



# Investor Risk Committee

*Hedge Fund Disclosure for Institutional Investors  
July 27, 2001*

## **IRC Committee Chairs**

*Maarten Nederlof (Deutsche Bank) and Tanya Styblo Beder (Caxton Associates)*

## **IRC Steering Group Members**

*Mark Anson (CalPERS), Giovanni Beliossi (First Quadrant), Bill McCauley (III Offshore Advisors), Bill Miller (Commonfund), David K. A. Mordecai*

### *Introduction*

The Investor Risk Committee (IRC) was launched by the IAFE in January, 2000. The IRC consists of individuals from hedge fund investment managers, herein referred to as "Managers" and from a variety of institutional investors including pension funds, endowments, foundations, insurance companies, fund of funds and others, herein referred to as "Investors". See Appendix A for a detailed listing of the IRC's participants to date.

Over the past 18 months the IRC held six working sessions in New York, Boston, and London on the topic "What is the right level of disclosure by hedge funds?" In 2001 the IRC formed 11 smaller working groups to expand the consensus document published by the IRC in October of 2000. The subgroups formed by the IRC cover 9 common hedge fund strategies plus a "fund of funds" group to address aggregation issues across strategies. In addition, an "alternate approaches" group was formed as a number of IRC members felt that few hedge funds fit into one of the 9 pure strategy types on a consistent basis.

### *Highlights from this release*

- ▪ Section I provides expanded detail regarding the 3<sup>rd</sup> finding from the October 2000 IRC release. The 3<sup>rd</sup> finding discussed the reporting of summary risk, return and position information as an alternative to full position disclosure and set forth 4 dimensions: content, granularity, frequency, and delay. This release includes 20 added findings. Where IRC members felt it useful, specific commentary is provided for specific hedge fund strategy types.
- ▪ Section II provides an alternate framework for classifying hedge funds. This framework eliminates the need to classify a hedge fund by type of strategy. The dimensions of this new framework are asset class, direction, type, region, liquidity and turnover.

The 11 working groups of the IRC are:

- (1) (1) Convertible Arbitrage
- (2) (2) Event Driven
- (3) (3) Fixed Income Arbitrage
- (4) (4) Long/Short Equity
- (5) (5) Emerging Markets
- (6) (6) Global Macro
- (7) (7) Managed Futures
- (8) (8) Market Neutral
- (9) (9) Dedicated Short Bias
- (10) (10) Fund of Funds
- (11) (11) Alternate Approaches

As with the October 12, 2000 document, this is not meant to be the final word. The IRC plans to continue its work and to expand the content of this document in future releases. The goal of the IRC is to provide results that will be useful to Investors and Managers alike to benchmark their practices relative to their peers.

As in its initial document, the IRC adopts the definition of a hedge fund used in "Sound Practices for Hedge Fund Managers"<sup>[1]</sup> published in February 2000: "a pooled investment vehicle that is privately organized, administered by a professional investment management firm ... and not widely available to the public." As such, a wide variety of investment vehicles are included in this definition – small and large (in assets or staff), operating in one market or many, following a single, simple strategy or a combination of complex strategies, operating on-shore or off-shore under varying organizational structures, etc.

### ***IRC Findings (reprinted from the October 12, 2000 findings)***

1. 1. Investors have three primary objectives in seeking disclosure from Managers
  - • Risk monitoring: ensuring that Managers are not taking on risks beyond represented levels in terms of allowable investments, exposures, leverage, etc.
  - • Risk aggregation: ensuring the Investors' ability to aggregate risks across their entire investment program in order to understand portfolio level implications
  - • Strategy drift monitoring: ensuring the Investors' ability to determine whether a Manager is adhering to the stated investment strategy or style
2. 2. IRC Members agreed that full position disclosure by Managers does not always allow them to achieve their monitoring objectives, and may compromise a hedge fund's ability to execute its investment strategy

Despite the fact that many Investors receive full position disclosure for many of their

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<sup>[1]</sup> This 80-page document may be down loaded from <http://www.mfainfo.org/washington/hedgefunds/HFMSoundPractices.PDF>

investments, the members of the IRC who have participated in the meetings to date were in agreement that full position disclosure by Managers is not the solution. Managers expressed significant concerns over the harm that full position disclosure could cause for many common hedge fund strategies (for example macro and risk arbitrage). Investors agreed they did not wish to force disclosure that would be adverse to the Manager, and therefore to their investment. In addition, many Investors expressed concern over the operational difficulties associated with processing such vast quantities of diverse data.

3. 3. IRC Members agreed that the reporting of summary risk, return and position information can be sufficient as an alternative to full position disclosure. Such summary information should be evaluated on four dimensions: content, granularity, frequency, and delay.
  - • Content: describes the quality and sufficiency of coverage of the Manager's activities. This dimension covers information about the risk, return and positions on an actual as well as on a stress-tested basis.
  - • Granularity: describes the level of detail. Examples are NAV disclosure, disclosure of risk factors (APT<sup>i[1]</sup>, VaR<sup>ii[2]</sup>, etc.), disclosure of tracking error or other risk and return measures at the portfolio level, by region, by asset class, by duration, by significant holdings, etc.
  - • Frequency: describes how often the disclosure is made. High turnover trading strategies may require more frequent disclosure (for example, daily) than private or distressed-debt investment funds where monthly or quarterly disclosure is more appropriate.
  - • Delay: describes how much of a lag occurs between when the fund is in a certain condition and when that fact is disclosed to Investors. A fund might agree to full or summary position disclosure, but only after the positions are no longer held.
4. 4. IRC Members agreed that usability of any alternative disclosure depends upon sufficient understanding of the definitions, calculation methodologies, assumptions and data employed by the Manager. This may be accomplished in a variety of fashions including discussions between Investors and Managers; by the Manager providing for adequate transparency of their process; or via independent verification.
5. 5. IRC Members should benchmark their practices relative to their peers. IRC Members agreed that a major challenge to peer group performance and risk comparisons as well as aggregation across managers is the use of a variety of calculation methodologies, assumptions and data employed in the market place. IRC Members did not, however, feel that "one size fits all," and felt that multiple peer groups may be relevant depending on the nature of the Investor as well as the strategies employed by the Manager. Investors and Managers believe that an industry effort should be made to improve the ability to conduct comparisons across Managers as well as multi-Manager portfolio analysis.
6. 6. IRC Members agreed that detailed reporting is not a substitute for initial and ongoing due diligence reviews, on-site visits and appropriate dialog between Investors and Managers.

7. 7. IRC Members agreed that market, credit, leverage, liquidity and operational risks are interrelated. Accordingly, exposure to these risks in combination should be included in the dialog between Investors and Managers.

### **Section I**

This section provides expanded detail regarding the 3<sup>rd</sup> finding from the October 2000 IRC release. The 3<sup>rd</sup> finding discussed the reporting of summary risk, return and position information as an alternative to full position disclosure and set forth 4 dimensions: content, granularity, frequency, and delay (see above). Overall, IRC members observed that disclosure of information should minimize the possibility that it could adversely impact the fund. This requires limiting the degree of detail that is revealed, closely limiting the recipients and using confidentiality or other protections as necessary. An overarching finding by the IRC for each of the detailed comments that follow is that disclosure should not be made if it jeopardizes the returns of the fund.

Dimension #1: Content: describes the quality and sufficiency of coverage of the Manager's activities. This dimension covers information about the risk, return and positions on an actual as well as on a stress-tested basis. Regarding content, the IRC was in agreement that:

- VaR can be useful information but should be calculated using an industry-standard definition.

Currently there is no industry-standard definition for VaR for hedge funds nor is there an industry-standard definition for VaR for many types of firms such as mutual funds, banks or insurance companies. An industry standard definition may be able to be developed for many types of hedge funds and assets classes. However, IRC members noted that while common historical data exist for many asset classes, data do not exist for all asset classes or for many spreads that are traded by hedge funds. Accordingly, for strategies that involve spreads (e.g. fixed income arbitrage) and/or specialty assets classes, use of VaR should be discouraged unless it explicitly models the particular "spread" or "specialty asset class" risks in the portfolio. Where use of VaR under an industry standard definition is not possible, simulations of the portfolio under various scenarios are an acceptable substitute.

The IRC encourages members to cooperate to build the necessary data required so that all types of assets and spreads may be included in an industry standard definition for VaR. The IRC observes that any development of any industry standard definition – and the necessary data - will take time and must take into account the cost of conversion/implementation to Managers. Switching from existing methodologies to an industry standard methodology could result in material and substantial expenditures for many funds.

Pending the development of an industry-standard definition of VaR, Managers who use VaR may use methods that are appropriate to their investments. As a consensus on industry standards develops, Managers should work to incorporate those standards as soon as

practicable if VaR is appropriate for their fund(s). IRC Members underscored the value this will have in addressing aggregation issues across Managers.

- Aggregate measures of a fund's exposure to different types of asset classes can be useful.

Global macro managers and event driven managers – and investors in these types of managers – expressed the concern that disclosure could place the manager's returns in jeopardy. Where possible, profiles of interest to investors include interest rates, equities, commodities and currencies. In addition, volatility and credit while not considered traditional asset classes, may be of interest to Investors for portfolios that involve transactions such as volatility swaps and notes or credit derivatives. Managers may draw from many different types of aggregate measures such as VaR by asset class, marginal VaR by asset class, the absolute value of gross and/or net exposure by asset class, and percentage of overall cash invested per asset class.

- Aggregate measures of a fund's exposure to different geographic regions can be useful.

This only should be disclosed if it does not jeopardize the returns of the fund. Global macro managers and event driven managers – and investors in these types of managers – expressed the concern that disclosure could place the manager's returns in jeopardy. Where possible, profiles of interest to investors include US, Euro, other G-7 currencies, and emerging market currencies.

- Net asset value (NAV) and stress measures of NAV appropriate to the strategy can be useful.

The IRC noted that benchmarks are commonly used to generate the NAV and NAV stress measures for many hedge fund strategy types. The IRC observed that in some cases the use of benchmarks for this type of disclosure may be better replaced by historical simulations. For example, if a market neutral manager in US large cap equities uses the S&P index as a proxy for the long/short positions, this may understate any sector risk that exists in the portfolio. Benchmarks pose a similar issue for arbitrage managers. For such managers, historical simulations designed for the specific risks of the portfolio may be an acceptable substitute. Another useful representation of stress measures is as a percentage impact on capital.

- Cash as a percent of equity can be useful.

Some members of the IRC noted that liquidity as a percent of equity and/or liquidity expressed relative to VaR may be more appropriate measures for some funds. These measures are an area in which the IRC plans additional work.

- Correlation to an appropriate benchmark can be useful.

In addition to correlation with a benchmark, certain investors may also wish to measure the tracking error and information ratio of a portfolio relative to a benchmark. Investors and Managers in the IRC unanimously agreed that these are not appropriate for many types of

hedge fund managers, particularly those who allocate capital into different types of asset classes and/or strategies during the course of a reporting period.

- ▪ Delta, gamma and other measures of optionality, as appropriate, can be useful.
  
- ▪ Key spread relationships, as appropriate, can be useful.

Dimension # 2 Granularity: describes the level of detail. Examples are NAV disclosure, disclosure of risk factors (APT, VaR, etc.), disclosure of tracking error or other risk and return measures at the portfolio level, by region, by asset class, by duration, by significant holdings, etc.

- ▪ Granularity depends on the size of the fund/ pool.

For example a small portfolio has little potential market impact so highly granular disclosure could be "costless" and would not jeopardize the Manager's positions. For large portfolios, granular disclosure is far from costless and can be ruinous.

- ▪ Large funds/ pools need to limit granularity of reporting sufficiently to protect Investors against predatory trading against the Manager's positions.
  
- ▪ For those funds/ pools who will not place the investor's interests at risk through such disclosure, the top 10 single exposures and concentrated sector exposures expressed on a net basis can be useful. Absolute value may be used to protect the directional position of the Manager. Some IRC members observed that the availability of information on long equity holdings could be combined with any net holding information to derive short positions and therefore that net position disclosure could be detrimental and should not be made by such funds.
  
- ▪ Where it is not possible to disclose the top 10 single exposures, disclosure by asset class and by region can be useful, but should be limited to protect Investors against predatory trading against the Manager's positions.
  
- ▪ To the degree that it is not damaging to the Manager's positions – and hence the Investor's returns - statistics reported by asset class/ region can be useful if their gross long exposure exceeds 20% of total.

Dimension # 3 - Frequency: describes how often the disclosure is made. High turnover trading strategies may require more frequent disclosure (for example, daily) than private or distressed-debt investment funds where monthly or quarterly disclosure is more appropriate.

- ▪ Summary statistics can be useful to Investors and reported as frequently as monthly. Investor members of the IRC noted that this is consistent with how many of their Managers are monitored and that monthly disclosure of risk statistics would be more frequent than what is provided by many mutual funds.

- ▪ If the strategy is illiquid or exhibits light turnover, then quarterly disclosure may be sufficient.
- ▪ Disclosure can be more frequent (monthly) for portfolios that turn over more frequently.
- ▪ Performance attribution can be useful to disclose more frequently than risk attribution.
- ▪ In the monthly disclosure it can be useful to include the previous month's history of daily profit and loss for funds who have investments that are able to be marked to market on a daily basis.

Dimension #4 - Delay: describes how much of a lag occurs between when the fund is in a certain condition and when that fact is disclosed to Investors. A fund might agree to full or summary position disclosure, but only after the positions are no longer held.

- ▪ Summary statistics should be disclosed as soon as is practicable following the end of the reporting period (preferably within 10 days) subject to protecting the interests of investors from suffering adverse market impact from that disclosure.
- ▪ Practically, delay may be viewed as a function of the average holding period in a given strategy.
- ▪ Disclosure may use generic rather than specific names if the strategy is still active at the time of the disclosure.

### **Section II<sup>2[2]</sup>**

In this section, the IRC provides the following “alternative approach” to hedge fund classifications as a starting point for discussion about disclosure findings. The IRC reiterates that this is an important framework to develop given the lack of “pure” hedge fund types that exist in the market place. The lack of pure hedge funds types – and the fact that many practitioners and academics continue to classify hedge funds by pure types - creates significant noise in many existing hedge fund indices. This calls into question the results of studies that depend upon these classifications. The IRC expects this framework to change substantially as it evolves and is merged with the work in Section I.

The IRC envisions that Managers would reclassify themselves as necessary under this framework. For discussion purposes, the IRC classified the activities of traditional and hedge fund Managers into the following five types:

1. 1. Asset Class - The asset class is the broadest category, and defines the market in which the fund operates. The following are the suggested types of asset classes:
  - ▪ Interest rates
  - ▪ Equities

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<sup>2[2]</sup> This section is drawn from Richard Bookstaber, "Definitions of Trading Strategies", Working Paper, April, 2001.

- ▪ Foreign Exchange
- ▪ Commodities
- ▪ Multi-Class – this is meant to capture “none or some of the above”, and specifically includes Global Macro funds.

2. 2. Direction - The direction of the Manager’s activity in the asset class indicates the net exposure and correlation the manager tends to have with the key risk factor of that asset class. The IRC suggests the following directional classifications:

- ▪ Long
- ▪ Short
- ▪ Long/Short
- ▪ Neutral

The IRC observes that direction may be misleading or impossible to apply to a Global Macro fund. However, for Managers with more consistent investments in one or more asset classes, the following correlation ranges are suggested as a straw man to establish the “Direction” categories:

- ▪ Long           over +0.5
- ▪ Short          under -0.5
- ▪ Long/Short   between -0.5 and +0.5
- ▪ Neutral               between -0.2 and +0.2
- ▪ Event           usually zero, sometimes high (i.e. in liquidity or credit crises)

Example: for a large cap US stock fund, the S&P may be an appropriate benchmark against which to calculate correlation for directional evaluation; for a European bond fund it might be the Bund.

The IRC notes that a substantially long-only Manager may show low correlation with a benchmark so would be classified as a "neutral." The following net exposure measures are suggested as a straw man to address this:

- ▪ Long           net exposure over + 60%
- ▪ Short          net exposure under - 20%
- ▪ Long/Short   net exposure between + 20% and + 60%
- ▪ Neutral               net exposure between -20% and + 20%
- ▪ Event           net exposure typically between 0% and 20%

To perform the calculation of net exposure take the market value of long exposure minus the market value of short exposure and divide the result by capital.

3. 3. Type – The type provides more information, particularly in the case of Managers who have “Neutral” and/or “Event” Direction categories under the previous classification. Greater information is helpful because the risk of these types of activities are not well described by the variation of the Asset Class index. The following classifications are suggested as a straw man to establish the “Type” categories for such Managers:



Type (for Neutral classification)

- ▪ Relative Value
- ▪ Convertible Arbitrage
- ▪ Statistical Arbitrage
- ▪ Quantitative/Systematic Equity Selection
- ▪ Option Arbitrage

Type (for Event Classification)

- ▪ Merger Arbitrage
- ▪ Credit Arbitrage
- ▪ Distressed Debt

4. 4. Region - The region provides information regarding where the fund is trading. To the degree this classification places the Manager's positions and or returns in jeopardy, differentiation may be limited to "G-10" and "Emerging Markets." The following classifications are suggested as a straw man to establish the "Region" categories for Managers:

G-10

- ▪ US and Canada
- ▪ Euro Zone
- ▪ Other European
- ▪ Japan
- ▪ Global

Emerging Markets

- ▪ Eastern Europe
- ▪ Latin America
- ▪ East Asia
- ▪ Emerging Market Global

5. Liquidity - Some funds trade short term and are in instruments that can be traded easily. Other funds are less liquid either because of their strategies, the types of instruments they hold, or the size of their holdings. The following classifications are suggested as a straw man to establish the "Strategy" categories for such Managers:

- ▪ Highly Liquid: most positions can be liquidated in a few days
- ▪ Liquid: most positions can be liquidated in one to two weeks
- ▪ Illiquid: positions cannot be easily liquidated, with some taking months

6. Turnover – A second approach to classifying liquidity is turnover, which addresses the percentage of portfolio turnover on a monthly or annual basis. The following classifications are suggested as a straw man to establish the "Turnover" categories for Managers:

- • Low turnover: Strategies that were the bulk of the positions (>50%) were carried over a month would be low turnover.

- • Moderate turnover: Strategies were the bulk of the positions changed during the month, but were carried over from day to day.
- • High turnover: strategies which involved daily turnover greater than 25%, on at least several days a month.

### Examples of Framework #2 Classification

With this categorization scheme, a technology fund might be “Stocks-Long/Short-US-Highly Liquid” while another technology fund may be classified as “Stocks-Long-US-Illiquid”.

A Japanese Distressed Debt fund would be “Bonds-Event-Distressed-Japan-Illiquid” while a US corporate bond fund would be “Bonds-Event-Credit-US-Liquid”.

### *Conclusion*

IRC members observe that whether using the strategy classification types or the new framework for hedge funds, challenges will still remain to get to peer comparisons and benchmarking. The due diligence process is a critical part of this process. Hence, the IRC reiterates the importance of consensus statement number #6 from its October 2000 document ***“IRC Members agreed that detailed reporting is not a substitute for initial and ongoing due diligence reviews, on-site visits and appropriate dialog between Investors and Managers.”***

The IRC’s goal is to provide the consensus of a substantial group of Managers and Investors regarding “What is the right level of disclosure by hedge funds?” The IRC invites all Managers, Investors and other interested parties to comment and assist this industry group in the evolution of this document. Other interested parties include regulators, industry associations, prime brokers, custodians, consultants and other service providers, among others.

The IRC plans additional forums on related topics, including implementation of these findings, and solicits your input regarding items of interest to you and the IRC’s work.

### **About the IAFE**

The IAFE is a global organization devoted to defining and fostering the professions of quantitative finance, risk management and financial engineering. Collaboration and networking between academics and practitioners and across different sectors of the practitioner world are major objectives of the IAFE. Over the past 10 years, the Association has pursued its mission of promoting informed exchanges among members to further understanding, share best practices and establish standards on pertinent aspects of finance. The work of the Investor Risk Committee on hedge funds is an important part of this mission.

Education is a major component of the IAFE's activities. The IAFE sponsors numerous sessions and conferences where new products, strategies, quantitative finance and technologies are discussed among practitioners and academics and where public policy issues are debated. The IAFE publishes the Journal of Derivatives which represents a merger with the IAFE's former

publication the Journal of Financial Engineering. Past issues have carried articles by such luminaries as Nobel Laureates Harry Markowitz and the late Merton Miller.

Visit IAFE at [www.iafe.org](http://www.iafe.org)

## APPENDIX A - Members of the IRC

NAME	AFFILIATION
Mark Anson	CalPERS
Kenneth Armstead	Nikko Securities International Co., Inc.
Kemal Asad-Syed	The World Bank
Susan Ball	University of Washington
Alex Banker	Yale Investments
Tanya Styblo Beder	Caxton Associates
Giovanni Belioffi	First Quadrant Ltd.
Craig Bergstrom	Grantham, Mayo, Van Otterloo & Co.
Fred Bird	Deutsche Banc Alex. Brown
David Bloom	Omega Advisors, Inc.
Stuart Bohart	Morgan Stanley Prime Brokerage
Richard Bookstaber	Moore Capital
Carol Boykin	St. of Maryland
Joseph D. Brickner	Deutsche Banc Alex Brown
Corinne Bronfman	Risk Analysis Division - Office of the Comptroller of the Currency
Sid Browne	Goldman Sachs
Curt Burmeister	Algorithmics, Inc.
Benjamin Burnett	Citadel Investments Group, LLC
Seb Calabrò	Goldman Sachs
Chris Campisano	Delta Airlines
Andrew Chacos	Deutsche Bank
Peter Chudy	Nomura Securities
Putnam Coes	MSDW Alternative Investment Partners
Kevin Coldiron	Barclays Global Investors
Cristobal Conde	SunGard
Mike Coye	GenRe
Kathryn J. Creclius	MIT
Jeremiah P. Cronin	Jeremiah P. Cronin Associates
Andrew Davidson	Andrew Davidson & Co., Inc.
Peter Davies	Askari
Leo de Bever	Ontario Teachers
Vasilios Diamantopoulos	AIG
Philip DiDio	General Motors Investment Management
John DiRocco	Citadel Investments Group, LLC
Arnout Eikeboom	AlphaSimplex Group
Peter G. Embiricos	Bank Julius Baer & Company
Craig Frascati	Federal Reserve Bank of Boston
Charles Freifeld	AlphaMetrics Capital Management, LLC
Jeff Geller	Commonfund Group
Charles Gradante	The Hennessee Group
Peter W. Grunblatt	Bank Julius Baer & Company
Gregory Hawkins	Hawkins & McEntee
Gregory Hayt	Rutter Associates
Kevin M. Heerdt	Moore Capital
Otto Heldring	American Express Bank
Scott Henderson	Bingham Dana LLP
Kimberly Hendry	Fidelity Investments
Elizabeth Hilpman	Global Asset Management
Howard Hodel	Bank of America

Clark Hutchinson	GS Prime Brokerage
Drago Indjic	Fauchier Partners Limited
Yentzislav Ivanov	JPMorganChase
Sohail Jaffer	Globalnet
Michael Jensen	Head of Equities
Karl Kahandaliyana	AIG
Andy Kandiew	Commonfund
Jean Karoubi	The LongChamp Group, Inc.
Randy Katzenstein	IAFE Advisory Board
Alan Kaufman	Trilogy
Ira G. Kawaller	Kawaller & Company
Andrew J. Kirton	William M. Mercer Limited
Charlie Ko	Batterymarch Financial Market
Andrew Kopperl	Pegasus Investments LLC
Arjun Krishnamacher	JWM Partners
Mark P. Kritzman	Windham Capital Management
Dale Kunkel	University of Pennsylvania
Chun Lai	Rockefeller Foundation
Barak L.Laks	The LongChamp Group, Inc.
James Lam	Erisks
Jeff C.Landle	CommonFund Group
Harry Lirtzman	NYCERS
Barbara Livanou	AIG
Andrew Lo	Massachusetts Institute of Technology
Florence A. Lombard	Alternative Investment Management Association
Jon Lukomnik	Sinclair Capital LLC
L. Erik Lundberg	University of Michigan
Thomas Lynch	Goldman Sachs
Tim MacDonald	Federal Reserve Bank of Boston
Mark Maiser	Adams, Viner and Molser (III)
Pierre Malo	Cassie de depot du placement
Harry Markopolos	Rampart Investment Management
Erwin Martens	Putman Investments
Chris Mason	ANZ Investment Bank
Adian Mc Nulty	RiskMetrics Group
Patrick J. McCarty	Managed Funds Association
Bill McCauley	Adams, Viner and Molser (III)
James J. McEntee	Hawkins & McEntee
Maria Mbu	AIG
William Miller	Commonfund
John Moody	Non-Linear Prediction Systems
David Mordecai	Clinton Group, Inc. IRC Steering Committee
Emma Mugridge	Alternative Investment Management Association
Maarten Nederlof	Deutsche Bank Securities, Inc.
Lars Neilsen	Alliance Capital
Frank Nelson	Deutsche Bank Securities, Inc.
Cynthia Nicoll	Tremont Advisers
George Nikas	Bank Julius Baer & Company
Ray Nolte	Deutsche Asset Management
Paul O'Connell	FDO Partners
Daniel Och	Och-Ziff Capital Management
Joseph I. Onochie	Baruch

Eric Pai	Deutsche Asset Management
David Patterson	Newcastle Capital Management Inc.
Edward Paules	Investors Bank and Trust Company
Sarah Payne	Credit Suisse First Boston
J. Michael Payte	Capital Markets Advisory
Niel Petroff	Ontario Teachers Pension Fund
Tom Phillips	Paradigm Asset Management
Michael Pradko	Harvard Management Company
Warut Promboon	AIG
Leslie Rahl	Capital Market Risk Advisors
Doug Reid	Titan Advisors
David Reynard	Deutsche Bank
Craig Russell	Deutsche Asset Management
Julian Sale	Deutsche Banc Alex.Brown
P.K. Satish	Askari
Kathy Sato	Oechsle International Advisors
David Scarozza	The LongChamp Group, Inc.
Barry Schachter	Caxton Corporation
Nina Scherago	TIFF
Thomas Schneewis	University of Massachusetts
Craig Scholl	Virginia Retirement
Larry Seigel	The Ford Foundation
Christopher Sharp	Deutsche Bank Securities
Robert Shultz	TSW Associates (RJR Nabisco Pension)
Katrina Simons	Federal Reserve Bank of Boston
Alfred Slager	PGGM Investments
Charles W. Smithson	Rutter Associates
Heidi Sobel	Deutsche Bank
Richard Spurgin	Clark University Graduate School
Robin Stelmach	MFS
Mark Thompson	BP/Amoco
Lawrence G. Tint	Quantal International
John Torell	Tudor
Mark Vassilakis	American International Group
John Vlasto	ED&F Man Investments Products
Steve Vogt	Managed Funds Association
Robert Wedeking	Caxton Associates
Angela West	Deutsche Bank
Debbie Williams	Meridien Research
Leigh Williams	Fidelity
Gerald G.Wisz, Ph.D.	Market Data Corporation
Hope Woodhouse	Soros Fund Management LLC
Rudy Yaksick	Independent Financial Researchers

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<sup>i[1]</sup> APT refers to the Arbitrage Pricing Theory, but we consider any models that use a linear combination of risk factors that can be combined to explain the risk of a particular holding or portfolio of holdings.

<sup>ii[2]</sup> VaR refers to Value at Risk, a probabilistic statement about the estimated capital at risk of loss within a given confidence interval over a given period of time.