



The Asset Managers Forum

Swaps Best Practices Initiative: Aid to Public Comment

DRAFT as of July 20, 2005

Comment Period - These recommended Best Practices are subject to review by all market participants. Written comments are due by October 1, 2005 and may be submitted to The Bond Market Association staff or email to swapscomments@bondmarkets.com. Please contact George Reis at 646-637-9280 for additional information.

Executive Summary of Best Practice Recommendations

The Asset Managers Forum (“AMF” or “Forum”) commenced the Swaps Best Practices Initiative to act as a catalyst for change in the current processing environment and to identify opportunities to reduce operational and reputation risk for all market participants. In this initial document, the Swaps Committee, which attracted over 150 volunteers of diverse market participants, identified best practice recommendations that would have an immediate and significant impact on improving the daily processing of swaps transactions.

- I. Dealers should send electronic trade confirmations for Interest Rate Swaps and other types of “plain vanilla” swaps on trade date or alternatively, paper confirmations should be sent on T+1 in order to expedite agreement by the counterparty.
- II. Counterparties involved in interest rate swap transactions, or other similar transactions, should make arrangements to confirm Interest Payments (Resets) electronically at least five business days before the acknowledged settlement date to ensure prompt settlement of funds, so long as such arrangements are compatible with relevant contractual provisions that might apply to such Resets.
- III. Consistent with new standardized electronic methodologies being promoted by the Data Standards Working Group, swap prices should be reconciled daily between a) dealers and asset managers and b) asset managers and custodians in order to ensure accurate pricing of client portfolios. The Governance Group being created by AMF/BMA, ISDA and ISITC shall seek a consensus from various market participants concerning this best practice recommendation.
- IV. Asset managers are encouraged to develop multi-account (“umbrella”) ISDA Master Agreements for each class of accounts (‘40 Act, ERISA, government and separate).
- V. Before executing a swap transaction, it is recommended to have an ISDA Master Agreement in place.
- VI. Dealers should send electronic confirmations using the specific type of ISDA “Form of Confirmation” as the standard template.
- VII. After execution, all parties should strive to communicate post-trade information in electronic form to achieve benefits of STP for all market participants.
- VIII. The industry should develop standard message format(s) and standard messaging protocol(s) for communication between the asset manager and custodian.
- IX. Asset managers and custodians should enter the prices of swaps into their systems on trade date to facilitate valuation(s) on trade date.

- X. The industry should evaluate the pros and cons of developing a standard tri-party collateral control agreement. This should be done with the assistance of AMF's outside counsel.
- XI. Asset managers should strive to obtain independent swap pricing for all swaps to validate the accuracy of dealer and internal pricing calculations.
- XII. Interest Rate and Total Return Swaps should be monitored and aggregated as substitutes for bond exposures.
- XIII. When monitoring risk in client portfolios, the proposed guideline is that credit default swaps impact credit risk only and should be monitored and aggregated as substitutes for bond exposures.
- XIV. The industry should develop guidelines for reset tracking (manually or electronic application) and work with vendors to create specifications for an electronic application.
- XV. Asset managers should have the proper tools in place to manage collateral.
- XVI. Dealers and Asset Managers should strive to include each other's trade reference numbers in all communications to facilitate matching of confirmations, rate resets, pricing and margin calls.
- XVII. The industry, including relevant buy side and sell side trade groups, should work with recognized Wall Street experts to develop and thereafter promote adoption of a feasible common identifier for swaps in order to help facilitate fully automated processing among market participants.

Background

The derivatives markets are an important tool to hedge risks arising from economic variables including interest rates, currency, and credit and commodity prices. Today, professional asset managers increasingly rely on derivatives within client portfolios to enhance investment performance through active financial and risk management. Asset managers are continuing to expand their use of OTC derivatives and as a result, dealers are creating more customized derivative products to address the various risks impacting investment performance. In evidence of this increased participation, the OTC derivatives markets now exceed \$221 trillion outstanding notional amounts (as of June 2004). This is an increase of 121% from the prior six month reporting period. (Note: Central Bank Survey of Foreign Exchange and Derivatives Market Activity in 2004: Bank for International Settlements).

Operational Risk

Increased trading volume and the growth of more complex instruments are giving rise to concerns focused on processing and settling trades.

In March 2003, Alan Greenspan, Chairman of the Federal Reserve System stated "...the way that OTC derivatives are traded and settled could be significantly improved. ...and it is disappointing that so little progress has been made in adopting efficient and reliable means of executing and confirming trades."

At The Bond Market Association's Annual Meeting in April 2005, Timothy Geithner, President and CEO of the New York Federal Reserve Bank noted in his address, "The challenge of ensuring that operational controls keep up with front office advances in the complexity and volume of transactions is particularly evident today in the area of credit derivatives. The rapid growth in the trading of credit default swaps and structured credit products has resulted in considerable back-office backlogs (unsigned confirmations and master agreements, delays in trade capture into risk management systems, delayed notification of assignments of positions) that create significant operational risk for market participants."

By definition, "operational risk" stems from a processing environment characteristic of OTC derivatives with its complex instruments, lack of timely and accurate information and manual processing. Market participants are now creating an environment conducive to addressing the inherent operational risk in today's market practices. The Asset Managers Forum ("AMF") commenced the Swaps Best Practices Initiative to change the current processing environment in order to reduce operational risk. These AMF best practice guidelines impact all interested parties, namely, clients, regulators, asset managers, hedge funds, dealers, custodians, industry utilities and vendors. Both the AMF and the above-mentioned Governance Group intend to solicit comments concerning these best practices from all sectors of the financial services community prior to recommending industry wide adoption of these best practices.

Regulators have focused on operational issues and have encouraged the industry to adopt more uniformity in trading and structuring derivative products. Bank and securities regulators require participants in a derivative transaction to promptly confirm, book and settle trades with the counterparties. Funds established under the '40 Act and ERISA funds are governed by federal law imposing strict regulation of investment managers, dealers and custodians in financial transactions. In 2001, the accounting profession established accounting and reporting standards for derivative instruments through its Statement of Accounting Standards (SAS) Release 133 "Accounting for Derivative Instruments and Hedging."

Operational Risk can negatively impact a manager's fiduciary responsibilities and consequently the firm's growth and profitability. The manager can also suffer reputation risk if there are major deficiencies in derivative transactions jeopardizing client funds under management.

For example:

- To be an effective risk control, the manager's counterparty credit exposure reports should be timely and accurate; therefore, trades must be booked on trade date.
- Similarly, the manager's market risk analyses depend on promptly confirming, booking and settling swap transactions.
- To properly measure client aggregate portfolio risk, swaps should be accurately assigned risk values.

- Collateral should be recorded and segregated from a client's portfolio on a custodian's records to ensure NAV calculations are correct.
- As the volume of interest payments continues to increase, the industry should adopt netting procedures to avoid overwhelming the payments system.

These are a few of the reasons it is paramount to address the operational risk occurring daily in many parts of the global derivatives business.

AMF Swaps Best Practices Initiative

The Asset Managers Forum, composed of the leading investment management firms, formed the Swaps Committee to address operational risk, which flows from the largely manual processes involved in the OTC derivatives markets. The Committee was established through the efforts of Linda Singer, originally with BlackRock, and George Hall of Goldman Sachs Asset Management who served as Chairs of the Committee. Ms. Singer and Mr. Hall are industry members who worked closely with the Forum to engage a wide cross-section of market participants. Through their work, five subcommittees were formed to address risk issues within the marketplace.

The initiative became more significant as AMF member firms increased their trading and expanded their use of derivative products. Accordingly, the AMF collectively recognizes the importance of changing the operational procedures to achieve timely and accurate information and to seek improvements, particularly in electronic format, in connection with swaps processing. This can only be done in cooperation with dealers, custodians and other market participants.

The AMF Swaps Committee's mission is to develop best practice recommendations with asset managers, hedge funds, dealers, custodians, utilities and vendors. Most importantly, the AMF Swaps Committee seeks to serve as a catalyst leading to adoption of Best Practices and implementation of streamlined swaps processing by all industry participants. ISITC has pledged its support of the AMF Swaps Best Practices Initiative. See Exhibit A for AMF Swaps Best Practices Initiative timeline.

Goal: Best Practices

The Swaps Committee, currently chaired by George Hall of Goldman Sachs Asset Management, is divided into five subcommittees. The subcommittees attracted over 150 volunteers from asset managers, dealers and custodians plus representatives from utilities, service providers and vendors. See Exhibit B for complete list of participants. The enthusiastic support and involvement of so many industry participants demonstrates the importance of the growing swaps business.

The goal of the Swaps Committee is to formulate best practices to improve efficiency, timeliness and accuracy of transaction processing and increase standardizing and automating swaps processing for all participants in the trade lifecycle, including asset managers, dealers, custodians, vendors and industry service providers. This set of Best Practices will relate both to manual and automated swaps transaction processing so all industry participants will benefit.

The focus areas were chosen so that the processing issues during the whole lifecycle of a swap transaction would be covered:

- Trade Execution Subcommittee, Jason Jesner, Credit Suisse Asset Management, Chair, proposed best practices to streamline and automate the pre-trade, execution and post-trade swap trade execution process;
- Confirm/Legal Subcommittee, Tracey Jordal, PIMCO, Co-Chair and Linda Singer, Co-Chair and one of the founders of the AMF Swaps Committee, examined legal issues such as ISDA agreements and trade confirmations and proposed best practices to make the legal process more efficient;
- Valuation Subcommittee, Jean Ebbott, Morgan Stanley Investment Management, Chair, proposed best practices and possible industry standards relating to pricing and valuation of swaps;
- Maintenance Subcommittee, Joseph Pomo, Goldman Sachs Asset Management, Chair, proposed best practices relating to swaps payments, collateral and margin; and
- Compliance Subcommittee, Marcia Clark, PIMCO, Chair, proposed best practices related to risk monitoring and compliance to customer guidelines.

We would like to take this opportunity to thank George, Marcia, Tracey, Linda, Jean, Jason and Joe for their extraordinary leadership and commitment to this initiative. All together, they have conducted more than two hundred subcommittee meetings in the past year. In fact, their tireless dedication to raising the awareness in the derivatives industry has already begun to effect change. Moreover, the additional changes that will stem from these best practices will be carried out by literally thousands of professionals who are affiliated with financial institutions that participate in these markets.

The industry has several successful examples of standardization and electronic applications, which mostly serve the dealer community. The Committee recommends building on these successes to connect electronically the asset managers and custodians, thereby creating electronic connectivity for the entire swaps lifecycle.

Effecting Change

Currently, the swaps marketplace is labor intensive with many manual steps involved in trading, confirming, processing and settling transactions (see Exhibit C). This is reminiscent of the early development of the equity and debt markets, which, over the years, successfully migrated to electronic platforms thereby improving price transparency, increasing trading volumes, lowering market risks and reducing processing costs for all participants. Today, the global equity and debt markets are handling an ever increasing number of transactions daily for clients worldwide.

For the swaps market, asset managers, hedge funds, dealers and custodians are encouraged to work with industry entities and vendor(s) to develop a marketplace

promoting reasonable price discovery, increased trading and efficient processing of swap transactions.

In the initial stages, participants are encouraged to adopt standard transaction formats and messaging protocol(s) to communicate information efficiently and accurately. As adoption of standards increase, there are opportunities to create STP for processing of confirmations, settlements and valuations plus enhanced risk and compliance monitoring.

Standards encourage industry participants, utilities and vendors to develop electronic solutions eliminating manual processing steps and thereby leading to the processing of transactions more efficiently, timely and accurately. With greater efficiency and lower costs, the marketplace will encourage more electronic connectivity among asset managers, dealers and custodians. With greater electronic connectivity, there will be an increase in trading volumes, product availability and client trust and confidence.

Asset managers, hedge funds, dealers, custodians and vendors should focus on the entire processing life of the swap from trade execution to eventual expiration to ensure that standards will be consistent for each processing stage and useful to all participants. This comprehensive initiative encompasses all elements of the swaps life. Above all, the Subcommittee Chairs are strongly recommending in this White Paper that asset management firms together with the industry must adopt a *culture of change* within their organizations in order to effect these best practices and it is their belief that the time to begin this process is now.

The Swaps Committee believes the first three recommendations will have an immediate and significant impact on improving daily processing of swaps transactions.

Note: The Best Practice Recommendations relate to Interest Rate, Total Return and Credit Default swaps and, where relevant, would be governed by New York law.

I. Trade Confirmation Best Practice: Dealers should send electronic trade confirmations for Interest Rate Swaps and other types of "plain vanilla" swaps on trade date or alternatively, paper confirmations should be sent on T+1.

In order to promote growth in the derivatives market and increase overall liquidity, greater market confidence must be built through decreasing the level of unsigned confirmations. Currently, paper confirmations for some derivative transactions remain unsigned for what might sometimes appear to be long periods of time. The high level of outstanding confirmations can, in part, be attributed to market inefficiency issues relating to current derivative processing procedures, which are in need of greater automation and standardization.

In recognizing the importance of reducing the level of outstanding confirmations as a means of building market confidence, the Committee recommends that after a "plain vanilla" swap is negotiated, the dealer should send the electronic confirmation on trade

date or a paper confirmation to the asset manager by T+1. The asset manager should review the confirmation immediately upon receipt. The asset manager should affirm the confirmation or advise the dealer of discrepancies within 24 hours for an electronic confirmation or 72 hours for a paper confirmation. Overall, the Committee recommends that market participants strive to send and receive electronic confirmations and affirmations. This recommended best practice would eliminate the need for sending trade recaps or term sheets, thereby reducing superfluous steps, expediting the overall post-trade execution process and creating significant market efficiency and much needed modernization.

It is critical that asset managers send their trade allocations to the dealer immediately after the trade is negotiated in order to facilitate this expedited trade confirmation process. With the trade allocation in hand, dealers would be in a position to send trade confirmations on a timelier basis, ideally no later than T+1, as recommended by the industry.

After the counterparties agree to the terms of the negotiated contract, the trade should be immediately entered into their respective systems. This AMF Best Practice is consistent with ISDA standards and timeframes set for dealers. The Committee is interested in industry comment as to the specifics of implementing this Best Practice recommendation.

II. Interest Payments Best Practice: Interest Payments (Resets) should be confirmed electronically at least five days before settlement to ensure prompt settlement of funds so long as such arrangements are compatible with relevant contractual provisions that might apply to such Resets.

The Committee recommends that participants should confirm swap interest payments (resets) at least five days (so long as this is compatible with the Master Agreement) in advance of the payment date. Such resets might be impractical due to non-availability of data, e.g., Total Return Swaps, CMBS Index Swaps, Average Rate Swaps and Options. The payment confirmation should contain a standardized set of information including payment date, payment amount, direction and currency and delivery instructions (optional). Confirming payments in advance may initially add to the workflow of an operations department, but is a necessary step or investment, to reduce risk and ensure proper internal controls. The advance payment confirmation will also save the industry a considerable amount of work hours currently spent in investigating payment discrepancies which usually occur because of differences in rate, day count, notional amount and payment instructions. By confirming the payment five days prior to payment date, the agreement on the payment amount will be reached no later than on payment date thus eliminating corrections after the payment has already taken place. The custodian that is receiving the payment should be copied on the payment "agreement."

Alternative implementation suggestion: Firms should strive to use an acceptable industry-wide electronic application for payment confirmations to achieve STP.

III. Valuation Best Practices: Consistent with new standardized electronic methodologies, swap prices should be reconciled daily between a) dealers and asset managers and b) asset managers and custodians in order to ensure accurate pricing of client portfolios.

The Committee recommends daily price reconciliations between dealers and asset managers using standard trade attributes as recommended by the Data Standards Working Group (DSWG). See Exhibit E for standard trade attributes. DSWG reached agreement with 12 dealers to provide the standard trade attributes to the hedge fund/asset manager on a timely basis.

The Committee also recommends that swap market participants strive for daily reconciliations between asset managers and custodians. The Committee has partnered with ISITC (International Securities Association for Institutional Trade Communication) to promote adoption of the DSWG's standard trade attributes by custodians in order to complete the reconciliation process between asset managers and custodians. Then, the asset manager will be capable of daily reconciliation of open positions and the related market values with their custodians.

For client portfolios, custodians should use independent prices obtained from pricing services and should check prices supplied by asset managers with other sources.

The Committee recommends an industry standard practice of capturing the 3:00 p.m. ET yield curve for valuing swaps, which provides adequate time for dealers to calculate prices and asset managers to compare to their internal pricing models.

To determine if a swap value difference is within an acceptable tolerance range, it is suggested that the calculation use a formula based on the size of the notional amount and time to maturity, rather than a particular dollar amount. Price variances resulting within a very small difference of a standard deviation (based on each asset manager's internal policy) may be considered acceptable. Some asset managers consider price variances within 3DV01 acceptable.

Please refer to Best Practice XI for complete discussion on independent pricing.

IV. Best Practice: Asset Managers are encouraged to use a multi-account (“umbrella”) ISDA Master Agreement covering each type of account rather than executing a single “stand-alone” agreement for each client.

The ISDA Master Agreement (“ISDA Agreement”) was developed by industry participants to promote efficient trading in derivatives and mitigate counterparty risk. The ISDA Agreement is readily accepted by dealers, asset managers, clients and their respective legal advisors as the market standard.

To facilitate processing efficiencies, Asset Managers should, as a prudent business practice, execute an ISDA Master Agreement with approved dealers on behalf of their clients setting forth the terms, conditions, authorities and responsibilities of both parties.

Asset managers are encouraged to negotiate umbrella agreements with dealers taking into account the needs for each class of clients (1940 Act, ERISA, government entity,

corporate accounts) rather than negotiating stand-alone agreements on behalf of each client or fund. While significant efforts may initially be required to develop an umbrella ISDA Agreement, the Committee believes that the use of umbrella agreements facilitates the addition of new clients to ISDA Agreements, ensures that all similar clients are trading under comparable terms, and provides operational efficiencies.

Operational efficiencies are achieved when standard terms are agreed for all clients, such as definitions of Eligible Collateral and collateral exposure thresholds, as it reduces the risk of settling or monitoring transactions using non-standard terms. It should be noted that using a standard threshold for collateral in an umbrella agreement might lead to increased risk exposure based on differing sizes of client's assets under management.

The Committee recommends using the addendum or schedule of the ISDA Master Agreement for language tailored to a particular client rather than creating a one-off agreement.

Further, using the asset manager's ISDA Master Agreement (umbrella or stand-alone) enables the asset manager to maintain more effective control of their responsibilities and obligations under the ISDAs, rather than individually determining client requirements from many non-standard agreements.

The Committee noted that many asset managers are using the 1992 ISDA agreement rather than the 2002 agreement because they are more familiar and comfortable with the terms in the 1992 version. Although a User Guide exists to explain the differences between the versions, the Swaps Committee indicated that because of the complexities within the guide, additional industry education is required to further explain the differences. The Committee recommends asset managers attend ISDA's Conferences focusing on the differences between the 1992 and 2002 ISDA Master Agreements.

V. Best Practice: When executing a swap trade it is recommended to have an ISDA Master Agreement in place since it offers more protection than trading under a long form confirmation.

Before executing a swap transaction, the dealer and asset manager should execute an ISDA Master Agreement, which clearly defines the roles and responsibilities of the contractual parties. If it is not practical, the asset manager can trade under a long form confirmation, however asset managers should strive to promptly complete the ISDA agreement with the dealer.

The Committee recommends trading with an ISDA Master Agreement in place because if the parties trade under a long form confirmation with no Master Agreement, the client may not be able to net trades with a dealer.

VI. Best Practice: It is recommended that Dealers send electronic confirmations between the dealing parties using the ISDA “Form of Confirmation” as the standard template.

In the early stages of swap trading, dealers issued trade confirmations modified from equity/debt confirmations. As the derivatives business matured, dealers and asset managers recognized the need for specific language, terms and financial data to clearly describe the swap transaction. ISDA, the industry’s derivative trade association, created the “form of confirmation” used by many dealers and asset managers to report the essential swap trade facts.

ISDA has developed a standard confirmation for each type of derivative transaction in the FpML protocol, which is used throughout the dealer industry. However, the template of these standard confirmations contains basic trade information and may not necessarily lend itself to the more complex derivative trades occurring today. The Committee encourages ISDA together with the dealers and asset management community to expand trade message protocols to encompass more complex trade terms and conditions. ISDA is currently working with its operations committees to expand FpML toward this end.

While the Committee fully supports the use of electronic confirmations, it realizes that paper confirmations will continue to be used while electronic templates for the most complex trades are developed. Also, the Committee recognizes a need for expediting the creation of additional standard templates for paper confirmations that continue to be used in the market, such as BMI and Total Return Swaps.

If paper confirmations are used, the Committee recommends that for an allocated deal involving several accounts, market participants should use a single confirmation with an annex. Using a single confirmation is more efficient than having separate confirmations for each account allocation. Consolidating paper confirmations could mitigate operational risk since it could potentially reduce the time that a confirmation is outstanding.

Furthermore, by reducing the amount of paper confirmations through consolidation, fewer signatures would be required and there is less likely to be error. If there is an error, it could be corrected more readily since the correction would not need to be made across several confirmations for each account. In order to facilitate this practice, the asset manager would need to provide the dealer with the breakdown of the various funds and their respective allocations.

Please see Recommendation I where the Committee recommends streamlining this confirmation so that it can be used to achieve T+1 confirmation; this recommendation, of course, is intended to provide stronger systemic safeguards and to modernize and expedite swaps processing practices.

VII. Best Practice: After trade execution, all parties should strive to have post trade communication occur electronically between the dealer, asset manager and custodian whether directly, via a utility or through a vendor service using standard trade formats.

The Committee's best practice recommends all industry participants should adopt the ISDA forms of confirmation (FpML for electronic communication), which will lead to an early migration to an electronic trade confirmation based on standardized data elements. The post-trade lifecycle of a swap transaction starts with the trade confirmation, which is the basis for all downstream STP initiatives.

Although the Committee's recommendation is for electronic communication, certain asset managers may do few swaps trades, which may not justify an electronic solution. In such a manual environment, an asset manager should ensure that it has adequate staff, controls and verifications for swaps transactions and, further, it should strive to ensure its manual processes adhere to the Best Practice Recommendations embodied in this report.

Market participants verbally agree to the trade details on trade date especially when the confirmation issuance is not automated.

For example, Communicator, DTCC's Deriv/SERV and SwapsWire (among others) facilitate electronic communication between the trading parties. Recently, Thomson's TradeWeb launched a similar service for European swaps trading and MarketAxess announced its entry into the swaps market.

To facilitate electronic post trade connectivity, the industry can utilize existing standard definitions developed by FpML, FIX, ISO Standards and Data Standards Working Group. If the industry reached a consensus, these standard definitions can be rapidly implemented to accelerate electronic connectivity for swap transactions and other swaps related communications.

Asset managers can elect to use existing electronic methods to move swaps related data from point to point. For example, SWIFT provides connectivity to a global client base via its SWIFTNet applications either through using a SWIFT standard message or via FileAct, which will accept any message format agreed by the counterparties.

Asset managers do not have to be FpML compliant but could opt to use vendor middleware to convert an FpML message into their preferred format for seamless processing by their systems. Therefore, the trade message would not have to be re-entered thereby achieving STP and improving timeliness, accuracy and efficiency of trade processing.

VIII. Best Practice: The industry, working in conjunction with asset managers and custodians, should develop a timeline for the enhancement, development and education by the industry of standard transaction formats and messaging protocol(s) for communicating and acknowledging payment and collateral actions between asset managers and custodians.

Asset managers and custodians interact frequently in the time period from post trade to maturity or termination of a swap transaction, including communications relating to

collateral movements, interest payments, valuations, reconciliations, terminations and assignments.

Asset managers and custodians should form a joint task force to ensure that transaction formats and messaging protocol(s) are adaptable to middleware products so asset managers and custodians are able to communicate without radical changes to their internal systems. The AMF and ISITC have formed a partnership to address these issues.

Asset managers should use the standard format(s) to instruct custodians to deliver collateral to a dealer for a swap transaction and, equally important, to notify the custodian to expect delivery of collateral from a dealer. There should be adequate disclosure of the underlying swap trade by reference to the original trade so ready identification can be made by the custodian.

IX. Best Practice: Asset managers and custodians should enter the price of a swap into their system on Trade Date to facilitate valuation on trade date.

Swap valuations are provided either internally by the asset manager or externally from a broker/dealer or pricing vendor. It is the AMF's recommendation that once a value has been determined and the trade has been executed, the asset manager should enter the price into their internal system in order to accomplish next-day reconciliation, which is important for managing operational risk. It is assumed all firms are entering swap trades in their systems on trade date.

X. Best Practice: The industry should evaluate the pros and cons of developing an industry standard tri-party collateral control agreement. This should be done with the assistance of AMF's outside counsel.

The Committee recommends a joint effort among AMF, ISITC, ISDA and other relevant groups to develop an industry standard tri-party collateral control agreement. Currently, custodians use proprietary tri-party collateral agreements to detail the responsibilities and obligations of the custodian, dealer and client when the custodian is holding collateral on behalf of the dealer. These control agreements differ from bank to bank and sometimes within a bank by client and often take months to negotiate. Therefore the Committee recommends that it would be beneficial for the industry to adopt a standard agreement (with provisions for various state laws and differing legal interpretations), which would clearly specify the rights and responsibilities of each party and would adopt common definitions. Many asset managers and custodians received legal advice recommending that a tri-party collateral control agreement should be in place for '40 Act companies and some asset managers and clients, especially pension funds, may choose to use the agreement for all their accounts.

In addition, prior to trading derivatives on a new account, the Committee recommends that asset managers notify the custodians that the account will be receiving and posting collateral and that trade advices should indicate whether the movements are collateral-related. Collateral trade advices will alert custodians of any free deliveries of collateral (either cash or securities) to ensure that collateral is not included in the valuation of a client's portfolio.

The Committee also recognizes that there may be other industry best practices that may help alleviate some of the challenges associated with collateral control agreements. As a suggested best practice, asset managers may consider using two separate tri-party collateral control contracts. In one contract, the fund or account acts as the “pledgor” and posts collateral to its segregated collateral account held at the custodian bank for the benefit of the counterparty while in the other contract, the counterparty acts as the “pledgor” and posts collateral to its own segregated collateral account held at the custodian bank for the benefit of the fund/account.

Because only one party posts collateral to the collateral account, there is no doubt as to the ownership of the collateral and whether the value of the collateral should be included in the fund or account’s NAV. This account structure with two separate accounts also makes collateral reconciliation more efficient. With these agreements, the asset manager and dealer may determine the party responsible for the custodian’s fees.

Section 17(f) of the Investment Company Act of 1940 Act requires investment companies to place and maintain their assets with qualified custodial banks. Accordingly, this practice is consistent with the requirement for mutual fund swap collateral management. Non-‘40 Act managed accounts do not face this legal requirement. Nevertheless, the tri-party, two-contract collateral control agreement structure may also benefit managed non-‘40 Act accounts because ownership of the collateral will remain clear and the separate account structure at the custodian banks will prevent commingling and rolling up of dealer assets, which are pledged as collateral, into the NAV calculation for the managed account. While this practice may serve as a viable solution for some firms, it is not an option for re-hypothecation.

XI. Best Practice: Asset managers should strive to obtain independent swap prices at least on a periodic basis, in order to verify the accuracy of their internal and dealer pricing calculations.

The Committee believes that independent pricing for all swaps transactions is a prudent step.

Currently, independent pricing is an overriding theme in the funds industry. It is recommended that asset managers use independent pricing for mutual funds. It is the Asset Manager’s and the fund board’s fiduciary responsibility to the shareholders of the fund to make sure the NAV is as accurate as possible.

An independent price is defined as a market price obtained from a third party vendor or a non-counterparty dealer and not from the asset manager.

The Committee understands that vendors are interested in developing independent pricing services for the swaps market and encourages vendors to include swap transactions in their pricing services.

Asset Managers should develop internal risk management policies for swaps to ensure that client risk exposure limits are not exceeded within their portfolios. The following two best practice recommendations (XII & XIII) provide guidance for asset managers and custodians in calculating and evaluating risks related to swap positions.

XII. Best Practice: Interest Rate and Total Return Swaps should be monitored and aggregated as substitutes for bond exposure, similar to Futures.

- Country exposure assigned according to the regional yield curve associated with the position and aggregated with other exposures at the bond-equivalent weighting (e.g. UK Gilt futures in the UK sovereign bucket, therefore UK swaps in the UK bucket).
- Duration assigned according to the coupon and tenor of the **fixed leg** of the swap compared to a similar physical security, less the term of the floating rate, and aggregated with other exposures at the bond-equivalent weighting.
- Quality assigned according to the default risk of the underlying exposure of the **fixed leg** – default risk is limited to the accrued payable from the counterparty; therefore, credit quality of the underlying exposure is recommended, weighted at the market amount.
 1. **To avoid leveraging** the portfolio, and to make statistical tables balance, offset bond-equivalent swap exposures against cash equivalents.
 2. **Counterparty exposure** limits should be evaluated at the market value of the swap, except in the case of buying protection through CDSs.

Asset managers should provide custodians with the estimated duration of the underlying instrument, the credit rating of the counterparty and, where appropriate, the credit rating of the underlying exposure of the instrument (e.g. credit default or total return swaps).

Note: Please refer to Exhibit F for Sample Swaps Compliance portfolio calculation.

XIII. Best Practice: When monitoring risk in client portfolios, the proposed guideline is that credit default swaps impact credit risk only and should be monitored and aggregated as substitutes for bond exposures.

- Country exposure assigned as above.
- Duration = 0 as these instruments are not sensitive to changes in general market rate levels.
- Quality assigned according to the underlying issuer, aggregated with other exposures at the bond-equivalent weighting.

1. **To avoid leveraging** the portfolio, and to make statistical tables balance, offset bond-equivalent swap exposures against cash equivalents.
2. **Counterparty exposure** limits should be evaluated at the market value of the swap, except in the case of buying protection through CDSs.

Asset managers should provide custodians with the estimated duration of the underlying instrument, the credit rating of the counterparty and the credit rating of the underlying exposure of the instrument (e.g. credit default or total return swaps).

Note: Please refer to Exhibit F for Sample Swaps Compliance portfolio calculation.

XIV. Best Practice: The industry should develop guidelines for reset tracking whether done manually or via an electronic application and work together with vendors to create specifications for an electronic application.

Reset tracking may be done manually as long as trade volumes are fairly low, but as Swaps trade volumes significantly increase, an automated solution is needed.

An Asset manager should use a derivative system for reset and settlement calculations which incorporates all holiday calendars and payment conventions. There are some vendors who are developing collateral management applications, but no vendor is currently offering a complete solution where the application would automatically do reset rate calculations and alert to make the payment. As an example, such application would need to incorporate a universal calendar to ensure correct day counts and reset dates. A best practice guideline is also needed for manual reset tracking, whether done via an Excel based report or some other method that would contain a field with the next reset date of each swap. As each leg is setup as a bond, the next payment date would be calculated based on the payment frequency and business day conventions.

XV. Best Practice: Asset managers should have the proper tools in place to manage collateral.

Asset managers should be able to independently calculate when an account is over or under collateralized. A number of asset management firms are very reliant on the dealer community to inform them when additional collateral is required or when an account is over-collateralized. Asset managers should have the proper tools not only to confirm the requests from the dealers, but also to proactively call the dealers when required.

XVI. Best Practice: Dealers and Asset Managers should strive to include each other's trade reference numbers in all communications to facilitate matching of confirmations, rate resets, pricing and margin calls.

Most automated swap confirmation vendors either have fields to enter both the dealer and the asset manager's trade reference number or create a unique ID for that trade

mutual to both parties. Dealers and asset managers should add fields to existing databases to carry these reference numbers throughout the lifecycle of the swap, including rate reset notices and margin statements. Inclusion of the counterparty's trade reference number or use of a mutual trade reference number assigned by a trade-matching system helps facilitate matching of payments and collateral exposure both manually and as the industry develops electronic matching tools.

XVII. Best Practice: The industry, including relevant buy side and sell side trade groups, should work with recognized Wall Street experts to develop and thereafter promote adoption of a feasible common identifier for swaps in order to help facilitate fully automated processing among market participants.

Throughout this White Paper, the Committee is recommending that the OTC derivatives industry move toward more automated solutions to help facilitate Straight Through Processing initiatives and to reduce operational risk. Currently, security identifiers such as CUSIP numbers, provide standardized descriptions and are used by virtually all sectors of the financial industry. These common identifiers mitigate risk by ensuring the accurate and efficient clearance and settlement of securities and other financial instruments as well as back-office processing.

Accordingly, in order to move toward a fully automated process, swaps will require a common identifier that would be recognized as the industry standard. In assigning swaps a common identifier, front and back office operations processing would be streamlined through electronic communications with all counterparties (asset managers, dealers and custodians) This would lead to more timely recording and processing of swap transactions throughout the operations lifecycle.

Developing common identifiers for swaps would be a significant step in automating the trading process. Moreover, common identifiers would help in the document and collateral tracking process, and the valuation and reconciliation of derivatives because such identifiers foster standardization and provide order to a complex process. Furthermore, identifiers would be helpful to vendors who or which are creating systems for electronic trading of swaps and other electronic/automated services relating to confirmation, valuation and other aspects of the trade lifecycle. The Asset Managers Forum has begun a dialogue with the CUSIP Service Bureau of Standard and Poor's and others.

Benefits to Swap Participants

The Swaps Committee's industry-wide recommended best practices relate both to manual and automated swaps transaction processing; hence, all industry participants will stand to benefit according to the views of AMF's Swaps Committee

Benefits:

- Control/Operational risk: Reduce the operational risk associated with trading swaps.
- Efficiency: Automation allows firms involved in all aspects of the lifecycle of a swaps transaction to accommodate more volume with less resources.
- Standardization: Will bring valuations and performance closer together increasing effectiveness of reconciliations and controls.
- Education: Establishing a forum to share best practices and educate firms based on lessons learned.
- Lower cost of processing trades for market participants.
- Greater certainty of portfolio managers because accurate valuations would be achievable to a greater extent.
- The likelihood of greater price transparency.

Costs:

- Need for automated solutions to achieve benefits.
- Initial capital investment will lead to cost savings in the form of reduced manually intensive work and greater accuracy and efficiency.
- Revise internal processing.
- Training internal staff.
- Integrate processing with custodians for valuations and collateral movements.

Conclusion

The AMF Swaps Committee's Best Practice Recommendations are the first steps toward addressing many manual and time-consuming processes in the lifecycle of a swap transaction.

The Committee endorses existing industry-approved best practices that achieve the goal of streamlined, timely and accurate processing of swaps transactions and that embrace standard data requirements, message formats and delivery protocols including ISDA and Data Standards Working Group. Vendors such as Deriv/SERV and SwapsWire make the process smoother by introducing electronic solutions.

The Committee also reached out to ISITC to partner on developing communications solutions between asset managers and custodians for trade notification, collateral movements and interest rate reset processing.

Further, the AMF, ISDA, ISITC and other industry participants should consider overseeing the development and utilization of a Standing Instruction database to serve

the derivatives market in order to streamline the settlement process and avoid failed transactions.

In addition, the Committee supports the convergence of protocols such as FpML, FIX and ISO standards.

To achieve meaningful benefits, swap participants should adopt standards that encourage and lead to increased electronic communication between external parties and internally at each firm. The Committee believes the initial step is to electronically capture the data fields in the ISDA form of confirmation. This would enable the electronic exchange of trade data between the dealer and asset manager leading to efficient post trade data processing internally at each firm. Of course, it is essential that counterparties agree to transaction attributes using standardized formats and messaging protocols.

In time, adoption of these best practice recommendations by swap participants will lead to streamlining the external and internal procedures at asset managers, dealers and custodians.

Many sophisticated institutional clients understand and appreciate the role of OTC derivatives in protecting their portfolios and enhancing investment performance. However, some clients are concerned about warnings about derivatives products raised by financial experts. Clients are aware of Alan Greenspan's comments (as above) and other leading financial experts, which have received widespread media attention. The derivatives industry should improve client education and understanding of the vanilla products and develop educational material for complex derivative products thereby improving client appreciation and confidence in these instruments. Educational materials should contain product knowledge with real investment applications and industry-wide statistics showing improved trade processing through the lifecycle of a transaction.

The Swaps Committee would like to thank the more than 150 industry volunteers on the five sub-committees for contributing their time and expertise, sharing their firm's experiences and their collegial efforts resulting in the Best Practice Recommendations embodied in this report. The volunteers were drawn from asset management firms, broker-dealer firms, custodian banks, utilities and vendors. The Committee's first task was to document the lifecycle of a swaps transaction starting with the compliance and legal requirements and ending with the on-going maintenance and valuation activities. Exhibit C contains a flow-chart of the lifecycle of a swaps trade. To formulate the Best Practice Recommendations, each step in the swap lifecycle was researched and documented to ensure that a firm's operational activities were reviewed and, as appropriate, included in the discussion. The sub-committee volunteers held more than 200 meetings analyzing the operational requirements of a swap transaction. We would also like to thank our Outside Antitrust Counsel, Morgan Lewis & Bockius, for the firm's patience and assistance in connection with the development of this document. In this regard, we express appreciation to Harry Robins, Esq. for his dedicated professionalism at every step of the way.

The Committee believes the Best Practice Recommendations touch the major issues required to move the swaps marketplace forward to a more electronic standardized processing environment. There will be many further discussions to develop and adopt

workable standardized data formats and message formats involving groups from each sector of the market.

The Committee is confident that the efforts of the industry will be focused on these issues to implement the Best Practice Recommendations and is ready to assist in the on-going process.

The Committee appreciates your comments and suggestions, which should be sent to swapscomments@bondmarkets.com.

The AMF staff and Governance Group will assemble all comments and route them to all interested parties. At that time, the Swaps Committee should be in a position to recommend next steps to the Steering Committee of AMF, the Governance Group and the proposed Asset Managers Division of The Bond Market Association. We fully expect to recommend such next steps by year end. However, we offer the cautionary note that these processing recommendations are very complex, especially when it comes to evaluating the technological feasibility of our industry-wide infrastructure recommendations. Thus, the Swaps Committee reserves the right to extend the timeframe of this initiative; and we would also anticipate seeking expert advice from recognized e-commerce solutions professionals as we encounter complex choices. Most importantly, we are committed to openness and education. You can count on the AMF, as an arm of The Bond Market Association, to only recommend best practices that have been vetted by dealers and the customers of asset management firms or their appropriate agents or spokespersons. Finally, we fully expect that any recommendations that might be issued in final form, perhaps in 2006, will be altogether different from the text of the proposals contained herein—but that will be true only if our plan works and in fact we receive in-depth input and comments from you, the industry, and our members and other constituents.

Thank you for making this initiative possible and for your role in it. AMF shares your passion for excellence to foster the integrity of the markets that our customers invest in.

Exhibits

- A. AMF Best Practices Initiative Timeline
- B. List of Swaps Committee Members
- C. Diagram depicting current trade flow
- D. Diagram of proposed trade flow as described in the corresponding best practices recommendations
- E. Data Standards Working Group data attributes for IRS, CDS and TRS & critical IRS data attributes identified by AMF Swaps Committee
- F. Examples of Swaps Compliance Sample Portfolio exposure calculations for Interest Rate Swaps, Credit Default Swaps and Total Return Swaps
- G. Organization chart showing the professional and support staff members of the BMA's Technology, Operations and Asset Manager Relations Department. This Department, on a team basis, provides staff services to the Asset Managers Forum, the Swaps Committee of the AMF, the Senior Executives Group of the AMF and the Technology Committee of the BMA, among other bond industry groups, committees and initiatives.

**THE ASSET MANAGERS FORUM
 Swaps Best Practices Initiative Timeline**

**George Hall, Goldman Sachs Asset Management
 AMF Swaps Committee Chairman**

Subcommittee Chairs

**Marcia Clark, PIMCO
 Compliance**

**Jean Ebbott, MSIM
 Valuation**

**Jason Jesner, CSAM
 Trade Execution**

**Tracey Jordal, PIMCO
 Confirm/Legal**

**Joseph Pomo, GSAM
 Maintenance**

**Linda Singer, Prudential
 Confirm/Legal**

**AMF Staff Advisors: Joseph Sack, Elisa Nuottajarvi and Douglas Taggart
 Industry Consultant: George Reis**

2004

- May 21* During a breakout session at the AMF Quarterly Meeting, the Swaps Committee described the current swaps process as a highly manual process with numerous operations challenges. The Committee agreed that a set of voluntary best practices would significantly help the industry. These best practices would set out alternative ways to achieve greater efficiency in the swaps market for both automated and manual processes. At the Quarterly Meeting breakout session the Committee drafted a matrix that outlined a plan to address specific areas in the lifecycle of a swap that needed best practices.
- June 3* George Hall presented the swaps discussion matrix. The swaps matrix divided the lifecycle of a swap into five categories, namely, Compliance, Confirm/Legal/Documentation, Trade Execution, Maintenance and Valuation. These areas would become subcommittees to be headed by various Committee members. The Committee also created an initiative Mission Statement.
- June 15* The Swaps Best Practices Initiative was presented to the AMF Steering Committee
- June 30* At the Swaps Committee Meeting, the subcommittee chairs were named: Linda Singer, BlackRock (Confirm/Legal); Jason Jesner, CSAM (Trade Execution); Jean Ebbott, MSIM (Valuation); Paul DeMello, FFTW (Maintenance) and Joseph Pomo, GSAM (Maintenance). The subcommittee chairs identified the scope of their group.
- July 22* The Confirm/Legal Subcommittee has its initial meeting and agrees to meet biweekly.
- July 22* The Maintenance Subcommittee has its initial meeting and agrees to meet biweekly.
- July 23* The Valuation Subcommittee has its initial meeting and agrees to meet biweekly.

- July 26* The Trade Execution Subcommittee has its initial meeting and agrees to meet biweekly.
- July 27* The Compliance Subcommittee has its initial meeting and agrees to meet bimonthly.
- July 28* At the Swaps Committee Meeting, the subcommittee chairs reported on their initial meetings and described the scope of their respective topics. Linda Singer also reported on scheduled meetings with the Data Standards Working Group and Joseph Sack spoke on the importance of complying with The Bond Market Association's Antitrust Guidelines.
- August 24* The AMF Staff met with Karel Engelen of ISDA to discuss the AMF Swaps Best Practices Initiative and to invite ISDA to attend relevant meetings.
- September 9* The Committee met for an initiative update and began planning for its first public conference on its Swaps Initiative to be held on October 27, 2004, the day prior to the AMF Quarterly Business Meeting. The Committee encouraged the subcommittees to engage a wider cross-section of the industry in its meetings, e.g. broker/dealers, custodians and vendors. In addition, Harry Robins of Morgan Lewis & Bockius, LLP advised the group on antitrust laws.
- October 27* The Asset Managers Forum hosts Swaps Workshop. The Workshop entailed a series of presentations from the leadership of the AMF Swaps Subcommittees, which are developing best practices. Kevin R. Smith (BONY), President of ISITC-IOA stated the organizations' support of the AMF Initiative. Video highlights, presentations and summaries of the Workshop were posted to the AMF Web site and circulated in the AMF Newsletter and the Senior Executives Group Weekly Report.
- November 10* The Swaps Initiative Leaders meet and plan to present their work at the ISITC-IOA Meeting and The Bond Market Association Annual Technology Conference.
- November 18* The Staff of the AMF meets with Traiana, Inc. and explained the Swaps Initiative.
- November 22* The Staff of the AMF meets with several members MSIM for a Swaps Session
- November 29* Swaps Leaders participate in ISITC panel.
- November 30* The Staff of the AMF meet with SWIFT to discuss Swaps Messaging.
- December 8* Swaps Leaders participate in The Bond Market Association Technology panel on Swaps.

2005

- January 10* The Asset Managers Forum retains George Reis as a project consultant.
- January 13* Leaders of the AMF Swaps Initiative meet and plan out a timeline for 2005. The Group will develop an Executive Summary and present a Summary "straw man" at the AMF Bi-Coastal Quarterly Meeting on February 9.
- January 24* The AMF staff meets with Stephen Lachaga (J.P. Morgan Securities), President of ISITC to continue discussing AMF Swaps Initiative.
- February 3* The AMF staff meets with Karen Thomas of Bloomberg to update the organization on the initiative.
- February 23* The AMF staff meets with Frank DiMaria, CFO and Manager of Middle Office, of Derivatives products for Merrill Lynch to discuss the initiative from a dealer perspective
- February 24* The AMF staff meets with Janet Wynn of DTCC to review how DerivServ is operating in the derivatives market.
- March 15* The AMF staff meets with Standard and Poor's CUSIP Service Bureau to discuss the possibility of developing common identifiers for swaps.
- March 23* The AMF staff meets during an all-day office meeting at the Union League Club to write the first draft of the Swaps Best Practices White Paper.
- April 6* Joseph Sack provides the Senior Staff and Division Advisors with an update on the AMF Swaps Initiative.

- April 7* The AMF staff circulates the first draft of the Swaps Best Practices White Paper to the Swaps Committee leadership.
- April 14* George Hall provides the AMF Steering Committee and ISDA with an initiative update
- May 5* The AMF staff reviews the draft document with antitrust counsel Harry Robins of Morgan Lewis & Bockius, LLP.
The AMF staff holds an educational session held for the Swaps Committee and ISITC to discuss messaging between asset managers and custodians for post trade OTC derivatives. The groups discuss creating sufficient message types to solve the industry's need for standard message formats.
The Swaps Committee leadership meets to discuss the draft Swaps Best Practices White Paper.
- May 12* The staff of the AMF meets with the select senior staff members of The Bond Market Association and discusses the best practices recommendations, particularly those that have a bearing on dealers' business activities. Also, the AMF reports on a developing Press Release that involves quotes from ISDA.
- May 13* The AMF provides ISDA with a draft of the Best Practices White Paper and invites suggestions and comments.
- May 17* The full Swaps Committee and Subcommittee meet during an AMF Quarterly Meeting Break-out Session to discuss the key Best Practice Recommendations.
- May 19* The AMF circulates a draft Dealer Memo and updated best practices to select senior staff members of The Bond Market Association. The draft memo describes and highlights those best practices recommendations that have a bearing on dealers' business activities.
- May 25* AMF Swaps Best Practices Draft White Paper is circulated to over 150 industry volunteers that participated in the AMF Swaps Committee or a Subcommittee. The document is also circulated to other interested parties including The Bond Market Association, ISDA, ISITC, and others.
- June 1* The staff of the AMF meets with ISDA to obtain their comments on the Swaps White Paper.
- June 15* The Bond Market Association hosts a Protocols Summit that focuses on swaps and derivatives. This summit was an opportunity to discuss how the industry can improve business practices by converging and creating interoperability between and among protocols. The Asset Managers Forum, The Bond Market Association, ISDA, ISITC, ISO, FIX and the Data Standards Working Group form a Governance Group to oversee and monitor the implementation of the AMF Swaps Best Practice Recommendations.
- June 16* The staff of The Asset Managers Forum and legal staff of The Bond Market Association meet to review the White Paper.
- June 22* The industry leadership of AMF Swaps Initiative meets to plan for the Swaps Conference on July 26, 2005.
- July 20* The industry leadership of AMF Swaps Initiative meets to review the final draft of the AMF Swaps Best Practices Document
- July 26* The Asset Managers Forum sponsors and industry wide EastCoast/WestCoast Swaps Conference on the Swaps Best Practices Documents, which is released for public comment.

Dated: July 20, 2005



Exhibit B
List of Swaps Committee Members

THE ASSET MANAGERS FORUM
Swaps Subcommittee Chairs

Mr. George Hall – *Swaps Committee Chair*
Goldman Sachs Asset Management

Ms. Marcia Clark CFA – *Compliance Subcommittee Chair*
PIMCO

Ms. Jean Ebbott – *Valuation Subcommittee Chair*
Morgan Stanley Investment Management

Mr. Jason Jesner – *Trade Execution Subcommittee Chair*
Credit Suisse Asset Management

Mrs. Tracey Vallarta Jordal – *Co-chair Confirm/Legal Subcommittee*
PIMCO Advisors L.P.

Mr. Joseph Pomo – *Maintenance Subcommittee Chair*
Goldman Sachs Asset Management

Linda Singer – *Co-chair Confirm/Legal Subcommittee*
Prudential Investment Management

360 Madison Avenue
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Telephone 646.637.9200
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Washington Office:
1399 New York Avenue, NW
Washington, DC 20005-4711
Telephone 202.434.8400
Fax 202.434.8456

Confirm/Legal Subcommittee

Kevin Anderson, New York Life Investment Management
 Amy B. Bierbaum, State Street Bank and Trust Company
 Philip Blake, BlackRock
 Ted Brooks, MarketAxess
 Kristina Callaghan, Fidelity Management and Research Co.
 Allyson Carine, Lehman Brothers Inc.
 Jean Carr, State Street Bank and Trust Company, N.A.
 Mia Colasuonno, Deutsche Bank Securities Inc.
 Michael Connors, GM Asset Management
 Andrew Cross, Reed Smith LLP
 Michael Daly, Union Bank of California
 Sharyn Dolinsky, Wellington Management Company
 Tiffany Fleming, Prudential Financial
 Thomas Garley, Thomson TradeWeb
 Larry Gerquest, Union Bank of California
 Tracey Vallarta Jordal, PIMCO Advisors L.P. – *Co-chair*
 Gregory Konzal, Wellington Management Company
 Joel Laub, Morgan, Lewis & Bockius LLP
 Angelina Lopes, Merrill Lynch & Co., Inc.
 Kevin Meagher, Fidelity Investments
 Marie Mooney, Deutsche Bank Securities Inc.
 Renata Mulder, Morgan Stanley
 Mark Nero, The Northern Trust Company
 Gary Nussenbaum, Prudential Investment Management Inc.
 Alain Pakabomba, Freddie Mac
 Paul Parseghian, Prudential Investment Management Inc.
 Joy Poppers, The Bank of New York
 Nancy Prior, Fidelity Investments
 Beverly Reding, Mellon Financial Markets, Inc.
 James Rochford, Scrittura, Inc.
 Patricia Rooney, Merrill Lynch & Co., Inc.
 Susan Rudov, Goldman Sachs Asset Management
 Jason Saturno, Goldman Sachs Asset Management
 Catherine Shavell, State Street Bank and Trust Company
 Jean Shedlock, BlackRock
 Linda Singer, Prudential Investment Management Inc. – *Co-chair*
 Glenn Von Bernewitz, JP Morgan Asset Management
 Diane Weibel, BlackRock
 Janet Wynn, DTCC
 Eileen Yin, Credit Suisse First Boston

Compliance Subcommittee Members

Kevin Anderson, New York Life Investment Management
 Philip Blake, BlackRock

Joan Cheney, Fischer Francis Trees & Watts
 Patrick Chin-Hong, BlackRock
 Marcia Clark, PIMCO
 Paul DeMello, Fischer Francis Trees & Watts
 Eric Doane, The Northern Trust Company
 Sandy Doyle, Wellington Management Company
 Werner Frohn, ABP Investments, Inc.
 Tiffany Fleming, Prudential Financial
 James Hintz, Wells Capital Management
 William Kovacs, 40/86 Advisors, Inc.
 Laura LaBash, Wellington Management Company
 James O'Meara, Wellington Management Company
 Kevin Poole, Wellington Management Company
 Mark Reshke, Barclays Global Investors
 Carolyn Schiffels, The Northern Trust Company
 Bernard Schoenfeld, The Bank of New York
 Michael Wyne, Fischer Francis Trees & Watts

Maintenance Subcommittee Members

Kevin Anderson, New York Life Investment Management
 Christian Barsanti, Goldman Sachs Asset Management
 Christina Bau, Western Asset Management Company
 Robert Bickett, The Northern Trust Company
 Michael Burg, Mellon Financial Corp.
 Neil Burke, Morgan Stanley
 Kristina Callaghan, Fidelity Management and Research Co.
 Mark Christian, The Bank of New York
 Jason Cronin, Wellington Management Company
 Michael Daly, Union Bank of California
 Kathy Donadio, Freddie Mac
 Ila Eckhoff, BlackRock Financial Management, Inc.
 Leonora Everett, The Capital Group Companies, Inc.
 Eileen Felix, ABP Investments US, Inc.
 Wilson Gaitan, GM Asset Management
 Jim Huynh, Western Asset Management Company
 Laina Jenkins, Merrill Lynch Investment Management
 Kelly Johnston, The Capital Group
 Kathleen Kane, The Capital Group Companies, Inc.
 Daniel Kramer, Wellington Management Company
 Cara LaSalle, Credit Suisse Asset Management
 Cindy Lucey, The Bank of New York
 Patrick Ludden, Mellon Financial Markets, Inc.
 Malene McMahon, SWIFT
 Penny Morgan, Western Asset Management Company
 Martha Moutafis, Fidelity Management and Research Co.
 Ruby Moy, Credit Suisse Asset Management
 Michael Naper, Fidelity Management and Research Co.
 Martella Noda, ABP Investments US, Inc.
 Paul O'Neill, Morgan Stanley

Alain Pakabomba, Freddie Mac
 Joseph Pomo, Goldman Sachs Asset Management
 Nancy Prior, Fidelity Investments
 Jean Shedlock, BlackRock
 Nirav Sheth, Morgan Stanley Investment Management
 John Spicciatie, The Bank of New York
 Robyn Spillane, The Northern Trust Company
 Joseph Tilley, The Bank of New York
 Christina Villa, Deutsche Bank AG
 Mark Viviano, Wellington Management Company
 Diane Weibel, BlackRock
 Djerizza Weisz, DTCC

Trade Execution Subcommittee Members

Kevin Anderson, New York Life Investment Management
 Robert Bickett, The Northern Trust Company
 Philip Blake, BlackRock
 Ted Brooks, MarketAxess
 Joan Cheney, Fischer Francis Trees & Watts
 Stephen Cody, Lehman Brothers Inc.
 Mary Cornell, State Street Corporation
 Jason Cronin, Wellington Management Company
 Michael Dever, State Street Corporation
 Tiffany Fleming, Prudential Financial
 Thomas Garley, Thomson TradeWeb
 Jason Jesner, Credit Suisse Asset Management – *Subcommittee Chair*
 Kelly Johnston, The Capital Group
 Andrew McGuire, SwapsWire Limited
 Malene McMahon, SWIFT
 Theresa Sacca, Lord, Abnett & Co. LLC
 Ken Sears, Scrittura, Inc.
 Penny Sipola, Wells Fargo Bank, N.A.
 John Spicciatie, The Bank of New York
 Robyn Spillane, The Northern Trust Company
 Bob Stefania, J.P. Morgan Chase & Co.
 Meagen Sweeney, Wellington Management Company
 Joseph Tilley, The Bank of New York
 Janet Wynn, DTCC
 Eileen Yin, Credit Suisse First Boston

Valuation Subcommittee Members

Kevin Anderson, New York Life Investment Management
 Sunhee Bang, Western Asset Management Company
 Christina Bau, Western Asset Management Company
 Chris Belleville, Standish Mellon Asset Management
 James K. Blinn, The Securities Quote Xchange, LLC

Gerard Bryson, Lord, Abnett & Co. LLC
Michael Burg, Mellon Financial Corp.
Neil Burke, Morgan Stanley,, Lehman Brothers Inc.
Mia Colasuonno, Deutsche Bank Securities Inc.
Chris Coleman, The Bank of New York
Michael Daly, Union Bank of California
Eric Doane, The Northern Trust Company
Jean Ebbott Morgan Stanley Investment Management - *Subcommittee Chair*
Jeffrey Engelhardt, Credit Suisse Asset Management
Werner Frohn, ABP Investments US, Inc.
Jason Glass, GM Asset Management
Jim Huynh, Western Asset Management Company
Bill Inglese, The Northern Trust Company
Kelly Johnston, The Capital Group
Doug Joyce, Mellon Financial Markets, Inc.
Michael Maples, Standard & Poor's
Kevin Maloney, The Northern Trust Company
Penny Morgan, Western Asset Management Company
Rama Nambimadom, PIMCO Advisors L.P.
Brad Payne, State Street Corporation
Rob Reed, Mellon Financial Markets, Inc.
Michael Rucci, Goldman Sachs Asset Management
Stephen Schulist, PIMCO
Nirav Sheth, Morgan Stanley Investment Management
Mark Soussan, State Street IMS West
John Spicciatie, The Bank of New York
David Switzer, State Street Corporation
Timothy Veraska, Morgan Stanley Investment Management
Glenn Von Bernewitz, JP Morgan Asset Management
Keith Williams, Wellington Management Company

Typical Process Flow for Interest Rate Swaps

ISDA Negotiation and Documentation

Investment Team ensures ISDA and credit line are in place with BD for account

Determine if the client's ISDA or IM ISDA will be used

Use an ISDA (OR) Trade under a Long Form Confirm with all legal/credit terms or until an ISDA is negotiated

Determine if a Credit Support Annex is applicable and who will manage the collateral

Notify relevant parties (i.e. collateral management group, custodian, etc.) of the terms of the agreement

The terms and conditions of a swap transaction are written in the confirm by BD and sent to the IM (long confirms are sent if there is no ISDA Master Agreement)

Trade Execution and Post-Execution

IM and BD traders execute trade via phone or email

IM and BD set up security on internal systems

IM and BD enter block level trade into their trade systems

IM enters block level trade and allocation into IM trade system

BD sends block level trade information to IM

IM matches block level trade details and resolves any differences with BD

On T+3 or later, IM receives account level confirm (or long confirm) signed by BD

Post-trade team sends trade details to the pricing team to set up pricing process

IM sends trade details to custodian, prime broker and/or fund accountant

BD enters allocation into BD trade system

IM sends allocation to BD

IM matches financial and account information on the confirm to IM's records and resolves any differences

IM reviews legal terms on the confirm, resolves any differences and executes confirm

IM sends executed confirm to BD

IM sends trade ticket/executed confirm to custodian, prime broker and/or fund accountant

Compliance

Throughout the process, the Compliance Group monitors risk exposures and ensures that the IM adheres to its client's guidelines. Swap attributes are evaluated before the instrument is allocated to a client portfolio. Subsequent review is undertaken on a portfolio level on a regular basis.

Valuation

Swap is subsequently valued on a daily basis and reconciled between IM, BD and Custodian. (See Best Practice III)

IM extrapolates prices and uploads into proprietary systems

IM pricing team enters appropriate market data information into a financial tool (i.e. Bloomberg, Yield book, etc.) or sends relevant information to pricing vendor or broker dealer

IM pricing team gathers relevant data from IM securities database, IM trading system and other sources

Custodian sets up in their internal systems and independently price the swap

Custodian, prime broker and/or fund accountant creates security in internal database

Maintenance

Relevant information i.e. the collateral management group and payments group ("Swap Maintenance")

Swap Maintenance Group checks the database of ISDA Agreement & Credit Support Annex terms to verify the collateral terms

Collateral is posted or requested and the BD and Custodian are notified of collateral movement

Custodians accept the delivery of collateral or post collateral to BD

Maintenance Group monitors collateral and ensures payment resets take place on periodic date and verifies life of the swap



ISDA Negotiation and Documentation

Investment Team ensures ISDA and credit line are in place with BD for account

It is recommended that the BD and IM have an ISDA Master Agreement in place so that the client will be able to net trades with the BD. Furthermore, the IM and BD are encouraged to use a multi-account ("umbrella") ISDA Master Agreement covering each type of account rather than executing a single "stand-alone" agreement for each client (IV, V)

Determine if a Credit Support Annex is applicable and who will manage the collateral

Notify relevant parties (i.e. collateral management group, custodian, etc.) of the terms of the agreement

Trade Execution and Post-Execution

The terms and conditions of a swap transaction should flow through to an electronically generated confirmation by BD and sent to the IM (I)

IM and BD traders execute trade electronically (using the appropriate ISDA "Forum of Confirmation"). Subsequent trade information should be communicated electronically using trade reference numbers or a common identifier (VI, VII, XVI, XVII)

On Trade Date, the BD should send the electronic confirmation to the IM (I)

The confirmation is electronically matched

IM reviews legal terms on the confirm immediately and electronically affirms the confirmation or notifies BD of any differences within 24 hours of receipt.

IM sends trade details to custodian, prime broker and/or fund accountant

Post-trade team sends trade details to the pricing team to set up pricing process

Allocation flows into BD trade system

Immediately after trade negotiations, IM and BD should set up security on internal systems and the IM should send the BD the allocation information (I)

Compliance

Throughout the process, the Compliance Group monitors risk exposures and ensures that the IM adheres to its client's guidelines.

Swap attributes are evaluated before the instrument is allocated to a client portfolio.

Subsequent review is undertaken on a portfolio level on a regular basis. (XII, XIII)

Valuation

Swap is subsequently valued on a daily basis and reconciled between IM, BD and Custodian. (III)

Relevant information i.e. the collateral management group and payments group ("Swap Maintenance")

Swap Maintenance Group checks the database of ISDA Agreement & Credit Support Annex terms to verify the collateral terms

Collateral is posted or requested and the BD and Custodian are notified of collateral movement in accordance with a standard tri-party control agreement (X)

Using standard message formats and protocols, custodians accept the delivery of collateral or post collateral to BD (VIII)

Maintenance Group monitors collateral and ensures payment resets confirmed 5 days before settlement and take place on payment date and verifies periodic rates throughout the life of the swap using electronic tracking (II, XIV, XV)

IM extraplates prices and uploads into proprietary systems on trade date

IM pricing team enters appropriate market data information into a financial tool (i.e. Bloomberg, Yield book, etc.) or sends relevant information to pricing vendor or broker dealer

IM pricing team gathers relevant data from IM securities database, IM trading system and other sources

Custodian sets up in their internal systems and independently price the swap (IX, XI)

Custodian, prime broker and/or fund accountant creates security in internal database

Executed confirm flows to custodian, prime broker and/or fund accountant

Maintenance

IM pricing team enters appropriate market data information into a financial tool (i.e. Bloomberg, Yield book, etc.) or sends relevant information to pricing vendor or broker dealer

IM extraplates prices and uploads into proprietary systems on trade date

IM pricing team gathers relevant data from IM securities database, IM trading system and other sources

Custodian sets up in their internal systems and independently price the swap (IX, XI)

Custodian, prime broker and/or fund accountant creates security in internal database

Executed confirm flows to custodian, prime broker and/or fund accountant

Allocation flows into BD trade system

IM sends trade details to custodian, prime broker and/or fund accountant

Post-trade team sends trade details to the pricing team to set up pricing process

IM reviews legal terms on the confirm immediately and electronically affirms the confirmation or notifies BD of any differences within 24 hours of receipt.

The confirmation is electronically matched

On Trade Date, the BD should send the electronic confirmation to the IM (I)

IM and BD traders execute trade electronically (using the appropriate ISDA "Forum of Confirmation"). Subsequent trade information should be communicated electronically using trade reference numbers or a common identifier (VI, VII, XVI, XVII)

IM and BD should set up security on internal systems and the IM should send the BD the allocation information (I)

Allocation flows into BD trade system

Immediately after trade negotiations, IM and BD should set up security on internal systems and the IM should send the BD the allocation information (I)





**The Asset Managers Forum
Swaps Committee**

Critical Attributes needed by Asset Managers for Swap Valuation (Exhibit E)

In order for asset managers to produce a good valuation and to cut the NAV, initial pricing information is needed from brokers. Brokers send the information files to asset managers in different formats. This lack of standardization subsequently affects the reconciliation process, which currently tends to be a manual process.

Because of a lack of industry standards, the communication between asset manager and broker/dealer is slow. Asset Managers sometimes receive data (for partial unwinds) even after the swap has been closed out. Subsequently, any new information that is received needs to be updated, which can be a time consuming and manually intensive process that can cause an increase in the potential for additional risk and error.

In order to make the reconciliation process more efficient for asset managers and broker/dealers alike, and for asset managers to produce a good valuation, there are a series of critical data attributes that are necessary. As an industry best practice, these critical attributes would be provided by the broker/dealers in a standard format, ideally on trade date, but no later than T+1. However, the subcommittee recognizes that for some products, same day pricing is not possible, especially for cross-border transactions.

Below is a list of trade attributes that were reviewed and considered by the AMF Swaps Valuation Subcommittee. These attributes are considered to be critical by asset managers to the process of conducting valuations. Asset managers need these elements from the brokers in order to reconcile the mark to market for IRS between the asset manager and the broker.

- Product Type
- As of date ("reporting date")
- Fixed Rate Payer
- Floating Rate Payer
- Counterparty trade
- Asset Manager's reference number
- Notional Amount
- Floating Rate Payer Calculation Amount
- Effective date
- Termination date
- Premium currency
- Settlement Currency
- USD market value equivalent
- Local market value

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Below are the data elements that were identified by the 12 Hedge Funds within the Data Standards Working Group. This group met with the major swaps dealers and identified the critical data attributes that are needed by the hedge funds (from the dealers) to do complete and consistent position reconciliation and position valuation. These attributes have been created such that they are consistent with FpML specifications. The Asset Managers Forum Swaps Committee supports the use of data elements that asset managers can pull in order to reconcile their positions daily.

Data Standards Working Group Data Attributes for Interest Rate Swaps

FIELD	DESCRIPTION	PRIORITY	COMMENTS
As of date	Date for which transmission applies	HIGH	
Business Day Convention - payment	Method of adjustment if there is a payment on a non-business day.	MEDIUM	
Business Day Convention - reset	Method of adjustment if there is a reset on a non-business day. Business days for payments	MEDIUM	
Business Days	Days on which commercial banks and foreign exchange markets are open to settle payments.	MEDIUM	
Cancelable	Indicator if swap cancelable. This is not the mutual break clause.	HIGH	
Compounding indicator	Indicator if compounding is applicable.	HIGH	
Counterparty reference ID	The identifier you use to communicate with your counterparties.	HIGH	
Designated Maturity	Maturity of the underlying floating rate option Trade settle date	HIGH	
Effective date	The first day of the Term of the Swap Transaction	HIGH	
Fixed accrual amount	Period-to-date (from last reset) interest amount.	MEDIUM	
Fixed accrual currency	Currency of fixed accrual amount	MEDIUM	
Fixed Rate Day Count	Accrued interest convention	MEDIUM	
Fixed Rate Payer	Denotes which legal entity pays fixed rate.	HIGH	
Fixed Rate Payer initial payment date	Date of initial payment	HIGH	
Fixed Rate Payer Payment Frequency	Frequency payments are due D: daily W: weekly M: monthly S: semi-annually A: annually	HIGH	
Fixed Rate Payer Payment Roll Date	Date of month payments are due	HIGH	
Fixed Rate/Fixed Amount	Fixed interest rate/amount to be paid/received on the notional.	HIGH	
Float Rate Option	Index of underlying floating rate	HIGH	
Floating accrual amount	Period-to-date (from last reset) interest amount.	HIGH	
Floating accrual currency	Currency of fixed accrual amount	MEDIUM	
Floating Rate Day Count	Accrued interest convention	MEDIUM	
Floating Rate for the Initial/Current Calc Period	Rate at trade/current period	HIGH	
Floating Rate Payer	Denotes which legal entity pays floating	HIGH	

	rate.		
Floating Rate Payer Calc Amount	Notional amount	HIGH	
	Frequency payments are due D: daily W: weekly M: monthly S: semi-annually A: annually	HIGH	
Floating Rate Payer Payment Frequency	Date of month payments are due	HIGH	
Floating Rate Payer Payment Roll Date	additional collateral amount	HIGH	
Independent Amount	Currency of Independent Amount	HIGH	
Independent Amount CCY	Party paying the independent amount.	HIGH	
Independent Amount payer	additional collateral percentage	HIGH	
Independent Percentage	Your calculation of current market value. Positive number means MTM of trade in our favor. Negative number means the MTM of trade is in your favor.	HIGH	
Local market value	My unique position ID	HIGH	
My reference number	Notional amount	HIGH	
Notional Amount	The Currency of the notional amount	HIGH	
Notional Amount Currency	When you enter into an IRS, the fixed rate is set so that the NPV of the trade is 0. If this rate is off market, there will be a premium paid to enter into this contract.	HIGH	
Premium Amount	the currency of the initial cashflow for the transaction	HIGH	
Premium currency	Includes: swap option forward	HIGH	
Product Sub-type 1	Includes: fix/float basis cancelable amortizing credit default	HIGH	
Product Sub-type 2	Settlement Currency	HIGH	
Settlement Currency	actual FX rate used on NDF currencies	HIGH	
Settlement rate option	Original fixed spread on trade		
Spread	% plus/minus the Floating Rate Option Option strike price	HIGH	applicable for caps, floors only.
Strike	Termination date	HIGH	
Termination date	Trade date	HIGH	
Trade date	Market value converted to USD	HIGH	
USD market value equivalent			

Data Standards Working Group Data Attributes for Credit Default Swaps

FIELD	DESCRIPTION	PRIORITY	COMMENTS
As of date	Date for which transmission applies Business days for payments	HIGH	
Business Days	Days on which commercial banks and foreign exchange markets are open to settle payments.	MEDIUM	
Counterparty reference ID	The identifier you use to communicate with your counterparties.	HIGH	
Credit Events	Specific events that trigger payout Trade settle date	HIGH	
Effective Date	The first day of the Term of the Swap Transaction	HIGH	
Exercise Date	date option can be exercised	HIGH	applicable for CDS options only.
Expiration Date	date option will expire.	HIGH	applicable for CDS options only.
Expiration Time	Expiration Time	MEDIUM	applicable for CDS options only.
Expiration Time Business Day	Expiration Time Business Day	MEDIUM	applicable for CDS options only.
Fixed accrual currency	Currency of fixed accrual amount	MEDIUM	
Fixed Rate	Fixed interest rate to be paid on the notional.	HIGH	
Fixed rate accrual amount	Period-to-date (from last reset) interest amount.	MEDIUM	
Fixed Rate Day Count	Accrued interest convention Denotes which legal entity pays fixed rate.	MEDIUM	Although this attribute is standard for CDS products, this has been included in anticipation of future changes.
Fixed Rate Payer	Legal entity buying protection.	HIGH	
Fixed Rate Payer Calc Amount	Notional amount	HIGH	
Fixed Rate Payer initial payment date	Date of initial payment Denotes which legal entity pays floating rate.	HIGH	
Floating Rate Payer	Legal entity selling protection.	HIGH	
Floating Rate Payer Calc Amount	Notional amount	HIGH	
Independent Amount	additional collateral amount	HIGH	
Independent Amount CCY	Currency of Independent Amount	HIGH	
Independent Amount payer	Party paying the independent amount.	HIGH	
Independent Percentage	additional collateral percentage Your calculation of current market value. Positive number means MTM of trade in our favor. Negative number means the MTM of trade is in your favor.	HIGH	
Local market value		HIGH	
My reference number	My unique position ID	HIGH	

Notional amount currency	Trade currency; Notional Currency	HIGH	applicable for CDS options only. applicable for CDS options only.
Option buyer	Legal entity of the option buyer	HIGH	
Option seller	Legal entity of the option seller	HIGH	
Option Style	indication of exercise: A: American B: Bermudan E: European	HIGH	applicable for CDS options only. applicable for CDS options only. applicable for CDS options only.
Premium	the money paid to the seller at execution.	HIGH	
Premium currency	Premium currency	HIGH	
Premium payment date	Date the premium payment is due	MEDIUM	applicable for CDS options only.
Product Sub-type 1	Includes: swap option forward	HIGH	
Product Sub-type 2	Includes: fix/float basis cancelable amortizing credit default	HIGH	
Product Sub-type 3	U: Standard US corp S: Sovereign The amount that a creditor would receive in final satisfaction of the claims on a defaulted credit.	HIGH	
Recovery Rate		HIGH	
Reference Entity	Specific legal entity of issuer	HIGH	
Reference Obligation	Unique security identifier of bonds exchanged on exercise.	HIGH	
Reference Obligation Type	Security identifier type (e.g., CUSIP, ISIN, SEDOL) of Reference Obligation	HIGH	
Restructuring	Indication of restructuring language used in the confirmation	HIGH	
Settlement Type	Cash or Physical	HIGH	applicable for CDS options only.
Settlement Type	Cash or Physical	HIGH	
Termination Date	Termination date	HIGH	
Trade Date	Trade date	HIGH	
Upfront fee currency	Currency of upfront fee	HIGH	
Upfront fee payer	Legal entity of the fee payor	HIGH	
Upfront fee payment date	Date upfront fee is due.	MEDIUM	
Upfront fees	Fee paid at deal inception.	HIGH	
USD market value equivalent	Market value converted to USD	HIGH	
Spread	+/- BP's over/under Floating Rate Index	HIGH	

Data Standards Working Group Data Attributes for Total Return Swaps

FIELD	DESCRIPTION	PRIORITY	COMMENTS
As of date	Date for which transmission applies	HIGH	
Counterparty reference ID	The identifier you use to communicate with your counterparties.	HIGH	
My reference number	The identifier I use to communicate with my counterparties.	HIGH	
Trade Date	Trade Date	HIGH	
Effective Date	Trade settle date (the day from which floating interest will accrue, or did accrue, prior to 1st reset)	HIGH	
Final Valuation Date	Final valuation date for both TR and floating legs	HIGH	
Final Payment Date	Final payment date for both TR and floating legs	HIGH	
Security description	Specific legal entity of issuer	HIGH	
Security identifier	Unique security identifier of underlying	HIGH	
Security identifier type	Security identifier type (e.g., CUSIP, ISIN, SEDOL, ticker (and exchange))	HIGH	
Underlying currency	Underlying currency	HIGH	
Settlement Currency	Settlement Currency	HIGH	
Number of Underlying Securities	Current number of underlying securities (for bonds only); the face value of your position (eg quantity * face per bond)	HIGH	
Commission per share (bps or cents)	Commission per share (bps or cents)	HIGH	
Commission per trade	Total commission	HIGH	
Notional Amount	Notional amount	HIGH	
Initial Price (Clean)	Price agreed at trade execution.	HIGH	
Initial Price (Dirty)	Price agreed at trade execution.	HIGH	
Total Return Payer	Denotes which legal entity pays total return	HIGH	
Number of Securities	Total quantity; Number of shares the TRS is based on.	HIGH	
Current Reset Price (clean)	clean price for initial or most current period	HIGH	
Current Reset Price (dirty)	dirty price for initial or most current period	HIGH	
Floating Rate Payer	Denotes which legal entity pays floating	HIGH	
Floating Rate Calc Amount	Last dirty reset price * current # securities	HIGH	
Floating Rate Index	USD-LIBOR-BBA, etc.	HIGH	
Spread	+/- BP's over/under Floating Rate Index	HIGH	
Floating accrual amount	Period-to-date (from last reset) interest amount.	HIGH	
Floating accrual currency	Currency of fixed accrual amount	MEDIUM	
Current clean mark on underlying	clean price for applicable underlying,	HIGH	
Current dirty mark on underlying	dirty price for applicable underlying,	HIGH	
Previous Floating Reset Payment Date	Effective Date or last float payment date, whichever is later	HIGH	
Next Floating Reset Payment Date	Next Floating Reset Payment Date	HIGH	

	Frequency payments are due D: daily W: weekly M: monthly S: semi-annually A: annually	
Floating Reset Payment Frequency (variable leg)	Effective Date or last TR payment date, whichever is later	HIGH
Previous TR Reset Payment Date	Next TR Reset Payment Date;	HIGH
Next TR Reset Payment Date	termination date	HIGH
	Frequency payments are due D: daily W: weekly M: monthly S: semi-annually A: annually	
Total Return Reset Payment Frequency (equity date)	Accrued Coupon on underlying (if applicable) from last coupon pay date to As of Date	HIGH
Accrued Coupon	Value of dividends between ex and pay date	HIGH
	stock: if we are between ex-date and pay-date and the dividend is payable under the swap, then this should be the ex-div amount * # of securities. bond: regardless of where we are vis-a-vis resets: (coupon % * face of bonds on swap * (bond day count fraction using days last coupon pay date of the bond through today) When the TRS is structured to pay div/cpn on reset after payable date, you may earn interest on these amounts.	
Dividend/Coupon Amount		HIGH
	interest accrued on div/coupon from pay date to statement date. This will only apply to a handful of agreements where divs are held to the next reset AND you receive/pay interest on unpaid amounts.	HIGH
interest on coupon/dividend	Proposed dividend payment date	HIGH
dividend settlement date	Percentage of dividend buyer is entitled to	HIGH
Dividend Haircut	additional collateral amount	HIGH
Independent Amount	Currency of Independent Amount	HIGH
Independent Amount CCY	additional collateral percentage	HIGH
Independent Percentage	Your calculation of current market value. Positive number means MTM of trade in our favor. Negative number means the MTM of trade is in your favor.	HIGH
Local market value	Market value converted to USD	HIGH
USD market value equivalent		
	Includes: swap option forward	
Product Sub-type 1		HIGH

	Type of Swap. Includes: fix/float basis cancelable amortizing credit default	
Product Sub-type 2	Maturity of the underlying floating rate option	HIGH
Designated Maturity		HIGH
Floating Rate for the Initial/Current Calc Period	Rate at trade/current period Method of adjustment if there is a payment or reset on a non-business day.	HIGH
Business Day Convention	Business days for payments	MEDIUM
Business Days	Days on which commercial banks and foreign exchange markets are open to settle payments.	MEDIUM
Floating Rate Day Count	Accrued interest convention	MEDIUM
equity accrual	unrealized p&l	HIGH
realized trading gains	realized p&l that has not yet been exchanged	HIGH
interest on realized	for portfolio swap agreements where unwind p&l not exchanged until reset	HIGH
Independent Amount payer	Party paying the independent amount.	HIGH

Swaps Compliance Sample Portfolios -- Base Case Scenario with Futures and Mortgage TBAs

Sector	DESCRIPTION	COUPON	MATURITY	EXCH RATE	CURR CODE	PAR/ SHARES/ QTY	PRICE	MKT VALUE	QUALITY	DURATION	DURATION CONTRI- BUTION
cash	<u>CASH & CASH EQUIVALENT</u> F N M A DISC NT	2.2265	3/2/2005	1	USD	10,000,000.00	99.448166	9,944,816.63	A1	0.17	0.03
tisy	<u>US TREASURIES</u> U S TREASURY BOND	3.6250	5/15/2013	1	USD	(3,000,000.00)	97.480000	(2,924,400.00)	AAA	6.95	(0.41)
tisy	U S TREASURY BOND	6.0000	2/15/2026	1	USD	2,000,000.00	118.590000	2,371,800.00	AAA	12.87	0.61
tisy	Treasury Inflation Protected Security	3.0000	7/15/2012	1	USD	14,600,000.00	110.090000	16,073,140.00	AAA	5.25	1.70
mbs	<u>MORTGAGE-BACKED SECURITIES</u> FNMA 5.50% (various pools)	5.5000	1/13/2035	1	USD	10,250,000.00	101.531200	10,406,948.00	AAA	3.99	0.84
mbs	GNMA 4.50% (various pools)	4.5000	9/15/1933	1	USD	4,000,000.00	95.910000	3,836,400.00	AAA	5.51	0.43
corp	<u>CORPORATES</u> AT&T CORP	6.0000	3/15/2009	1	USD	2,067,000.00	102.250000	2,113,507.50	BA	3.94	0.17
corp	TIME WARNER (AOL) GLOBAL NT	6.1250	4/15/2008	1	USD	7,500,000.00	104.587200	7,844,040.00	BAA	3.17	0.50

PORTFOLIO SUMMARY

Total Positions at Market Value	49,666,252.13	Duration	LBAG
* Receivable/Payable for Pending Trades	-		
Net Portfolio Value	49,666,252.13	3.87	4.22

Note that the short Treasury position applies a negative par to the risk characteristics to yield a negative risk contribution

SECTOR ALLOCATION	LBAG
US Treasury	36%
Collateralized (MBS, CMBS, ABS)	38%
Credit	25%
Developed Non-US	0%
Emerging Markets	1%
Net Cash and Cash Equivalents	0%
100%	100%

QUALITY ALLOCATION	LBAG
Cash	0%
AAA	77%
AA	3%
A	10%
BAA	10%
<BAA	0%
100%	100%

Swaps Compliance Sample Portfolios -- Base Case Scenario plus Interest Rate Swaps

Sector	DESCRIPTION	COUPON	MATURITY	EXCH RATE	CURR CODE	PAR/ SHARES/ QTY	* EXPOSURE (USD)	PRICE	MKT VALUE	QUALITY (Underlying)	QUALITY (Counterparty)	DURATION	DURATION CONTRIBUTION	DURATION CONTRIBUTION (Exposure)
cash	<u>CASH & CASH EQUIVALENT</u> F N M A DISC NT	2.2265	3/2/2005	1	USD	10,000,000.00	9,944,816.63	99.448166	9,944,816.63	A1	A1	0.17	0.03	0.03
tsy	<u>US TREASURIES</u> U S TREASURY BOND	3.6250	5/15/2013	1	USD	(3,000,000.00)	(2,924,400.00)	97.480000	(2,924,400.00)	AAA	AAA	6.95	(0.41)	(0.41)
tsy	U S TREASURY BOND	6.0000	2/15/2026	1	USD	2,000,000.00	2,371,800.00	118.590000	2,371,800.00	AAA	AAA	12.87	0.62	0.62
tsy	Treasury Inflation Protected Security	3.0000	7/15/2012	1	USD	14,600,000.00	16,073,140.00	110.090000	16,073,140.00	AAA	AAA	5.25	1.70	1.70
mbs	<u>MORTGAGE-BACKED SECURITIES</u> FNMA 5.50% (various pools)	5.5000	1/13/2035	1	USD	10,250,000.00	10,406,948.00	101.531200	10,406,948.00	AAA	AAA	3.99	0.84	0.84
mbs	GNMA 4.50% (various pools)	4.5000	9/15/1933	1	USD	4,000,000.00	3,836,400.00	95.910000	3,836,400.00	AAA	AAA	5.51	0.43	0.43
corp	<u>CORPORATES</u> AT&T CORP	6.0000	3/15/2009	1	USD	2,067,000.00	2,113,507.50	102.250000	2,113,507.50	BA	BA	3.94	0.17	0.17
corp	TIME WARNER (AOL) GLOBAL NT	6.1250	4/15/2008	1	USD	7,500,000.00	7,844,040.00	104.587200	7,844,040.00	BAA	BAA	3.17	0.50	0.50
corp	<u>INTEREST RATE SWAPS-Domestic</u> IRS USD R 3M/4.0 6/15/05 LSI	4.0000	6/15/2010	1	USD	3,700,000.00	3,633,329.10	0.995088	66,670.90	AA	A	4.46	0.01	0.33
corp	IRS USD P 6.0/3M/ 6/15/05 BRC	6.0000	6/15/2025	1	USD	(1,300,000.00)	(1,422,398.62)	9.669505	(122,398.62)	AA	AA	12.22	(0.03)	(0.35)
fgn	<u>INTEREST RATE SWAPS-Non-US</u> IRS JPY P 1.3/6M/JPY 3/21/02 GLM	1.3000	9/21/2011	110.215	JPY	300,000,000.00	2,764,020.22	1.505576	(42,067.67)	AA	AA	6.28	(0.01)	0.35

PORTFOLIO SUMMARY		* Underlying Exposure (approx.) = (Notional times Exchange Rate) minus Market Value	
Total Positions at Market Value	Receivable/Payable for Pending Trades	Duration (Mkt Val)	LBAG
	Net Portfolio Value	49,568,456.74	3.85
		49,568,456.74	4.22

In what Sector and Quality bucket should the Swaps appear? And should the Swap exposure be weighted at notional or market value?

- Portfolio sensitivity to the Non-US and Credit sectors not captured fully unless underlying exposure is used; Net Cash must be reduced to offset exposure
- Use market value for counterparty exposure, but bond exposure for credit spread volatility

3. Swaps contribution to portfolio volatility understated unless exposure is used

SECTOR ALLOCATION - Market	LBAG
US Treasury	36%
Collateralized (MBS, CMBS, ABS)	38%
1. Credit	25%
1. Developed Non-US Emerging Markets	0%
1. Net Cash and Cash Equivalents	1%
	100%

QUALITY ALLOCATION - Market	LBAG
Cash	0%
AAA	60%
AA	0%
A	0%
BBB	16%
<BBB	4%
	100%

* SECTOR ALLOCATION - Exposure	LBAG
US Treasury	31%
Collateralized (MBS, CMBS, ABS)	29%
1. Credit	25%
1. Developed Non-US Emerging Markets	6%
1. Net Cash and Cash Equivalents	0%
	100%

* QUALITY ALLOCATION - Exposure	LBAG
Cash	10%
AAA	60%
AA	10%
A	0%
BBB	16%
<BBB	4%
	100%

* Need to add offsetting receivable/payable to accommodate exposure amount (4,974,950.70) Offset amount applied against Net Cash

Swaps Compliance Sample Portfolios -- Base Case Scenario plus Total Return Swaps

Sector	DESCRIPTION	COUPON	MATURITY	EXCH RATE	CURR CODE	PAR/SHARES/ QTY	EXPOSURE (USD)	PRICE	MKT VALUE	QUALITY (Underlying)	QUALITY (Counterparty)	DURATION	DURATION CONTRIBUTTON (Exposure)
cash	CASH & CASH EQUIVALENT F N M A DISC NT	2.2265	3/2/2005	1	USD	10,000,000.00	9,944,816.63	99.448166	9,944,816.63	A1	A1	0.17	0.03
isy	US TREASURIES U S TREASURY BOND	3.6250	5/15/2013	1	USD	(3,000,000.00)	(2,924,400.00)	97.480000	(2,924,400.00)	AAA	AAA	6.95	(0.41)
isy	U S TREASURY BOND	6.0000	2/15/2026	1	USD	2,000,000.00	2,371,800.00	118.590000	2,371,800.00	AAA	AAA	12.87	0.61
isy	Treasury Inflation Protected Security	3.0000	7/15/2012	1	USD	14,600,000.00	16,073,140.00	110.090000	16,073,140.00	AAA	AAA	5.25	1.70
mbs	MORTGAGE-BACKED SECURITIES FNMA 5.50% (various pools)	5.5000	1/13/2035	1	USD	10,250,000.00	10,406,948.00	101.531200	10,406,948.00	AAA	AAA	3.99	0.84
mbs	GNMA 4.50% (various pools)	4.5000	9/15/1933	1	USD	4,000,000.00	3,836,400.00	95.910000	3,836,400.00	AAA	AAA	5.51	0.43
corp	CORPORATES AT&T CORP	6.0000	3/15/2009	1	USD	2,067,000.00	2,113,507.50	102.250000	2,113,507.50	BA	BA	3.94	0.17
corp	TIME WARNER (AOL) GLOBAL NT	6.1250	4/15/2008	1	USD	7,500,000.00	7,844,040.00	104.587200	7,844,040.00	BAA	BAA	3.17	0.50
mbs	TOTAL RETURN SWAPS TRS 1MIL-35/LEH CMBS CBK	2.0700	4/1/2005	1	USD	3,500,000.00	3,477,164.67	0.652438	22,835.33	AAA	A	4.50	0.31

PORTFOLIO SUMMARY

In what Sector and Quality bucket should TR Swaps appear? What are the appropriate risk characteristics?

Total Positions at Market Value	49,689,087.46	Duration (Mkt Val)	LBAG	3.87	3. Duration (Exps)	4.18
Receivable/Payable for Pending Trades	-					
Net Portfolio Value	49,689,087.46			4.22		4.18

3. Swaps contribution to portfolio volatility understated unless exposure is used (Duration assigned per fixed index.)

1. Sector exposure based on fixed index; not captured fully unless underlying exposure is used; Net Cash must be reduced to offset exposure
2. Use market value for counterparty exposure, but bond exposure for credit spread volatility

SECTOR ALLOCATION - Market	LBAG	QUALITY ALLOCATION - Market	LBAG
US Treasury	31%	Cash	0%
Collateralized (MBS, CMBS, ABS)	29%	AAA	60%
Credit	20%	AA	0%
Developed Non-US	0%	A	3%
Emerging Markets	0%	BBB	16%
Net Cash and Cash Equivalents	20%	<BBB	4%
	100%		100%

SECTOR ALLOCATION - Exposure	LBAG	QUALITY ALLOCATION - Exposure	LBAG
US Treasury	31%	Cash	0%
Collateralized (MBS, CMBS, ABS)	36%	AAA	67%
Credit	20%	AA	0%
Developed Non-US	0%	A	0%
Emerging Markets	0%	BBB	16%
Net Cash and Cash Equivalents	13%	<BBB	4%
	100%		100%

* Need to add offsetting receivable/payable to accommodate exposure amount (3,477,164.67) Offset amount applied against Net Cash

Swaps Compliance Sample Portfolios -- Base Case Scenario plus Credit Default Swaps

Sector	DESCRIPTION	COUPON	MATURITY	EXCH	CURR	PAR/SHARES/ QTY	EXPOSURE (USD)	PRICE	MKT VALUE	QUALITY (Under- lying)	QUALITY (Counter- party)	DURATION	DURATION CONTRI- BUTION	DURATION CONTRI- BUTION (Exposure)
cash	CASH & CASH EQUIVALENT													
	F N M A DISC NT	2.2265	3/2/2005	1	USD	10,000,000.00	9,944,816.63	99.448166	9,944,816.63	A1	A1	0.17	0.03	0.03
	US TREASURIES													
tsy	U S TREASURY BOND	3.6250	5/15/2013	1	USD	(3,000,000.00)	(2,924,400.00)	97.480000	(2,924,400.00)	AAA	AAA	6.95	(0.41)	(0.41)
tsy	U S TREASURY BOND	6.0000	2/15/2026	1	USD	2,000,000.00	2,371,800.00	118.590000	2,371,800.00	AAA	AAA	12.87	0.61	0.61
tsy	Treasury Inflation Protected Security	3.0000	7/15/2012	1	USD	14,600,000.00	16,073,140.00	110.090000	16,073,140.00	AAA	AAA	5.25	1.70	1.70
	MORTGAGE-BACKED SECURITIES													
mbs	FNMA 5.50% (various pools)	5.5000	1/13/2035	1	USD	10,250,000.00	10,406,948.00	101.531200	10,406,948.00	AAA	AAA	3.99	0.83	0.83
mbs	GNMA 4.50% (various pools)	4.5000	9/15/1933	1	USD	4,000,000.00	3,836,400.00	95.910000	3,836,400.00	AAA	AAA	5.51	0.42	0.42
	CORPORATES													
corp	AT&T CORP	6.0000	3/15/2009	1	USD	2,067,000.00	2,113,507.50	102.250000	2,113,507.50	BA	BA	3.94	0.17	0.17
corp	TIME WARNER (AOL) GLOBAL NT	6.1250	4/15/2008	1	USD	7,500,000.00	7,844,040.00	104.587200	7,844,040.00	BAA	BAA	3.17	0.50	0.50
	CREDIT DEFAULT SWAPS													
em	RUSSIA CRED DEF/2.8 CBK	2.8000	11/15/2013	1	USD	1,000,000.00	920,800.52	7.919948	79,199.48	BA	AA	0.00	0.00	0.00
corp	ALLSTATE 0.28/CRED DEF MYC	(0.2600)	12/20/2008	1	USD	300,000.00	301,126.20	(0.375399)	(1,126.20)	A	AA	0.00	(0.00)	0.00
corp	INGERSOLL 0.32/CRED DEF MLC	(0.3200)	12/20/2008	1	USD	200,000.00	200,979.65	(0.489827)	(979.65)	A	A	0.00	(0.00)	0.00
corp	EMERSON 0.21/CRED DEF MYC	(0.2100)	12/20/2008	1	USD	200,000.00	200,379.90	(0.189949)	(379.90)	A	A	0.00	(0.00)	0.00

PORTFOLIO SUMMARY

<div style="border: 1px solid black; border-radius: 50%; padding: 10px; width: fit-content; margin: 0 auto;"> <p style="text-align: center; color: green; font-weight: bold;">What risks to CDS bring to the portfolio? Should the risk exposure be weighted at notional or market value?</p> </div>	Total Positions at Market Value Receivable/Payable for Pending Trades Net Portfolio Value
	Duration (Mkt Val) LBAG 3. Duration (Expst) <hr/> 3.86 4.22 3.86 <hr/> 49,742,965.85

1. Sector exposure assigned based on underlying sovereign or corporate; not captured fully unless underlying exposure is used; Net Cash must be reduced to offset exposure

2. Credit exposure is understated unless bond exposure is used. Counterparty risk: use market when selling, bond exp. when buying

3. CDS have no effect on portfolio sensitivity to changes in market interest rates

SECTOR ALLOCATION - Market	LBAG
US Treasury	31%
Collateralized (MBS, CMBS, ABS)	29%
1. Credit	20%
Developed Non-US	0%
1. Emerging Markets	0%
1. Net Cash and Cash Equivalents	20%
	100%

QUALITY ALLOCATION - Market	LBAG
Cash	20%
AAA	60%
AA	0%
2. A	0%
BBB	16%
2. <BBB	4%
	100%

*SECTOR ALLOCATION - Exposure	LBAG
US Treasury	31%
Collateralized (MBS, CMBS, ABS)	29%
1. Credit	21%
Developed Non-US	0%
1. Emerging Markets	2%
1. Net Cash and Cash Equivalents	17%
	100%

*QUALITY ALLOCATION - Exposure	LBAG
Cash	17%
AAA	60%
AA	0%
2. A	1%
BBB	16%
2. <BBB	6%
	100%

* Need to add offsetting receivable/payable to accommodate exposure amount (1,623,286.27). Offset amount applied against Net Cash

Swaps Compliance Sample Portfolios -- Final Portfolio with Allocation to All Swaps

Sector	DESCRIPTION	COUPON	MATURITY	EXCH	CURR	PAR/SHARES/ QTY	EXPOSURE (USD)	PRICE	MKT VALUE	QUALITY (Under- lying)	QUALITY (Counter- party)	DURATION	DURATION CONTRI- BUTION	DURATION CONTRI- BUTION (Exposure)
cash	<u>CASH & CASH EQUIVALENT</u> F N M A DISCNT	2.2265	3/2/2005	1	USD	10,000,000.00	9,944,816.63	99.448166	9,944,816.63	A1	A1	0.17	0.03	0.03
tsy	<u>US TREASURIES</u> U S TREASURY BOND	3.6250	5/15/2013	1	USD	(3,000,000.00)	(2,924,400.00)	97.480000	(2,924,400.00)	AAA	AAA	6.95	(0.41)	(0.41)
tsy	U S TREASURY BOND	6.0000	2/15/2026	1	USD	2,000,000.00	2,371,800.00	118.590000	2,371,800.00	AAA	AAA	12.87	0.61	0.61
tsy	Treasury Inflation Protected Security	3.0000	7/15/2012	1	USD	14,600,000.00	16,073,140.00	110.090000	16,073,140.00	AAA	AAA	5.25	1.70	1.70
mbs	<u>MORTGAGE-BACKED SECURITIES</u> FNMA 5.50% (various pools)	5.5000	1/13/2035	1	USD	10,250,000.00	10,406,948.00	101.531200	10,406,948.00	AAA	AAA	3.99	0.84	0.84
mbs	GNMA 4.50% (various pools)	4.5000	9/15/1933	1	USD	4,000,000.00	3,836,400.00	95.910000	3,836,400.00	AAA	AAA	5.51	0.43	0.43
corp	<u>CORPORATES</u> AT&T CORP	6.0000	3/15/2009	1	USD	2,067,000.00	2,113,507.50	102.250000	2,113,507.50	BA	BA	3.94	0.17	0.17
corp	TIME WARNER (AOL) GLOBAL NT	6.1250	4/15/2008	1	USD	7,500,000.00	7,844,040.00	104.587200	7,844,040.00	BAA	BAA	3.17	0.50	0.50
corp	<u>INTEREST RATE SWAPS-Domestic</u> IRS USD R 3ML/4.0 6/15/05 LSI	4.0000	6/15/2010	1	USD	3,700,000.00	3,633,329.10	0.995088	66,670.90	AA	A	4.46	0.01	0.33
corp	IRS USD P 6.0/3ML 6/15/05 BRC	6.0000	6/15/2025	1	USD	(1,300,000.00)	(1,422,398.62)	9.669505	(122,398.62)	AA	AA	12.22	(0.03)	(0.35)
fgn	<u>INTEREST RATE SWAPS-Non-US</u> IRS JPY P 1.36M/JPY 3/21/02 GLM	1.3000	9/21/2011	110.22	JPY	300,000,000.00	2,764,020.22	1.505576	(42,067.67)	AA	AA	6.28	(0.01)	0.35
mbs	<u>TOTAL RETURN SWAPS</u> TRS 1ML-35/LEH CMBS CBK	2.0700	4/1/2005	1	USD	3,500,000.00	3,477,164.67	0.652438	22,835.33	AAA	A	4.50	0.00	0.32
em	<u>CREDIT DEFAULT SWAPS</u> RUSSIA CRED DEF/2.8 CBK	2.8000	11/15/2013	1	USD	1,000,000.00	920,800.52	7.919948	79,199.48	BA	AA	0.00	0.00	0.00
corp	ALLSTATE 0.26/CRED DEF MYC	(0.2600)	12/20/2008	1	USD	300,000.00	301,126.20	(0.375399)	(1,126.20)	A	AA	0.00	(0.00)	0.00
corp	INGERSOLL 0.32/CRED DEF MLC	(0.3200)	12/20/2008	1	USD	200,000.00	200,979.65	(0.489827)	(979.65)	A	A	0.00	(0.00)	0.00
corp	EMERSON 0.21/CRED DEF MYC	(0.2100)	12/20/2008	1	USD	200,000.00	200,379.90	(0.189949)	(379.90)	A	A	0.00	(0.00)	0.00

PORTFOLIO SUMMARY

Do the portfolio characteristics below accurately reflect the risk profile of the fully deployed portfolio above?

Total Positions at Market Value
Receivable/Payable for Pending Trades
Net Portfolio Value

49,668,005.80
49,668,005.80

Duration (Mkt Val) _____ LBAG _____ 3. Duration (E) _____
3.84 4.22 4.51

3. Which is the more accurate indication of interest rate sensitivity?

1. Which is the more accurate picture of Sector exposure?

SECTOR ALLOCATION - Market	LBAG
US Treasury	31%
Collateralized (MBS, CMBS, ABS)	29%
Credit	20%
Developed Non-US	0%
Emerging Markets	0%
Net Cash and Cash Equivalents	20%
	100%

2. Which is the more accurate picture of Credit exposure?

QUALITY ALLOCATION - Market	LBAG
Cash	20%
AAA	60%
AA	0%
A	0%
BBB	16%
<BBB	4%
	100%

*SECTOR ALLOCATION - Exposure	LBAG
US Treasury	31%
Collateralized (MBS, CMBS, ABS)	36%
Credit	26%
Developed Non-US	6%
Emerging Markets	2%
Net Cash and Cash Equivalents	0%
	100%

*QUALITY ALLOCATION - Exposure	LBAG
Cash	0%
AAA	67%
AA	10%
A	1%
BBB	16%
<BBB	6%
	100%

* Need to add offsetting receivable/payable to accommodate exposure amount
(10,075,401.63) Offset amount applied against Net Cash

Technology, Operations and Asset Manager Relations

