MEMORANDUM

November 7, 2006

TO: Erik R. Sirri, Director
Robert L. D. Colby, Deputy Director
Herbert F. Brooks, Chief of Operations
Michael A. Macchiaroli, Associate Director
Thomas K. McGowan, Assistant Director
Division of Market Regulation

THROUGH: Matthew J. Eichner, Assistant Director

FROM: Financial Economist
Financial Economist
Accountant
Financial Economist
Financial Risk Analyst
Financial Economist
Financial Economist
Accountant

RE: Risk Management Reviews of Consolidated Supervised Entities

Office of Prudential Supervision and Risk Analysis ("OPSRA") staff met over the past four weeks with senior risk managers at the CSEs to review September market and credit risk packages.

There were several common themes in discussions with firms:

- **Retained residual pieces of residential mortgage securitizations are growing**. Residuals consist of claims on excess cash flows from collateral relative to the payouts owed to different holders of the securitized products. They are the most volatile and risky portions of the securitization waterfall since their cash flows are subordinate to other tranches in the deal. Residuals are very sensitive to prepayments and credit losses. If the collateral performs differently than expected the value of the residuals is affected as cash flows are reduced or disappear entirely. Residuals can be classified into two types, each of which has elements of interest rate risk and credit risk. Net Interest Margin Security ("NIMS") are generally rated and concentrate the risk of prepayments and thus interest rate changes, while back-end residuals are unrated and represent concentrated exposure to the default risk in the pool of mortgages.

  Residual interests are generally the most difficult pieces of the capital structure for investment banks to sell, for instance because purchasers of other securitized product look for the organizing banks to hold these pieces of the capital structure as a profession of confidence in the deal, and because regulated entities are deterred by capital and other requirements from purchasing these securities. Generally, hedge funds have been active in purchasing residuals from investment banks, but there are some indications that residual volumes held at the CSE firms have risen recently. One firm reported their retained residuals increased because Amaranth had been their largest buyer of subprime residuals. Another reason for the increases in retained pieces is that some firms have been securitizing new products such as Option ARMs, and hedge funds as well as other investors have been wary to purchase the residuals until a performance history has been established. Market risk managers are closely monitoring the risk from retained residuals, and in one case are considering limiting growth of the securitization business until progress is made in reducing these positions.

- **CSE firms recognize the value of stress testing for internal risk management and are considering utilizing them to facilitate credit decisions for hedge funds.** Stress testing, or scenario analysis, entails revaluing a firm's current portfolio based on stressed market conditions. The market conditions can be based on either historical events, such as the 1987 Equity Market Crash, or hypothetical events, such as the possible impact from an Avian Flu outbreak. Stress tests increase the transparency of risks to senior management by answering the question "How much money could the firm really lose?" in very low probability events. Stress tests have long been an important complement to Value-at-Risk ("VaR") metrics for less liquid products where price movements under a stress event might look very different than those under the normal market conditions to which VaR is calibrated. CSE firms are increasingly interested in stress testing as a way to understand the counterparty risks related to individual hedge funds, typically by assessing the adequacy of collateral relative to risk through the application of strategy-specific scenarios. Credit risk managers differ across firms on the degree to which they would ultimately make margin decisions based on these analyses.

- **Insurance-linked products are a strong area of growth.** CSE firms are increasing exposure to insurance products in a number of different ways, including life settlements, variable annuities with life insurance components, and equity investments in reinsurers. Life settlements, in particular, pose unique risks. In a life settlement transaction, a firm purchases a life insurance policy that is no longer desired by the policyholder. The firm pays the policyholder something greater than the cash surrender value of the policy, and the policy is transferred to the firm who collects upon the death of the policyholder. A diversified pool of policies is created for ultimate securitization. Firms seek to get more medical information about the policyholders either through a review of medical records or medical exams, and thus make a more refined actuarial estimate of the remaining term of the policy. There are several new risk factors in this type of product, including reputation risk, insurance carrier risk, and actuarial risk, that need to be monitored by risk managers.

We also expect to discuss the following firm-specific issues during the next round of meetings:

<u>Bear Stearns</u>

- Bear Stearns' corporate lending business has historically been the smallest and least concentrated of the five CSE firms. The firm has traditionally focused on smaller to mid-sized deals mostly in the United States. However, during September, the firm was a lead arranger in the firm's largest corporate lending commitment to date, which was to an investment grade pharmaceutical company for the acquisition of another pharmaceutical company. In addition, the firm discussed another possible commitment for a multi-billion dollar leveraged buyout. We will continue to monitor these outsized commitments as they work through the syndication process and will discuss with the Chief Risk Officer the dialogue with senior management regarding the approval of these outsized facilities and whether the recent deals represent a shift in the risk profile and risk appetite at Bear Stearns.

- On October 20th, Bear Stearns announced its acquisition of Encore Credit Corp.'s mortgage banking platform. ECC Capital Corporation will operate as a separate division of Bear Stearns Residential Mortgage Corp. This acquisition will substantially increase Bear's ability to originate subprime mortgages and is another step in the vertical integration of the residential mortgage business at Bear Stearns. While this is a small acquisition in dollar terms, it represents a significant increase in headcount for the firm on the order of 4 – 5%. We will continue to discuss with risk management the on-going integration of this business into the broader Bear Stearns Residential Mortgage Corporation.

<u>Goldman Sachs</u>

- The Equities Division's directional (or delta) exposure, which was drastically reduced following the May market turbulence, has been rising back towards April levels. The firmwide equity delta exceeded $10 billion in early October. However, the desks have purchased very large amounts of gamma protection to support this long positioning, resulting in a very atypical equity risk profile. For instance, the Principal Strategies desk is positioned to make $141 million from a 2% increase in all equities, while losing only $15 million following a 2% decline. As maintaining such a highly skewed risk profile is expensive, we will continue to discuss whether the businesses remain willing to pay millions of dollars in daily time decay in order to support their directional views.

<u>Lehman Brothers</u>

- The Risk Appetite ("RA") limit, which reflects the capacity of Lehman's capital base to support risk taking, was set in May at a level somewhat below that suggested by the usual algorithm. For much of the year, they have operated well under that $2.3 billion limit. But as RA usage has ticked up rapidly in the current quarter, they are considering increasing the RA limit prior to the end of the year to $2.6 billion. We will continue to monitor the increased appetite for risk-taking within the firm.

- Several of the real estate deals in the pipeline include a bridge equity component. Bridge equity financing is similar to bridge loans in the acquisition financing world. Financing is provided with the intent to take out the financing with an equity offering. Credit risk management expressed comfort in the value of the properties utilizing this type of financing, but we will follow up on the progression of these deals in the coming months.

<u>Merrill Lynch</u>

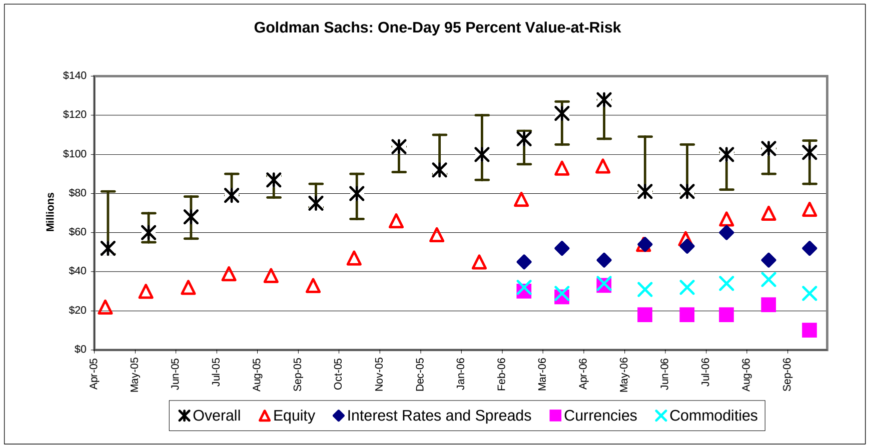
- In transitioning to Basel II, Credit Risk Management revised its methodology on calculating Asset Based Lending exposures. Exposures and risk limits will be based on the obligors' ratings and loss given default estimates that account for the structure of the deal. Previously, separate facility ratings were used to reflect the effects of collateral and other mitigants. We will monitor the impact of this change on risk reporting and risk governance over the coming months.
- Senior management has focused attention on the risk to Merrill of a credit widening event as expressed through the Stress Event Scenario ("SES") metric. SES is increasing in all areas, especially commercial and residential real estate. In addition to capturing risk in real estate through the SES, Market Risk Management is formulating a scenario analysis to capture the impact of a widespread decline in housing markets.
- Market risk managers have increased the use of the VaR model by implementing more granular limits. At the same time, the rate of product development and increased volume of exotics trading is starting to stretch the VaR model, for example in calendar and location basis trades in commodities. The historical simulation methodology may not be adequate to capture all risk factors facing Merrill in the future. They are beginning to think about utilizing a parametric type model in the future, and we will continue discussions with both the market risk and model validation groups on this topic.

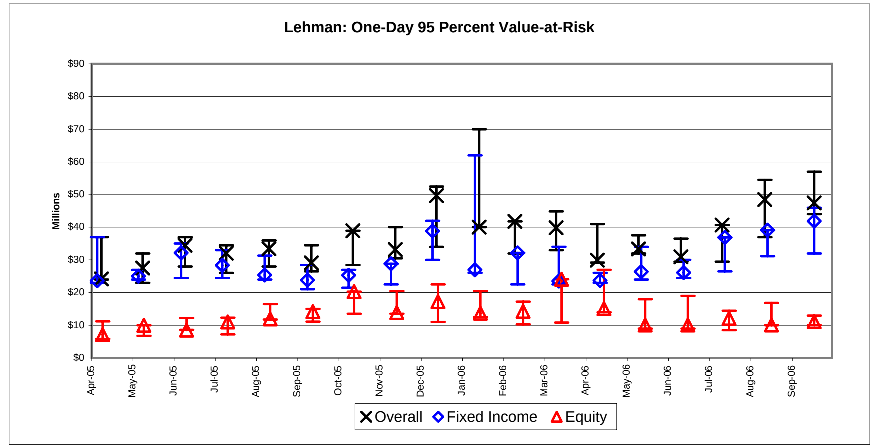
<u>Morgan Stanley</u>

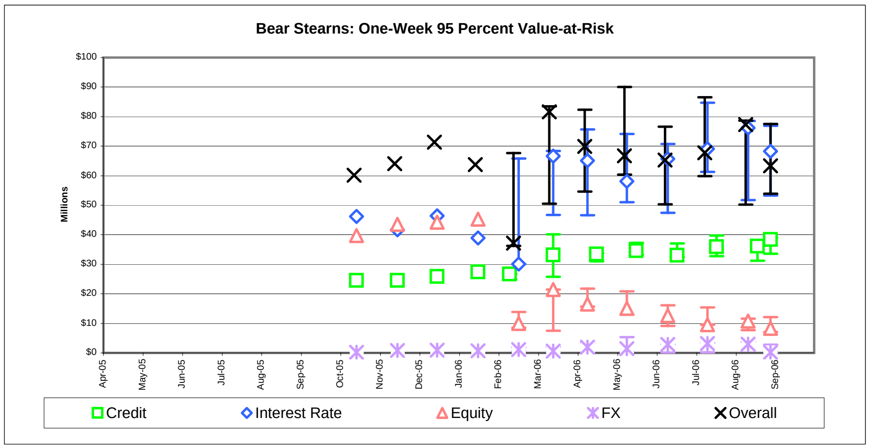
- During this month's meeting we discussed the firm's expected move from a maximum peak exposure (i.e. 99% confidence interval) to an expected or mean positive exposure ("EPE") metric for the internal risk limit framework for counterparty credit risk. The discussion focused primarily on the upfront trade approval process and on-going risk monitoring that would occur under the new limit framework. The Credit Department expects to take a proposal for new limits (based on the EPE metric) to the Firm Risk Committee at its next meeting. If approved, Credit expects to move to this limit framework by year end.

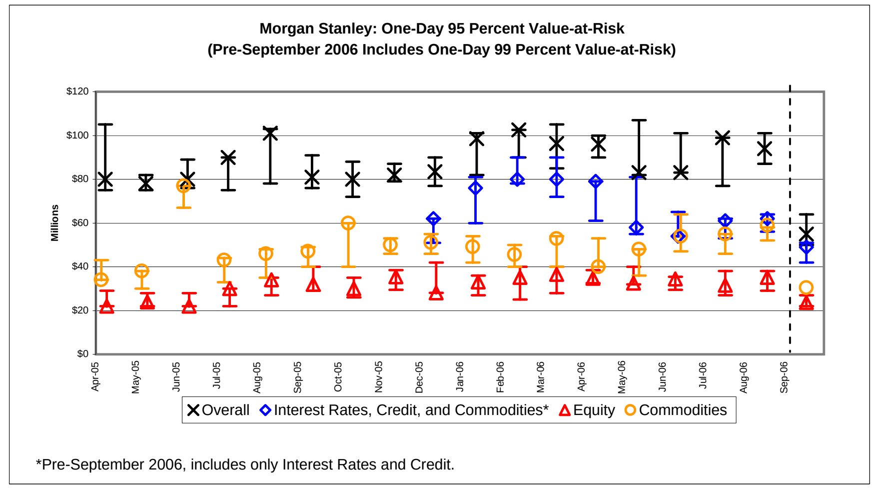
- There are a number of market risk measurement methodology change initiatives we anticipate discussing in the near future, including the commodities storage model, stress testing for freight, sulfur dioxide (SO_2) and US coal (all of which are getting pulled out of VaR), the structured credit correlation risk model, and the high yield specific risk model.

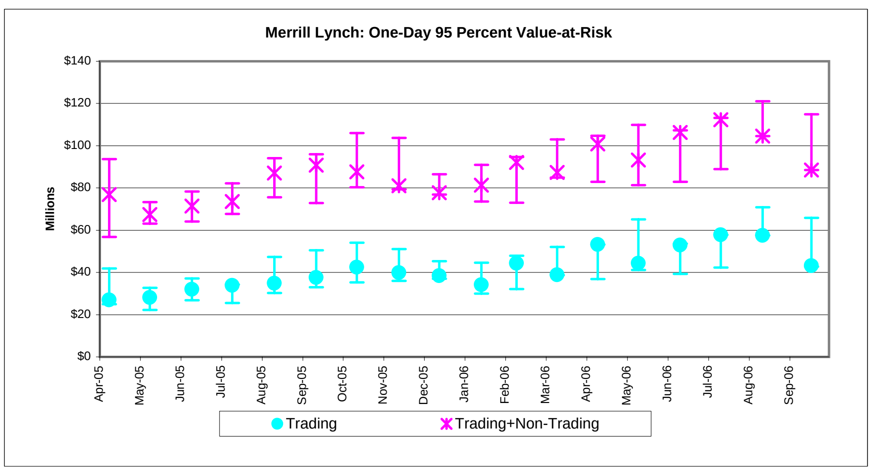
- The magnitude and rate of releases of EITF 02-3 day one holdbacks has picked up recently, in part due to the unfavorable accounting treatment of unreleased holdbacks should Morgan choose to be an early adopter of the new fair value standard, as expected. We plan to get more detail on these releases, particularly those driven by new trade activity linked to establishing ‘price observability.’


Goldman Sachs: One-Day 95 Percent Value-at-Risk
Millions
Overall
Equity
Interest Rates and Spreads
Currencies
Commodities


Lehman: One-Day 95 Percent Value-at-Risk
Millions
Overall
Fixed Income
Equity


Bear Stearns: One-Week 95 Percent Value-at-Risk
Millions
Credit
Interest Rate
Equity
FX
Overall


Morgan Stanley: One-Day 95 Percent Value-at-Risk
(Pre-September 2006 Includes One-Day 99 Percent Value-at-Risk)
Millions
Overall
Interest Rates, Credit, and Commodities*
Equity
Commodities
*Pre-September 2006, includes only Interest Rates and Credit.


Merrill Lynch: One-Day 95 Percent Value-at-Risk
Millions
Trading
Trading+Non-Trading