INDEPENDENT DIRECTORS COUNCIL

The voice of fund directors at the Investment Company Institute

Board Oversight of Derivatives

Independent Directors Council
Task Force Report
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Acknowledgements

Preparation of the IDC Task Force report, "Board Oversight of Derivatives," has been a collaborative effort of representatives throughout the fund industry. The report covers a broad range of interrelated topics, requiring a breadth and depth of experience and insight.

The Task Force, which includes independent fund directors as well as representatives of advisory firms with substantial expertise in derivatives, received generous and thoughtful assistance from numerous organizations throughout the fund industry. Legal counsel, compliance personnel, investment and risk managers, and accountants shared materials and insights for the initial drafting of the report and in subsequent reviews. In addition, staff of the Independent Directors Council, in particular, project leader Annette Capretta, and the Investment Company Institute provided substantial support and input. The Task Force thanks all for their considerable time, insights, and contributions.

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I. Introduction

Derivatives—broadly defined as financial instruments whose value is derived from a separate asset or metric—have become an integral tool in modern financial management. Many institutions, such as corporations, insurance companies, banks, and governments, use derivatives to facilitate the efficient transfer of risk between parties with different financial objectives, risk tolerances, and/or forecasts.

Many investment advisers, including those who previously have used derivatives in managing institutional separate accounts (such as pension or endowment funds), are increasingly integrating derivatives into their management of fund portfolios. Derivatives may offer opportunities to improve a fund's risk-adjusted returns. They also may introduce investment, regulatory, and operational complexities, particularly for open-end funds, which redeem their shares daily at net asset value (NAV).

Fund boards oversee investments in derivatives as part of their general oversight of all portfolio investments. While many of the uses and risks of derivatives parallel those of other portfolio holdings, their particular features, benefits, risks, and resource requirements may warrant boards' additional attention.

To support fund boards in fulfilling their responsibilities for overseeing derivatives investments, the Independent Directors Council established a task force (see Appendix A) to write this report, which provides an overview of derivatives, with practical guidance for fund directors. The task force evaluated and integrated materials from a wide variety of industry and academic resources to tailor the report for fund boards.

This report discusses:

- board oversight responsibilities;
- definitions and primary categories of derivatives;
- portfolio management applications, risks, and controls;
- operational and regulatory considerations; and
- board practices and resources.

Appendix B presents topics for possible board-adviser discussion. Funds vary considerably in their uses of derivatives, so specific topics and their depth and detail will depend on the particular circumstances of a fund, including the types of derivatives in which the fund may invest, the fund's investment strategy and derivatives applications, and the adviser's organizational structure.

Appendices C, D, and E provide in-depth information about derivatives, including a glossary of terms, examples of derivatives applications, and references to additional educational resources.

The task force's objective in structuring the report was to provide fund directors with an overview of derivatives and the respective responsibilities of the board and adviser that will be relevant over different market environments. This report is being released during a time of special focus on developments in the fixed income markets. During periods of market stress, fund boards may choose to engage in more frequent dialogue with the adviser about the fund's holdings, including its derivatives investments, and the adviser's controls and resources, as they may be impacted by specific market conditions.

II. Board Oversight Responsibilities

A fund board's oversight responsibilities with respect to derivatives are generally the same as for other portfolio investments. The board reviews and, where applicable, approves policies developed by the adviser and other service providers with respect to fund investments, including derivatives, and oversees those entities' performance of their duties. Under the "business judgment rule," board actions are protected from judicial inquiry so long as the board acted on an informed basis, in good faith, and in the honest belief that the action taken was in the best interests of the fund.

Fund boards are not expected to be technical experts regarding derivatives, nor to micromanage the details of individual derivatives investments undertaken by the fund's adviser.[1] The Securities and Exchange Commission (SEC) has stated (in connection with the adoption of a custody rule relating to futures contracts) that the board's general oversight includes the "particular responsibility to ask questions concerning why and how the fund uses futures and other derivative instruments, the risks of using such instruments, and the effectiveness of internal controls designed to monitor risk and assure compliance with investment guidelines regarding the use of such instruments."[2] Board oversight may entail discussions with the adviser about the:

- types of derivative instruments in which the fund may invest, the investment rationale for using these instruments, and the potential benefits and risks associated with their use;
- expertise and experience of the adviser and relevant service providers with respect to derivatives investments as well as their operational resources, internal controls, and organizational structures; and
- policies and procedures designed to identify and control risks associated with derivatives investments, including protocols for routine and event-related reporting to the board.

III. Derivatives Overview

While there is no universal definition of "derivative," it may be broadly defined as an instrument that derives its value from some other asset or metric (the underlying or **reference asset**). (Highlighted terms are defined in the Glossary, Appendix C.) Derivatives span a wide range of complexity based on a number of factors, including the liquidity and structure of the instrument and the transparency of reference assets.

A. Evolution of Derivatives

Derivatives were originally commodity based (e.g., agricultural) and were designed to enable farmers and merchants to transfer business risk stemming from uncertainty of future commodity prices. Market participants eventually established organized futures exchanges to provide a central marketplace with standardized contract terms, open price discovery, and, importantly, mechanisms to ensure adherence to contract terms. The exchanges also created **clearing houses** that act as buyer for every contract seller and as seller to every contract buyer, thereby limiting **counterparty risk** for exchange participants.

To protect itself from credit risk, the clearing house requires participants to maintain deposits, called **margin**. Like collateral on loans, the margin for transactions is set at levels designed to protect the clearing house from defaults by the participants due to changes in the value of the underlying commodity.

Market participants are able to acquire exposure (either long or short) to a large dollar amount of an asset (the **notional value**) with only a small down payment, enabling parties to shift risk more efficiently and with lower costs. The **leverage** inherent in these transactions magnifies the effect of changes in the value of the underlying asset on the initial amount of capital invested. For example, an initial 5% collateral deposit on the total value of the commodity would result in 20:1 leverage, with a potential 80% loss (or gain) of the collateral in response to a 4% movement in the market price of the underlying commodity.

In the 1970s and 1980s, exchanges such as the Chicago Mercantile Exchange, New York Mercantile Exchange, and Chicago Board of Trade expanded beyond their commodity-based instruments to trade derivatives designed for the financial markets, including futures and options on securities indices and foreign currencies. S&P 500 futures started trading on the Chicago Mercantile Exchange in 1982 and, within a decade, their trading volume exceeded that of listed equities.

Exchange-traded derivatives are now offered globally. In most countries, government regulatory authorities or quasi-public industry organizations oversee them. They have standardized contract terms, and their liquidity is facilitated through an open market and the role of arbitrageurs who will buy and sell in the event that prices of the derivative and underlying cash instruments (e.g., stocks and bonds) are not aligned. Exchange-traded derivatives include **futures, options**, and options on futures.

Advances in technology and ever-growing market interest and ingenuity have facilitated rapid expansion of **over-the-counter (OTC)** derivative products that are more precisely structured and customized to meet the needs of individual market participants. Banks and broker-dealers facilitate transactions in the OTC market by developing OTC products and serving as the counterparty to OTC transactions. Frequently, these organizations will act as market makers during the early stages of the adoption of a new derivative instrument. For instance, when interest rate swaps were first introduced in the early 1980s, broker-dealers played an important role in their growth through their willingness to take offsetting positions to those desired by their customers. As the market for an instrument grows and, most importantly, becomes more liquid, the need for market makers to risk their own capital diminishes.

OTC derivatives are negotiated between the parties, without an exchange as the intermediary. While OTC contracts are customized, most are based on industry-developed standardized agreements (e.g., the **International Swaps and Derivatives Association, Inc. (ISDA) Master Agreement**), with addenda and individual trade confirmations that provide the customized specifics to the agreement. Unlike exchange-traded derivatives, OTC contracts are not guaranteed by a clearing organization and, as discussed in Section IV, involve greater counterparty risk. In addition, OTC instruments can be more complicated to liquidate, and may require approval from the counterparty in the event of a proposed sale or transfer (a **novation**).

Comparison of Exchange-Traded and Over-the-Counter Derivatives	
EXCHANGE-TRADED DERIVATIVES	**OVER-THE-COUNTER DERIVATIVES**
» Exchange stands between buyer and seller	» Contract between two parties (not over an exchange)
» Standardized contracts and terms	» Customized contracts and terms
» Minimal counterparty risk	» Counterparty risk
» Exiting or offsetting position can be readily achieved	» Exiting position may require agreement of counterparty
Examples: Futures, Options, Options on Futures	Examples: Forwards, OTC Options (e.g., swaptions), Swaps

B. Primary Categories

The primary categories of financial derivatives include **futures, forwards, options**, and **swaps.** Underlying or reference assets generally include stocks, bonds, commodities, currencies, interest rates, and market indices.

1. Futures and Forwards

Futures and forwards are contracts for the future purchase or sale of an asset at a specified price on a specified date. Futures are exchange traded, while forwards are transacted in the OTC market. Reference assets include major U.S. and international equity market indices, U.S. Treasuries, other major government bond markets, and currencies. They are structured to closely replicate the returns and risks of the reference asset, and fund advisers may use them to gain or hedge broad market, interest rate, or currency exposure, among other applications.

2. Options

For the purchaser, an option represents the right, but not the obligation, to buy or sell the reference, or underlying, asset (e.g., an individual security, broad market index, or currency) within a specified time period (i.e., up to or at the expiration date of the option) for a specified price (the **strike price**). The party that writes (i.e., sells) a **call** option is obligated to sell the underlying asset to the call purchaser for the strike price if the purchaser exercises the option on or before the expiration date; the **put** writer is obligated to buy the asset for the strike price should the purchaser exercise the put option on or before the expiration date. Some options, such as options on equity securities or futures, are exchange traded, while others, such as **swaptions** (options on swaps), are OTC instruments.

The option seller receives a **premium** from the purchaser seeking participation in the asset price increase above a certain level (through a call) or protection below a certain level of asset decline (through a put). While the option purchaser's potential loss is limited to the option premium, the put seller's loss may be substantial, and the call seller's loss is potentially unlimited. (See the Glossary, Appendix C, for payoff diagrams illustrating return patterns for writing or purchasing calls or puts.)

Options provide buyers and sellers a mechanism to target upside or limit downside risk exposure to, for example, a market index or individual security. Option prices reflect multiple factors, including the expected price volatility of the underlying asset. Accordingly, investors also may use options to reflect their forecasts of future market or security price volatility. Funds generally use options in conjunction with cash (to gain exposure) or securities (to hedge exposure).

3. Swaps

Swaps are OTC transactions between two parties who exchange a series of cash flows at specified intervals based on an agreed-upon principal amount (the notional value) over a specified time period (the maturity of the swap). Payments generally are made on a net, rather than a gross, basis. The party with the larger obligation pays the difference to the other party as the swap is marked to market. Primary swap categories include:

Interest Rate Swap–agreement to exchange interest rate based flows (e.g., one party agrees to pay a fixed rate and the other party agrees to pay a floating rate, such as one based on LIBOR [London Interbank Offered Rate]), on a specified series of payment dates based on a specified principal amount (notional value)

Total Return Swap–agreement in which one party receives the total return (interest or dividend payments and any capital gains or losses) from a specified reference asset and the other party receives a specified fixed or floating rate

Currency Swap–agreement for the exchange of one currency (e.g., U.S. dollars) for another (e.g., Japanese yen) on a specified schedule

Credit Default Swap–agreement in which the protection seller agrees to make a payment to the protection buyer in the event of a specified credit event (such as a default on an interest or principal payment of a reference entity) in exchange for a fixed payment or series of fixed payments

Investment managers employ swaps to tailor the fund's risk exposures, benefiting from customized contract terms and time frames. Swaps may be used to gain or hedge exposures.

C. Other Complex Instruments

There are numerous types of derivatives (including combinations of the primary categories of derivatives, such as swaptions and forward swaps) as well as other types of financial instruments with derivatives-like characteristics, such as complex structures whose value is linked to the value of other assets. Examples include **structured notes, asset-backed securities, and mortgage-backed securities.**

As noted above, there is no universal agreement as to whether a particular instrument may be characterized as a "derivative," but, regardless of their characterization, such other instruments also may be part of a fund's portfolio. While those instruments are not specifically described in this report, they may raise similar investment, operational, and regulatory issues. The following discussions, including those relating to possible board-adviser discussion topics, may be relevant to fund investments in them as well.

IV. Derivatives in Fund Management

The derivatives and **cash securities** (i.e., "traditional" securities) markets are becoming increasingly integrated, with movement in one market quickly reflected in the other. Fund managers may use derivatives as an alternative to, or in combination with, cash securities. This section discusses derivatives' primary portfolio management applications and the related investment risks. Appendix B, Sections 1-2, presents possible board-adviser discussion topics, which may be tailored to the specific details of the derivatives used by a fund, their role in the fund's investment strategy, and the adviser's investment risk management controls, procedures, and organizational structure.

A. Portfolio Management Applications

Derivatives offer fund managers and traders an expanded set of choices, beyond the cash securities markets, through which to implement the manager's investment strategy and manage risk (targeting an improved risk-adjusted return), consistent with the fund's stated investment objective and mandate. Derivatives may permit a fund to increase, decrease, or change the level and types of portfolio exposure in much the same way as through investments in related cash securities.

Relative to comparable cash securities, derivatives' potential benefits include the ability to:

- gain or reduce exposure to a market, sector, security, or other target exposure more quickly and/or with lower transaction costs and portfolio disruption;
- precisely target risk exposures;
- benefit from price differences between cash securities and related derivatives;
- gain access to markets in which transacting in cash securities is difficult, costly, or not possible; and
- gain exposure to commodities as an asset class (subject to certain tax tests).

Consistent with the fund's investment mandate and guidelines, portfolio managers may invest in derivatives to target or hedge portfolio exposures, with numerous possible combinations depending upon the manager's investment strategy and current market conditions. Long-only indexed and actively managed equity and fixed-income funds may use derivatives to gain or reduce exposure to a market, sector, security, or currency. Fixed-income funds frequently use derivatives to structure and control duration, yield curve, sector, and/or credit exposures.

Asset allocation funds seeking to move efficiently across asset classes while minimizing disruption of underlying securities holdings make extensive use of derivatives to control (i.e., maintain, hedge, or shift) their broad asset class exposures. Funds incorporating **long-short** (e.g., **130/30, market-neutral**, or **portable alpha**) strategies also employ derivatives to maintain their respective target market exposure.

Primary fund applications are described below, with certain examples and market scenarios amplified in Appendix D.

1. **Gain Broad Market Exposure** (e.g., U.S. or non-U.S. equity or fixed income markets)

   A fund may use derivatives to gain or maintain broad exposure to a market (or, for asset allocation funds, to shift among market exposures), enabling the fund manager to minimize individual security turnover so as to limit the negative impact of transaction costs, tracking error relative to the fund benchmark, and realization of short-term capital gains.

Futures to Gain Equivalent Market Exposure. A fund may invest in futures to help manage daily cash flows. Holding cash, rather than investments in the target market, may cause dilution for current shareholders. Attempting to quickly invest inflows of cash in a select list of securities may incur transaction costs and market impact, negatively affecting fund performance. By purchasing futures on a stock or bond index most closely comparable to the fund's investment universe, the fund can gain full exposure to the market return, potentially minimizing the dilution and relative performance risk introduced by cash. (See Equitizing Cash Example 1, Appendix D.)

Total Return Swaps to Gain Foreign Market Exposure. Fund managers seeking exposure to non-U.S. markets for which there is no appropriate or liquid futures contract or where local settlement of securities transactions may be difficult and costly (e.g., emerging markets) may use total return swaps. The fund would "pay" a fixed or floating rate and "receive" the total return of the target market (as specified in the OTC contract).

Call Options to Participate in Market Increases. A fund also may participate in market increases above a certain level through purchase of market index call options. The fund would pay an option premium in exchange for upside participation in the return of the market index. The fund's downside exposure would be limited to the option premium.

2. **Target Sector Exposure** (e.g., industry, credit grouping, or currency)

A fund's manager may seek to target and tailor exposures to specific sectors within the U.S. and non-U.S. markets. Derivatives may represent a less expensive way than the cash securities markets to gain the desired exposure. The manager also may prefer to precisely target a sector through derivatives rather than cash securities, which entail market, interest rate or currency risks that then may need to be hedged or accepted for their impact on the portfolio's risk and return.

Futures to Target Sector Exposure. A fund may replicate the returns and risks of a sector with investment in futures that target the sector, such as U.S. Treasury futures. Institutions such as banks and mortgage lenders often use the Treasury futures market to adjust the duration, or price sensitivity to interest rate changes, of

their mortgage portfolios. (When interest rates rise, for example, the durations of mortgage assets lengthen.) Financial institutions may reduce the duration of their portfolios by selling Treasury futures. A fund manager purchasing Treasury futures in an environment when a number of market participants seek to sell may be able to target exposure to the U.S. Treasury market at a more advantageous price in the futures market than the cash bond market.

A fund manager also could use U.S. Treasury futures to specifically target portfolio risks. For example, a manager of a fund holding a position in 10-year U.S. Treasury bonds who becomes concerned that short-term interest rates will rise, flattening the yield curve, could sell 2-year U.S. Treasury futures to partially hedge the portfolio's duration position and reduce exposure to the specific portion of the yield curve (i.e., short-term rates) that the manager wishes to avoid.

Credit Default Swaps to Target Credit Exposure. A fund manager may use credit default swaps to target exposure to credit markets, such as the investment grade or high yield credit markets. Specifically, a manager may gain exposure to a credit market by selling protection against an index composed of individual credit default swap contracts for a basket of corporate issuers.

3. **Replicate Security Exposure** (e.g., individual stocks or bonds)

Depending upon market conditions, the pricing and liquidity of derivatives on individual securities may be more attractive than the related cash market security. Such applications may play a role in actively managed equity and bond funds.

Credit Default Swaps to Target Corporate or Sovereign Issuer Exposure. A fund manager may use a single-name credit default swap to gain or reduce exposure equivalent to a corporate or sovereign issuer. The manager may gain exposure by selling protection on a specific credit. (See Gain Corporate Exposure Example 2, Appendix D.) Alternatively, a manager could hedge an existing credit exposure by purchasing protection, taking the other side of the swap.

Call Options to Participate in Individual Security Return. A manager may purchase an individual security call option to gain upside participation in the security's price increase in exchange for payment of the call premium.

4. **Hedge Current Portfolio Exposures** (e.g., market, sector, and/or security)

When the fund portfolio is structured to reflect the manager's long-term investment strategy and forecasts, interim events may cause the manager to seek to temporarily hedge a portion of the portfolio's broad market, sector and/or security exposures. Relative to the alternative of selling individual securities, derivatives may provide a more efficient hedging tool, offering greater liquidity, lower round-trip transaction costs, lower taxes, and reduced disruption to the portfolio's longer-term positioning. Generally, the derivatives' uses described above for gaining market, sector or security exposures may be reversed, on the short side, to hedge a portion of the portfolio's existing holdings.

Futures or Forwards to Hedge Market, Sector or Currency Exposures. A fund may sell futures or forwards to hedge exposures to markets, sectors or currencies. (See Hedge Currency Exposure Example 3, Appendix D.) If the market rises, the long positions' gains will be partially offset by the short position's loss in the derivative instrument, while the short position will gain value if the market (and the long position) declines. In combination, the return on the long securities positions, including the market and individual security returns, will be offset by the short derivatives' return.

Put Options to Limit Downside Exposure. By purchasing put options on a market index or individual security, in exchange for the option premium, the fund manager may establish a floor return below which the value of the position will not fall. (See Hedge Potential Price Declines Example 4, Appendix D.)

B. Investment Risks and Controls

All fund investments, to varying degrees, incur market and credit risks as well as potential volatility or illiquidity if market conditions change. Effective investment management, especially for actively managed funds, entails ongoing measurement and evaluation of all types of identified risks in a portfolio (including, if applicable, market, country, currency, interest rate, sector, and individual issuer exposures), which, as noted in the preceding section, may be obtained through derivatives and/or their related cash securities. The adviser may analyze and evaluate the relevant risks to support selection of individual investments, including derivatives, and their incorporation in the composite fund portfolio. Depending upon their specific structure, derivatives may warrant analysis of several layers of exposures, including reference assets, collateral, and counterparties.

The adviser may quantify risks at the individual security and composite portfolio levels, initially and on an ongoing basis, to measure and control exposures so that they are within the fund's investment mandate and guidelines as well as active management targets set by the portfolio management team. Risk models, such as Value at Risk (VaR), utilize various volatility and correlation measures, historical and/or prospective, to estimate potential sensitivity to market moves.

The adviser also may simulate (stress test) performance of individual investments and the composite portfolio, including derivatives with complex return patterns, over a range of market events, capturing the potential impact of extreme low-probability, but potentially damaging, events, which could have a significant adverse effect on fund performance. Unexpected differences from projected correlations among assets, including derivatives and related cash securities, may disrupt the fund portfolio's targeted diversification and hedges (if, for example, long-short combinations do not offset one another as expected).

The adviser may have a separate risk management or analytical group that monitors risks and performs modeling and testing to identify risk concentrations and other significant risk factors. The adviser's senior management may be involved as well, particularly to address significant issues relating to individual investments or portfolio exposure and concentrations identified through the analytical tests.

Derivatives raise additional investment risk management issues, some of which also may relate to operational and regulatory considerations discussed in Section V, including:

> ***Leverage***. Unlike cash securities, derivatives enable investors to purchase or sell exposure without committing cash in an amount equal to the economic exposure (the notional value) of the position. This ability could result in leverage, or magnification, of the risk position, on the long or short side. As discussed in Section V, the SEC requires funds to cover or segregate liquid assets equal to the potential exposure created by certain derivatives. Aggregate portfolio statistical reports may be used to evaluate the leveraged exposures (long or short, market, sector, or security) of the portfolio compared to any limits on leverage set by the fund's disclosure documents, investment guidelines, or portfolio management targets.

Illiquidity. Some derivatives, particularly complex OTC instruments, may be illiquid and some previously-liquid derivatives (as well as cash securities) may become illiquid during periods of market stress. A shift in the fund's portfolio to a higher concentration of illiquid investments may raise concerns about meeting daily redemptions in open-end funds and potentially forcing the sale of more liquid investments. For portfolio management and compliance purposes,[3] the fund's adviser should have procedures reasonably designed to control the fund's exposure to illiquid assets. Illiquid holdings also present valuation challenges (discussed in Section V).

Counterparty Risk. Because the satisfaction of an OTC contract depends on the creditworthiness of the counterparty, OTC derivatives entail counterparty risk. The adviser's credit analysts may evaluate the banks and brokers serving as the fund's counterparties and establish lists of approved counterparties satisfying the credit standards. Counterparty risk may be reduced through careful review and negotiation of contractual protections, well-designed collateral exchange agreements, and clear termination provisions. Funds may use multiple counterparties to limit exposure to any particular institution, but use of multiple counterparties may entail negotiation of multiple agreements with potentially different terms. The adviser's legal department or outside counsel may negotiate the terms of master agreements with counterparties.

V. Operational and Regulatory Considerations

Board oversight may entail discussions with the adviser about the operational resources, internal controls and organizational structures of the adviser and service providers, and the policies and procedures designed to identify, assess, document, and control risks associated with derivatives investments. To assist fund boards in these discussions, this section highlights:

- key derivatives-related operational and regulatory considerations that are specific to registered funds;
- examples of organizational responsibilities and structures; and
- related policies and procedures.

Appendix B, Sections 3-5, suggests discussion topics concerning operational issues, controls, and resources.

Operational and regulatory issues will vary across funds, depending upon such factors as the types of derivatives in which a fund may invest and the volume of derivatives transactions. Certain issues discussed below may be implicated primarily with respect to OTC derivatives.

A. Primary Areas of Potential Impact

1. Fund Operations

OTC derivatives may require customized, manual processing and documentation of transactions by portfolio management, accounting, and back office staff, as well as the fund custodian. Some transactions may not fit within existing automated systems for confirmations, reconciliations, and other operational processes used for "traditional" securities, requiring staff to devise "work-arounds"–such as separate spreadsheets–to track and record derivatives transactions and holdings. In addition, trade confirmations and reconciliations may require ongoing communications between back office personnel and the counterparties.

Operational challenges include hiring and retaining staff with derivatives-related knowledge, as well as retraining them as derivatives evolve and become more complex. Additional challenges include devoting sufficient staff and system resources to designing and executing manual processes and controlling these processes. To evaluate the infrastructure's ability to handle the processing of trades or settlements, some advisers monitor certain parameters associated with OTC derivatives processing, such as average number of days to complete documentation for a trade and average time required for settlement.

Although major industry players are developing standardized systems and procedures to automate, as far as possible, many of these processes, such automated systems are not yet prevalent.

2. Custody and Collateral

The 1940 Act requires that fund assets, which would generally include margin or other collateral posted in connection with a transaction, be maintained in the custody of one or more qualified banks or, subject to SEC rules, a broker or dealer, or the fund itself.[4] SEC rules permit funds to post futures margin directly with futures commission merchants registered with the Commodity Futures Trading Commission, subject to certain conditions.[5] Swaps and other OTC derivatives transactions present additional custody issues. For example, neither the SEC nor its staff has provided guidance as to how a swap should be custodied, given the contractual nature of the arrangement. Some funds provide a copy of the ISDA agreement and/or relevant confirmations to their custodian banks. In addition, although the SEC has not specifically addressed the treatment of collateral in these contexts, some funds establish tri-party custody arrangements for collateral posted by

the fund to secure its swap or other OTC derivatives obligations, using a special collateral account at the fund's custodian bank.

3. Senior Security and Asset Segregation

The 1940 Act restricts a fund's ability to issue "senior securities," which the SEC construes as a restriction against the use of leverage.[6] The SEC views certain derivatives transactions as entailing leverage and, thus, presenting "senior security" concerns, to the extent that they represent contractual obligations under which the fund could owe more money in the future than the amount of its initial investment.[7] Provided that a fund takes specified steps to limit the potential for loss generated by derivative instruments, the SEC has stated it will not treat such transactions as "senior securities."[8] Accordingly, funds can invest in these types of instruments if they segregate liquid assets equal to the potential exposure to the fund created by the transaction or if the fund holds an offsetting position that effectively eliminates the fund's exposure on the derivatives transaction.

Among the key issues to be evaluated and resolved are the amount (e.g., notional or mark-to-market value) and type of assets required to be segregated, and the nature of permissible offsetting positions. (The adviser's calculation of the economic leverage of the fund's portfolio for purposes of investment risk measurement and control may differ from the leverage calculated to comply with SEC requirements for asset segregation and coverage.) The SEC has noted that, as asset segregation reaches certain levels, a fund may impair its ability to meet current obligations, honor requests for redemption, and manage the investment portfolio in a manner consistent with its stated investment objectives.[9]

4. Issuer Exposure

Applying a fund's diversification and concentration policies to derivatives requires determining the "issuer" and value of the instrument for purposes of the relevant regulatory requirements and fund compliance controls.[10] This requires determining whether to calculate the derivative's contribution to the exposure based on its mark-to-market value or the notional value and whether it is appropriate to net exposures. Similar determinations must be made regarding compliance with the rule limiting fund purchases of securities issued by financial services firms, as well as whether a derivative is a "security" and, if so, whether it is debt or equity, because the relevant limitations are different. [11]

5. Valuation

Depending on their structure, some categories of derivatives may present special valuation challenges. Exchange-traded futures and options may be priced based on readily available market quotations, and prices for certain broadly-used types of OTC derivatives, such as some credit default swaps, may be obtained from pricing vendors or dealer quotations. Customized OTC derivatives may be valued based on a model (a formula based on weighted variables), and, in some cases, the model may be maintained by the counterparty to the derivatives transaction, which can raise potential conflict of interest concerns. In addition, as noted above, valuation and liquidity considerations intersect, and during periods of market stress or disruption, pricing vendors and dealers may not quote prices for certain OTC derivatives and other securities for which there no longer is a liquid market.

The board ultimately is responsible for the fair valuation process, although it can adopt procedures pursuant to which the day-to-day responsibility to price the fund's investments, including those for which market quotations are unavailable (i.e., investments that must be priced at "fair value"), is delegated to the adviser or other service provider (such as an accounting agent).[12] Because open-end funds redeem their shares daily at NAV, there may be more operational pressure on management to establish a robust and effective valuation process than for other types of investment accounts, which are not required to price their holdings as frequently. As with all fair valuations, fund boards should periodically evaluate the fair valuation procedures and the quality of the prices obtained through the application of the fund's procedures. Boards also should receive periodic reports from management discussing the valuation process and the nature and resolution of any valuation issues or problems.

6. Accounting and Financial Reporting

The accounting treatment of derivative instruments, including their initial recording, income recognition, and valuation, may require detailed analysis of relevant accounting guidance as it applies to the specific instrument structure. Accounting and financial reporting guidance may be found in pronouncements, such as FAS 133 and FAS 140, and in the AICPA's Investment Company Audit Guide.[13]

In addition, recently-adopted FAS 157 and FAS 161 apply to fund financial statement disclosures. FAS 157 requires, for each major category of assets and liabilities, disclosure of the level within the fair value hierarchy in which the fair value measurements in their entirety fall: quoted prices in active markets for identical assets (Level 1); significant other observable inputs (Level 2); and significant unobservable inputs (Level 3).[14] FAS 161

requires disclosure regarding (i) how and why a fund uses derivatives; (ii) how derivatives are accounted for; and (iii) how derivative instruments affect a fund's results of operations and financial position.[15] FAS 161 also requires tabular note disclosure of gains/losses and fair values by derivative type.

The fund's accounting staff (either internal to the adviser or its affiliate or an external service provider) should have sufficient expertise, or access to such expertise, in the accounting treatment of derivatives, as well as access to all relevant documentation for the instrument to support analysis of its structure and accounting treatment.

7. Tax

Derivatives raise issues under Subchapter M of the Internal Revenue Code requirements for qualification as a regulated investment company. A fund must meet gross income and asset diversification tests, which require determining (i) whether income generated by a holding qualifies as "good" income for this purpose, (ii) the issuer of each holding, and (iii) the value of each holding.[16]

While derivatives-generated income may qualify as "good" income, this is not always the case. For instance, the IRS recently ruled that income from swaps based on commodity indices did not qualify as good income because the swaps were not clearly "securities" for Subchapter M purposes and the income was not otherwise derived with respect to the fund's investment business.[17] In addition, it is not always clear who the "issuer" of a derivative is for purposes of the Subchapter M asset diversification test.[18]

Other important considerations include the timing of income from a derivative, which may determine whether the fund has over- or under-distributed its income for the year, and the character of the derivative income (ordinary versus capital). The character of derivative income for tax purposes may differ from the character for financial accounting purposes. In addition, under recently adopted accounting standard FIN 48, any uncertain tax positions need to satisfy a "more likely than not" standard for a fund to avoid potential income tax accruals with respect to such positions.[19]

8. Disclosure

The fund's registration statement must provide disclosure about the fund's investment objectives, policies, strategies, and associated risks, including those relating to investments (or potential investments) in derivatives. A fund's investments must be consistent with its registration statement disclosure, including its fundamental policies relating to diversification, concentration, the issuance of senior securities, and borrowing, as well as with the fund's name.[20]

In their annual shareholder reports, funds using derivatives to an extent that materially affects performance should consider the need to include appropriate disclosure concerning the use and impact of derivatives during the period in the management discussion of fund performance.

B. Organizational Responsibilities and Coordination

Several teams or individuals within the adviser's organization and relevant service providers have important responsibilities for a fund's derivatives investments. Fund complexes are organized differently: some functions may be performed internally by the adviser or an affiliate or externally by a service provider; a particular department or a single person might be responsible for multiple functions; or multiple departments and people may share responsibility for certain functions (e.g., legal and compliance functions may be combined at some complexes).

The following table highlights primary functions related to derivatives investing that may be performed within the adviser's or service provider's organizations. Because the organizational structures and allocation of responsibilities among personnel vary across fund complexes, the descriptions below may not apply or be relevant to a particular fund complex.

Key Functions Related to Fund Derivatives Investing

FUNCTIONS	POTENTIAL PARTICIPANTS
Implement investment strategy, including: » select derivatives for investment; » test composite portfolio for compliance with investment strategy and various controls, including concentration and leverage; » evaluate counterparty risk; and » assist, when applicable, in fair value pricing	Portfolio Management Traders Credit Analysts Risk Management and/or Compliance Personnel
Oversee compliance with fund disclosures and policies and procedures, including those relating to: » valuation; » asset segregation; » liquidity; » diversification, concentration, and financial services firm investment limits; and » counterparties	Fund CCO and Compliance Personnel Legal Personnel Administrator Fund Accountant Treasurer
Negotiate OTC derivatives contracts, such as swaps	Portfolio Management Legal Personnel
Process and document derivatives transactions, including confirmations, settlements, and reconciliations	Back Office Personnel (of Administrator and/or Adviser)
Maintain custody of portfolio assets, including collateral	Custodian
Provide prices for portfolio holdings, including matrix-based prices and model-based OTC derivatives	Pricing Service Broker-dealers Counterparties Portfolio Management (may provide input)
Calculate daily NAV	Fund Accountant
Determine accounting policies for derivatives' initial recording, income recognition, and valuation; and prepare financial statements	Treasurer Fund Accountant Fund Auditor (to audit financial statements at year end)
Determine appropriate tax treatment	Treasurer Tax Personnel

Advisory staff and, where applicable, service provider personnel, should regularly communicate and coordinate regarding a fund's derivatives transactions.[21] Some advisers have established committees, with representatives from the departments responsible for oversight of some aspect of the fund's derivative investments (e.g., portfolio management, operations, credit, risk management, legal, compliance, accounting, and tax). These committees may evaluate issues relating to a fund's investment (or consideration of an investment) in a type of derivative,

including the portfolio manager's investment rationale, the potential benefits and risks to the fund, and regulatory and operational considerations.

In some cases, the committee may approve (or the fund's policies and procedures may establish) guidelines for fund investments in derivatives or other complex instruments, including a list of approved types of investments. The committee may be required to evaluate and approve any new type of investment product that is not covered by the guidelines prior to the fund's investment in the product. The adviser's committee also may work closely with relevant external service providers or other resources, such as fund counsel and the custodian, accounting agent, and auditor.

C. Policies and Procedures

A fund's policies and procedures may be written broadly enough to encompass the types of derivatives the fund may use. In other cases, policies and procedures may include provisions tailored specifically for derivatives investments. For example:

- *valuation* policies may specify pricing procedures for specific types of derivatives, such as swaps;
- *liquidity* policies may include criteria for deeming certain types of derivatives to be liquid or illiquid;
- *asset segregation* policies may specify the amount and type of assets required to be segregated for categories of derivatives as well as procedures for ongoing monitoring of the adequacy of segregated assets;
- *custody* policies may specifically address the custody of derivatives documentation and collateral;
- *counterparty* policies may set criteria for evaluating and approving counterparties, limit counterparty exposure for individual fund portfolios or for all advisory clients, and assign responsibilities for initial screening and ongoing monitoring of counterparty credit adequacy; and
- *diversification* and *concentration* policies may identify the issuer of types of derivatives (i.e., the counterparty, issuer of the reference asset, or both) and monitor combined exposure to entities that are both counterparties to derivatives transactions and issuers of other portfolio securities.

In addition to integrating derivatives into the fund's existing policies and procedures, a fund may add policies specifying, for example, categories of derivatives in which the fund may invest, the use of derivatives (e.g., hedging only), limits on derivatives exposure by percentage of fund assets or derivatives category, or required authorizations and procedures for the initial set-up and ongoing monitoring of derivatives investments. The fund's primary service providers, such as the adviser, subadvisers, and custodian, also may have policies and procedures that cover derivatives investments.

VI. Board Practices and Resources

Oversight of derivatives is part of the board's overall responsibility for overseeing portfolio investments and the adviser's relevant expertise, resources and controls. The level of board involvement with respect to derivatives oversight varies across the industry and may depend on the extent and type of derivatives investing conducted by the fund. For example, the board of an index fund that uses futures solely to efficiently invest (equitize) cash may not find it necessary to devote as much time and attention to the fund's derivatives investments as might the board of an actively-managed fund with complex OTC derivatives holdings and strategies.

Some boards may oversee derivatives investments within the broader context of oversight of all portfolio investments and rely on the adviser to implement the fund's investment strategies consistent with the fund's mandate and guidelines; some may establish parameters within which the adviser may invest in derivatives; and some may review new categories of derivatives before the fund invests in them. Fund board practices, including delegation to board committees to focus on different aspects of derivatives investments, continue to evolve.

A. Board Education

Fund directors may seek education about derivatives from a variety of sources, such as educational papers, books, and conferences. (See Appendix E for educational resources for boards.) The fund's adviser may play a significant role in board education, assisting the board in understanding and evaluating the impact of derivatives on portfolio structure, risk, and performance.

While individual directors may bring significant knowledge of derivatives from their professional backgrounds, exceeding the depth required for board oversight, educational presentations and materials for the board should be designed to assist all directors in understanding the key features, benefits, and risks of derivatives investments and applications.

In addition to a basic overview of derivatives, presentations to the board might include discussion of:

- specific derivatives proposed for the fund;
- examples of their application to implement the manager's investment strategy;
- their benefits and risks;
- the adviser's key systems, personnel and/or committees with derivatives responsibility; and
- relevant policies and procedures.

B. Board Reporting

A fund's derivatives investments should be captured in compliance and portfolio performance reports to the board. In some cases, information about derivatives investments may be highlighted within existing reports and/or presented in separate reports.

In its reports to the board, the adviser may present the contributions of derivatives and any related securities, explaining derivatives' role within the fund's investment strategy, portfolio structure and performance. The adviser's written commentary and reports might discuss:

- *Investment decisions and portfolio structure*–the manager's primary investment decisions relative to the fund benchmark, including portfolio beta and overall risk, and sector or security under- and over-weightings;
- *Performance attribution*–which of the manager's investment decisions added or subtracted value relative to the benchmark return; and
- *Derivatives contribution*–how derivatives, in conjunction with cash securities, were used to implement the portfolio decisions, including their effect on the market risk, relative to the appropriate equity or bond benchmark, as well as the target industry, credit, and security exposures.

The adviser also might report on derivatives-related controls, including risk management measures to avoid inadvertent portfolio leverage or concentration, or compliance reviews to determine if specific derivatives and their applications are appropriate within any guidelines specified in fund disclosure documents, by the board, and in the adviser's internal guidelines.

As with all aspects of board reporting, the adviser and board should agree on procedures for timely alerts about material problems or issues encountered with the fund's derivatives investments.

C. Board Resources

In preparing for, and evaluating discussions with the adviser, the board may seek input from a number of resources to provide perspective on the specific details of the fund's derivatives use and the adviser's capabilities, as well as a broader overview of fund industry developments concerning derivatives use, controls and issues. Resources available to the board may include the fund auditor, board and fund counsel, as well as industry or academic publications and conferences. (See Appendix E.)

VII. Conclusion

As the derivatives markets rapidly evolve in volume, type, and complexity, industry practices and fund uses of derivatives will evolve as well. Fund boards should continue to work with their advisers to stay informed about derivatives used by the funds they oversee, their potential benefits in achieving the fund's investment objectives, and the potential added risks, controls, and resource requirements.

Notes

[1] See Letter from Arthur Levitt, Chairman, Securities and Exchange Commission, to Matthew P. Fink, President, Investment Company Institute (June 17, 1994) (directors "need not micromanage the minutiae of individual derivatives transactions," but should "exercise knowledgeable and meaningful oversight").

[2] Custody of Investment Company Assets with Futures Commission Merchants and Commodity Clearing Organizations, Investment Company Act Release No. 22389 (Dec. 11, 1996) (adopting Rule 17f-6 under the Investment Company Act of 1940 [1940 Act]); see also Keynote Address at Mutual Fund Directors Forum Program by Gene Gohlke, Associate Director, Office of Compliance Inspections and Examinations (Nov. 8, 2007). Available at www.sec.gov/news/speech/2007/spch110807gg.htm).

[3] Fund registration statements may include policies limiting the fund's investments in illiquid securities. For example, many open-end funds have policies limiting investments in illiquid securities to no more than 15% of net assets. See Statement Regarding "Restricted Securities," Investment Company Act Release No. 5847 (Oct. 21, 1969); Revisions of Guidelines to Form N-1A, Investment Company Act Release No. 18612 (Mar. 12, 1992).

[4] Section 17(f) of the 1940 Act and Rules 17f-1 and 17f-2 under the 1940 Act.

[5] See Rule 17f-6 under the 1940 Act.

[6] See Section 18 of the 1940 Act and Securities Trading Practices of Registered Investment Companies, Investment Company Act Release No. 10666 (April 18, 1979) (Release No. 10666).

[7] See Release No. 10666, supra n.6.

[8] Id.

[9] Id.

[10] A fund must state in its registration statement its policy as to concentration in a particular industry or group of industries, and a fund classified as "diversified" must comply with certain investment limits. See Sections 5(b) and 8(b) of the 1940 Act.

[11] See Section 12(d)(3) of the 1940 Act and Rule 12d3-1 under the 1940 Act.

[12] See Section 2(a)(41) of the 1940 Act and Rule 2a-4 under the 1940 Act.

[13] Financial Accounting Standards Board (FASB) Statement of Financial Accounting Standards No. 133, Accounting for Derivative Instruments and Hedging Activities (Jun. 1998); FASB Statement of Financial Accounting Standards No. 140, Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities (Sep. 2000); American Institute of Certified Public Accountants (AICPA), Investment Companies – AICPA Accounting and Audit Guide (May 1, 2007).

[14] FASB Statement of Financial Accounting Standards No. 157, Fair Value Measurements (Sept. 2006). FAS 157 requires funds to disclose in their financial statements the aggregate dollar value of securities by hierarchy level.

[15] FASB Statement of Financial Accounting Standards No. 161, Disclosures about Derivative Instruments and Hedging Activities (Mar. 2008). FAS 161 is effective for fiscal years and interim periods beginning after November 15, 2008.

[16] Section 851 of the Internal Revenue Code.

[17] IRS Rev. Rul. 2006-1.

[18] Under federal securities laws, an investment company classified as a "diversified company" must limit holdings in securities of any one issuer, and the "issuer" of the derivative must be determined for purposes of this test as well. See Section 5(b) of the 1940 Act. The analysis and outcome may differ under tax and securities laws.

[19] FASB Interpretation No. 48, Accounting for Uncertainty in Income Taxes (Jun. 2006).

[20] See Section 8 of the 1940 Act. In addition, a rule adopted pursuant to Section 35(d) of the 1940 Act requires that an investment company with a name suggesting that the fund focuses on a particular type of investment invest at least 80% of its assets in that investment. Derivative products providing synthetic exposure of the nature suggested by a fund's name frequently are considered part of the qualifying 80% of assets but questions may arise about whether a particular derivative product is a qualifying asset for this purpose.

[21] See Keynote Address at Investment Company Institute 2007 Mutual Funds and Investment Management Conference of Andrew J. Donohue, Director, SEC Division of Investment Management (March 26, 2007).

Appendix A

Task Force Members

Kelley J. Brennan	*Independent Director,* Allegiant Funds
Jerome S. Contro	*Independent Director,* Janus Funds
Brent R. Harris	*Chairman of the Board and Interested Director,* PIMCO Funds
Susan B. Kerley *Task Force Chair*	*Independent Chair,* MainStay Funds *Independent Director,* Legg Mason Partners Funds
Alan R. Latshaw	*Independent Director,* MainStay Funds State Farm Funds
Edward L. Pittman	*Independent Chair,* Van Wagoner Funds
Walter S. Pollard, Jr.	*Senior Legal Counsel,* Fidelity Management & Research Company
Thomas Schneeweis	*Independent Director,* Managers Funds

Appendix B

Potential Topics for Board-Adviser Discussion

This report is intended to facilitate dialogue between a fund's board and adviser (with input from counsel and other resources) regarding the fund's derivatives investments. Listed below are potential topics that may be addressed, including as part of educational sessions for fund directors. The content and extent of individual board-adviser discussions will depend on the particular circumstances of the fund, including the approved types and applications of derivatives, the adviser's organizational structure, and market conditions. Some of the topics may not be relevant to a fund. In addition, depending on the circumstances, a board may determine to focus in a greater level of detail on some issues than others.

1. **Portfolio Management Applications**
    - Types of derivatives used (or to be used) in the fund
        - Criteria for defining and identifying derivatives
        - Other fund holdings with characteristics similar to derivatives
        - Limitations, if any, on the fund's derivatives investments based on criteria such as types of derivatives or percentage of portfolio value
    - Use of derivatives (current or prospective) to implement the fund's investment strategies, for example:
        - Gain target risk exposures (market, sector, currency, security)
        - Replicate target holdings
        - Hedge portfolio positions
        - Invest in markets which may be difficult or costly to access directly
    - The criteria and analyses for deciding whether to use derivatives to implement the investment strategies
    - The benefits and risks of using derivatives, relative to the alternative of holding cash securities only

2. **Investment Risks and Controls**

    - Processes and/or analyses for initial selection and structuring of derivatives holdings, including evaluation of credit exposure at the issuer, counterparty, and/or collateral levels
    - Processes for ongoing measurement and analyses of portfolio risks, including leverage, counterparty and credit exposure, illiquidity, and the potential impact of worst-case scenarios
        - For all portfolio holdings, including derivatives, and their impact on the composite portfolio
        - Specifically developed for and applied to derivatives holdings

3. **Regulatory and Operational Considerations**

    - Any customized or manual processes for derivatives transactions, including for confirmations, settlements and reconciliations
    - Key processes and responsibilities for:
        - Custody and collateral flows
        - Asset segregation
        - Tracking counterparty exposure
        - Valuation, which may include pricing sources and processes for validating prices
        - Determining appropriate accounting and tax treatments
        - Review of disclosure in registration statements, shareholder reports, and financial statements

4. **Organizational Structure and Processes**

    - Organizational structure and process for evaluating investment, operational, and regulatory considerations relating to derivatives investments prior to investment and/or on an ongoing basis, including whether there is a committee or other mechanism to facilitate communication among, and/or approval by, personnel involved in evaluating and supporting derivatives investments
    - Process and responsibility for elevating issues of concern relating to derivatives investments to senior management, legal or compliance personnel, fund counsel, the fund auditor, and/or the board

5. **Policies and Procedures**
    - Description of how derivatives fit within existing policies and procedures
    - Recommended modifications or additions, if any, to incorporate derivatives' features
    - Testing and monitoring by compliance or other personnel
6. **Experience of Adviser and Service Providers**
    - Experience of the adviser, service providers, and relevant personnel with respect to derivatives
    - Adviser's experience in using derivatives to implement the particular investment strategies followed for the fund
    - Any significant, additional derivatives-related regulatory or operational requirements for registered funds
    - Issues that may be pertinent to the fund's uses of derivatives that the adviser has previously encountered or discovered in audits, regulatory examinations or other types of reviews, and their resolution
    - Training of relevant personnel
7. **Board Practices**
    - Review and/or approval of the fund's derivatives uses (or delegation to adviser)
        - Full board
        - Committees
    - Reporting to the board
        - Significant issues or violations of policies
        - Ongoing reporting
            - Investment applications and results
            - Compliance tests and results

APPENDIX C

Glossary

Note: Some of the definitions provided below can be found on the website of the Commodity Futures Trading Commission at http://www.cftc.gov/educationcenter/glossary/index.htm.

Asset-backed Securities (ABS): Securities backed by a discrete pool of self-liquidating assets, such as credit card receivables, home-equity loans, and automobile loans. Asset-backed securitization is a financing technique in which financial assets are pooled and converted into instruments that may be offered and sold in the capital markets. (See also **Mortgage-backed Securities**.)

Cash Securities: Physical (non derivative) assets, such as bonds or equity securities.

Clearing House: An entity, commonly affiliated with a major exchange, such as the Chicago Mercantile Exchange, New York Mercantile Exchange or Chicago Board Options Exchange, through which futures and other exchange-traded derivatives are cleared and settled. (See also **Exchange-traded Derivatives**.)

Counterparty: The opposite party in a bilateral agreement, contract, or transaction, such as a swap.

> **Counterparty Risk**: The risk associated with the financial stability of the opposite party of a contract.

Credit Event: An event such as a debt default or bankruptcy that will affect the payoff on a credit derivative, such as a credit default swap, as defined in the derivative agreement.

Exchange-traded Derivatives: Standardized contracts traded on recognized exchanges, such as the Chicago Mercantile Exchange, New York Mercantile Exchange and Chicago Board Options Exchange. Transactions in exchange-traded derivatives generally are guaranteed by a clearing house that imposes a system of margin requirements designed to minimize credit risks: trades settle the business day following trade date, contracts are marked-to-market daily, and collateral (margin) is exchanged daily. Exchange-traded derivatives include futures, options, and options on futures.

Forward: A contract that obligates each party to the contract to trade an underlying asset (commonly, foreign currency) at a specified price at a specified date in the future. Forward contracts are traded in the over-the-counter markets and their terms are customized, unlike futures contracts.

Futures: A standardized contract to purchase or sell an underlying asset in the future at a specified price and date. Futures are Exchange-traded Derivatives.

International Swaps and Derivatives Association (ISDA): A New York-based group of major international swap dealers, that publishes standard master interest rate, credit, and currency swap terms and definitions for use in connection with the creation and trading of swaps.

> **ISDA Master Agreements**: Standard master interest rate, credit, and currency swap agreements and definitions for use in connection with the creation and trading of swaps, published by the International Swaps and Derivatives Association (ISDA). These standard agreements must be supplemented by the swap parties based upon individual negotiations.

Leverage: The ability to control large dollar amounts of an asset with a comparatively small amount of capital.

Long-short Strategies: Strategies combining long positions, in holdings identified by the fund's portfolio manager as offering favorable return-risk prospects, offset by short positions in holdings with unfavorable prospects. Such strategies may include long-short positions in individual securities and/or broader market sectors. By allowing the manager to short unfavorable securities, the fund is seeking additional potential value-added (alpha) from the manager's active management strategies.

> **130/30 Funds**: Primarily managed against a broad equity (e.g., S&P 500) or fixed income (e.g., CSFB High Yield) benchmark. The fund manager may short securities, up to 30% of the portfolio value, and go long up to 130% in favorably positioned securities. (While 130/30 currently represents the most common long-short percentages for registered funds, funds could employ other portfolio combinations of long-short percentages.) The fund seeks to maintain overall market exposure equivalent to the fund benchmark (with a beta close to one). Depending upon the aggregate portfolio beta resulting from the combination of long and short securities (which will vary on a daily basis), this may require purchasing derivatives (generally futures) to increase market exposure or selling to reduce market exposure.

> **Market-neutral Funds**: Seek only the alpha of the combined long-short positions, with no market exposure. Therefore, the fund seeks a return equal to the return on a short-term fixed income holding plus the alpha. Because the long and short positions may not precisely offset each other, the fund manager may need to use derivatives, generally to hedge any remaining market risk exposure.

Portable Alpha Funds: Combine (or overlay) long-short alpha opportunities from one broad asset class (e.g., U.S. equities) with the market return (beta) of another asset class (e.g., U.S. bonds). In this case, the market neutral approach described above would be used to eliminate any market risk in the "alpha market" and derivatives would be used to gain the target exposure to the "beta market."

Margin: The amount of money or collateral to be deposited by a derivatives purchaser or seller. For exchange-traded derivatives, the collateral will be held by the broker or clearing house. For OTC derivatives, the terms of the collateral requirements will be specified in the contract between the two parties to the transaction.

Initial Margin: The amount of margin required to be deposited when the position is opened.

Variation Margin: Payment made daily (or with frequency specified in the OTC contract) based on adverse price movements in the derivative's reference asset.

Mortgage-backed Securities: Instruments whose cash flow depends on the cash flow of an underlying pool of mortgages.

Notional Value: The economic value imputed to a derivatives transaction to calculate periodic payment obligations, based on, for example, price movement in an interest rate, currency, specified issuer or index.

Novation: Agreement to replace one party to a contract with a new party. The novation transfers both rights and duties and requires the consent of both the original and new party. Also refers to replacement of an older debt or obligation with a newer one. ISDA published the Novation Protocol in 2005 to enable parties to confirm their understanding and intentions regarding the transfer by novation of the transactions covered by their agreement.

Option: A contract that gives the buyer the right, but not the obligation, to buy or sell a specified quantity of a security, commodity, or other asset at a specific price within a specified period of time. (See **Put** and **Call** and payoff diagrams below.)

Option Buyer: The party which buys calls, puts, or any combination of calls and puts.

Option Writer: The party which originates an option contract by promising to perform a certain obligation in return for the price or premium of the option. Also known as option seller.

Call: An option contract giving the buyer the right, but not the obligation, to purchase a specified quantity of a security, commodity or other asset at a given price (the strike price) prior to or on a specified future date.

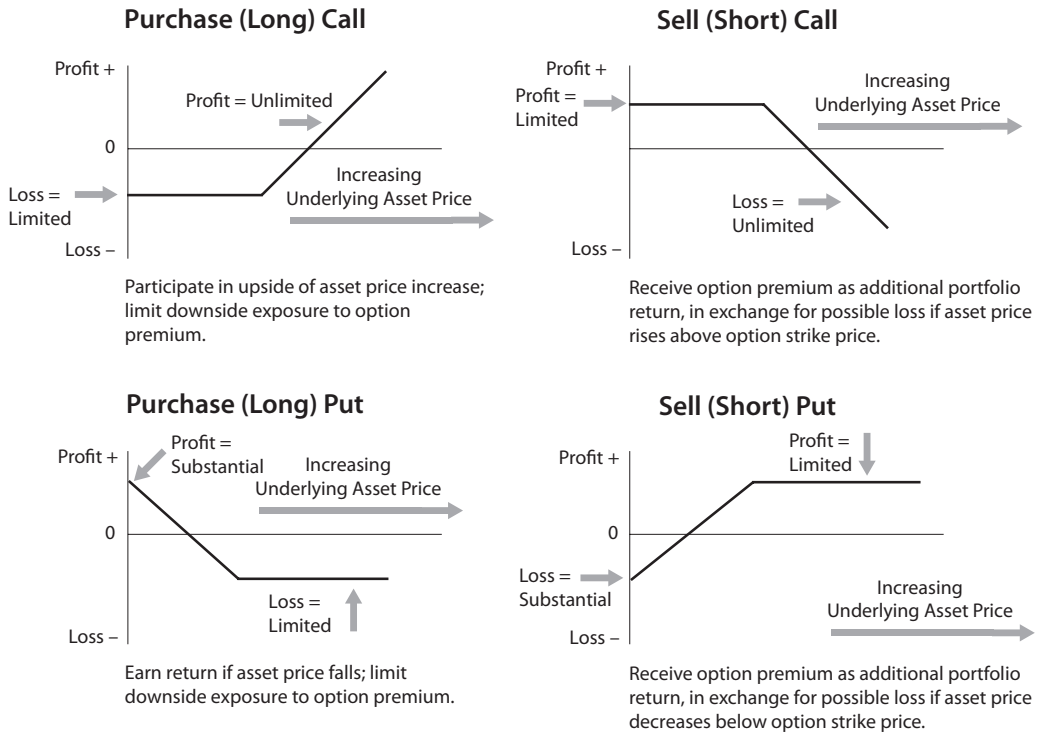
Premium: The payment an option buyer makes to the option writer for granting an option contract.

Put: An option contract that gives the holder the right, but not the obligation, to sell a specified quantity of a security, commodity or other asset at a given price (the strike price) prior to or on a future date.

Strike Price (Exercise Price): The price, specified in the option contract, at which the underlying asset (e.g., the futures contract, security, or commodity) will move from the option seller to the option buyer.

Swaption: An option to enter into a swap – i.e., the right, but not the obligation, to enter into a specified type of swap at a specified future date.

Option Payoff Diagrams



Source: Chicago Board Options Exchange

Over-the-Counter (OTC) Derivatives: Derivative transactions that are entered into on a bilateral contractual basis outside an organized exchange. OTC derivatives include forwards, swaps, and options that are not exchange traded.

Reference Asset: The asset or metric, such as a securities index or corporate bond, that underlies or is referenced by a derivative. For example, the reference asset of an S&P 500 futures contract is the S&P 500 index.

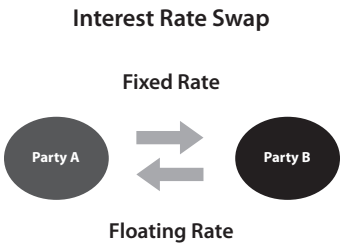
Structured Notes: Instruments which pay interest rates that are indexed to an unrelated indicator (e.g., the S&P 500 Index). The two may be inversely related (for example, with "inverse floaters", as the index goes up, the coupon rate goes down).

Swap: The exchange of one asset or liability for another asset or liability. Swaps are structured and transacted over-the-counter. Common types of swaps include:

Credit Default Swap: Agreement in which the seller agrees to make a payment to the buyer in the event of a specified credit event (such as a default on an interest or principal payment of a reference entity) in exchange for a fixed payment or series of fixed payments.

Currency Swap: Agreement for the exchange of one currency (e.g., U.S. dollars) for another (e.g., Japanese yen) on a specified schedule.

Interest Rate Swap: Agreement to exchange interest rate based flows (e.g., one party agrees to pay a fixed rate and the other party agrees to pay a floating rate, such as one based on LIBOR [London Interbank Offered Rate]), on a specified series of payment dates based on a specified principal amount (i.e., notional value).



Total Return Swap: Agreement in which one party receives the total return (interest or dividend payments and any capital gains or losses) from a specified reference asset and the other party receives a specified fixed or floating rate.

APPENDIX D

PORTFOLIO MANAGEMENT EXAMPLES

EXAMPLE 1: **EQUITIZE CASH: PURCHASE S&P 500 FUTURES TO GAIN MARKET EXPOSURE**	
Scenario Overview:	Portfolio manager of $500 million equity mutual fund benchmarked to the S&P 500 Index learns of $100 million cash flow to the fund on relatively short notice (3 days).
Concerns/Challenges:	Fund's stated objective is to outperform the S&P 500 Index. The portfolio manager would like to minimize the performance impact of a large uninvested cash position in the fund.
Derivatives Transaction Overview:	Purchase (long) S&P 500 Futures Contracts traded on the Chicago Mercantile Exchange (will require modest amount of initial margin with remaining funds available to invest in cash or cash equivalent securities). Having gained exposure to the broad equity market return, the portfolio manager will have the time to invest in individual stocks reflecting the investment management strategy, selling the futures as stock purchases are made.
Governing Framework:	Futures contracts are governed by the terms established by the exchange.
Current Market Data:	**Date**: 31 March 20XX **S&P 500 Index Level (current)**: 1,000 **LIBOR Rate**: 4% (annualized)
Contract Specifications:	Initial margin requirement: 5% Contract multiplier: $250
Transaction Mechanics:	To generate equity exposure equivalent to $100 million, purchase approximately 400 S&P Futures Contracts » $100 million = $250 (contract multiplier) x 1,000 (S&P 500 Index Level) x 400 contracts Open long (purchase) 400 S&P 500 Futures Contracts as follows: » Deposit $5 million in initial margin required by exchange (5% of $100 million) » Invest remaining $95 million in cash equivalent securities yielding LIBOR At termination of transaction, the fund has the following position: » Long 400 S&P 500 Futures Contracts » $5 million initial margin posted with the exchange (earning LIBOR) » $95 million in cash equivalent securities (earning LIBOR)

Example 1 (continued) Equitize Cash: Purchase S&P 500 Futures to Gain Market Exposure	
Future Cash Flows:	S&P 500 Futures Contracts are cash settled on a daily basis. Assume that on the following day, the S&P 500 Index Level increases by 100 (from 1,000 to 1,100). The exchange would send the fund the following proceeds: » Change in index level: 100 (1,100 – 1,000) » Dollar value of increase per contract: $25,000 (100 [index level change] x $250 [contract multiplier]) » Total proceeds: $10,000,000 = $25,000 per contract x 400 contracts Assume that on the next day, the index level decreases by 200 (from 1,100 to 900). The fund would forward cash (variation margin) in the following amount: » Change in index level: -200 (900 – 1,100) » Dollar value of increase: -$50,000 (-200 [index level change] x $250 [contract multiplier]) » Total proceeds: -$20,000,000 = - $50,000 per contract x 400 contracts
Risk Considerations:	**Counterparty risk**: There is minimal counterparty risk since the exchange (technically, the exchange's clearing house) ensures that both buyer and seller execute the terms of the agreement. **Market risk**: The fund has assumed $100 million of market risk, which is consistent with the fund's objectives. **Basis risk**: Depending upon market conditions, futures and cash securities may trade at slightly different prices, leading to a small differential in return (but significantly less than the difference between the equity and cash returns). **Leverage risk**: The portfolio manager must be sure to balance the purchase of individual securities with the sale of the equivalent amount of futures to ensure the overall portfolio's market exposure is maintained. **Other risk considerations**: If the $95 million invested in cash and cash equivalent securities earns a rate of return substantially different than the money market rate, this position will generate returns different from that of the index. For this reason, the manager must carefully oversee the management of cash backing the futures position.

Example 2: **Credit Default Swaps to Gain Exposure to a Corporate Debt Issuer**	
Scenario Overview:	Fund portfolio manager seeks to gain $10 million of exposure to a corporate issuer for the next three years.
Concerns/Challenges:	Portfolio manager could purchase $10 million par of a floating rate bond issued by the reference corporation: » Fund would receive a regular coupon payment from the issuer. » If the reference entity defaults, the fund would hold a credit-impaired bond. The loss on this position would be $10 million minus the recovery value of the bond. Alternatively, for various reasons, including a limited supply of the reference entity's securities trading in the market, the fund could sell $10 million of "credit protection" to a counterparty in the event of default (or another credit event) by the reference corporate entity. The fund could then invest $10 million in cash and/or cash equivalent securities to back the contingent liability of the credit protection it has sold.
Derivatives Transaction Overview:	The fund sells protection to a counterparty in the credit default swap market against default of the reference corporate issuer.
Governing Framework:	Credit default swaps are traded OTC. The majority of credit default swap contracts have been standardized according to terms developed by the International Swaps and Derivatives Association (ISDA).
Current Market Data:	**Date**: 31 March 20XX **Reference issuer floating rate bond yield**: 5% (500 basis points)
Contract Specifications:	» Notional Value (amount protected against default/credit event): $10 million » Annual premium (cost) for providing default protection paid by buyer of credit protection: $500,000 (5% of $10 million) » Credit event (including default) by the reference entity requires protection seller to deliver $10 million in exchange for a bond of the reference entity with a specific maturity » Maturity of the credit default swap: 3 years
Transaction Mechanics:	» Fund (as protection seller) agrees to terms with protection buyer (counterparty); assume no cash is initially exchanged. » Fund invests $10 million in cash and cash equivalent securities.

Example 2 (continued) Credit Default Swaps to Gain Exposure to a Corporate Debt Issuer	
Future Cash Flows:	If no credit event by the reference entity occurs, fund (as protection seller) would earn a total of $900,000 annually: » $500,000 annual premium from the protection buyer (likely in quarterly payments); and » $400,000 from $10 million investment in cash equivalent securities (assume earning 4% annualized rate) If a credit event specified in the agreement occurs, the fund (as protection seller) would deliver $10 million in cash to the protection buyer and receive in exchange a bond (of an agreed upon maturity). The fund's $10 million loss would be reduced by any recovery amount associated with the impaired bond.
Risk Considerations:	**Counterparty risk**: Prior to a credit event, the protection seller has counterparty risk exposure to the protection buyer since the protection buyer may default on its obligation for annual payments over the life of the swap. In the event of a credit event, the protection buyer will incur counterparty risk exposure to the protection seller for the notional amount of the swap (in this case, $10 million). **Credit risk**: The fund has gained exposure to default (or a similar credit event) by the reference entity. In exchange for this, the portfolio manager has increased the income (yield) of the fund. **Other risk considerations**: As with the futures example, the management of the $10 million invested in cash and cash equivalent securities backing the agreement could materially alter the risk profile of the portfolio. For instance, if the portfolio manager invests the $10 million in securities that have a high likelihood of default, the portfolio manager has materially increased the credit risk of the fund.

Example 3: **Forward Currency Contracts to Hedge Currency Exposure**	
Scenario Overview:	An international bond fund, which is fully hedged to the U.S. Dollar (USD), has a $1 million position in a corporate bond denominated in Swiss Francs (Sf). While the portfolio manager believes that the credit metrics of the company issuing the security will improve over the next year, the portfolio manager is not willing to assume the currency risk of the Swiss Franc.
Concerns/Challenges:	The fund is effectively long Swiss Francs through owning a bond denominated in that currency. The portfolio manager wishes to implement an efficient and effective transaction to remove the currency risk of the position. To reduce this exposure, the portfolio manager can take an off-setting (i.e. short) position in the forward market.
Derivatives Transaction Overview:	Sell (go short) Swiss Francs in the forward market.
Governing Framework:	Forward contracts are transacted in the OTC market, and the terms are negotiated by the parties.
Current Market Data:	**Date**: 31 March 20XX **Current (spot) exchange rate**: 1.35 USD to 1 Sf **Current one year forward exchange rate on 31 March 20XY**: 1.32 USD to 1 Sf
Contract Specifications:	Contract maturity: 1 year
Transaction Mechanics:	Current value of 1,000,000 Sf position in USD is 1,350,000 USD: 1,350,000 USD = 1,000,000 Sf x (1.35 USD / 1 Sf) Transacting in the OTC market, the fund would sell to a counterparty 1,000,000 Sf for 1,320,000 USD with the transaction settling in 1 year: 1,320,000 USD = 1,000,000 Sf x (1.32 USD / 1 Sf)

Example 3 (continued) Forward Currency Contracts to Hedge Currency Exposure	
Future Cash Flows:	Assume in 1 month, the current (spot) rate for 1 Sf has fallen to 1.31 USD and the 11 month forward exchange rate for 1 Sf falls to 1.28 USD The fund's position is now worth: 1,310,000 USD = 1,310,000 USD = 1,000,000 Sf x (1.31 USD / 1 Sf) The fund's loss (in dollar terms) for the position is 40,000 USD: 40,000 USD = 1,350,000 USD - 1,310,000 USD However, the forward position gains in value: 40,000 USD » Previous value of forward position: 1,320,000 USD = 1,000,000 Sf x (1.32 USD / 1 Sf) » Current value of forward position: 1,280,000 USD = 1,000,000 Sf x (1.28 USD / 1 Sf) » Gain on forward position: 40,000 USD = (1,320,000 USD - 1,280,000 USD) Thus, the gain on the forward position offsets the currency loss from the original exposure
Risk Considerations:	**Counterparty risk:** In this case, the fund is "owed" $40,000 by the counterparty since this is the amount by which the forward position has gained. Therefore, the fund has $40,000 of counterparty risk exposure. This risk would be mitigated according to the terms of the forward agreement. **Market risk:** While the portfolio manager has removed currency risk from this position, the fund maintains exposure to other risks associated with the bond, such as credit and/or interest rate risks. **Other risk considerations:** If the agreement with the counterparty requires the exchange of collateral prior to contract termination, the portfolio manager would need to carefully manage liquidity in the fund to support potential collateral exchanges. For instance, a worst-case scenario would be a dramatic rise in the Swiss Franc, which could generate a requirement for a collateral payment. If the fund lacked liquidity, the portfolio manager would be required to sell assets that were intended to be held in order to meet collateral requirements.

Example 4: **Options to Hedge Against Potential Price Declines in an Equity Security**	
Scenario Overview:	A fund had purchased 10,000 shares of XYZ at $5 per share. The XYZ shares have increased in value to $15 per share and, as a result, XYZ is now a significant portion of the fund's portfolio holdings. The portfolio manager seeks to reduce the fund's exposure to a potential short-term price decline in XYZ.
Concerns/Challenges:	While the portfolio manager could sell all or part of the position in XYZ, the portfolio manager is reluctant to do so for a variety of reasons: the portfolio manager expects that XYZ will outperform cash; the manager continues to believe that XYZ is fairly priced relative to other comparable securities; and, for the purpose of tax efficiency, the manager would like to defer the realization of a gain until a period that offers more advantageous tax treatment for fund shareholders (i.e., short- vs. long-term capital gains).
Derivatives Transaction Overview:	Purchase exchange-traded put options on XYZ. The fund will pay a premium for the right to sell XYZ at a specific price by (or on) a specific future date.
Governing Framework:	Exchange-traded option contracts are governed by the terms established by the exchange (e.g., Chicago Board Options Exchange, American Stock Exchange)
Current Market Data:	**Date:** 31 March 20XX **Current price of XYZ:** $15 per share
Contract Specifications:	Current price (premium) of 1 put contract (for 100 shares) on XYZ with strike price of $15: $5
Transaction Mechanics:	Total current gain on portfolio: $100,000 $100,000 = $10 price gain per share x 10,000 shares The fund purchases 100 put contracts for $50,000 $50,000 = 100 put contracts x 100 shares per put contract x $5 per share option premium Effectively, the portfolio manager has foregone $50,000 in profit in order "lock in" a $50,000 gain.

Example 4 (continued) Options to Hedge Against Potential Price Declines in an Equity Security	
Future Cash Flows:	Assume in 1 month, the price of XYZ drops to $7 per share: » Loss on stock position: $80,000 Loss = $150,000 (previous value of position) - $70,000 (current value of position) » Net gain on put option: $30,000 Gain on put option: $80,000 = $15 (strike price) – $7 (current price) x 10,000 (number of shares) Less premium paid: $50,000 = $5 x 10,000 shares » Total "loss" on stock position = $50,000 $80,000 (loss on stock position) - $30,000 (net gain on put option) Regardless of how far the stock price falls from $15 per share, the portfolio manager has ensured that he can "sell" or "put" the fund's shares for $10 per share.
Risk Considerations:	**Counterparty risk:** Counterparty risk is minimal since contract execution is guaranteed by the exchange, or, more precisely, the exchange's clearing house. **Market risk:** The portfolio manager has paid a fee (sacrificed yield or income in the portfolio) in order to reduce the fund's exposure to XYZ. **Other risk considerations:** A variety of factors influence the price of a given option, including the strike price of the option, time to option expiration, and the price volatility of the underlying security. A portfolio manager must balance the benefits of buying and selling options with the costs of the option transaction, including changes in the option prices.

APPENDIX E

Additional Resources for Boards

The following websites and publications contain additional information about derivatives. They are merely a sample of a large number of available sources. Except for the Investment Company Institute (ICI) and IDC websites and publications, the websites and publications listed below are created, maintained, and published by other organizations. ICI and IDC do not control, cannot guarantee, and are not responsible for the accuracy, timeliness, or even the continued availability or existence of this outside information.

Regulatory Agencies

- U.S. Securities and Exchange Commission: www.sec.gov
  - *See also speeches of SEC staff:*
    - Keynote Address at Mutual Fund Directors Forum Program by Gene Gohlke, Associate Director, Office of Compliance Inspections and Examinations (Nov. 8, 2007) ("If I Were a Director of a Fund Investing in Derivatives — Key Areas of Risk on Which I Would Focus"): www.sec.gov/news/speech/2007/spch110807gg.htm
    - Remarks Before the Investment Company Institute 2007 Operations and Technology Conference by Andrew J. Donohue, Director, Division of Investment Management, U.S. Securities and Exchange Commission (October 18, 2007): www.sec.gov/news/speech/2007/spch101807ajd.htm
    - Keynote Address at Practicing Law Institute, Investment Management Institute 2007 by Andrew J. Donohue, Director, Division of Investment Management, U.S. Securities and Exchange Commission (April 12, 2007): www.sec.gov/news/speech/2007/spch041207ajd.htm
    - Keynote Address at 2007 Mutual Funds and Investment Management Conference by Andrew J. Donohue, Director, Division of Investment Management, U.S. Securities and Exchange Commission (March 26, 2007): www.sec.gov/news/speech/2007/spch032607ajd.htm
- See also Senior Supervisors Group, *Observations on Risk Management Practices during the Recent Market Turbulence* (March 2008): www.sec.gov/news/press/2008/report030608.pdf

- Commodity Futures Trading Commission: www.cftc.gov

  See Glossary: www.cftc.gov/educationcenter/glossary/index.htm

Exchanges

- Chicago Board Options Exchange: www.cboe.com

  See Learning Center at www.cboe.com/LearnCenter/default.aspx

- Chicago Mercantile Exchange: www.cme.com

  See An Introduction to Futures and Options: www.cme.com/edu/res/intro/

- New York Mercantile Exchange: www.nymex.com

Industry Sources

- Investment Company Institute (www.ici.org) and Independent Directors Council (www.idc1.org)
  - Directors Reference Center: www.idc1.org/idc/referenceguide.do
  - *Fair Valuation: The Role of the Board* (January 2006): www.ici.org/pdf/06_fair_valuation_board.pdf
  - *An Introduction to Fair Valuation* (Spring 2005): www.ici.org/pdf/05_fair_valuation_intro.pdf
- International Swaps and Derivatives Association, Inc. (ISDA): www.isda.org

  Includes ISDA Master Agreement Protocols and market statistics.

- Futures Industry Association: www.futuresindustry.org
- CFA Institute: www.cfainstitute.org

  Includes conferences, articles and journals such as the *Financial Analysts Journal.*

- Global Association of Risk Professionals: www.garp.com

  Includes courses and publications.

Dictionaries/Glossaries:

- CFTC Glossary: www.cftc.gov/educationcenter/glossary/index.htm
- John Downes and Jordan Elliot Goodman, *Barron's Dictionary of Finance and Investment Terms* (7th ed. 2006)

Books and Other Publications

- Don M. Chance and Robert Brooks, *An Introduction to Derivatives and Risk Management* (7th ed. 2006)
- Frank J. Fabozzi (editor), *The Handbook of Fixed Income Securities* (7th ed. 2005)
- John C. Hull, *Options, Futures, and Other Derivatives* (7th ed. 2008)
- Robert A. Strong, *Derivatives, An Introduction* (2nd ed. 2005)
- Robert E. Whaley, *Derivatives: Markets, Valuation, and Risk Management* (2006)
- Institutional Investor, *Journal of Derivatives* (www.iijournals.com)