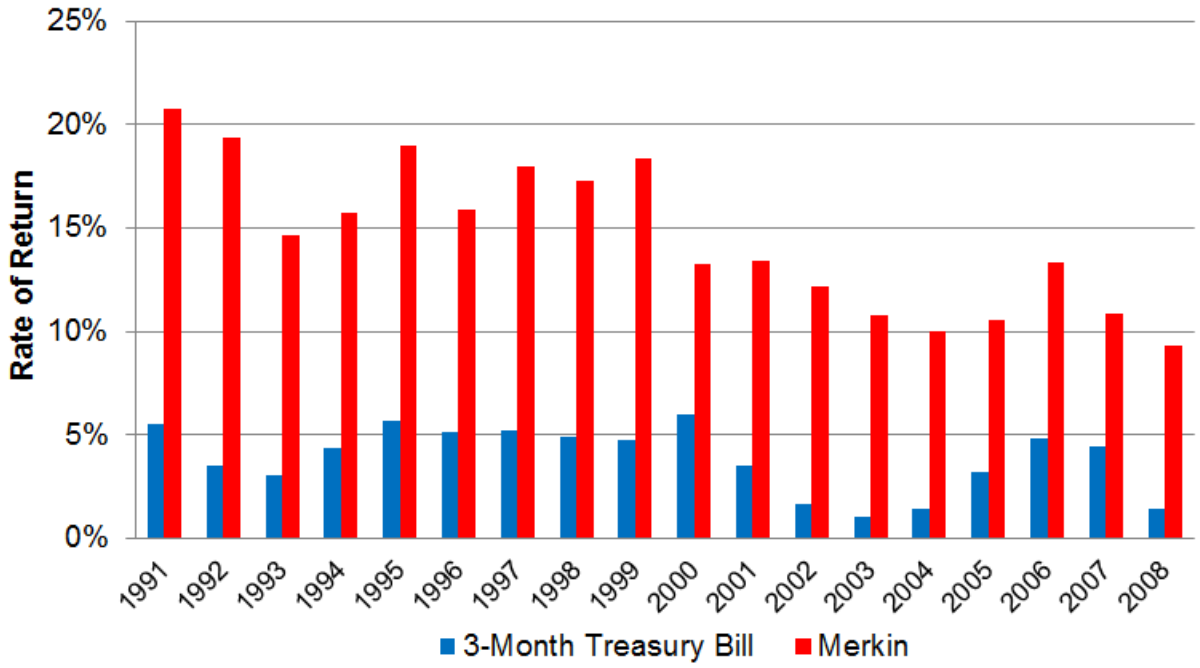
Elite Investment Advisors v. Merkin BLMIS Accounts
Percentage of Months in Drawdown
Over Maximum Time Period Available by Manager

- The chart shows the percent of months in drawdown for Merkin and for the Elite Investment Advisors.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Percent in drawdown is the percentage of months in which the current portfolio is below the previous high.

Appendix X: Index and Benchmark Schedules

Schedule 50: Merkin BLMIS Accounts Annual Returns versus Treasury Bill

Returns for the Merkin BLMIS Accounts far exceed the returns of the 3-Month Treasury Bill for the period 1991-2008

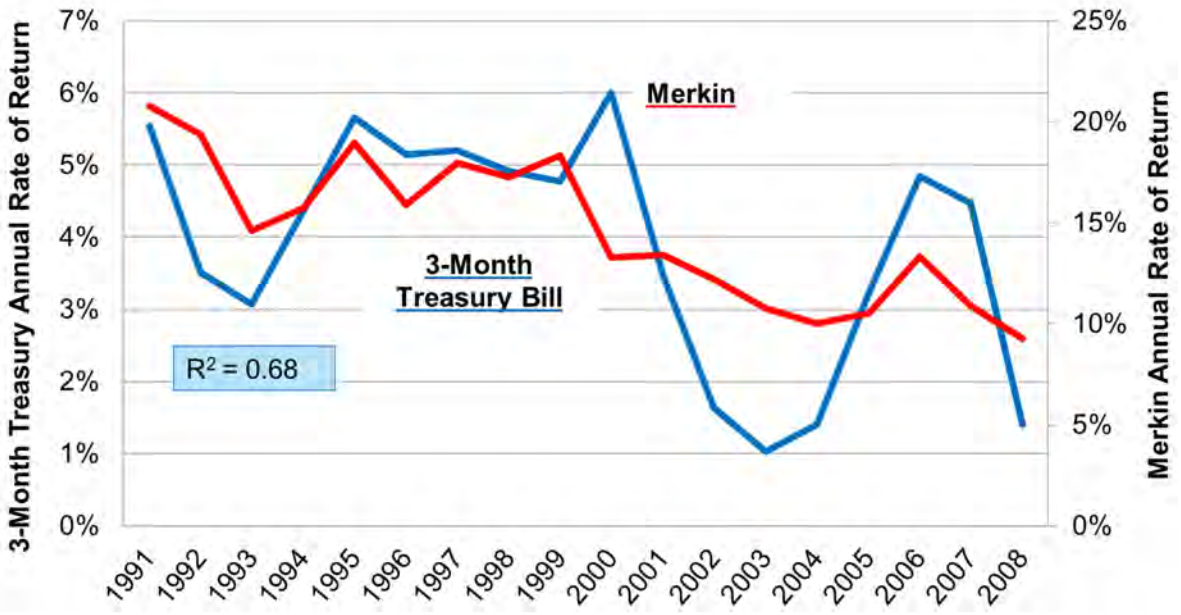


Merkin Annual Returns v. 3-Month Treasury Bill

- The chart shows the annual returns for the Merkin BLMIS Accounts compared to the returns of the 3-Month Treasury Bill.
- The horizontal axis shows the years.
- The vertical axis shows the rate of return.
- 2008 data is through November 2008.

Schedule 51: Correlation with Treasury Bill

Annual returns for the Merkin BLMIS Accounts are highly correlated to the 3-MonthTreasury Bill for the period 1991-2008

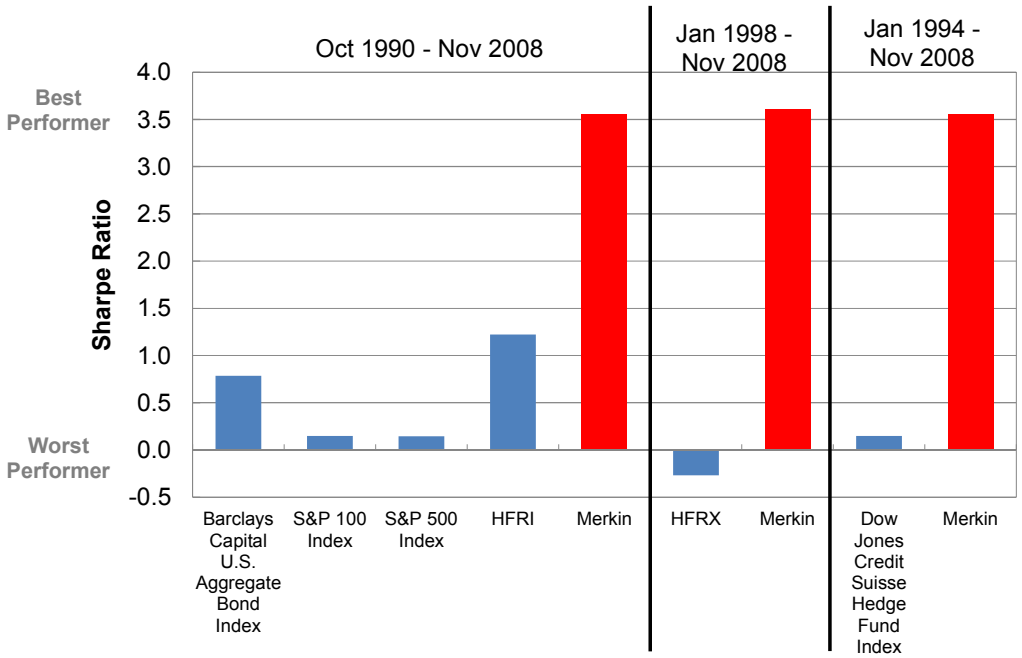


Correlation of Annual Returns
BLMIS v. 3-Month Treasury Bill (1991-2008)

- The chart shows annual returns for the Merkin BLMIS Accounts and for 3-Month Treasury Bills.
- The horizontal axis shows the year.
- The left vertical axis shows the rate of return for the 3-Month Treasury.
- The right vertical axis shows the rate of return for the Merkin BLMIS Accounts.
- 2008 data is through November 2008.

Schedule 52: Market Indices Sharpe Ratios

Merkin's Sharpe Ratio far exceeds the Sharpe Ratios of common market indices

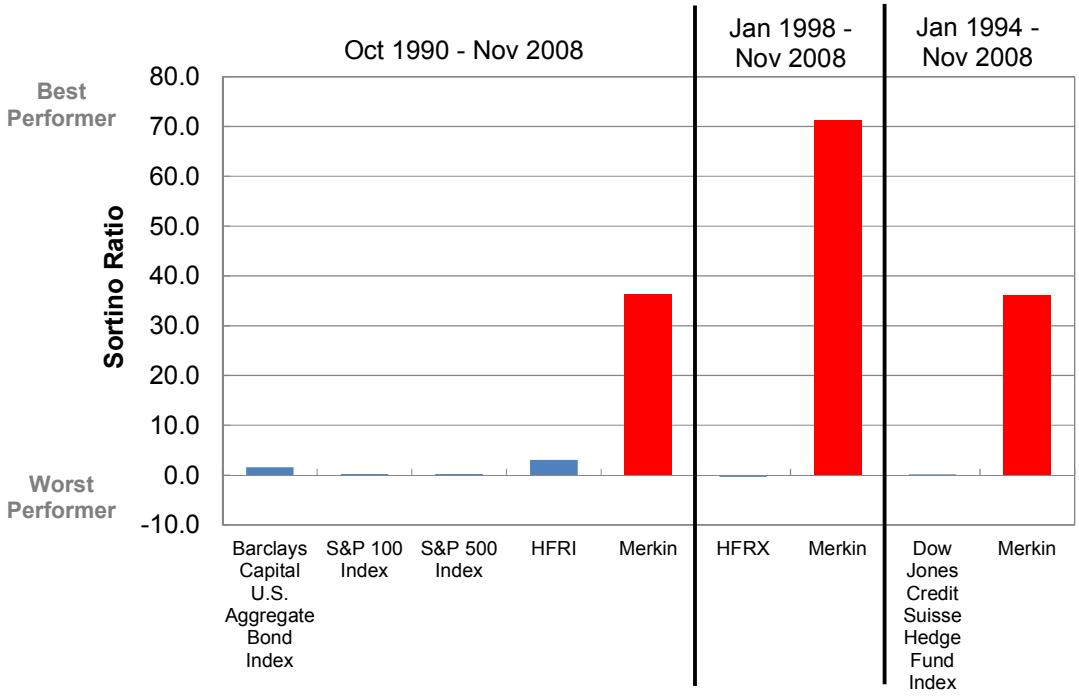


Market Indices v. Merkin BLMIS Accounts
Sharpe Ratio Over Maximum Time Period Available by Index

- The chart shows the Sharpe Ratio for Merkin and for indices.
- The date ranges shown represent the maximum date ranges available for each index and Merkin.
- The Sharpe Ratio measures the amount of return per unit of risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns. A *higher* Sharpe Ratio indicates that the investment is generating *more* return for *less* risk. Sharpe Ratio is a common statistic used to compare performance between two or more funds.
- The indices used are the most common indices representing the major asset classes.
- HFRI reflects the HFRI EH: Equity Market Neutral Index; HFRX reflects the HFRX EH: Equity Market Neutral Index; Dow Jones Credit Suisse Hedge Fund Index reflects the Equity Market Neutral subset of the Dow Jones Credit Suisse Hedge Fund Index, which uses the Credit Suisse Hedge Fund Database (formerly known as the Credit Suisse/Tremont Hedge Fund Database).

Schedule 53: Market Indices Sortino Ratios

Merkin's Sortino Ratio far exceeds the Sortino Ratios for market indices

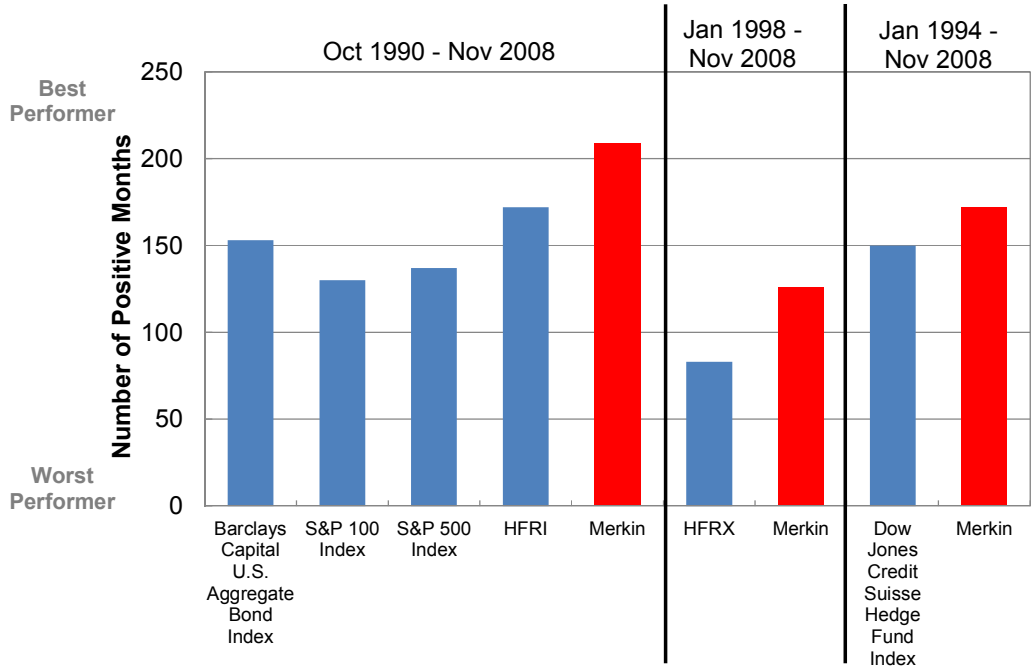


Market Indices v. Merkin BLMIS Accounts
Sortino Ratio Over Maximum Time Period Available by Index

- The chart shows the Sortino Ratio for Merkin and for market indices.
- The date ranges shown represent the maximum date ranges available for each index and Merkin.
- The Sortino Ratio measures the amount of return per unit of downside risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns (where each return greater than 0 is set to 0). A *higher* Sortino Ratio indicates that the investment is generating *more* return for *less* risk. Sortino Ratio is a common statistic used to compare performance between two or more funds.
- The indices used are the most common indices representing the major asset classes.
- HFRI reflects the HFRI EH: Equity Market Neutral Index; HFRX reflects the HFRX EH: Equity Market Neutral Index; Dow Jones Credit Suisse Hedge Fund Index reflects the Equity Market Neutral subset of the Dow Jones Credit Suisse Hedge Fund Index, which uses the Credit Suisse Hedge Fund Database (formerly known as the Credit Suisse/Tremont Hedge Fund Database).

Schedule 54: Market Indices Number of Months with Positive Returns

Merkin had more months of positive returns than market indices

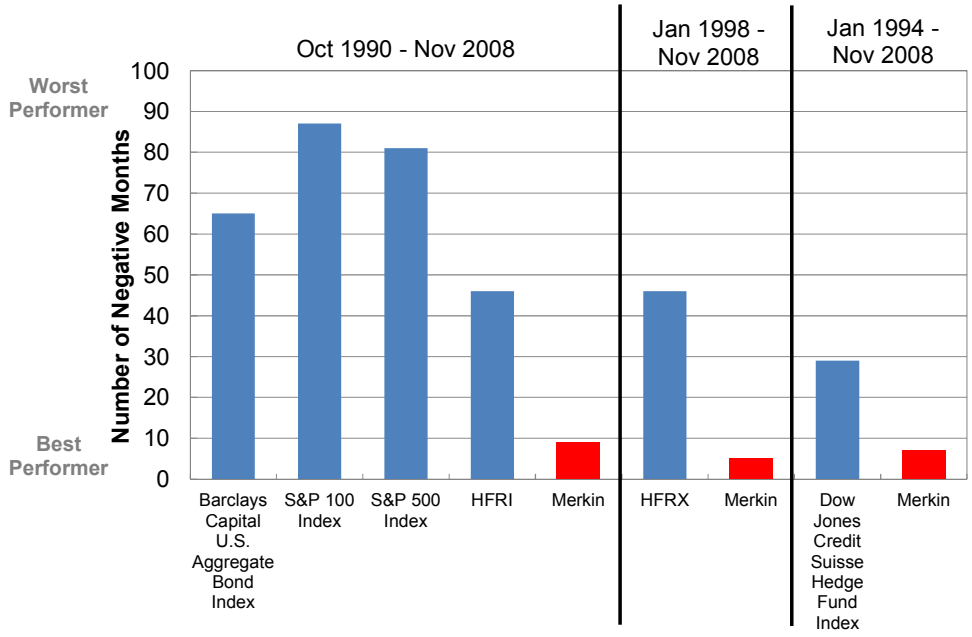


Market Indices v. Merkin BLMIS Accounts
Number of Months with Positive Returns
Over Maximum Time Period Available by Index

- The chart shows the number months with positive returns for Merkin and for market indices.
- The date ranges shown represent the maximum date ranges available for each index and Merkin.
- The indices used are the most common indices representing the major asset classes.
- HFRI reflects the HFRI EH: Equity Market Neutral Index; HFRX reflects the HFRX EH: Equity Market Neutral Index; Dow Jones Credit Suisse Hedge Fund Index reflects the Equity Market Neutral subset of the Dow Jones Credit Suisse Hedge Fund Index, which uses the Credit Suisse Hedge Fund Database (formerly known as the Credit Suisse/Tremont Hedge Fund Database).

Schedule 55: Market Indices Number of Months with Negative Returns

Merkin had fewer months of negative returns than market indices

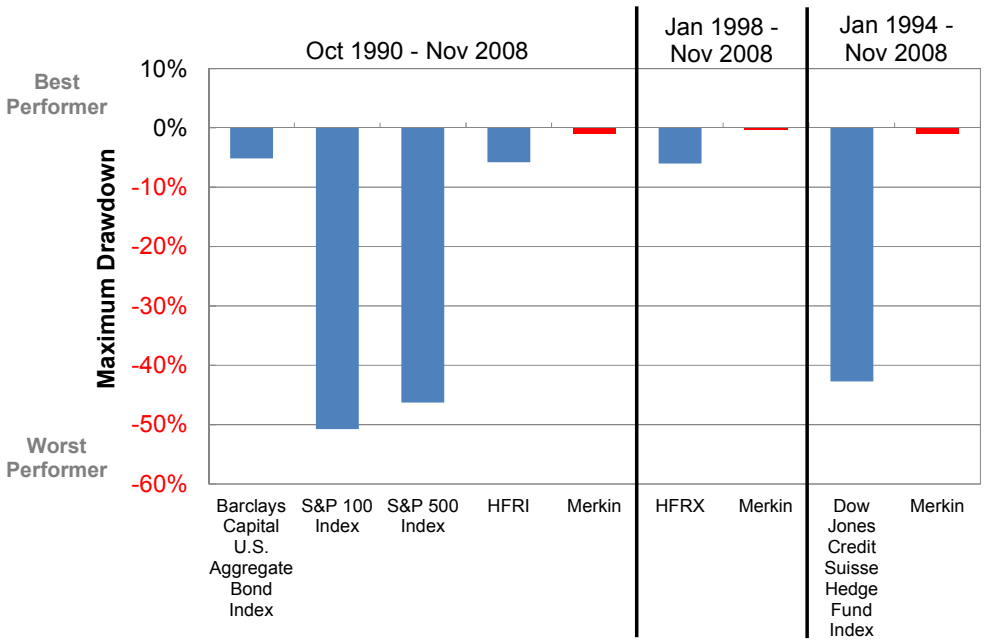


Market Indices v. Merkin BLMIS Accounts
Number of Months with Negative Returns
Over Maximum Time Period Available by Index

- The chart shows the number of negative months for Merkin and for market indices.
- The date ranges shown represent the maximum date ranges available for each index and Merkin.
- The indices used are the most common indices representing the major asset classes.
- HFRI reflects the HFRI EH: Equity Market Neutral Index; HFRX reflects the HFRX EH: Equity Market Neutral Index; Dow Jones Credit Suisse Hedge Fund Index reflects the Equity Market Neutral subset of the Dow Jones Credit Suisse Hedge Fund Index, which uses the Credit Suisse Hedge Fund Database (formerly known as the Credit Suisse/Tremont Hedge Fund Database).

Schedule 56: Market Indices Maximum Drawdown

Merkin had a smaller maximum drawdown than market indices

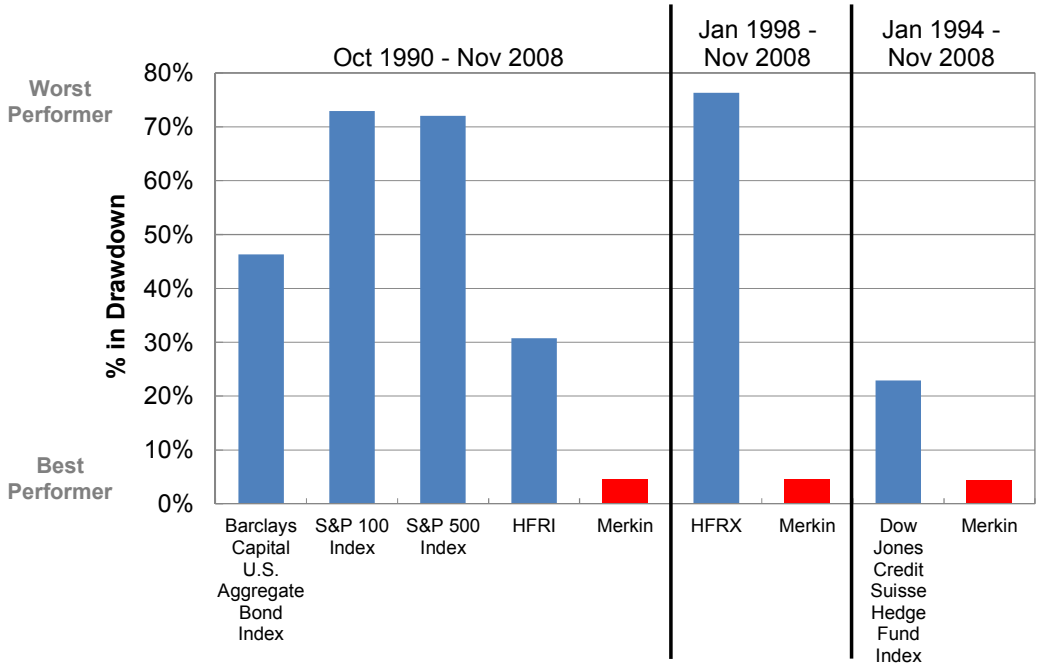


Market Indices v. Merkin BLMIS Accounts
Maximum Drawdown
Over Maximum Time Period Available by Index

- The chart shows the maximum drawdown for Merkin and for market indices.
- The date ranges shown represent the maximum date ranges available for each index and Merkin.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. The maximum drawdown is the largest drop between peak to trough in the period.
- The indices used are the most common indices representing the major asset classes.
- HFRI reflects the HFRI EH: Equity Market Neutral Index; HFRX reflects the HFRX EH: Equity Market Neutral Index; Dow Jones Credit Suisse Hedge Fund Index reflects the Equity Market Neutral subset of the Dow Jones Credit Suisse Hedge Fund Index, which uses the Credit Suisse Hedge Fund Database (formerly known as the Credit Suisse/Tremont Hedge Fund Database).

Schedule 57: Market Indices Percent of Months in Drawdown

Merkin had fewer months in drawdown than market indices



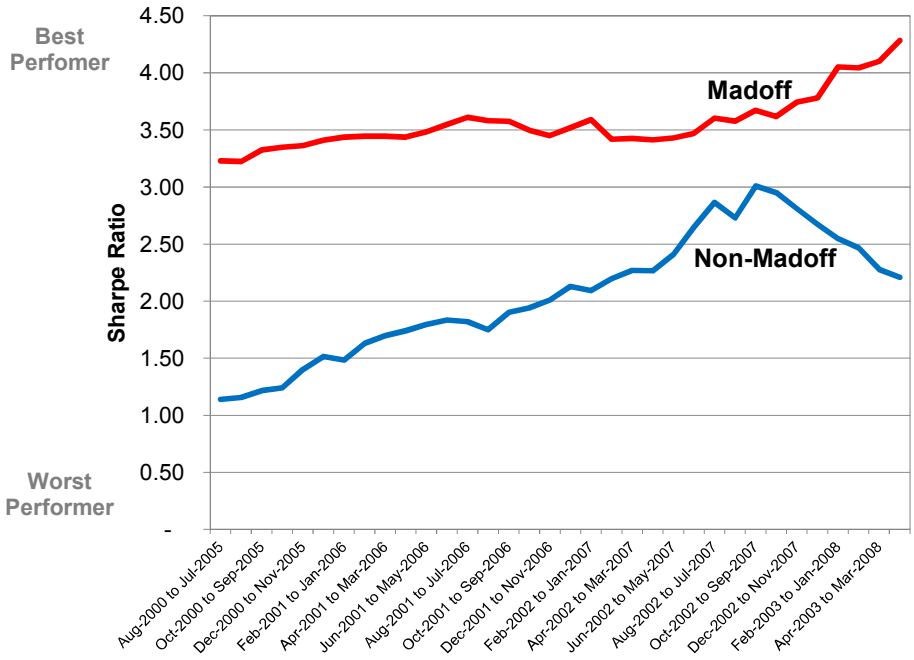
Market Indices v. Merkin BLMIS Accounts
Percent of Months in Drawdown
Over Maximum Time Period Available by Index

- The chart shows the percent of months in drawdown for Merkin and for market indices.
- The date ranges shown represent the maximum date ranges available for each index and Merkin.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Percent in drawdown is the percentage of months in which the current portfolio is below the previous high.
- The indices used are the most common indices representing the major asset classes.
- HFRI reflects the HFRI EH: Equity Market Neutral Index; HFRX reflects the HFRX EH: Equity Market Neutral Index; Dow Jones Credit Suisse Hedge Fund Index reflects the Equity Market Neutral subset of the Dow Jones Credit Suisse Hedge Fund Index, which uses the Credit Suisse Hedge Fund Database (formerly known as the Credit Suisse/Tremont Hedge Fund Database).

Appendix XI: Ariel Non-Madoff Returns Comparison

Schedule 58: Ariel Non-Madoff Investments Sharpe Ratio

The Sharpe Ratio for Ariel's BLMIS account far exceeds the Sharpe Ratio of Ariel's non-Madoff investments for any rolling period

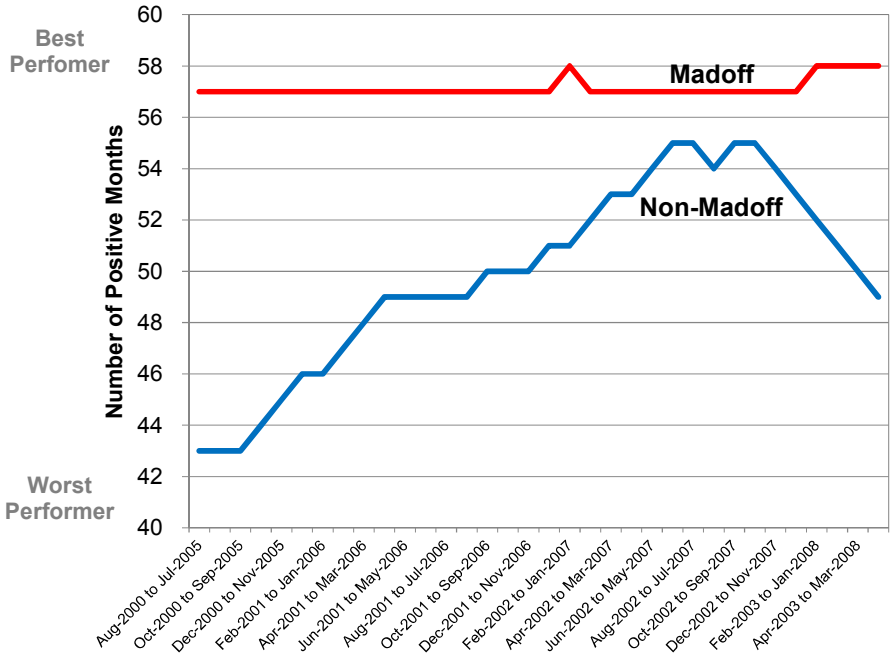


Ariel Madoff v. Ariel Non-Madoff
Sharpe Ratio
Rolling 5-Year Periods Ending July 2005 – November 2008

- The chart shows the Sharpe Ratio for Ariel's BLMIS account and for Ariel's non-Madoff investments for each rolling period.
- The Sharpe Ratio measures the amount of return per unit of risk. It is calculated as the mean return less a risk free return, divided by the standard deviation of the returns. A *higher* Sharpe Ratio indicates that the investment is generating *more* return for *less* risk. Sharpe Ratio is a common statistic used to compare performance between two or more funds.

Schedule 59: Ariel Non-Madoff Investments Number of Months with Positive Returns

Ariel's BLMIS account had more months with positive returns than Ariel's non-Madoff investments for any rolling period

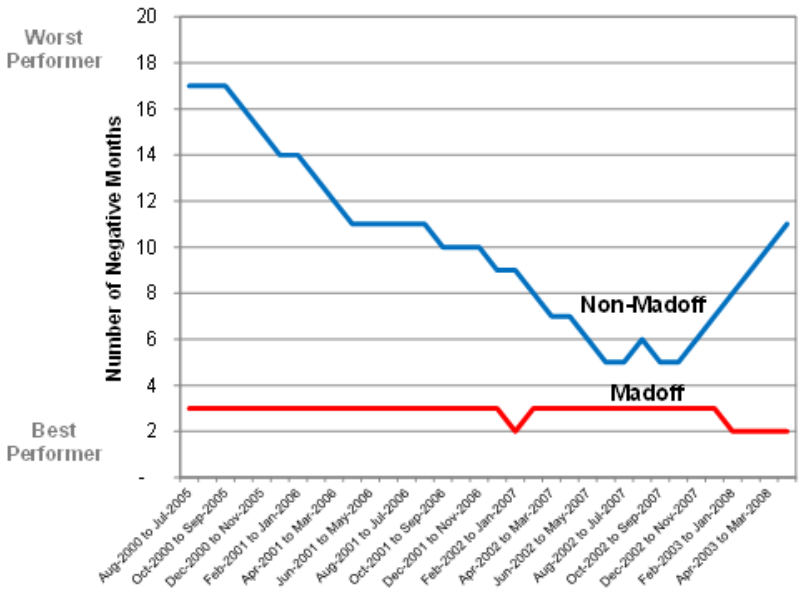


Ariel Madoff v. Ariel Non-Madoff
Number of Months with Positive Returns
Rolling 5-Year Periods Ending July 2005 – November 2008

- The chart shows the number of months with positive returns for Ariel's BLMIS account and for Ariel's non-Madoff investments for each rolling period.

Schedule 60: Ariel Non-Madoff Investments Number of Months with Negative Returns

Ariel's BLMIS account had fewer months with negative returns than Ariel's non-Madoff investments for any rolling period

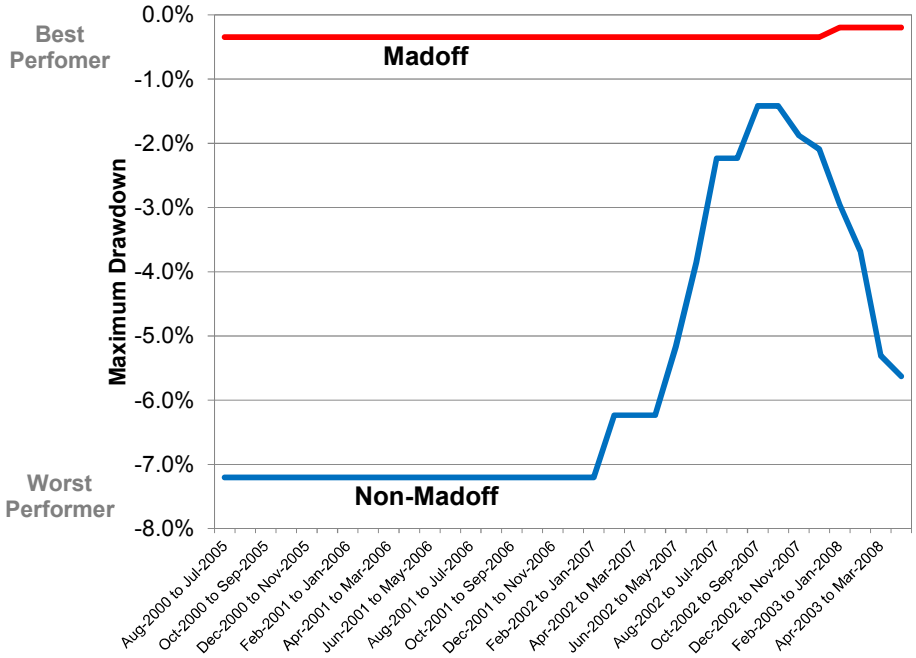


Ariel Madoff v. Ariel Non-Madoff
Number of Months with Negative Returns
Rolling 5-Year Periods Ending July 2005 – November 2008

- The chart shows the number of months with negative returns for Ariel's BLMIS account and for Ariel's non-Madoff investments for each rolling period.

Schedule 61: Ariel Non-Madoff Investments Maximum Drawdown

Ariel's BLMIS account had a smaller maximum drawdown than Ariel's non-Madoff investments for every rolling period

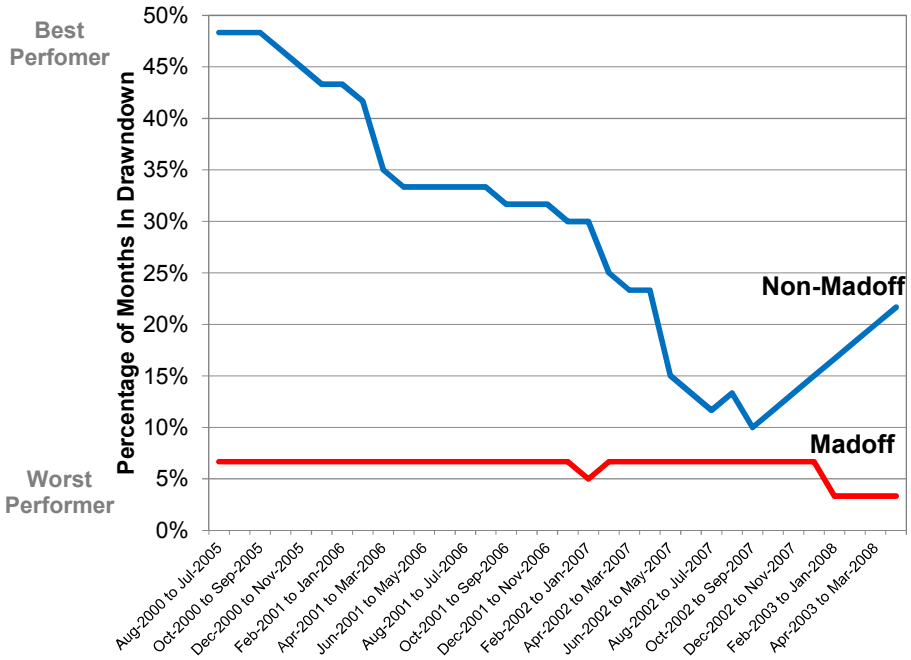


Ariel Madoff v. Ariel Non-Madoff
Maximum Drawdown
Rolling 5-Year Periods Ending July 2005 – November 2008

- The chart shows the maximum drawdown for Ariel's BLMIS account for Ariel and for Ariel's non-Madoff investments for each rolling period.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. The maximum drawdown is the largest drop between peak to trough in the period.

Schedule 62: Ariel Non-Madoff Investments in Drawdown

Ariel's BLMIS account had fewer months in drawdown than Ariel's non-Madoff investments for every rolling period



Ariel Madoff v. Ariel Non-Madoff
Percent of Months in Drawdown
Rolling 5-Year Periods Ending July 2005 – November 2008

- The chart shows the percent of months in drawdown for Ariel's BLMIS account and for Ariel's non-Madoff investments for each rolling period.
- When calculated on monthly basis, a drawdown occurs when a portfolio experiences a loss in the current month that brings the portfolio below its previous high. Percent in drawdown is the percentage of months in which the current portfolio is below the previous high.

Appendix XII: Performance Attribution Schedules

Schedule 63: Expected vs. Actual Correlation for Merkin BLMIS Accounts

The returns for the Merkin BLMIS Accounts were not correlated with the S&P 100, inconsistent with the Madoff SSC

	Expected Correlation	Actual Correlation
1991 - 1992	79.01%	72.61%
1991 - 1993	78.23%	73.61%
1991 - 1994	85.43%	60.23%
1991 - 1995	85.29%	49.72%
1991 - 1996	82.35%	40.07%
1991 - 1997	76.76%	42.68%
1991 - 1998	74.78%	40.07%
1991 - 1999	74.62%	38.51%
1991 - 2000	64.75%	39.06%
1991 - 2001	64.58%	40.04%
1991 - 2002	59.66%	34.65%
1991 - 2003	60.78%	32.23%
1991 - 2004	60.85%	32.52%
1991 - 2005	61.13%	31.78%
1991 - 2006	60.95%	31.35%
1991 - 2007	61.19%	31.38%
1991 - 2008	57.81%	32.48%

Expected vs Actual Correlation

- The chart shows the expected correlation of the Madoff SSC strategy with the S&P 100 and the actual correlation of the purported returns for the Merkin BLMIS Accounts with the S&P 100.
- The analysis starts in December 1991, coinciding with BLMIS's switch to exclusively basket trades.

Schedule 64: Positive and Negative Monthly Returns for S&P 100 and Merkin by Year

The returns for the Merkin BLMIS Accounts were not correlated with the S&P 100, inconsistent with the Madoff SSC

Year	Number of Months	Madoff Up	Madoff Down	S&P 100 Up	S&P 100 Down
1990	3	3	0	2	1
1991	12	11	1	9	3
1992	12	12	0	6	6
1993	12	11	1	7	5
1994	12	10	2	7	5
1995	12	12	0	10	2
1996	12	12	0	10	2
1997	12	12	0	8	4
1998	12	12	0	9	3
1999	12	11	1	8	4
2000	12	12	0	3	9
2001	12	12	0	5	7
2002	12	11	1	4	8
2003	12	10	2	9	3
2004	12	12	0	8	4
2005	12	12	0	5	7
2006	12	12	0	10	2
2007	12	11	1	7	5
2008	11	11	0	4	7
Total	**218**	**209**	**9**	**131**	**87**

Schedule 65: Positive and Negative Basket Returns for S&P 100 vs. Merkin by Year

The returns for the Merkin BLMIS Accounts were not correlated with the S&P 100, inconsistent with the Madoff SSC

Year	Number of Baskets	Madoff Up	Madoff Down	S&P 100 Up	S&P 100 Down
1991	1	1	0	1	0
1992	0	0	0	0	0
1993	2	2	0	2	0
1994	3	3	0	1	2
1995	2	2	0	2	0
1996	4	4	0	3	1
1997	6	6	0	5	1
1998	8	8	0	5	3
1999	6	6	0	3	3
2000	9	8	1	2	7
2001	5	5	0	2	3
2002	6	6	0	3	3
2003	7	6	1	4	3
2004	6	6	0	5	1
2005	4	4	0	2	2
2006	4	4	0	3	1
2007	7	7	0	2	5
2008	3	3	0	0	3
Total	**83**	**81**	**2**	**45**	**38**

Schedule 66: Performance Attribution Over Time (2000-2008)

BLMIS purportedly generated returns for the Merkin BLMIS Accounts through execution (VWAP), not market timing.

	Equity Pricing (VWAP)	Market Timing	Dividends	Option Pricing	Unexplained	Total
2000 - 2000	89.6%	-14.7%	4.0%	62.9%	-41.8%	100.0%
2000 - 2001	64.6%	-0.6%	5.0%	60.4%	-29.3%	100.0%
2000 - 2002	75.8%	-8.2%	5.7%	31.9%	-5.2%	100.0%
2000 - 2003	76.9%	-6.1%	7.3%	30.3%	-8.4%	100.0%
2000 - 2004	71.4%	-1.9%	7.7%	31.7%	-8.9%	100.0%
2000 - 2005	66.9%	1.0%	8.8%	34.3%	-11.0%	100.0%
2000 - 2006	61.8%	3.2%	11.3%	36.9%	-13.1%	100.0%
2000 - 2007	62.0%	4.1%	11.7%	32.1%	-9.9%	100.0%
2000 - 2008	58.5%	4.7%	11.2%	26.1%	-0.5%	100.0%

Schedule 67: Lack of Correlation with S&P 100

BLMIS generated purported returns inconsistent with the S&P 100.

	No. of Negative Months		Percentage of Negative Months		Cumulative No. of Negative Months		Cumulative Percentage of Negative Months	
Year	Merkin	S&P 100	Merkin	S&P 100	Merkin	S&P 100	Merkin	S&P 100
1990	0	1	0%	33%	0	1	0%	33%
1991	1	3	8%	25%	1	4	7%	27%
1992	0	6	0%	50%	1	10	4%	37%
1993	1	5	8%	42%	2	15	5%	38%
1994	2	5	17%	42%	4	20	8%	39%
1995	0	2	0%	17%	4	22	6%	35%
1996	0	2	0%	17%	4	24	5%	32%
1997	0	4	0%	33%	4	28	5%	32%
1998	0	3	0%	25%	4	31	4%	31%
1999	1	4	8%	33%	5	35	5%	32%
2000	0	9	0%	75%	5	44	4%	36%
2001	0	7	0%	58%	5	51	4%	38%
2002	1	8	8%	67%	6	59	4%	40%
2003	2	3	17%	25%	8	62	5%	39%
2004	0	4	0%	33%	8	66	5%	39%
2005	0	7	0%	58%	8	73	4%	40%
2006	0	2	0%	17%	8	75	4%	38%
2007	1	5	8%	42%	9	80	4%	39%
2008	0	7	0%	64%	9	87	4%	40%

Schedule 68: Returns by Basket for Merkin BLMIS Accounts

Madoff generated purported returns unaccounted for by index movements

Start Date	End Date	S&P 100 Return	BLMIS Equity Returns	BLMIS Call Option Returns	BLMIS Put Option Returns	BLMIS Option Returns	BLMIS Total Returns
12/2/1991	5/5/1993	14.5%	14.7%	6.8%	-11.0%	-4.2%	10.5%
5/11/1993	8/11/1993	1.7%	4.3%	1.6%	-4.2%	-2.5%	1.8%
8/16/1993	12/8/1993	2.6%	4.6%	2.6%	-2.6%	0.0%	4.6%
1/3/1994	10/5/1994	-1.8%	-0.3%	5.3%	5.8%	11.1%	10.8%
10/11/1994	12/19/1994	-3.8%	-1.3%	2.5%	0.7%	3.2%	1.8%
12/20/1994	4/17/1995	11.9%	12.6%	-1.2%	-3.1%	-4.3%	8.3%
4/21/1995	9/13/1995	12.7%	12.5%	2.0%	-4.2%	-2.2%	10.3%
9/22/1995	12/15/1995	6.8%	9.5%	-2.4%	-2.9%	-5.2%	4.3%
1/16/1996	2/16/1996	7.6%	9.6%	-6.7%	-0.4%	-7.1%	2.5%
2/26/1996	5/8/1996	0.0%	-0.3%	4.3%	-0.9%	3.4%	3.1%
5/14/1996	9/20/1996	3.9%	5.7%	0.6%	-0.6%	-0.1%	5.6%
10/14/1996	12/11/1996	4.6%	7.6%	-0.7%	-2.5%	-3.2%	4.3%
1/9/1997	2/21/1997	5.4%	8.0%	-1.1%	-2.8%	-3.9%	4.1%
3/10/1997	4/11/1997	-9.6%	-5.6%	3.4%	5.5%	8.9%	3.3%
4/23/1997	5/8/1997	6.6%	7.8%	-3.2%	-1.8%	-5.0%	2.8%
6/11/1997	7/18/1997	4.4%	5.8%	-0.5%	-2.7%	-3.2%	2.6%
8/19/1997	10/17/1997	1.8%	3.5%	3.3%	-3.8%	-0.4%	3.1%
11/19/1997	12/11/1997	0.9%	3.2%	1.0%	-1.5%	-0.5%	2.6%
1/16/1998	2/20/1998	8.9%	9.2%	-4.0%	-2.2%	-6.2%	3.0%
3/13/1998	4/17/1998	6.2%	6.8%	-2.4%	-1.9%	-4.3%	2.5%
5/1/1998	7/17/1998	8.5%	11.7%	-3.0%	-3.7%	-6.7%	5.0%
8/18/1998	8/31/1998	-19.0%	-16.6%	3.9%	12.9%	16.7%	0.1%
9/4/1998	9/9/1998	4.6%	4.9%	-1.2%	-2.2%	-3.5%	1.4%
9/16/1998	9/18/1998	-3.8%	-1.6%	1.2%	2.0%	3.3%	1.7%
10/9/1998	10/16/1998	10.3%	15.0%	-8.8%	-1.6%	-10.3%	4.6%
11/17/1998	12/16/1998	-0.5%	1.5%	1.1%	-0.5%	0.6%	2.1%
1/15/1999	2/19/1999	-0.3%	1.4%	3.8%	-2.5%	1.3%	2.7%
3/3/1999	3/19/1999	5.0%	7.0%	-1.4%	-2.2%	-3.7%	3.3%
4/16/1999	5/21/1999	-0.2%	2.1%	3.2%	-2.1%	1.1%	3.2%
6/14/1999	7/16/1999	11.6%	14.4%	-6.6%	-3.0%	-9.6%	4.8%
7/27/1999	10/15/1999	-8.1%	-4.8%	5.6%	3.3%	8.9%	4.1%
11/5/1999	11/19/1999	4.7%	6.8%	-2.7%	-1.3%	-4.0%	2.8%
1/5/2000	2/18/2000	-5.1%	-3.1%	2.6%	3.3%	6.0%	2.9%
3/3/2000	3/17/2000	6.5%	6.6%	-2.4%	-1.3%	-3.7%	2.9%
4/10/2000	4/17/2000	-8.3%	-8.6%	1.7%	6.7%	8.4%	-0.2%
5/1/2000	5/19/2000	-0.7%	-0.5%	3.2%	-0.6%	2.6%	2.1%
6/13/2000	6/16/2000	-0.1%	3.5%	0.6%	-1.3%	-0.7%	2.7%
7/14/2000	8/10/2000	-0.1%	1.9%	1.9%	-1.2%	0.7%	2.6%
9/11/2000	10/20/2000	-12.2%	-11.5%	2.7%	10.0%	12.7%	1.2%
11/13/2000	11/27/2000	0.4%	1.9%	1.9%	-1.7%	0.2%	2.1%
12/12/2000	12/14/2000	-3.8%	-2.8%	2.1%	0.9%	3.0%	0.2%

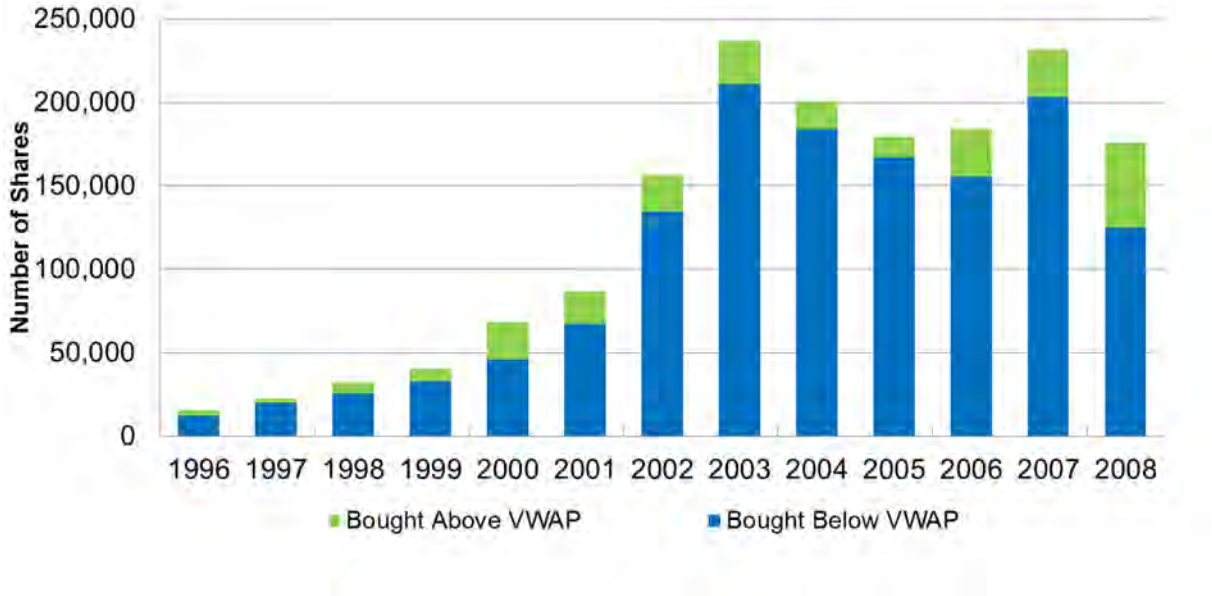
Basket Number	Start Date	End Date	S&P 100 Return	BLMIS Equity Returns	BLMIS Call Option Returns	BLMIS Put Option Returns	BLMIS Option Returns	BLMIS Total Returns
42	1/3/2001	2/16/2001	-2.8%	-0.9%	3.6%	0.1%	3.7%	2.8%
43	3/5/2001	4/20/2001	7.3%	9.6%	-3.2%	-1.9%	-5.1%	4.6%
44	6/15/2001	7/20/2001	-1.8%	-1.0%	2.7%	-1.1%	1.6%	0.6%
45	8/21/2001	11/15/2001	-0.6%	2.3%	-2.3%	5.4%	3.1%	5.4%
46	12/10/2001	12/19/2001	1.5%	-0.4%	0.8%	0.2%	1.0%	0.6%
47	1/3/2002	2/15/2002	-5.9%	-4.9%	3.0%	2.1%	5.1%	0.2%
48	2/22/2002	4/18/2002	-1.6%	0.0%	0.1%	2.4%	2.6%	2.6%
49	4/30/2002	5/17/2002	5.9%	7.8%	-2.7%	-1.1%	-3.8%	4.0%
50	6/24/2002	7/16/2002	-9.8%	-7.2%	2.4%	5.7%	8.2%	1.0%
51	7/24/2002	8/16/2002	12.3%	18.9%	-7.5%	-6.9%	-14.4%	4.5%
52	10/11/2002	11/15/2002	5.5%	6.5%	0.4%	-5.3%	-4.9%	1.7%
53	1/6/2003	2/21/2003	-9.8%	-8.4%	4.4%	3.4%	7.9%	-0.5%
54	3/12/2003	3/21/2003	11.3%	14.7%	-8.7%	-2.4%	-11.1%	3.6%
55	5/1/2003	6/20/2003	8.9%	9.5%	-2.9%	-3.8%	-6.7%	2.8%
56	7/1/2003	8/14/2003	-0.3%	0.9%	3.4%	-2.0%	1.4%	2.3%
57	9/2/2003	9/18/2003	1.4%	2.9%	0.4%	-1.4%	-1.0%	1.9%
58	10/2/2003	11/20/2003	-0.4%	0.6%	2.9%	-1.9%	0.9%	1.5%
59	12/8/2003	12/19/2003	2.6%	3.5%	-1.2%	-0.7%	-1.9%	1.7%
60	1/5/2004	2/20/2004	2.1%	3.2%	1.2%	-2.3%	-1.1%	2.0%
61	4/1/2004	5/20/2004	-5.2%	-3.9%	2.9%	2.5%	5.4%	1.4%
62	6/2/2004	6/24/2004	2.0%	2.0%	1.6%	-1.5%	0.1%	2.2%
63	8/13/2004	9/17/2004	3.7%	4.9%	0.0%	-2.3%	-2.3%	2.6%
64	11/1/2004	11/12/2004	4.0%	5.2%	-2.0%	-1.4%	-3.4%	1.8%
65	12/13/2004	12/16/2004	0.7%	1.8%	-0.4%	-0.5%	-0.9%	0.9%
66	1/20/2005	3/15/2005	3.4%	3.8%	-0.3%	-1.4%	-1.7%	2.1%
67	5/17/2005	6/27/2005	-0.2%	1.2%	1.4%	-0.7%	0.6%	1.8%
68	9/2/2005	9/26/2005	-1.8%	-0.7%	1.4%	0.7%	2.1%	1.4%
69	10/6/2005	12/16/2005	5.8%	6.4%	-0.4%	-2.2%	-2.6%	3.8%
70	1/5/2006	3/27/2006	1.6%	2.0%	2.2%	-1.4%	0.8%	2.8%
71	3/31/2006	6/14/2006	-4.6%	-3.6%	2.2%	4.0%	6.2%	2.7%
72	7/11/2006	9/22/2006	5.8%	7.9%	-2.0%	-1.8%	-3.8%	4.1%
73	10/23/2006	12/22/2006	3.2%	4.5%	-0.2%	-1.8%	-2.0%	2.5%
74	2/13/2007	3/23/2007	-1.6%	-1.7%	1.4%	2.6%	4.0%	2.3%
75	4/16/2007	6/20/2007	4.2%	5.3%	-0.4%	-2.2%	-2.6%	2.7%
76	8/1/2007	8/16/2007	-3.8%	-2.6%	1.5%	1.8%	3.3%	0.7%
77	9/11/2007	9/21/2007	4.8%	6.6%	-3.1%	-1.7%	-4.8%	1.8%
78	10/26/2007	11/2/2007	-2.4%	-0.7%	1.0%	1.5%	2.4%	1.7%
79	11/12/2007	11/27/2007	-2.9%	-0.7%	2.3%	1.0%	3.3%	2.6%
80	12/6/2007	12/17/2007	-4.1%	-0.7%	1.3%	0.2%	1.5%	0.8%
81	1/23/2008	3/12/2008	-3.4%	2.6%	2.9%	-3.2%	-0.2%	2.3%
82	4/1/2008	5/22/2008	-1.9%	1.9%	4.0%	-1.0%	3.1%	4.9%
83	7/16/2008	9/16/2008	-2.8%	-0.1%	4.3%	1.4%	5.6%	5.5%
84	11/3/2008	11/28/2008	N/A	N/A	N/A	N/A	N/A	N/A

Returns for Basket Trades

- The chart shows total basket returns, equity returns, option returns for the Merkin BLMIS Accounts and S&P 100 returns.
- The last basket trade in November 2008 was excluded because there was no corresponding sale of the basket.

Schedule 69: Shares Bought Below VWAP

The purported shares in the Merkin BLMIS Accounts were consistently bought below the Volume Weighted Average Price ("VWAP")

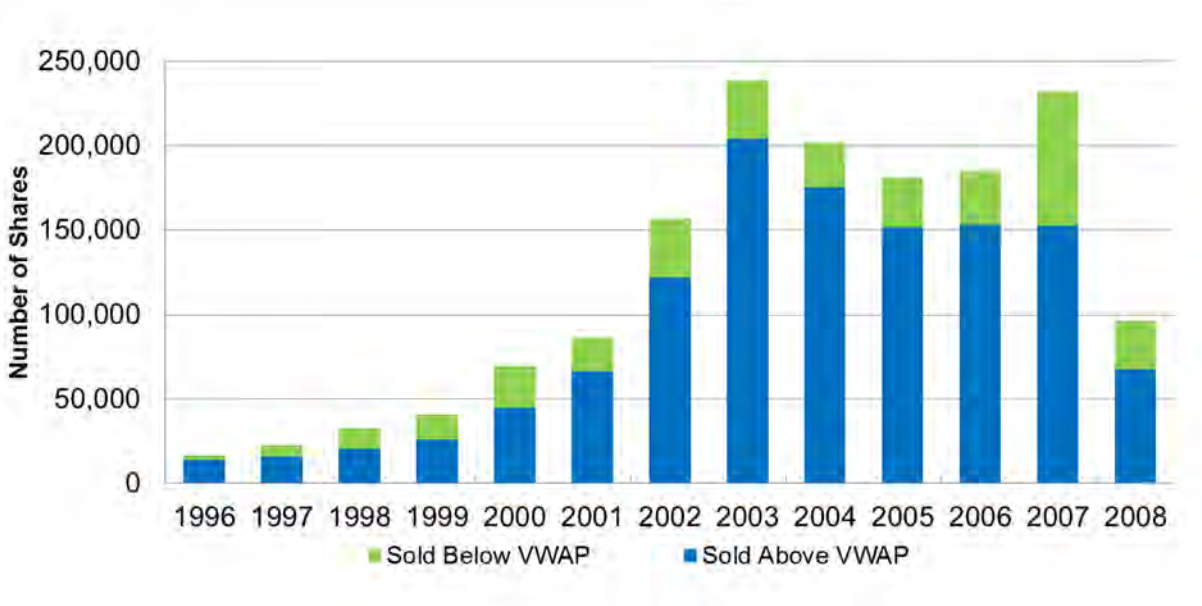


Equity Shares Purportedly Bought Above/Below the Volume Weighted Average Price ("VWAP")

- The chart shows the number of shares purportedly traded in the Merkin BLMIS Accounts that were bought above VWAP and the number that were bought below VWAP.
- VWAP is a standard trading metric calculated by weighting each transaction price by the volume for the transaction. VWAP data is easily obtainable from any Bloomberg terminal.
- The blue bars represent shares that were bought below VWAP.
- The green bars represent shares that were bought above VWAP.

Schedule 70: Shares Sold Above VWAP

The purported shares in the Merkin BLMIS Accounts were consistently sold above the Volume Weighted Average Price (VWAP")

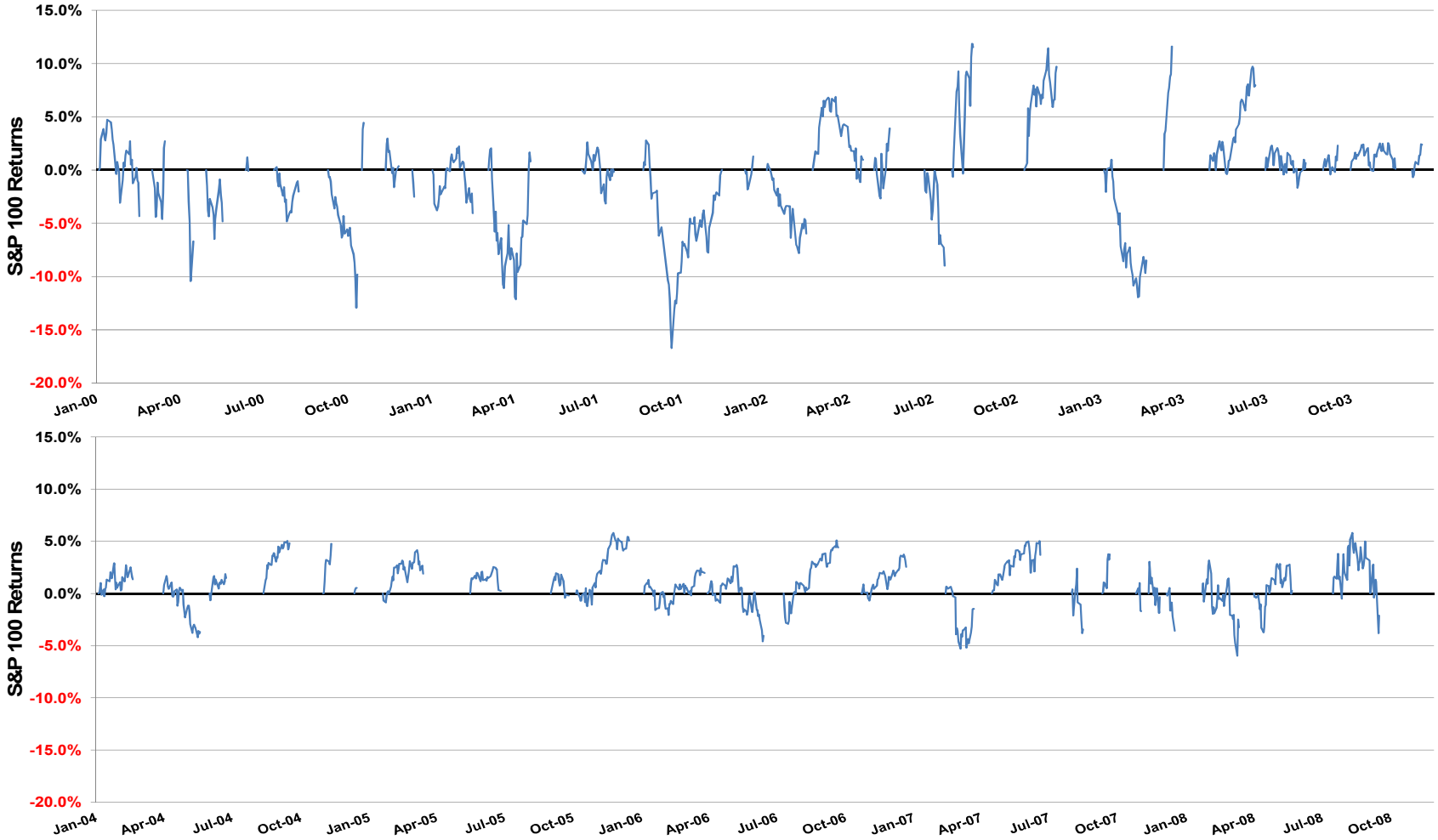


Equity Shares Purportedly Sold Above/Below the Volume Weighted Average Price ("VWAP")

- The chart shows the number of shares purportedly traded in the Merkin BLMIS Accounts that were sold above VWAP and the number that were sold below VWAP.
- VWAP is a standard trading metric calculated by weighting each transaction price by the volume for the transaction. VWAP data is easily obtainable from any Bloomberg terminal.
- The blue bars represent shares that were sold above VWAP.
- The green bars represent shares that were sold below VWAP.

Schedule 71: Poor Market Timing

Madoff was not successful at market timing



S&P 100 Returns During Baskets

- The chart shows how the S&P 100 performed during the times when Madoff purportedly chose to enter and exit the market (i.e., during each of the 51 baskets).
- The last basket trade in November 2008 was excluded because there was no corresponding sale of the basket.

Schedule 72: Poor Stock Picking

The stocks that Madoff purportedly picked for the baskets for the Merkin BLMIS Accounts performed worse than the overall S&P 100

Basket Number	Start Date	End Date	Return on Stocks Picked in Basket	S&P 100 Return	Difference
1	1/5/2000	2/18/2000	-6.4%	-5.2%	-1.3%
2	3/3/2000	3/17/2000	5.5%	6.4%	-0.9%
3	4/10/2000	4/17/2000	-8.8%	-8.3%	-0.4%
4	5/1/2000	5/19/2000	-7.8%	-0.7%	-7.1%
5	6/13/2000	6/16/2000	0.5%	-0.1%	0.6%
6	7/14/2000	8/10/2000	-7.8%	-0.1%	-7.7%
7	9/11/2000	10/20/2000	-13.6%	-12.2%	-1.3%
8	11/13/2000	11/27/2000	1.1%	0.4%	0.7%
9	12/12/2000	12/14/2000	-3.9%	-3.8%	-0.1%
10	1/3/2001	2/16/2001	-3.3%	-2.7%	-0.6%
11	3/5/2001	4/20/2001	8.9%	7.3%	1.6%
12	6/15/2001	7/20/2001	-2.7%	-1.8%	-1.0%
13	8/21/2001	11/15/2001	2.1%	-0.6%	2.7%
14	12/10/2001	12/19/2001	2.2%	1.5%	0.8%
15	1/3/2002	2/15/2002	-6.0%	-5.9%	-0.1%
16	2/22/2002	4/18/2002	-3.1%	-1.6%	-1.5%
17	4/30/2002	5/17/2002	6.4%	5.9%	0.5%
18	6/24/2002	7/16/2002	-9.6%	-9.9%	0.3%
19	7/24/2002	8/16/2002	13.6%	12.5%	1.1%
20	10/11/2002	11/15/2002	5.5%	5.6%	-0.1%
21	1/6/2003	2/21/2003	-13.5%	-9.9%	-3.5%
22	3/12/2003	3/21/2003	11.3%	11.3%	0.0%
23	5/1/2003	6/20/2003	8.2%	9.0%	-0.7%
24	7/1/2003	8/14/2003	-0.6%	-0.3%	-0.3%
25	9/2/2003	9/18/2003	1.6%	1.4%	0.2%
26	10/2/2003	11/20/2003	-0.5%	-0.4%	-0.1%
27	12/8/2003	12/19/2003	2.6%	2.6%	0.0%
28	1/5/2004	2/20/2004	1.9%	2.1%	-0.1%
29	4/1/2004	5/20/2004	-5.0%	-5.3%	0.2%
30	6/2/2004	6/24/2004	-0.3%	2.0%	-2.3%
31	8/13/2004	9/17/2004	3.2%	3.7%	-0.5%
32	11/1/2004	11/12/2004	3.5%	4.0%	-0.5%
33	12/13/2004	12/16/2004	0.8%	0.7%	0.1%
34	1/20/2005	3/15/2005	3.0%	3.4%	-0.3%
35	5/17/2005	6/27/2005	-1.2%	-0.2%	-1.0%
36	9/2/2005	9/26/2005	-1.6%	-1.8%	0.2%
37	10/6/2005	12/16/2005	3.7%	5.8%	-2.1%
38	1/5/2006	3/27/2006	0.9%	1.6%	-0.7%
39	3/31/2006	6/14/2006	-5.3%	-4.6%	-0.7%
40	7/11/2006	9/22/2006	4.6%	5.9%	-1.3%
41	10/23/2006	12/22/2006	3.2%	3.2%	0.0%
42	2/13/2007	3/23/2007	-2.2%	-1.6%	-0.6%
43	4/16/2007	6/20/2007	3.9%	4.2%	-0.3%
44	8/1/2007	8/16/2007	-3.2%	-3.8%	0.6%
45	9/11/2007	9/21/2007	4.2%	4.8%	-0.6%
46	10/26/2007	11/2/2007	-1.9%	-2.0%	0.1%
47	11/12/2007	11/27/2007	-2.0%	-2.9%	0.9%
48	12/6/2007	12/17/2007	-3.7%	-4.1%	0.4%
49	1/23/2008	3/12/2008	-3.1%	-3.4%	0.3%
50	4/1/2008	5/22/2008	-2.1%	-1.9%	-0.2%
51	7/16/2008	9/16/2008	-3.3%	-2.8%	-0.5%
52	11/3/2008	11/28/2008	N/A	N/A	N/A
Mean			**-0.4%**	**0.1%**	**-0.5%**
Median			**-0.5%**	**-0.2%**	**-0.2%**

Return on Basket Stocks v. S&P 100

- The chart shows the return on stocks that Madoff purportedly picked for the baskets in the Merkin BLMIS Accounts, S&P 100 returns and the difference between the two.
- The last basket trade in November 2008 was excluded because there was no corresponding sale.

EXHIBIT 2

Steve Pomerantz, PhD

30 West 63rd Street – 20L
New York, NY 10023
Phone 609.273.3286 Fax
609.228.5446
steve@stevepomerantz.com
www.stevepomerantz.com

CURRICULUM VITAE of

STEVE POMERANTZ, Ph.D.

PROFESSIONAL EXPERIENCE

Steve Pomerantz provides economic and investment management consulting as well as litigation support on cases involving mutual funds, defined contribution and defined benefit plans, through analyses of investment management fees and practices; investment-related damages; investment performance and plan structure.

Steve Pomerantz holds a Ph.D. in mathematics from the University of California at Berkeley and has twenty-five years of experience in investment research, financial modeling, derivative structuring, statistics, portfolio and risk management.

Dr. Pomerantz has been qualified as an expert witness in numerous securities-related matters in various jurisdictions, providing litigation support to accountants and attorneys. His experience in litigation has been in cases involving trust management, investment suitability, derivative valuation, investment strategy analysis, economic damages, tax shelters, mutual funds and investment industry practice.

He is often called upon to use sophisticated mathematical techniques to develop models for valuation, damages and suitability analysis. Dr. Pomerantz is well versed in applications of operations research, statistics, probability and time-series analysis to provide solutions within a variety of assignments.

He has taught as an adjunct professor at the undergraduate and graduate level in mathematics, operations research and finance. His experience in the investment management area has served a variety of firms and clients in areas as diverse as derivative structuring, quantitative research, due diligence, portfolio and risk management. This experience coupled with his academic training provides a perspective that is grounded in scientific rigor yet possesses the practical realities of how the business of finance operates.

LICENSES

Dr. Pomerantz has held numerous NASD licenses including the Series 3, 7, 24 and 63. In addition, he is a FINRA-trained arbitrator.

EDUCATION

Dr. Pomerantz received a Ph.D. in Mathematics from the University of California at Berkeley in 1986. His thesis was in the area of Non-Linear Partial Differential Equations. In 1981 he received a Bachelor of Arts in Mathematics from Queens College of the City University of New York.

TEACHING EXPERIENCE

Dr. Pomerantz has held adjunct professor positions at Stevens Institute of Technology, the College of Saint Elizabeth, Saint Peter's College and Queens College teaching courses in Finance, Operations Research, Mathematics, Statistics and Probability.

PRIOR WORK EXPERIENCE

Steve Pomerantz LLC 2000-
Investment Management Consultant

Various assignments in research, portfolio management and risk management for: Insurance Companies, Traditional and Alternative Investment Advisors. Consulting and Testifying expert.

Managing Director 2013-2014
Duff & Phelps LLC
Litigation Support

Director of Quantitative Research 1992-2000
Weiss Peck & Greer LLC
Provided quantitative decision support to all investment management areas of the firm including equity, fixed income, alternatives, asset allocation, client servicing and firm-wide risk management.

Vice President 1990-1992
Nomura Securities International
Cross-market trader in all fixed income and mortgage derivative markets.

Vice President 1988-1990
Citibank - Consumer Banking Group
Asset liability management for consumer banking division and internal mortgage portfolio.

Vice President 1987-1988
Morgan Stanley
Development and trading of dynamic hedging strategies in equity, interest rate, commodity and currency markets.

Vice President 1986-1987
Bank of America
Model development for bond analysis and exotic currency options.

ARTICLES PUBLISHED

MUTUAL FUND ADVISORY FEES: NEW EVIDENCE AND A FAIR FIDUCIARY DUTY TEST (with John P. Freeman & Stewart L. Brown)
61 Okla. L. Rev. 83 (2008)

MONTE CARLO SIMULATION ANALYSIS – A TOOL FOR PROJECTING THE UNKNOWN (with Bruce Dubinsky)
CPA Expert – Winter 2007

MONTE CARLO SIMULATION ANALYSIS – Part II: BEYOND THE THEORY
CPA Expert – Spring 2007

MONTE CARLO SIMULATION ANALYSIS – Part III: A CASE HISTORY
CPA Expert – Summer 2007

THE PURSUIT OF ALPHA IN A FUND OF HEDGE FUNDS
Hedge Fund Association – May 2006

MONTE-CARLO ANALYSIS: A TOOL FOR EVALUATING INVESTMENT RETURNS
New York State Bar Association Newsletter – Fall/Winter 2005

DESIGNING A 401K PLAN
New York State Bar Association Newsletter – Fall/Winter 2005

An Information-Based Model of Market Volatility (with Rick Bookstaber)
Financial Analyst Journal – November/December 1989
Received the 1989 Graham and Dodd Scroll Award by the Financial Analysts Federation

PRESENTATIONS

HEDGE FUND DUE DILLIGENCE
U. S. Department of Labor – December 2012

EVOLVING RISK CONCEPTS AND TOOLS
InfoVest – February 2010

USING STYLE ANALYSIS TO CALCULATE VAR
MPI Conference – March 2008

RISK MANAGEMENT FOR HEDGE FUNDS AND FUND OF FUNDS
ICI Economic Consulting – January 2005

AN APPLICATION OF ASSET ALLOCATION
IRR Fund of Funds Forum – September 2002

APPEARANCES

Deposition in Andrew Sassine vs Fidelity Management and Research Co., Commonwealth of Massachusetts – Superior Court, Investment Management, October 2015

Deposition in American Chemicals & Equipment, Inc. vs Principal Management Co, US District Court – Southern District of Iowa, Mutual Fund Fee Analysis, October 2015

Direct and Cross-Examination in IFIC vs Charles Schwab, Investment Analysis, September 2015

Deposition in Irving H. Picard v. Merkin et al, US Bankruptcy Court – Southern District of New York, Investment Management, July 2015

Deposition in Kasilag et al v. Hartford Funds Management Co. LLC, US District Court – District of New Jersey, Mutual Fund Fee Analysis, June 2015

Deposition in CCM Rochester, Inc v. Federated Investors, US District Court – Southern District of New York, Investment Analysis, June 2015

Direct and Cross-Examination in Re: US Airlines, Pilots Board of Adjustment, 401(k) Analysis, April 2015

Deposition in Re J.P. Morgan Stable Value Fund, US District Court – Southern District of New York, Investment Analysis, March 2015

Deposition, Direct and Cross-Examination in Foutz al v. Arborgen. et al, State of South Carolina –County of Dorcester, Employee Options Analysis, December 2014

Deposition in Sivolella et al v. AXA Equitable Life Insurance Co., US District Court – District of New Jersey, Mutual Fund Fee Analysis, November 2014

Deposition in Krueger et al v. Ameriprise Financial, Inc. et al, US District Court – District of Minnesota, 401(k) Analysis, September 2014

Deposition in DeLollis et al v. Margolin, Winer & Evans., State of New York – County of Nassau, Investment Analysis, September 2014

Deposition In Re: Ciufo Trust, Circuit Court of the First Circuit, State of Hawai'I, Investment Analysis, June 2014

Deposition in Santomenno et al v. Transamerica Life Insurance Co., US District Court – Central District of California, 401(k) Analysis, June 2014

Deposition, Direct and Cross-Examination in Convergent Wealth Advisors v. Lexington Insurance, Circuit Court of Montgomery County, Maryland, Hedge Fund Due Diligence, May 2014

Direct and Cross-Examination Testimony in Buchanan v. Primerica, NASD Arbitration, Investment Suitability, November 2013

Direct and Cross-Examination Testimony in Smith v. Primerica, NASD Arbitration, Investment Suitability, October 2013

Direct and Cross-Examination Testimony in Ward v. Primerica, NASD Arbitration, Investment Suitability, June 2013

Direct and Cross-Examination Testimony in DeShazior v. Primerica, NASD Arbitration, Investment Suitability, April 2013

Direct and Cross-Examination Testimony in Schneider v. Primerica, NASD Arbitration, Investment Suitability, March 2013

Deposition in Curran et al v. Principal Management Corporation, US District Court – Southern District of Iowa, Mutual Fund Fee Analysis, January 2013

Direct and Cross-Examination Testimony in Fiorilla v. Citigroup, NASD Arbitration, Investment Suitability, December 2012

Direct and Cross-Examination Testimony in Grevelding et al v. State of New York, State of New York– Court of Claims, December 2012

Deposition in Reso et al v. Artisan Partners, US District Court –Eastern District of Wisconsin, Mutual Fund Fee Analysis, June 2012

Deposition in Eastman et al v. First Data Corp, US District Court – District of New Jersey, Investment Management, June 2012

Deposition in Irving H. Picard v. Katz et al, US Bankruptcy Court – Southern District of New York, Investment Management, January 2012

Deposition in Goldberg et al v. Indel Inc.. et al, US District Court – District of New Jersey, Investment Suitability, January 2012

Deposition in Nolte et al v. Cigna Corporation et al, US District Court – Central District of Illinois, 401(k) Analysis, January 2012

Deposition in Inmobilliaria Axial, S.A. v. Banco Santander International, AAA, Investment Suitability, April 2011

Deposition in DDRA v. KPMG, US District Court – Division of St. Croix, Tax Shelter Analysis, March 2011

Deposition in Re: Northrup Grumman, US District Court – Central District of California, 401(k) Analysis, February 2011

Deposition in George et al v. Kraft Foods Global, Inc. et al, US District Court – Northern District of Illinois, 401(k) Analysis, November 2010

Deposition in Robin Figas et al v. Wells Fargo et al, US District Court – District of Minnesota, 401(k) Analysis, October 2010

Direct and Cross-Examination Testimony in Citrone v. Chequer, Chon & Krensky, AAA, Employee Option Analysis September 2010

Direct and Cross-Examination Testimony in MacDonald v. Genspring Family Office, JAMS, Investment Suitability, March 2010

Deposition in Schmidt v. Wachovia Bank, US District Court – Western District of Northern Carolina, Tax Shelter Analysis, February 2010

Deposition in Re: Federated Mutual Funds, US District Court –Western District of Pennsylvania, Mutual Fund Fee Analysis, December 2009

Direct and Cross-Examination Testimony in Hawkins, et al v. United States of America, et al, US Bankruptcy Court, Tax Shelter Analysis, December 2009

Deposition, Direct and Cross-Examination Testimony in Tibble et al v. Edison Intl. et al, US District Court –Central District of California, 401(k) Analysis, May 2009, October 2009

Deposition in Alfano v. BDO Seidman et al, Superior Court of New Jersey –Bergen County, Tax Shelter Analysis, January 2009

Deposition in Re: Inter Vivos Trust, Superior Court of New Jersey –Bergen County, Investment Suitability, January 2009, October 2010

Deposition in Giordano v. Merrill Lynch & Co. Inc., Superior Court of New Jersey – Mercer County, Stock Option Analysis, January 2009

Deposition, Direct and Cross-Examination Testimony, Deposition in Kennedy et al v. ABB Inc., et al, US District Court –Western District of Missouri, 401(k) Analysis, November 2008, March 2008, January 2010

Deposition in Pat Beesley et al v. International Paper, US District Court –Southern District of Illinois, 401(k) Analysis, November 2008, September 2011

Deposition in Abbot et al v. Lockheed Martin Corporation, US District Court –Southern District of Illinois, 401(k) Analysis, October 2008, October 2014

Deposition in Kanawi et al v. Bechtel Corporation, US District Court –Northern District of California, 401(k) Analysis, September 2008

Deposition in Bennett et al v. Fidelity, US District Court –District of Massachusetts, Mutual Fund Fee Analysis, September 2008

Deposition, Direct and Cross-Examination Testimony in Bemont et al v. The United States of America, US District Court –Eastern District of Texas, Tax Shelter Analysis, June 2008, July 2009, March 2010

Deposition in Atwater et al v. NFLPA, US District Court - Northern District of Georgia, Investment Suitability, May 2008

Deposition in Taylor et al v. United Technologies Corporation, US District Court –District of Connecticut, 401(k) Analysis, April 2008

Deposition in Spano et al v. The Boeing Company, US District Court –Southern District of Illinois, 401(k) Analysis, April 2008, September 2011, April 2015

Direct and Cross-Examination Testimony in Fegers et al v. Atlantic Data Services, Inc., Commonwealth of Massachusetts – Superior Court, February 2008

Direct and Cross-Examination Testimony in New Phoenix v. Commissioner of Internal Revenue, Tax Shelter Analysis, January 2008

Direct and Cross-Examination Testimony in Rosenbach et al v. DGI, AAA, Tax Shelter Analysis, October 2007

Deposition in Trotman v. Delaware Management Business Trust, US District Court – Eastern District of Pennsylvania, Investment Management, October 2007

Deposition in Spillsbury v. KPMG, District Court of Clark County, Nevada, Tax Shelter Analysis, August 2007

Deposition in Strigliabatti et al v. Franklin Resources Inc., US District Court –Northern District of California, Mutual Fund Fee Analysis, May 2007

Deposition in Gallus et al v. American Express Financial Corp., US District Court –District of Minnesota, Mutual Fund Fee Analysis, January 2007

Deposition in Sullivan v. KPMG and QA Investments, Superior Court of New Jersey, Tax Shelter Analysis, November 2006

Direct and Cross-Examination Testimony in Techtmann v. Merrill Lynch, NASD Arbitration, Investment Suitability, November 2006

Deposition in Sklodowski v. First Union, Superior Court of New Jersey, Analysis of Investment Performance, October 2006

Deposition in WCF LLC v. Charles Calomiris, Superior Court –District of Columbia, Investment Management, October 2006

Direct and Cross-Examination Testimony in Guido v. McDonald Securities, NASD Arbitration, Investment Suitability, October 2006

Deposition in Sins et al v. Janus Capital Management, US District Court –District of Colorado, Mutual Fund Fee Analysis, September 2006

Direct and Cross-Examination Testimony in Kusma v. Smith Barney, NASD Arbitration, Investment Suitability, April 2006

Direct and Cross-Examination Testimony in Chu v. Smith Barney, NASD Arbitration, Investment Suitability, March 2006

Deposition in Williams et al v. Waddell & Reed, US District Court –District of Kansas, Mutual Fund Fee Analysis, March 2006, July 2006

Deposition in McNair v. KPMG, District Court of Harris County – Texas, Tax Shelter Analysis, February 2006

Deposition in Jones et al v. Harris Associates LP, US District Court – Northern District of Illinois, Mutual Fund Fee Analysis, February 2006

Deposition in Baker et al v. American Century, US District Court – Western District of Missouri, Mutual Fund Fee Analysis, December 2005, April 2006

Deposition in Nelson et al v. UBS Asset Management, US District Court – Northern District of Illinois, Investment Suitability, August 2005

Deposition, Direct and Cross-Examination Testimony in Coleman v. KPMG, AAA, Tax Shelter Analysis August 2005

Deposition in Gibson v. First Union, Superior Court of New Jersey, Analysis of Investment Performance, July 2005

Deposition in Lola Brown Trust et al v. Neuberger Berman Real Estate Income Fund, US District Court – District of Maryland, Investment Management Performance, Asset Allocation and Event Models, May 2005

Deposition in Hobby v. Georgia Power, US District Court – Atlanta Division, Valuation of Employee Stock Options, March 2005

Direct and Cross-Examination Testimony in Kahn v. Oppenheimer & Co., Inc., NASD Arbitration, Investment Suitability, February 2005

Deposition in Howard v. Covansys Inc., US District Court – Eastern Division, Valuation of Employee Stock Options, July 2004

Direct and Cross-Examination Testimony in Stacy Foundation v. Merrill Lynch, Pierce, Fenner & Smith, Inc., JAMS Arbitration, Investment Suitability, June 2004

October 2015