Lehman Monthly Risk Review
Package dated 10/11/07, meeting held 10/19/07

MONTHLY RESULTS (ED GRIEB)

- Net revenues were up in September, at $1.3 billion (Ed mentioned that October was looking like a strong month, with MTD revenues of over $1 billion). September's revenue included a $300 million loss as Lehman's spreads tightened (the structured note business which had a $500 million gain a few months ago). They expect to book another $100 million loss of the same variety in October.

- FID: Credit and SPG had lower revenues, but both were positive this month ($100 million each). The European mortgage business had a downward valuation adjustment on mortgage residuals (see discussion in market risk section). Real estate make $40 million, and GTS and GPS were up on their FID positions. Liquid markets prop (John Hoffman) made $200 million. Also, munis clawed back some of the prior losses ($70 million). They were down $100 million in August.

    - This came up in a later discussion, but apparently HY is still up $1b YTD, and mortgages are still running a profit (although down compared to 04 and 05).

- Equities: The business continues to do well, with cash and volatility up 25%. GTS and GPS also did well on their equity positions. There was increased revenue both in corporate derivatives and customer activity.

- IB: Revenues were down, not much closing on the M&A side. Origination is also light.

- IM: Revenues on par with averages, Fees on the MLP fund were down (they gave back on some accrued fees). AUM was up slightly, while PIM revenue was down.

- Europe had a low month with $327 million in revenues, while Asia was relatively strong.

- LBI update: Lehman moved $150 million of residuals out of the broker into LB Pass-Thru (a sub of LBCP) so they don't get a 100% charge – apparently Mike told them to do this. LBI excess capital was up $500 million, as the broker made money in September (John Hoffman's business is in the broker, and there was less erosion in mortgages). LBSF also paid a $350 million dividend, in part due to $300 million of restricted securities in the broker (NYSE shares) that needed to get a 100% charge.

- Capital ratio: Lehman is not comfortable with ending the year at 10.5%, which is looking somewhat likely. They have spoken with Paolo about a hybrid issuance, which will probably be done within the next 1.5 months. They are shooting for above 11% for the first disclosure.

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- Regulatory update
  - FINRA: Tony and Laura noted that for the FinOps exam, FINRA sent the same number of auditors (4) to both Lehman and Neuberger Berman. The CSE exam kicks off October 29. Laura and Tony had a chat with FINRA, and they're putting some items on hold (but not taking them completely off the table) pending the receipt of a year's worth of VaR and P/L. Based on this data, they'll select businesses to look at in more depth, request policies and procedures on these areas, etc. Apparently they are also looking at risk management, and Beth wants FINRA to leverage off of the internal audit work on risk management.
  - OTS: They're almost done with their holding company exam, and have found nothing major so far.
  - NYRO: NYRO has left the premises, and are finishing up with requests and doing some wrap-up work. Lehman is in the process of correcting some "misunderstandings" which arose around problems with pricing of inventory versus positions financed (apparently this has to do with lots of trade cancels in the blotter which Laura is trying to explain to NYRO).
  - Japan FSA: They've been asking holding company questions based on the 10Q. Ed said that Lehman is going to try and answer generally, they think that the FSA is essentially trying to get educated. They wanted a breakdown of the $700 million loss in FID during Q3, and Lehman was going to try and fulfill that with a high level response, but seemed willing to provide more detail if that didn't satisfy them.

CREDIT RISK (STEVE SIMONTE, VINCE DIMASSIMO)

<u>Counterparty Credit Risk (Steve Simonte)</u>

- CE rose by $2.5 billion, while PE decreased by $4.5 billion. The CE was a widespread increase, while the decrease in PE was a function of implied vols being lower by the end of September.
- Non-IG counterparties are currently 3% of CCE and 8% of PE (the disproportionate nature of this is due to the fact that non-IG tends to be collateralized, and therefore generate little CE).
- The four CDOs discussed last week, that are on the top 10 IG counterparty list, have moved up slightly in terms of CCE due to further deterioration in prices. The highest CCE is to Pyxis, at $614 million, followed by MKP Vela at $590 million, Corona Borealis at $534 million, and Libra at $503 million.
- There was a new CP on the top 10 non-IG list, Natural Gas Pipeline Company of America. This is related to an Eagle transportation transaction. Steve said that this is a very conservative measure, and the

real risk is yet. CE for this counterparty currently stands at $36 million, with a PE of $90 million. Highlighted names on the MPE list for this group of CPS were E*Trade (nothing new, just securities borrowing) and GMAC LLC, which is on the list as a result of additional rate hedging.

- The usual suspects were on the top 10 hedge fund list, with Capula Global Relative Value master fund being highlighted by Steve as the "least experienced" on the list, but they do have about $4 billion in AUM. They are doing fixed income arbitrage with Lehman.
  - Ellington was highlighted on the firmwide risk snapshot. They have suspended redemptions in two of their funds due to difficulty in obtaining valuations. Lehman has exposure to the two funds through repo, ABS CDS (both sold and bought), and rate swaps. However, Ellington continues to meet margin calls, and Steve did not seem particularly worried about this (no one seems to think it's a liquidity story, but rather a true valuation one and a desire to be fair to both exiting and remaining investors while calculating redemption value).
- On the top 10 energy exposures, Steve highlighted Columbia Gulf Transmission Co, another Eagle transportation contract. CCE is given at $1.9 million, but again Steve thinks it is overstated and closer to $100k. PE on this trade is $396 million. It might be worth discussing the methodology for capturing these types of trades, especially to the extent they do a number of them.
- Linn Energy – Lehman put on a hedge for Linn in July, consisting of deal-contingent (since realized) swaps and puts on nat gas and oil. Current MPE is $405 million. Linn asked to convert the puts into swaps to fix the gas price, a move that increased Lehman's exposure to Linn. At the time of the firmwide risk snapshot, MPE was expected to rise to $646 million, but Vince said that subsequently MPE was found to only be $500 million. The original $225 MPE limit is not changed. Lehman was above that limit prior to the restructuring of the trade, and so is obviously still above that limit (now to a greater degree). Jeff cited the old "right-way" risk story, and apparently Lehman has had "strong interest" in assignment of some of these trades, for about $100 million of MPE. They didn't mention how they would lay off the rest of the MPE – I'm not sure how deep the single name CDS market is in this name. We should follow up next month. Lehman also has a $290 million in equity interest in Linn, through direct ownership and MLP funds – I wonder if this makes them more comfortable with running over their limits?
- DPC update – per Michelle's email exchange with Steve Simonte, we had an update on Lehman's trading with DPCs and ACA, the monoline.
  - Lehman is really only trading with Primus ($6m PE, $2m CE). They also have some exposure to Theta, a Gordian Knot DPC/SIV hybrid ($4m PE and $3m CE). Lehman prefers to deal with DPCs

selling single name protection, and is currently looking at a small universe of new trades. Steve also noted that Lehman has a $45 million investment in a DPC called Quadrant, which is split between GPS and FID. This triggers "healthy discussions" as credit is encouraged to be more charitable towards DPC as counterparties (same thing we heard at MS).

- ACA: this is the weakest of the bond insurers, and is closer to a structured finance vehicle than a true insurer. Less than 20% of its business is wrapping munis, and ACA has high subprime exposure. Lehman is keeping an eye on their Q3 earnings – they must disclose MTM losses on a GAAP basis if they cause impairment to equity on a GAAP basis. While agencies say this won't matters as their rating is driven by the loss-based model used for bond insurers, Lehman is not sure how long they can preach that line if losses are big enough. This is all relevant because if ACA were to hit BBB-, then they would be forced to post collateral which would effectively be liquidation. They are currently rated A. Lehman had a due diligence call with them tomorrow, but noted that this is "not a great picture." One of the only positive marks was that ACA had managed to bring themselves back from the brink two times over the past ten years, and maybe they could do it again. Lehman has exposure to ACA through the purchase of protection on tranches of the ABX (06 BBB and BBB-). There are three trades, notionals of $300m, $225m, and $420m. CE on this is $270 million. In addition, Lehman purchased $750 million in supersenior protection from ACA when the market shut as they were placing the Corona Borealis deal. This has a high attachment point (50%), and currently has a negative mark (i.e. no CE). Lehman noted that ACA was not the "layoff of choice," but that some protection was better than on protection. They also said that there was no market to buy protection on ACA.

<u>Leveraged Finance (Vince Dimassimo)</u> *(much of this businesses was discussed during Jim Seery's presentation, so credit's coverage of this was much briefer this month*)

- The total pipeline of unfunded commitments stood at $39.9b as of 10/15. The amount of funded commitments stands at $8.9, up from 7bn last month. HY commitments are at $29.6b ($7.3b funded), and HG commitments are at $10.3b ($1.6b funded).
- Specific deals discussed include:
    - AHMSA Restructuring loan – Lehman has been asked by a Mexican steel producer, AHMSA, to provide debt financing for its exit from bankruptcy (which was declared in 1999). Three hedge funds, currently creditors, will convert their debt positions in equity in the new company, while other

creditors will get paid out at par (not such a great deal, apparently Mexico no longer allows filings under this type of bankruptcy as it isn't so great for capital market formation). Financing will likely include a $1 billion bridge loan, which will be taken out by senior notes. The commitment will include business and market MACs.

- New HY commitments include Arysta LifeScience, for $1 billion, and Regent Seven Seas for $150 million.
- Lehman is keeping its eyes on Alliance Data, which is big and at off-market terms. Lehman has $1.3 committed in this deal, which has been restructured with Blackstone – not to today's terms, but hopefully to something that is more acceptable to the market.

MARKET RISK (JEFF GOODMAN, MARK WEBER)

Risk Appetite/VaR Update

- Risk appetite was at its all time high, at $4.3 billion (up from $3.7 billion last month). The limit stands at $3.5 billion, and was just increased a few months ago. Jeff said that RA has been bouncing around, but has been at $3.5b and up sine August. Before, however, he said that HY and RE had been driving the increase throughout the summer. Today, equities is been ramping up their risk, with increasing deltas in the US and Asia (peak equity division delta was $3b, and peak FID equity delta has been $1b. GTS can also run some pretty big delta positions). In addition, there has been less gamma mitigation lately. Previously, while both FID and IMD were at their limits, equity was under its limits – that said, it has since gone up to and over its RA limit (usage is at $1b versus a limit of $800m, and equities was at $400m when the limit was raised to $3.5b). Finally, the correlation has been increasing between FID and equities – in other words, all signs are pointing in the same direction. Jeff noted that businesses were taking views in the market, citing both equities and EMG. Jeff and Mark noted that you could lower risk, but it would come at a cost for illiquid positions that would essentially be "forced to sell."
  - Mark walked us through a graphical breakdown of RA by division, and said that much of the firmwide increase from 8/31 onwards was driven by the increasing equity delta. You can see a roughly $300 million spike in the FID Usage when First Data was funded ($2.1b). Overall, HY RA was up $500m on the month, in agreement with the VaR increase of $14 million (mentioned below as well). By region, the increase is overwhelming coming out of the US, driven by the HY business and the largest chunk of the increased equity exposure.
  - IM has been running high, currently at $1.2 billion. This can be sticky as they warehouse for future LB funds. For some funds, like the RE mezz fund, there are only 9 investors so there is more flexibility in terms of trying to close the fund early. However, another RE fund has 100 investors which makes it much more difficult to be flexible.

    - Not all deals (not sure if this is not all deals, or not all risk in deals) are captured pre-funding, so when a deal funds it has a big affect on RA usage. Some of the more illiquid deals (HD Supply) are working out (not sure if it has been distributed yet), and they are seeing progress on some RE bridge equity. Lehman has very little corporate bridge equity (they do have TXU but Harman is now gone).

- The executive committee signed off on this limit excession, as they are OK with the macro risk. Apparently, they are not so "stuck on the minimum ROE of 10%" that the RA methodology is based on, and 2008 budgeting is occurring in 40 days and theoretically, the new limit is north of $4 billion anyways. Also, they mentioned something about "not losing as much as everyone expected them to" so now they can go in and be opportunistic – I believe that this was referred to as the Goldman Sachs approach. It was hard to listen to all of that with a straight face, and I told Jeff that while we were not second-guessing the Executive Committee, it was a bit difficult to reconcile these rationales with the story we've heard over the past three years. Also, it's a bit concerning that all of this is occurring when the CRO position is in transition – it's unclear who, if anyone, is actually running the group right now (although at least nominally Madelyn is in charge until December 1, when Chris O'Meara takes over). Jeff admitted that they probably shouldn't have raised the limit to $3.5b when they did, given that they were almost there and there wasn't enough headroom. Also, it appears that the firmwide risk meeting is cancelled on a not-infrequent basis. For example, this month we were given only two firmwide risk snapshots because the other two meetings were cancelled, and it turns out that the October 15 meeting was not held as well so the snapshot we were given was to be presented at the October 23 meeting. I asked why meetings were cancelled, and was given a multitude of reasons from holidays to offsites.

- VaR increased to $158.8 million on the back of lots of volatility in August (so new volatility rolling into the time series) while positions were increased. HY VaR alone rose $13 million. FID VaR was at $76.4 million, up from $65.4 million last month. Equities was at $47.7 million, up from $18.6 million last month. FID is just slightly over its VaR limit of $75 million, while equities is well over its limit of $35 million.

- Equity VaR peaked at $49.2 on September 27. Again, this is primarily a delta story (although there is less gamma and some short vega positions – which apparently drove the one equity division VaR excession). Most of this has been directional risk taking put on through the indices, often the S&P. The increasing delta was sometimes a function of cutbacks on short positions - the desk ended September 11 short $367 million of S&P, which was less short than the prior month by $800 million (the prior month they were short $1b).

<u>Firm-wide Risk Updates</u>

- Lehman has EMG exposure to Kazakh banks, a story we have heard at other firms as well. This is through outright loans, CDS, and cash positions. In a default situation, losses are estimated to be 50m. Kazakh banks have been experiencing liquidity problems recently, and the country may be downgraded. Jeff noted that Russian mid-tier banks are facing some of the same challenges.

- FNMA 30Y 6.5% mortgage position - the mortgage trading desk recently decided not to roll $29 billion out of a $35.5 b long October settlement/short Nov settlement roll position. This is a financing position similar to a repo – price of the roll is between the cost of carry and a maximum of fail cost driven by demand for the securities (akin to treasuries being on special). The desk, by not rolling, essentially forced delivery of these securities, and $4 billion failed resulting in $1.4 million in profit (basically resulting from getting a free coupon during the fails). The market risk of the delivered securities is hedged with the short positions for November settlement, when these will be delivered, and the funding risk is mitigated as long as agency funding rates do not go over 5.2% for an extended period of time (they are currently at 4.8 to 4.9%). This seems like a huge notional, and it does require a good deal of balance sheet. By delivering in November, the desk intends to take that amount down. Apparently, these types of fails do get resolved quickly so you can make a profit (albeit small) while not incurring fail charges in the b-d, where these positions are housed.

<u>High Yield Loan Trading (Jim Seery)</u>

- Jim manages the leveraged loan business for FID (Fred Orland does the bond side). He sits on the commitment committee as well (Jim in NOT in investment banking, who does the origination of these loans).
- Jim started the current timeline with Jardin, a $725 million deal that was placed in early August at 97 ¾ . There were existing HY bonds and loans on this name, and the deal had covenants.
- After that came Alison Transmission, which was a bit more difficult. That said, almost allof the loan is now sold (79m of a 750m position is left), and all bonds have been sold. Citi was the lead on this, with LB, ML, and Sumitomo participating. LB and ML were the most aggressive, while Sumitomo was more reluctant to move the loans at a discount. An initial tranche of $1.2 billion was sold at 96 with a "most favored nation" clause which goes through November 11 (MFN clauses are now longer in duration due to investor demand). In addition, if one lender sold down positions on their own, then they have to make everyone else's MFN payment. Around the time of the Fed announcement, they sold $585 million at 96.5, and sold another $1 billion at 97.5. Senior notes priced at 11 ¼ and then traded up to 103.5. Following on this success, they brought the PIK-toggle notes in at ¼ wider than the senior notes – they initially traded well but have since been off, around 99.
- Next up, First Data – The $9.2 billion of loans was placed in 3 tranches between 96 and 97. In the 2 days prior to our meeting, Euro issuances were sold as well. Jim noted that Europe has been starved for new issues and has shown interest. The bonds are currently in the market. Also, Jim noted that HSBC had 20% of this deal and decided to hold it – it didn't want to sell at 96.
- TXU was launched on the Monday prior to our meeting – the deal was being shown at 99.5 but Citi was taking orders at par. (Jim noted that Citi was being "more controlling" in this deal than with Alison). So far it sounded like the book had over

$7 billion in orders, with over 90% of those being at par). They might upsize the tranche to $10 or $12 billion, possibly at a slight discount still (Lehman would prefer to keep the discount and move the position off their books).

- In terms of buyers, Jim said that the CLO bid is gone. He said that new buyers were real money bond funds that have the flexibility to purchase loans (e.g. Fidelity, PIMCO, WAMCO). Also, the hedge funds have come in but they want leverage – Jim pointed out that they are looking for mid-teens returns and even with leveraged loans paying 4-500 bps this won't get them there. Lehman has provided some leveraged on the USIS deal, with a daily MTM, at 3:1 leverage (i.e. a 25% haircut). This appears to be the only type of seller-financing that they have done. Jim also noted that with First Data, there were 9.5 billion of orders "non-financed" and 6-8 billion of orders that were "financed" or needed financing. The syndicate did not need to take any of the "financed" orders. Lehman had inquiries from 60-70 accounts that wanted financing, such as hedge funds, bond managers, pension funds, sovereign wealth funds, etc (Jim seemed a bit surprised that sovereign wealth funds were looking for leverage). In addition, the recently formed credit opportunity/loan funds are looking to buy. Lehman has one of these funds, which will have 3.5x leverage, leaving it with 2.5 to 3 billion to invest in total (strictly in loans). Jim also said that the private equity shops are setting up these funds, which can be unseemly in that they want to buy their own credit at a discount. My sense is that Lehman tries to watch out for these sorts of reputational issues.
    - CLO note: Lehman has done 7 CLOs since June, which have involved restructuring and reduced fees. That said, Lehman has not had to "blow out" any managers (which effectively involves taking back the positions as their own inventory as opposed to positions being warehoused on behalf of a manager).
- In terms of the forward pipeline, Jim considers TXU to be the bellweather. He thinks that marks will recover somewhat, and that fundamentals in the market remain OK – at a micro level at least, with the macro being slightly less ideal. He said that current margins are 350-450 on loans, and 11 to 12.5 % on bonds, which feels reasonable to him. Jim's group will be involved in selling down the HY component of Archstone.
- The commitment committee is seeing more activity, albeit without the PIK-toggles and cov-lite deals. Leverage is coming back down (no more 7-8x) – overall, transactions appear to be capped at 6x right now. In addition, deals are smaller. Jim cited Verel as an example of the new landscape – this is a company that makes drill bits for oil and gas, and will have 3x leverage. The price is good, and the deal has full covenants. Lehman is also participating in an add-on facility for TRW, which they may split with JPM. He expects the large deals to come back, but not in the size they were before – probably more in the 3-4b range. In addition, there will probably be more robust MACs and covenants like minimum EBITDA. We briefly discussed Hilton, and Jim feels that if they had to price it as a HY loan (as opposed to a CMBS deal) they could probably place it, although he did mention that in the HY loan space, investors tend to get nervous as you move further away from the actual asset.

- In terms of what would change his attitude, Jim said that a big default could prove very problematic, as it could give the new investors entering the space pause and dry up this "new" wave of liquidity.

Mortgages (Jeff Goodman)

- Securitizations are still continuing in the Alt A and jumbo space – Lehman moved $2.9 billion last month. That said, last month Aurora only had $700 million of production, off a peak of $6 billion a run rate around $3.5-$4 billion. Jeff described this sort of run rate as "paying an option premium" in that they are keeping Aurora "overstaffed" in order to be ready to pick up origination when prudent. They have been purchasing some loans, sometimes on an opportunistic basis (e.g. purchases of American Home product out of an auction.
- Lehman has not done a subprime deal in 3 months
- Liquidity is back in the AAA space, and spreads have tightened (from 100 to 90 for Alt-As). The rest of the structure is a bit wider, and Jeff noted that the ABX 07 index has been taking some hits.
- Jeff noted that Lehman still has a warehouse line for Resmae, which was bought by Citadel, and that this line is "getting hammered." They do around $40-50 million of origination a month (I think subprime). There is $50 million of collateral against this line – I think that Lehman actually writes the loans and then transfers the risk to Citadel through a TRS because Citadel might not be able to write the actual loan? We might want to follow up on this – it was the first I'd heard of this arrangement.
- Jeff mentioned that CDOs might hit triggers with rating agency downgrades and be forced to turn off the faucets.
- MLEC – No one seemed very excited to talk about this – seems like discussions are being held among a relatively select group. Jeff just noted that there was a good deal of uncertainty around determining "market price."
- European Residential Mortgages (from the firmwide risk packet). This market has been trading off, and Lehman took a $37 million charge on the end of September on UK nonconforming positions (in the UK, non-conforming consists of 50/50 subprime and near-prime) – these write-offs were in addition to a $93 million writedown taken across the Europe book in August. In total, Lehman has $9 billion of exposure in Europe, primarily through whole loans but also through secondary RMBS bonds and residuals. Most of this is from the UK, with Dutch and Italian mortgages also in the mix. Lehman thinks that this is a liquidity story as fundamentals are still strong, but said that there is concern that the UK nonconforming market could have a US subprime-like deterioration. Again, it's hard to hedge in this market given the lack of an ABX-comparable index in the UK.

Backtesting

- We didn't really cover backtesting in great detail this month, but there was one equity division exception driven by a big move pre-Fed rate cut, when the desk was short vega.

Stress Test Report

- Lehman added a new stress, called the Credit Crunch which is essentially Summer 07. Currently, the loss for this scenario is at $4 billion. In addition to mortgages declining, EMG credit spreads gap, FX carry trades unwind, and demand for energy declines. Again, I'm not really sure what they do with the scenarios, particularly as they continue to add them (now up to 14). I asked Jeff about this, and he said that they wanted a scenario that captured these types of moves, but I'm not sure for what purpose as it's not clear the scenarios generate much internal risk discussion.

FOR THE MEMO