

MEMORANDUM

March 30, 2007

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FROM: , Financial Economist
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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 February market and credit risk packages.

There were several common themes in discussions with firms:

- **The equity markets correction caused only mild pain.** The U.S. equity markets declined approximately 4% on February 27th. While many CSEs had significant long equity positions going into the sell off, some firms were able to substantially offset or avoid directional losses with gains resulting from positive optionality (i.e. gamma) in their portfolios as well as profits from intra-day trading activities. Other firms did experience trading losses, however, as discussed in further detail in the firm-specific bullets below.
- **Subprime mortgage market turmoil continued to cause credit risk concerns.** Subprime originators continued to fail, led by some of the largest players such as New Century. From a credit risk perspective, firms have continued to actively monitor their warehouse lines to subprime originators, in many cases changing the terms when covenants have been breached and ensuring that marks on the underlying collateral backing the loans are current. As a result, despite the shakeout of the subprime originators, the CSEs do not expect material losses from this business. In addition, the amount of early payment default ("EPD") claims outstanding at the CSE firms has remained relatively constant throughout the month, indicating that the underlying subprime collateral purchased or financed by the CSEs is not deteriorating further. More recently, some CSE firms issued notices of default to New Century regarding its warehouse lines. In some cases, the firms exercised their rights to foreclose on the collateral supporting these lines; in other cases New Century repaid the outstanding amount and moved its financing to another institution.
- **As of now, hedge funds appear to be weathering the turmoil in the subprime space.** While generally not their sole activity, many hedge funds are active players in the subprime

mortgage market, both on the cash and synthetic, or derivatives, side. Some are active buyers of lower-rated tranches (and non-rated residuals) of subprime securitizations, and much of this activity is financed by CSEs and other institutions through repo contracts. Several risk managers noted that, given the movements in spreads in the subprime market this past month, there has been an increase in the amount and magnitude of margin calls to funds pursuing this strategy. However, CSE firms have not yet experienced any problems with hedge funds missing margin calls on these financing contracts. On the synthetic side, most of the hedge funds appeared to be buyers of protection on the ABX indices, and therefore experienced gains as subprime markets weakened and spreads on the indices widened.

- **The subprime mortgage market disruption has increased focus on price verification processes.** Business personnel, controllers, and risk managers have been focused on the marking of mortgage trading inventory. Particular attention has been paid to price verification around residuals as well as synthetic positions referencing mortgage collateral. Although much of the recent press has been focused on the ABX index spread and its sharp widening during the month, many CSE firms have a substantial book of either single-name credit default swaps on asset-backed securities ("CDS on ABS") or basket default swaps, which reference a customized group of single-name CDS on ABS. While the ABX index is relatively liquid and thus straightforward to mark daily, these other synthetic products tend to trade less frequently. As a result, the process of marking these positions places greater demands on controller resources in choppy markets given the relative lack of pricing transparency. We are completing a round of targeted discussions with controllers at all five firms to review the price verification procedures used in this area.
- **TXU- the new "largest LBO ever".** On February 26th, KKR and TPG, two leading private equity firms, announced their intent to acquire TXU for \$45 billion, including the assumption of existing debt, in what would be the largest leveraged buyout ever (unseating the Equity Office Properties deal discussed in recent memos). As part of this deal, many of the CSE firms are both lead arrangers of the financing as well as bridge-equity providers. For some of the CSE firms, these new and larger commitments replace previously outsized commitments to TXU for a previously planned financing of 11 new coal power plants, which ran into environmental and political obstacles. Following the leveraged buyout, TXU plans to build just three of these plants in an attempt to appease various constituencies. However, it is likely that this deal will not close for some time given regulatory and other considerations, leaving firms exposed to a much longer period before syndication than typical leveraged buyouts to date. Given that syndication is the primary means to manage the risk of the leveraged lending "pipeline", this is a focus for risk managers.
- **Changes to risk factor time series have been pushing VaR levels around.** VaR methodologies require a mapping of market risk exposures to risk factors, such as interest rates or equity returns. The method of choice amongst the CSE firms for modeling risk factors is historical simulation, which involves the direct application of historical market moves to current positions. As a result, changes in VaR result not only from changes to market risk positions, but also from changes to the underlying historical time series used as these are updated with more recent data. At some firms, this effect is exacerbated by the decision of risk managers to place greater emphasis on more recent historical data (i.e. exponential weighting of data). This was the case in February, as VaR levels were pushed significantly higher at these firms due to the inclusion of the higher volatility exhibited in several markets during the past month. For example, one firm saw its mortgage VaR double during the month, despite actually reducing its exposures. On the other hand, another firm saw a drop in its VaR due to the roll-off of data from January 2003, a month with high market volatility.

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

Bear Stearns

- Bear's mortgage business incurred significant market risk losses on its residential mortgage inventory due to continued spread widening and collateral deterioration. The vast majority of markdowns occurred on second lien residential mortgage residuals (mostly based on Alt-A collateral but also including some subprime collateral as well). Losses for the first quarter on second lien inventory, which consists of loans intended to cover a purchaser's down payment and are often referred to as "piggyback" loans, totaled \$168 million. However, there were also non-trivial markdowns against whole loans and first lien residential mortgage-backed securities in both subprime and Alt-A product. Although the business benefited from substantial protection purchased in the form of CDS on ABS, the mortgage business had its first monthly loss since Bear became a CSE.
- During this month's meeting we were informed that the head of Bear's independent Model Validation Group has resigned. In the past year, two of the group's model reviewers, who had concentrated on equity and credit derivatives models, have left the group. While the team has added two members dedicated to reviewing mortgage and other cash product models, the departure of the personnel focusing on derivatives is a concern. Bear was able to clear its backlog of derivative model reviews since becoming a CSE, but the recent departures could make reviews of the new models and re-reviews of existing models a challenge. We intend to closely monitor efforts to both hire new staff and review derivatives models going forward.

Goldman Sachs

- Firmwide VaR reached a new all-time high of \$155 million in February, exceeding the recently increased limit of \$150 million. The dominant driver was the Mortgage business, which exhibited a stand alone VaR increase from \$46 million to \$80 million month-over-month, reaching \$96 million intra-month (versus a permanent desk limit of \$20 million). This increase in measured risk resulted from increased volatility in the underlying market risk factors, as opposed to increased exposure. While the desk has actually made money since our discussion of losses last month, there has been much P/L volatility. Consequently, the business has been working to reduce its considerable basis risks, which stem from offsetting long and short positions with many different instruments. We will again discuss changes to the mortgage exposure profile and P/L next month.
- Goldman continues to take on more exposure in the event-driven lending space. The risk of the credit origination business, as measured by the credit spread widening stress test, was over its \$1 billion limit at one point during March. This increase was primarily driven by a commitment in the TXU deal for \$8.1 billion. In addition, the chief risk officer told us that, a few days prior to our meeting, Goldman had agreed to commit \$15 billion to Schering-Plough for an acquisition. Goldman planned on bringing in other lenders within a few weeks, and we will closely monitor the progress of this deal.

Lehman Brothers

- Following the departure of several key risk management employees, the chief risk officer is considering a restructuring of the department. We discussed the preliminary plans, and will continue to discuss Lehman's plans to reorganize and hire additional senior personnel.
- Lehman lost approximately \$90 million at the firmwide level following the equity market sell-off in late February, causing a VaR exception. Much of this was driven by their long equity position, which had grown steadily over the past few months, peaking at \$3.4 billion in delta

just prior to the sell-off. Subsequent to the correction, Lehman reduced its long delta position by almost 2/3.

- Lehman continues to weather the downturn in the subprime mortgage market with minimal losses. They are managing exposure through warehouse lending lines through daily marking of collateral and margin calls. Lehman's two originators, BNC (subprime) and Aurora (Alt-A), are monitoring levels of reserves needed to cover their own putbacks stemming from representations and warranties, with current levels of approximately \$120 million.

Merrill Lynch

- Following the market volatility in late February, Merrill decreased their average VaR from the \$75 million range to approximately \$50 million. Senior management made the deliberate decision to reduce its risk profile by decreasing long credit exposure and short optionality in equities. Merrill weathered the market events fairly well, with a one-day loss of \$30 million from proprietary equity positions. Market Risk had mandated that the business purchase a large amount of downside protection the week before the stock market decline, which resulted in positive mark-to-market gains.
- Despite the fact that the subprime market is in turmoil, Merrill believes that there has been an increase in demand for the lower rated tranches of ABS collateralized debt obligation ("CDO") deals, particularly from hedge fund clients. Therefore, they have been actively pushing their subprime mortgage inventory into several ABS CDO deals during the month. However, due to lack of demand, Merrill is experiencing difficulty in placing the higher rated tranches and is accumulating a substantial amount of AAA rated product, causing the desk to bump up against its limits. Risk management has suggested that the desk either structure a Super Senior CDO or look to Structured Investment Vehicles, which invest in AAA-rated ABS products, to reduce the risk. We will follow up on the disposition of the super senior tranches next month.
- A new global head of Commodities Risk Management started at Merrill in March. He has been hired from Calpine, and comes to Merrill with physical commodities experience. He is based in Houston and directly reports to the head of Market Risk Management.

Morgan Stanley

- The firm made significant net profits from the market moves in subprime mortgages in February. While the firm has large gross exposures in this space, the business was well hedged through its synthetic positions, which moved much more than the cash securities they were hedging. With that said, the firm's chief risk officer emphasized the scrutiny the firm placed on the marking of its synthetic mortgage positions, which generated very large profits. He noted the particular challenge in the marking of these positions due to the relative lack of liquidity and pricing transparency. We have asked the head of the firm's Valuation Review Group to provide us an update on the marking procedures used at this quarter end on both the cash (securitized and unsecuritized) and synthetic positions.
- We discussed outstanding EPD claims on both subprime inventory and collateral. Much of the focus was on the New Century warehouse line, where the vast majority of the firm's subprime credit exposure is housed. While the line was significant, with \$1.6 billion funded as of month-end (and increased to \$2.5 billion post month-end), the firm expressed confidence in the value of the collateral supporting the line and expects to have near-zero losses on the line. Subsequent to the monthly meeting, following further deterioration in New Century's financial position, the firm terminated the New Century line and foreclosed on the collateral. The firm now expects to auction off this collateral. We will follow up with the firm on the auction results.

- As discussed above, TXU would be the largest LBO ever. Morgan Stanley is one of the lead arrangers of the financing, originally providing 25% of the debt commitment. In addition, the principal investing group of the firm committed to investing \$250 million of equity in the deal. This equity commitment is one of the largest principal investments made by the firm and represents a new strategy for the firm of not only advising on and financing LBO transactions but also now partnering with private equity firms as long term investors (as we have previously seen at other CSE firms). We will continue to monitor these commitments as the deal progresses.