MEMORANDUM

October 5, 2007

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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 current market and credit risk packages.

There were several common themes in discussions with firms:

- **Liquidity in the residential mortgage markets remains limited, and spreads have widened up the credit curve.** In August, liquidity-driven widening moved up the credit curve, affecting highly-rated prime products all the way through to AAA securities backed by prime loans. Risk managers repeatedly noted that this was a liquidity rather than credit-driven phenomenon, unlike the spread moves seen earlier in the summer. Some residential securitizations took place during August, although activity fell in early September as market participants braced for possible Fed action. Risk managers noted that, even where securitizations took place, business was far from normal, with some bonds being distributed at a loss. After the Fed reduced its target federal funds rate, secondary market activity picked up, with higher quality ABS and MBS spreads tightening. The affect of this rate cut on securitization volumes is not yet clear. Another risk manager surmised that, while high quality paper was relatively cheap, buyers might prefer to wait until November, the fiscal year-end for some financial institutions, when attempts to reduce balance sheet inventory could lead to greater supply and further price drops. Finally, despite reorganization and layoffs at originators owned by CSEs, there seems to be a sense that the commercial banks and vertically-integrated securities firms are going to emerge as the winners when the dust settles, and that the specialty finance model, exemplified by now bankrupt players such as New Century and American Home, is unlikely to survive.

- **The commercial mortgage market has also been impacted.** According to the head of one commercial real estate group, loan origination stopped in its tracks while the market digested existing commitments. Again, there was some liquidity in August, which dried up into September prior to the Fed action. When desks were able to place deals, they sold off the AAA tranches, which constitutes the majority of the capital structure, and some of the equity pieces, but noted that there was “indigestion in the middle” of the deal. There was also limited trading in the secondary market. Most of secondary trading occurs in AAA securities, as the lower-rated pieces tend to be held by players such as insurance companies and pension funds who generally do not actively trade their positions. One deal that has been discussed as an indication of the market’s health is the purchase of Hilton by Blackstone, which is being financed by a group including all five CSEs. While this deal has pricing flex, the banks are working with the private equity sponsor to possibly extract further concessions, as has frequently occurred in the corporate leveraged loan market. Compared to corporate buyouts, there tends to be more give and take surrounding purchases in the commercial real estate world. Less robust activity as been reported for Europe as well, while Asia has been less affected by this downturn. Opportunities to hedge the CMBS pipeline outside of the US are still not readily available, making exposures in these regions more difficult to manage.

- **Risk managers are ‘cautiously optimistic’ about the leveraged lending market.** In late summer, market participants nervously awaited the post-Labor Day calendar of marquee leveraged buyout deals, such as First Data and TXU. First Data was the first to price in the market, and the underwriters decided to place the $14 billion deal in tranches, with the first piece involving a $5 billion loan offering. This was successfully sold into the market, as was a follow-on offering of over $4 billion, allowing risk managers to feel marginally better about the potential to clear the existing pipeline of deals, which were largely underwritten with terms that investors will no longer accept (such as covenant-lite). With First Data, the lenders were successful in getting the sponsor, KKR, to accept a loan covenant. That said, multiple risk managers noted that this was a very “out-of-the-money” covenant, possibly more show than substance.

  Throughout the market disruption, there has been much discussion around potential buyers for the estimated $300 billion of deals that are yet to be placed in the market. Some observers suggest that the collateralized loan obligation (“CLO”) buyers are slowly coming back into the market after an abrupt and almost complete disappearance in July, and others have noted that high yield mutual funds have expressed strong interest. Also, a number of hedge funds have inquired about the availability of financing for bank loans, indicating their interest in possibly purchasing loans trading at discounted prices. To date, the CSEs have not been large players in the bank loan financing space, which tends to be dominated by the commercial banks. Some of the CSEs are currently financing a limited amount of loans through their prime brokerage platforms, and others are exploring alternative financing platforms. Risk managers are aware of the issues surrounding the financing of assets for the purpose of facilitating sales, which can effectively turn the market risk associated with holding loans in their inventory into counterparty credit risk to clients purchasing the loans.

  The four CSEs with August quarter-end all took significant markdowns on their leveraged lending pipelines and, while controllers were comfortable with the process surrounding the marking of these positions, they stated that the resumption of primary trading in this space and resulting observability of trade prices validated their marking methodologies. For example, the First Data deal was placed at a price of 96, which gave controllers a data point that provided enhanced clarity around loan mark price verification.

Finally, many CSEs had partially hedged the general market risk associated with their pipelines, using a combination of strategies such as purchased protection on the loan-specific LCDX index and the more widely traded HY CDX index. While these hedges initially performed well and helped offset the losses associated with specific positions, the indices subsequently rallied, giving back some of the hedging gains. The underlying single-name loan positions, however, were less buoyant, potentially due to the fact that there was less activity in the primary markets, making the firms more reluctant to mark loan commitments up concurrently. In order to reduce this basis between leveraged finance hedges and the specific loans they aim to offset, some risk managers have noted that desks may begin to cut back on their portfolio hedges.

- **Record trading volumes have created operational headaches.** At one firm, the equity clearing business saw volume go from 4-5 million trades a day to 18 million at the peak. This magnitude of increase led to concerns about processing capacity not only at the firms, but at exchanges and clearinghouses as well. The sheer volume caused delays in batch processing, the results of which often feed various control systems such as risk management and product control. While the spike in volume for OTC derivatives were not quite as pronounced, there were still significant operational challenges, especially related to trade confirmations. Firms noted that they have begun to more formally evaluate their need for additional operational capacity and scalability – one firm mentioned that they are moving towards a structure that will be able to handle 2.5 times the highest volume to date.

- **Credit spread widening assumptions in stress tests are being revisited**. Many firms use stress tests to supplement market risk measures such as VaR, and these often include spread widening events which capture the risk in credit-sensitive businesses. Risk managers have noted that their prior assumptions about a worst-case widening, in some cases based on Fall 98 scenarios, have been exceeded in the asset-backed space during recent events. For example, one firm assumed a 115 basis point widening for prime residential BBB- securities, and the actual widening was 500 basis points. However, the same firm also noted that their assumptions in the corporate sector had proven conservative, and had not yet been exceeded by market movements. These results are not surprising given that most credit sensitive structured mortgage products did not exist in 1998. Still, this dynamic has led risk managers to focus on reviewing and possibly updating the magnitude of shocks applied in stress tests.

- **Municipal trading desks incurred losses**. While not normally a major driver of P&L, municipal bond trading desks at several firms incurred unusually large losses during recent market turmoil as the spreads on munis widened in conjunction with the broader credit markets. In some cases, this business contributed to VaR backtesting exceptions.

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

<u>Bear Stearns</u>

- As discussed in previous memos, the head of Bear Stearns' independent Model Validation Group resigned earlier this year. During the interim, the Chair of the Model Review Committee (who is also the firm's Chief Risk Officer for Asia and Europe) had taken over much of the responsibility for this group. However, the capacity of the group was clearly strained during this time period and required a scaling back of their efforts as well as more involvement by the product line risk managers in model control work. It has taken several months, but the firm has now hired its replacement for this control function. The new head of the Model Validation Group will start on September 28th and will be located in London. He will provide an update during our November monthly risk meeting.

- During August, the Exotic Equity Derivatives desk lost over $60 million, which is the first monthly loss of any significance for this business in several years. According to most risk measures, such as VaR and a market crash scenario, the desk appeared largely hedged. However, as correlation (both realized and implied) spiked during the month, the desk lost money on its short correlation positions. Also, the offsetting hedges, which were short-dated variance swaps, did not generate significant offsetting gains. These hedges underperformed because their payoffs were also dependent on changes in markets levels, which did not change significantly month-over-month. In addition, the hedges the desk had bought were short-dated and became very costly to maintain over the month. The risk manager highlighted that this hedging strategy is something the desk will consider changing in the future. We will continue to discuss the exposure metrics and hedging strategies used for this business.

- A primary strategy of Bear's Mortgage business in hedging its long positions in mortgages and asset-backed securities has been to purchase single-name CDS protection on ABS. A significant amount of this protection is sourced from highly-rated structured vehicles or SPVs, many of which are guaranteed or wrapped by monoline insurers. Generally, Bear is relying (from a credit risk perspective) on the liquid collateral that is held in these SPV trusts to make good on any payouts related to actual credit events in the underlying MBS/ABS that the CDS reference. In addition, the firm also has other exposure to the monolines that wrap some of these SPVs. From a counterparty credit risk perspective, the firm wants the reporting capability to differentiate between direct exposures to the monolines and the indirect exposures generated via the monoline guarantees of the above mentioned SPVs. Currently, credit risk managers are planning to enhance their reporting capabilities in this area. We will monitor the progress the firm makes in this area.

<u>Goldman Sachs</u>

- The independent market risk group at Goldman, Market Risk Management and Analysis ("MRMA"), has historically only been responsible for the firm's Securities Division (i.e., the trading division). Furthermore, market risk managers have historically operated on the "public side of the wall". Goldman's senior management has decided to make MRMA a firm-wide independent market risk management function. For instance, the group will now have responsibilities with respect to Goldman Sachs Asset Management (GSAM). One effect of this expansion will be to make market risk managers privy to an array of conflicting information, which will require new procedures and controls around the processing and reporting of information. We will continue to discuss this initiative with risk mangers.

- Credit risk management is continuing to closely monitor Goldman's leveraged lending pipeline, especially as some of the larger deals come to market. Credit risk managers recently took a deeper look at each name in the commitment pipeline, considering what the firm's risk profile would be if the business is unable to distribute any of the loans (i.e. if Goldman is forced to retain the credit risk for a prolonged period). Overall, they were reasonably comfortable that the big names, which are the dominant risk drivers, have stable cash flows and are decent credits. We also met with the head of the leveraged finance business, who feels the current pipeline can clear if the world remains in a "benign state" through the calendar year.

<u>Lehman Brothers</u>

- Lehman raised its Risk Appetite limit to $3.5 billion from $3.3 billion, reflecting year-to-date revenues above initial projections. However, even at this new level the firm is pushing against the limit, with usage peaking around $3.6 billion. In addition, Lehman again raised its firm-wide VaR limit this month to $135 million following an increase last month to $125 million. Risk managers are still focused on ensuring that illiquid risk positions driving Risk Appetite usage do not force liquid businesses to exit positions that are considered desirable during times of market turmoil simply in order to bring down measured risk.

- The leveraged lending pipeline continues to decrease slowly, as total commitments in the non-investment grade space (funded and unfunded) fell to $33.7 billion from $35.0 billion. The reduction is the result of both the syndication of small amounts of deals and the restructuring of commitments to lower amounts. As many more deals are expected to work through the system in the coming weeks, we will closely monitor the situation in this market.

- Lehman's counterparty credit exposure rose $2 billion last month as the result of increases in exposures to four Collateral Debt Obligation ("CDO") vehicles. Lehman has purchased protection from these CDOs on residential mortgage backed security assets. As the value of this protection has increased with the deterioration of mortgage assets, the current exposure to the CDOs has increased. The CDOs are structured with cash reserves, as well as recourse to unfunded note holders in the case of asset defaults. Credit risk management is closely monitoring this exposure.

Merrill Lynch

- Ed Moriarty, formerly the head of Credit Risk Management, was named Chief Risk Officer for Merrill Lynch & Co. Chief Risk Officer is a newly created position in the Merrill Lynch organization, and the intent is to have a single accountable executive for all key risk management activity, including market, credit, and operational risk. Ed Moriarty will report directly to Jeff Edwards, Merrill's CFO.

- Valuation of Merrill's Super Senior ABS CDO continues to be a challenge. A revised methodology was incorporated for August month-end which utilized a loss-based approach with estimated prepayment, delinquency, default and loss severity curves. The curves are bucketed by broad product and vintage groups, and a refined methodology was planned for September month-end. We will follow-up on the price verification of the methodology utilized for September's valuations.

- Market risk managers have identified the commercial real estate pipeline as a significant source of risk. Merrill has approximately $25 billion of loans in this pipeline awaiting a securitization exit, and was able to print a couple of deals recently, although they did not sell the entire capital structure. In addition, they have hedged the position with iTraxx, CMBX, and total return swaps.

Morgan Stanley

- At the end of August, three money market funds offered by Morgan Stanley Investment Management ("MSIM") held approximately $1.7 billion of commercial paper and medium term notes issued by Structured Investment Vehicles ("SIVs") that have minimal liquidity support. If deterioration in the debt issued by these SIVs continues, there is a chance that the markdowns could be significant enough to "break the buck" on MSIM's money market funds. As a result, this could lead to the need for Morgan Stanley to provide liquidity to the MSIM funds either by taking on this paper or by injecting cash into the funds. We will continue to monitor this situation in both our monthly risk meetings and our on-going dialogue with the firm's Treasury Department.

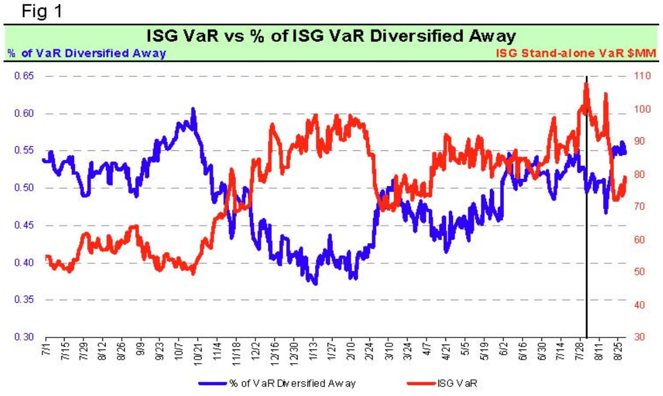
- During this month's meeting, the credit risk manager highlighted that the Securitized Product Group expected to distribute a sizable amount of its commercial whole loan inventory in

September and October, primarily through upcoming securitizations. While the credit risk officer was generally optimistic about the firm's upcoming plans, he did raise some concerns about the overall "congestion" in the market and in particular the functioning of the floating rate securitization market in the UK. We plan to discuss the firm's results in this area at the next monthly meeting as this is a material business for Morgan Stanley, from both an exposure and income perspective.

VaR trends through August 2007 (September meetings)

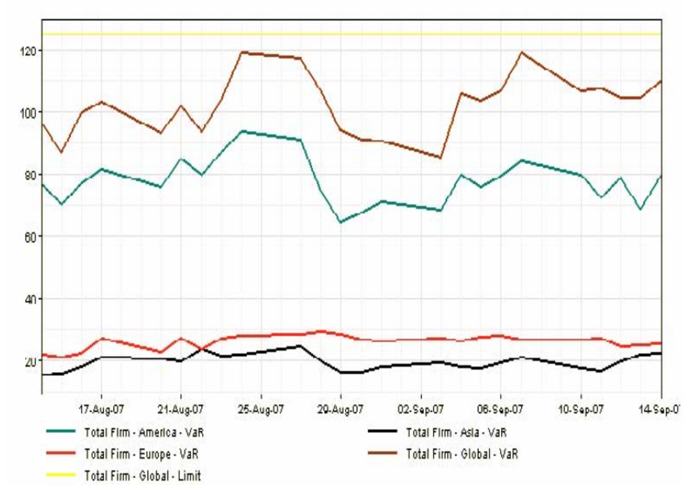
Morgan Stanley (95th 1-day) *source:* Firm Risk Committee report

Fig 1

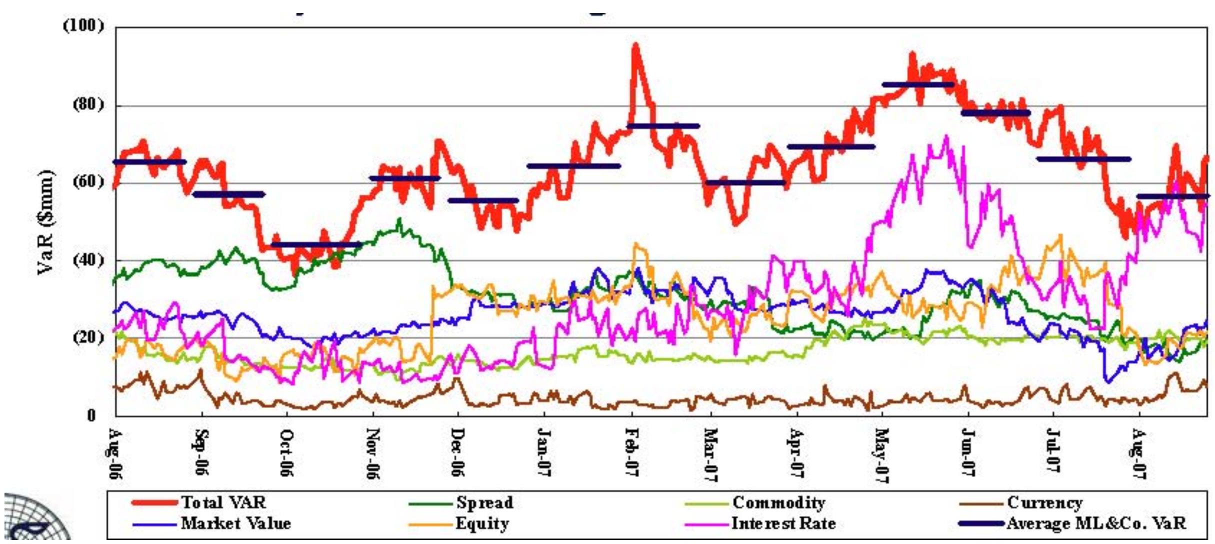


% of VaR diversified away equals [(Sum of Component VaR) less ISG VaR]/(Sum of Component VaR)

Lehman Brothers (95th 1-day) *source*: Monthly SEC Risk Report



Merrill Lynch (95th 1-day) *source:* Monthly SEC Risk Package



Goldman Sachs (95th 1-day) *source:* Firmwide Risk Committee report