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FCIC memo of staff interview with Murray Barnes, Citigroup

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MEMORANDUM FOR THE RECORD

Event: Interview with Murray Barnes, former Managing Director of Independent Risk at Citigroup, oversight included CDO desk

Type of Event: Group interview

Date of Event: March 2, 2010 at 9:05 a.m.

Team Leader: Brad Bondi

Location: 1285 Avenue of the Americas, New York, NY; Paul Weiss conference room

Participants - Non-Commission:

- Murray Barnes, former Citigroup employee
- Susanna Buergel, Paul Weiss
- Philip Kopczynski, Paul Weiss

Participants - Commission:

- Brad Bondi
- Donna Norman
- Karen Dubas

Summary of the Interview or Submission:

This MFR is a paraphrasing of the dialogue and should not be quoted as a transcript.

BONDI: [Gives standard introduction about creation and purpose of commission, explains 18 U.S.C. 1001].

What is your full name and current position?

BARNES: Murray C. Barnes. I'm currently between roles. I left Citi on February 19, 2010, and I'm due to start employment with Barclay's Capital on March 15, 2010.

I started with Citi in November 1987 in the UK. My first title was more of a clerical role; I was a funding analyst. It primarily dealt with funding positions that Citicorp held for its own account. I was responsible for financing that bond inventory as efficiently as possible. To the extent that Citi was holding these bonds on its own books, it needed to be able to fund them. It would fund them through cash or reverse repo agreements. I was in that role for 3-4 years.

In my next role I worked in a group that was part of operations—a middle office function—doing P&L and reporting for an equity part of the business. I did fairly rudimentary risk aggregation and reporting for the business that traded stock. That was based in London.

BONDI: Was that part of the investment bank or the broker dealer?

BARNES: It was Citicorp Investment Bank Ltd., an international investment bank unit. That was until September 1993.

Then I worked within Citi Treasury, which spoke to my bond financing skills. That role involved assessing funding and liquidity and various risk attributes of a typical treasury unit within the investment bank. It covered businesses run out of Europe. I was in that role until April 1996.

The next role I joined was in the Corporate Treasury function in New York, looking at all aspects of funding, liquidity, and capital management. I was in that role until late 1999.

That's when—post Citicorp and Travelers merger—I joined the investment bank's independent risk management group. My initial focus was the emerging market business, and over the course of the next six years, I covered emerging markets more extensively, having more oversight over Latin America. I also covered the global commodities business, and in 2005 I was given responsibility for global oversight for all of the credit trading businesses within the corporate investment bank, which was the role I retained until I left Citi last month.

My officer title was Managing Director, which I was promoted to in December 2004. The business's coverage was the syndication business (underwriting of corporate and emerging market sovereign debt), the coverage of corporate debt and swaps, oversight of short-term trading (market making and acting as agent for commercial paper issued by corporations and SIVs), the Global Structured Credit Products group (CDOs, credit correlation, and other types of exotic credit derivatives, including credit default swaptions, credit contingent default swaps, extinguishing swaps, etc).

BONDI: Were the purpose of these exotic credit derivatives to make revenue or to reduce or hedge risk?

BARNES: A combination of both. In one capacity, Citi was an active market maker in some of these products and was looking to originate transactions and match borrowers effectively with investors who were looking to hedge risks inherent in their portfolios. Citi also actively used a number of these products to mitigate risks that existed within the overall portfolio.

BONDI: What's your educational background?

BARNES: I have an MBA from Columbia in 2000, and I didn't graduate from university in the UK.

BONDI: In your role in the GSCP business, was your role as independent risk manager, or were you in the business function?

BARNES: The group was independent of the business that I was providing coverage for. My reporting line was that I reported up to the head of market risk management, which was Ellen "Bebe" Duke of the corporate investment bank. Bebe was co-head of risk management for the corporate investment bank, and she reported up into the CRO of the corporate investment group, which was David Bushnell. Bushnell reported into the CEO. There was a time when the head of Citi Investment Bank (CIB) risk reported into the head of the CIB as well. That would have been in the early 2000s.

BUERGEL: That would have been the Bebe position reporting to the Maheras position, but neither of them were there at the time.

BARNES: I was independent and my compensation was not determined by the business, but we were partners with the business and it was risk management that ultimately determined the parameters of the business. I viewed myself as a peer to the heads of the global markets—Chad Leat and Mark Watson. Their successors weren't appointed until 2008.

[Mentioned the name Carey Lathrop]

BONDI: Did that peer relationship continue?

BARNES: Absolutely. They also had a number of "directs" covering the different businesses globally. I interacted with their directs on a day-to-day basis. We had full access to all levels of the business. It was part of our role to understand the business's strategy and its direction of new products. We had a very dynamic limit setting process, which involved significant interaction with the business on a day-to-day basis.

BONDI: You described your role as involving credit default swaps, short-term trading with commercial paper, etc. Did you have persons underneath you assigned to each area?

BARNES: I had a team of twelve people who were covering the businesses that I had global oversight for. Not all of them were solely dedicated to the credit trading business. I had two people in Asia, for example, who also covered the equities business locally in Hong Kong. I would work with my counterpart who had oversight for the equities business to make sure that we were adequately staffed and that we weren't competing for resources. That was the case across the globe.

BONDI: Who covered CDOs?

BARNES: In 2005, the CDO business was supported by Paul Mira. He was an experienced risk manager and a director. He covered a number of other businesses in addition to the CDOs, but he spent the bulk of his time assessing the CDOs. Paul left the firm in 2008, and he was replaced by Shahed Shafi.

2005 was the first time that I had direct oversight of the credit markets business. My predecessor was Fernando Botargues. I transferred in July 2005 to this position.

BONDI: Did that twelve people size ever change?

BARNES: Not materially.

BONDI: Did the models that you used change over time?

BARNES: Valuation and risk models? Generally, the model process is quite dynamic. We have an annual review process that forced us to rethink some market-related assumptions. For certain products, those models haven't changed for a decade or more, and for other products, those models have changed dramatically.

BONDI: Prior to June 2007, were there any fundamental changes to the models for the CDO business?

BARNES: I would split the CDO business—are we talking about CDOs backed by RMBS or backed by corporate?

BONDI: Thank you for the clarification. As we go, please simplify and clarify if you can. Let's talk about CDOs that were backed by or related to residential mortgages.

BARNES: In some respects, no. For more traditional cash CDOs, which were marketed as deals where the issuer of the CDO issued debt and equity and used the proceeds to buy capital at the manager's discretion, the models used to value and measure risk did not change materially.

For CDOs backed by synthetic assets—credit default swaps referencing RMBS—we went through a process of refinement without necessarily having material change. That was due to the fact that in 2005, that market was almost non-existent, whereas in 2007, that market had grown substantially. With the amount of exposure that Citi had, the modeling was refined over time.

BONDI: What is the correlation desk?

BARNES: The correlation desk generally refers to corporate credit correlation, which is CDO tranches backed by single name corporate CDS. A number of firms did have an ABS correlation desk where the correlation desk used similar models and CDO technology and used modeling techniques to assign value and risk to each tranche.

BUERGEL: To be clear, the cash CDO desk in New York also used synthetic elements and credit default swaps to structure their deals.

BARNES: All CDOs started out as fully funded, but then the CDO and equity structure would be used to fully finance that structure. With the advent on credit default swaps on ABS, deals became more of a hybrid between cash and synthetic deals. Because they were referencing derivatives, which did not require an initial exchange of principal, they were viewed as more attractive, but they essentially just increased the leverage in the deal. The amount of new issuance RMBS was limited, and one of the benefits of having a synthetic portion in a CDO is that in theory you could ramp the CDO more quickly than actually having to acquire the RMBS yourself.

One of the advantages of derivatives is that I could have five dealers who would be willing to buy protection from me on the same security, but they wouldn't have to source the security themselves. You can build a CDO substantially more quickly because you wouldn't have to wait for new issuances to come out and bid on those securities—that would take time to actually build up a $500 million deal. As a CDO manager, you could go to dealers and put out an "Offers Wanted" list, and you don't need the security, but you need someone who would offer protection on them.

BWIC = Bid Wanted In Competition. OWIC = Offers Wanted in Competition.

Once these securities are bought, people generally hold onto them. The credit default swaps on RMBS market created much greater opportunity to source these securities more quickly. It would be done on a portfolio perspective—you wouldn't be looking at each individual security. The advent of credit default swaps on RMBS increased the opportunity for CDO managers to ramp up deals more quickly.

BONDI: Was the advent of these hybrid CDOs driven by more demand for CDOs, or was it the drop in supply of RMBS?

BARNES: This is a little of the chicken and the egg. Certainly the CDO market in 2006 had considerable demand from CDO investors, which also included other CDOs, from equity up to senior. That created the demand for the underlying RMBS, either to buy physically or reference synthetically. That allowed the banks to originate more loans, because the broker dealers wanted to securitize more loans, and that allowed mortgage brokers to expand the base that they gave loans to.

As soon as the CDO market stopped, that had a domino effect up the supply chain, and that was one factor that exaggerated the effects that culminated in the crisis.

BONDI: You mentioned that this allowed you to do these deals more quickly. Did the hybrid deals grow because the demand for the product and the limited availability of RMBS?

BARNES: It was a limited availability of RMBS of sufficient size to meet the issuance.

BONDI: Convenience?

BARNES: What initiated a CDO was a manager who was looking to put some equity and assets under management into a whole deal. Before the CDO was issued, those managers didn't have the ability to ramp the portfolio themselves. They would look to the underwriter (Citi) to provide the financing. They would identify the assets, and Citi would ramp up this warehouse. Citi would have lots of warehouses in different phases (they took three to nine months to be fully ramped) because sourcing the collateral was difficult, and the manager would want to buy in an orderly manner without causing the market to overheat. Maybe at 70% ramp (70% of final issue of $500 million), Citi would start to market the deal. They would have been in discussion with rating agencies about the deal and would know how they wanted to structure it. You would eventually sign the warehouse agreement with the manager to actually print that deal.

Throughout that time, the business is doing a temperature check to see what investors want, and it can adjust pricing as it needs to. That warehouse risk was a real risk to Citi. The convenience of ramping these synthetically with CDS is that it shortened the warehousing period and reduced the risk horizon. On the risk side, that was actually preferable.

BONDI: Is warehouse risk equivalent to inventory risk, essentially?

BARNES: It is. It's inventory, collateral, securities, etc. Citi took mark-to-market risk, because the fair value of these securities can change from day to day. The goal was to successfully price the CDO, the collateral would be sold onto the Special Purpose Entity (SPE), and the SPE would issue notes to Citi to pay for warehousing these securities.

BONDI: To the extent that Citi held tranches of the deal, where were those held?

BARNES: It was held at the investment bank. The SPE was an operating company that has assets, and the cash flows from those securities were used to pay coupons and the fees, and the excess returns were paid to the equity investors.

If Citi was not able to sell any of the deal, all of those CDO securities were held on Citi's books, and Citi would be on the hook for that risk. All of the equity would be taken by the manager to demonstrate an alignment of interest between the manager, who would assume the first loss position, and the investors who sit atop that equity. The aim was to distribute all of the senior risk on down. The equity was viewed as the most risky because it was in the first loss position, and the most senior piece was viewed as the least risky because of its credit enhancement.

There were times when independent risk concluded that there was sufficient demand for Citi to price the deal and to sell the tranches, and Citi would continue to market them until they were sold.

The manager was an alternative asset manager, like TCW, Credit Suisse Alternative Capital, etc. Citi basically played an underwriting role. Citi would commit to make a market to buy back that debt from investors in order to protect its CDO origination. If all of the risk has been sold, then Citi has no more role other than the commitment to continue to make secondary markets. The manager's incentive to make the transaction is the fees associated with the transaction, but in order to align their interests with the debt holder, they would have to buy the equity.

BONDI: Was Citi ever the manager in CDO deals?

BARNES: Not in any deals that we underwrote. It could have happened in Citi Alternative Investments, but I'm not sure.

BUERGEL: I don't believe that happened.

BONDI: Citi structures the deal, serves as an underwriter of the deal, transfers the collateral to a SPE, and another entity serves as a manager and retains the equity to show that they have skin in the game. What's not sold, such as a super-senior tranche, would come back to Citi as the result of an arrangement with the manager?

BARNES: Correct. There may be residuals of senior pieces, not necessarily super senior, that Citi would retain if they were not sold. Citi had strict limits on warehousing, on syndicate limits. They were also trading limits on CDOs that Citi had underwritten when investors were looking to sell them back. Citi was an active market maker in the secondary market post-securitization. There was an active market in the super senior because the risk of principal loss was viewed as extremely remote because of its "better than AAA" rating.

BONDI: What is the secondary market?

BARNES: It's more of an attempt to resell tranches that have been bought back on a previous deal. There may be a deal done in 2005, and it's now 2007. Say there is a Dutch pension fund that has a certain amount of capital that it will allocate to CDOs. It may want a newer CDO, and it would come to us and ask us what our price would be for a 2005 vintage of a CDO. We would offer a price, buy it, and look to sell it again.

BUERGEL: It's essentially a trading desk.

BARNES: The CDO market was the least liquid. The investor will most likely go back to the underwriter to buy back the deal because they will understand it best. There's an understanding that Citi will make markets in the CDOs that it underwrites.

Citi is trying to protect the CDO franchise. If Citi refused to buy anything back, it would be difficult to get investors to buy new issues. It was a soft commitment; there was no legal commitment to buy back the tranches. There was an understanding that PIMCO is not going to buy new issue CDOs from us unless it believes that it will get a fair price from us if it needs to sell them back to us.

BONDI: What type of risk is associated with this?

BARNES: It may be issued at par, and I agree to buy it back from PIMCO at 85. I would issue a BWIC, and the best price I can get it at is 75, so I would lose 10 points. That's the downside risk.

Certainly, in hindsight, that extended the life of the market and in my opinion, exaggerated the effects of the price action on the CDOs. CDO managers were willing to source any type of collateral, and if they couldn't source RMBS directly, then there could be a CDO-bucket portion of the CDO that might be able to be 15% of the product (this is for CDO-squared). The demand for mezzanine and senior mezzanine tranches was coming increasingly from other CDOs rather than end investors. That was a shift in 2006 and 2007.

CDO squareds that had CDO buckets increasingly became the buyer of CDOs rather than end investors.

BONDI: What did that mean for the market and the crisis?

BARNES: Had CDOs not been permitted in other CDOs, then demand for mezzanine and senior mezzanine CDOs wouldn't have been there, so pricing would have been adjusted, and that pricing would have affected spreads on RMBS, which would have adjusted rates on mortgages themselves. There are a number of degrees of separation.

All of the dealers on the CDOs, the piece that they wanted to have a commitment on was the equity, and the second focus was on the next most risky tranche. They would "circle" them with a soft commitment as opposed to a legally binding commitment. You would have a soft commitment from an investor while the deal was being structured that they would buy something if the market didn't dramatically change.

BONDI: So the CDO squared pushed the demand for CDOs?

BARNES: It extended the demand. Had the rating agencies said that you can't have CDOs in other CDOs, or if you do, that you need to raise the level of subordination, that would have caused a slowdown in the market more quickly, but I can't say whether that would have affected the crisis.

If you extend that chain of logic and if there was no CDO market, the RMBS market would have been a fraction of what it is, and the subprime market would have been a fraction of what it is, etc. If I have toxic, bottom of the barrel stuff, I can't resecuritize it indefinitely—that's a misconception. If the CDO market didn't exist, the securitization market would have been smaller, and it would have been much more difficult for subprime borrowers to get loans.

If the GSEs hadn't existed, it would have had the same effect. I'm not opining about whether these were the causes of the crisis.

BONDI: You mentioned this advent of the CDO-squared market. What was Citi's role in CDO-squared? I've seen charts that say that Citi was the number one issuer of CDOs in 2007.

BARNES: The CDO squared market was much smaller than the ABS CDO market. That number that you quoted probably included CLOs, which are much different. CLOs don't have retrenching. As a CLO investor, you actually have a senior claim on the ___.

CDO squareds were not a material driver of revenue to my recollection. Citi was involved in underwriting some CDO squareds, but the losses associated with any retention of those was nonmaterial relative to liquidity puts. I've never seen a league table on CDO squareds.

The ABS CDO space was dominated by a handful of underwriters. Our main competitors were UBS and Merrill Lynch. I've never seen a breakout of CLOs versus ABS CDOs versus CDO squareds.

BONDI: Were the majority of CDOs the ABS CDOs where the underlying collateral was RMBS in 2007?

BARNES: I don't recall exactly or approximately. More than 50% were ABS CDOs that had underlying collateral that is RMBS with some subprime in it.

BUERGEL: The 10Ks and 10Qs have information on this, and we gave you charts on this yesterday.

BONDI: What did "extending the demand" mean for risk generally and risk to Citi?

BARNES: I think that ultimately, because of this apparent demand, it enabled Citi to increase the amount of warehousing risk that it was running. There was an assumption or complacency that our past ability to distribute risk would continue. Some of the losses that Citi took were related to unsold warehouses; we only had a certain amount of first loss protection from the manager and we had to shoulder the rest.

The market stopped so abruptly that all of the sudden there were not buyers at any price. All of these assets were priced at fair value. The market was spooked. That was the second weekend of July in 2007. It coincided with the two funds at Bear Stearns having problems with retrenching ABS CDOs.

BONDI: Did you see anything at the time that would have been warning signs about the demand being extended?

BARNES: The linkage between demand is my perspective and opinion, it's indirect. Not all of our RMBS ended up in investor hands—they ended up in CDOs. If that demand had stopped in early 2007 or 2006, perhaps the magnitude of the shock would have been less abrupt. I don't know whether that would have had any difference in the outcome with house prices or the market.

If my memory serves me correctly, we were seeing more signs of pressure in terms of the spreads being demanded by investors. The speed in which deals were being ramped increased, and the unsold inventory that was being held on the books. Warehouse lines and limits were being increased in early 2007.

Warehouse lines are the limits on the warehouses where collateral is kept during the ramping. Risk was of the opinion that the widening spreads created an opportunity, because it enabled the increased spread to be divided among the tranches, which would make the tranches more attractive to investors. Independent Risk approved high warehouse limits to take advantage of this. In hindsight, rather than looking at that as an opportunity, we should have reassessed our assumptions and whether that was a sign of the RMBS market showing strains.

We approved the higher warehouse limits in late first quarter or early second quarter 2007. There was a request coming from the business—Nestor Dominguez and Michael Raynes—and that would have come through Paul Mira, myself, and Bebe Duke. I believe that decision would have resided with her and would not have gone further.

BONDI: That was a business opportunity to increase the warehouse limits?

BARNES: Yes.

BONDI: And that was a mistake?

BARNES: To the extent that we took losses on those positions in third and fourth quarter because the market froze and we couldn’t sell those positions, yes that was a mistake.

BONDI: What was the size of those losses?

BARNES: Certainly less than $5 billion, and probably less than $3 billion, but I’m not sure. We didn’t really distinguish the warehouses from the unsold tranches because neither were going anywhere. The business was taking hedges to try to mitigate the risks.

BONDI: Why was the business mitigating the risks instead of the risk team?

BARNES: The way that risks were managed at Citi, the business was ultimately responsible for risk-taking decisions. The role of independent risk management was to put in place parameters for the business to operate within while still allowing it to meet its overall growth strategies. If risk management was concerned about risk concentration, we would have a discussion about it, and we had the ability to lower limits. In July 2007 that was a futile exercise, because the market wasn’t there to take action to get within lower limits. The limits framework wasn’t an effective way to control the business.

Effectively, Risk Management, through our approval of increasing warehouse limits, we endorsed the business's strategy, which was a riskier strategy. That was probably in March or April.

BONDI: Was there anyone who expressed concern about that decision?

BARNES: Michael Raynes and Nestor Dominguez were implicitly approving it by requesting the increase. We had discussions, and everyone involved in the approval process would have been myself, Paul Mira, and Nestor Dominguez. I can't recall whether Michael Raynes was involved in that, but he certainly endorsed the strategy. Bebe wasn't directly involved in those conversations, but I briefed her on the strategy and the downside risks involved. In hindsight, we relied too much on the business's past performance and its ability to print deals.

BONDI: How did you estimate the downside risk?

BARNES: There are a set of guidelines about how limits are calculated, and that process had a dependency on the ratings of the RMBS and historical price behavior. The purpose wasn't to size the loss in terms of "what's the worst imaginable," but in an expected stress event, we wanted to see what the loss would look like.

The way the process worked was that there was a limits system that has a template for a temporary exception for a change to the limits. That warehouse limit increase was a temporary exception for no more than 90 days.

BONDI: Was that extended?

BARNES: By the end of 90 days, the market had exploded, and we were focused on trying to address that.

BONDI: Why didn't you decrease the limit?

BARNES: That would have certainly made me look better in hindsight, because it would have sent a very clear message that I was uncomfortable with the risk. We—Bebe and myself and my team—agreed that it wouldn't have been useful to do that, because if the business does not have any ability to get within that limit, lowering the limit would have just been highlighting that problem.

At the time of the crisis, the CRO wasn't asking was whether they were in excess of their limits. The limits are for day-to-day operations. I don't think it would have been useful to cut limits to zero, because the focus was to reduce risk wherever possible, and we were discussing how to best do that. Cutting limits just to send a message to someone was not an effective use of anyone's time.

BONDI: What were the limits before, and what were they raised to?

[Break at 10:40 until 10:50]

CITI-FCIC 0091499-00091500. Explanation of limits.

BARNES: This is a limit deck for the entire investment bank. Citi had an annual limit review; this was in December, and the format was consistent across businesses. This is the one-pager. These are just the key limits in some cases—the ones that are the most relevant. It also covers what P&L impact would be from some kind of stress move. It shows what the permitted products are and a description of how risk management arrived at the stress loss estimate. A number of factors are included in this framework, and not all move simultaneously or are correlated. This page 499 is a summary of the key limits for the cash CDO business in the U.S.

BONDI: Who created this document?

BARNES: Primarily Paul Mira, but I was also involved. It was our process.

It shows what limits were in place in January 2006 and the changes in December 2006, and the stressed P&L impact and how many months of 2007 budget (P&L) would be at risk.

BONDI: Where can I find the assumptions that went into that stressed impact?

BARNES: That would have been in the work going up to this that we would have discussed. This limits book is about 2000 pages, and the limits document isn't intended to be a bible of all of the assumptions that went into this.

The assumptions would have been in a file on a common drive that my team would have had access to.

BONDI: What would that have been called?

BARNES: It would most likely be in a separate worksheet to this one-page summary. In a lot of cases, these were proxied from a corresponding corporate spread or price move, because the CDO market didn't have the prices moves for this. Historically, and this is a big caveat, the CDO market didn't have the fluctuations in price that the corporate markets had. This was a flawed assumption.

The first limit description is DV01. That's the dollar value of a basis point movement in interest rates. The unit of measure is $1000 per basis points. So the business has a DV0 measure of $300,000 per basis point. So a unit cannot have an exposure that's greater than $300,000 per basis point. We assumed that the risk horizon was very short because there are a number of actions that you can take to hedge that interest rate risk. We define a stress move with a 99% confidence level.

BONDI: So the “stressed market move P&L impact” assumes that there would be a downturn in the market, and identifies what the P&L impact on Citi would be?

BARNES: Correct, it shows the impact to a 99% confidence level. It’s hardest to calculate for the CDO market because it’s not as frequently traded as other markets.

BONDI: So if it moves by a certain amount in five days, it will cost Citi $11 million?

BARNES: We would go back in time for as long as we have reliable data and say that over a five-day risk horizon, let me look at what the worst five-day decrease has been, and then look at the 99th percentile. So in 99 times out of 100, the move would be within 35 basis points.

It’s regrettable that this is all based on historical prices. There are only ten years of history, and secondary prices are not readily available. There’s only a limited amount of information available for the primary market. If I priced a deal three years ago on an AA piece, is that really comparable to the AA piece that I priced yesterday? Because the market and the industry didn’t have a mechanism to improve pricing transparency in CDOs, the only information we had was the information that Citi was underwriting.

BONDI: So this wasn’t even market data, it was Citi data?

BARNES: Correct.

BONDI: The limitations that you describe on historical data, that was known when you made these stress impact revenue assumptions? Why didn’t you use something other than historical assumptions? Why didn’t you have assumptions if the market drops by 50%, 75%, etc.?

BARNES: I think that over the years, risk management in the industry has looked at different ways of measuring risk. You can use value at risk, etc. VAR was found to be wanting more than a decade ago with the LCTM crisis, and the hedge fund industry was too reliant on VAR and had a shortage of capital. Our attempt to size the downside through stress testing was an attempt to enhance the VAR framework. VAR is meaningful for continuously traded markets, but for super-senior tranches of CDOs where there is no price volatility whatsoever, your VAR is zero. They are always priced at similar levels. If you look at the price levels of the super senior through the second quarter of 2007, they are still priced at cost. They didn’t start to fall until the third quarter of 2007.

BONDI: VAR has limitations in an illiquid market?

BARNES: Correct. For super senior, instead of saying “what’s my exposure to super senior moving by a basis point?” we set the super senior to the notational. If you spoke to anyone in the industry and asked what the limit was for the U.S. business, which was $30 billion, no one thought that there would be that risk. We were overly reliant on the rating agencies, where they rated the tranches below the super senior. We looked at the monolines and where they were willing to be paid a premium, and we concluded that the likelihood of loss was minimal.

The ratings migrations on super senior were more stable than for AAA corporate. The spread histories demanded by the marketplace was less volatile than it was for corporate. As a result, we believed that using corporate moves was a more conservative analysis than using some sort of fictitious data.

BONDI: Underlying corporate debt is individual corporate bonds. Underlying CDOs are BBB securities, subprime mortgages, or other CDOs. How is that comparable?

BARNES: The underlying markets are not comparable. The equalization and the means of getting to a consistency for a comparison were the levels at which transactions were being done (market knowledge) and the rating agencies (despite the fact that it was for a pool of subprime mortgages). This had stood the test of time, albeit securitization's short life.

I think the problem with historical prices was born out with a number of asset classes, including CDOs. If you look at history, auction rate securities had been around for more than a decade and functioned normally. But once the confidence in the market evaporated, it was all over.

BONDI: Looking at the "Super Senior Net" and "Super Senior Gross" and the "Stressed Impact…", a 3.5 basis point movement on a $30 billion would cause a $42 million loss to Citi?

BARNES: Correct, at a 99% confidence level.

Total CDO losses were about $30 billion, but that includes CLOs.

BONDI: Super-senior losses?

BARNES: About $20 billion.

BUERGEL: About $7-8 billion could be attributable to super-senior losses in London. About $13 billion could be attributable to New York. Those are writedowns, and you're asking about losses, just to clarify.

BONDI: But can't you compare the $42 million that you predicted and the $20 billion that you lost?

BARNES: The critical thing here is that what just happened is not a one in a hundred month event. This wasn't a "what is my maximum downside stress?" prediction. 99 times out of 100, this book lost less than $42 million. But this 1 time out of 100 or 1000 or 10,000, this book lost close to its notional amount. And that's why we put those notional limits into place.

If I told someone that we have a $30 billion portfolio and it's possible that we could lose $18 billion, that would have been an Armageddon scenario. I wouldn't have been able to say that was a true worst case, because nothing like this has ever happened in my lifetime. If you have $100 billion in exposure, that's your exposure at risk. It's not a measure of risk, because that's an expectation of loss.

Super senior was surreal, almost, because it didn't trade, and the only ability to hedge this exposure was through the monolines. The reality is that if you're taking losses on the super senior, the monolines clearly don't have the ability or the capital to cover those losses for you. That's why the business was not a bit user of those monolines until 2007. Our limits framework was based around stresses to a high confidence level, but not the stress of a perfect storm

BONDI: I see. But everyone knew what the exposure was?

BARNES: Super senior exposure used to be $40 billion when I came in 2005. Even before I came into that role, I knew about the $40 billion in super-senior exposure, but it was and it is difficult to dimension. The only benefit that we have is through the price action that we've seen and the more sophisticated modeling techniques that we now have.

Take the liquidity puts, which made up about $25 billion of the super-senior exposure in the U.S. Those deals were originated in 2003 through early 2006. None of those deals were marketed as subprime deals. Over time, those CDO managers have the ability to reinvest mortgages that are paid down into new collateral that meet certain performance criteria. There was a period of time when people were paying down their mortgages or refinancing, and that meant that cash went to the CDO, and it was reinvested in new RMBS. The proportion of subprime in the liquidity puts (retained by Citi and referenced in those pools) increased from 2003 to 2007.

It's hard to know if a CDO is subprime. For a CDO that has 35% subprime RMBS, is that subprime or is that just ABS CDO? If there's a 15% CDO bucket, you have to look through their collateral to see what their subprime exposure is. That's a tool that we didn't have, and that I don't think anyone in the industry had, to drill down on the CDO pools. That's a tool that we've since developed.

As a super-senior holder of a CDO with 15% subprime, I don't really have subprime exposure. The tranches beneath me have subprime exposure. One problem with the industry is that we didn't have the ability to drill down and see the vintage, the product type, and the mortgage pool that's referenced (FICO, geography, LTVs). We relied on the fact that the underlying RMBS had to meet certain diversification standards—that was relying on the rating agencies—and then relying on the fact that the CDOs themselves had to meet standards of diversification as well. It wasn't until the second half of 2007 that it became evident that the correlation of all of these assets was not diversifying. It was the opposite.

BONDI: Did any of your competitors have the tools in 2006 that you have since developed and are using now.

BARNES: There is an industry vendor called Intex that is the most commonly used tool. It gets information from the trustees that are overseeing the portfolio, who get information from the underlying securities. That information has been available for a number of years, but it lacked information down to the underlying loan data.

There is a direct competitor to Intex called LoanPerformance that does provide information on FICO scores, etc. In the CDO space, we were not really relying on that.

BONDI: The LoanPerfomance information was available in the marketplace in 2006 but you didn't use it?

BARNES: It was available at the RMBS level, and then you had to replicate it for all of the RMBS securities. There was no comparable information on CMBS.

Getting all of that information on the underlying collateral of a CDO—Citi was not equipped to do that. I'm sure that if someone in the industry was able to do that, it would have been sold as a competing technology, because it would have been very profitable

BONDI: What has since become available to Citi, and what does Citi use in valuing and evaluating risk?

BARNES: The Quantitative Research Group, which is now run by Mary Kane, the head of securitized research, developed a proprietary tool. Suni Harford was the head of this group in 2007. Back in 2007, when it became apparent that we lacked the tools to drill down to the underlying collateral, someone on her team worked on a model for this. It was Lakhbir Hayre, who had previously developed 36 CFR 1256.52 Commercial Info

BONDI: When did Mr. Hayre get involved in creating this model for CDOs?

BARNES: I think it was early in the third quarter of 2007. Up until then, the business had been marking the super seniors at par. There was a meeting of the business to discuss some of the exposures, the valuation issues, and the challenges with valuing the unsold warehouse assets. At that point there was an agreement that in the absence of observable market prices, some proprietary model needed to be developed to model the prices of the super senior. This was probably in August right after the market froze. There was increased focus on the possibility that the super senior could be a loss phenomenon.

This model has gone through an independent validation process, which involves an assessment of the fundamental mathematics of the model. This was done by an independent risk management group with highly qualified quants who had advanced PhDs in pure mathematics.

BONDI: CITI-FCIC E 00724966

BARNES: Eduardo Epperlein was the head of the model group; John Gerspach was the Citi controller; Una was Bebe's assistant.

BONDI: "We need to have a call ASAP…" November 1, 2007. Is this the CDO model that we've been describing?

BARNES: Yes. This is why I used the term evolution. Originally the super senior was marked at par. The reference was that if I had a super-senior deal, and how do I compare it to all of the deals before it—there was no suggestion that it should be anything but par.

When it became clear that we were unable to sell some of these positions at cost, the business risk team tried to develop some tools to put a price on these positions. Through the third quarter, the model wasn't formally used to actually value the positions. In October, as the market deteriorated further, and the expectations for further home price declines increased, the decision was made to re-mark all of the super-senior positions, and that led to the significant write down of the super senior. That led to the 8K with the $8-10 billion anticipated write down on November 4, 2007.

There was a time when there was a general consensus, throughout 2007, that the super seniors were not subprime. It was thought that subprime signified a direct link to subprime or backing by subprime. There were discussions about whether it should be called subprime backing or partial subprime exposure. These were large calls about this. I participated in some of them, but I was never really involved in the discussion about how or if to disclose this.

People who participated in the calls would have been Cliff Verron, the CFO of the investment bank; Joanne Williams, the CFO of Global Fixed Income; Janice Warne; and Michael Raynes.

BONDI: Were Tom Maheras, Gary Crittenden, or David Bushnell involved?

BARNES: I don't recall Maheras or Crittenden. I was speaking with Bushnell daily.

I was not involved in the decision to formally adopt this proprietary model to mark the books. This email from Bebe came about because when this decision was made to use this model—I believe this was made by Business and Finance—and I think Bebe said that if you're using this model as official valuation, it needs to go through a formal valuation process independent of the group (Mr. Hayre and another quant, Rahul Parulekar) that created the model.

BONDI: Why is independent valuation important for a model?

BARNES: If you hold a Treasury position where you can see the price on Bloomberg, you don't need a model to see what your P&L is. With information that is directly observable, you can derive all of the relevant risk measures from it. Where there is no observation or verification in the marketplace, and you're using a combination of inputs that you can observe and mathematics and assumptions, there is a need for testing these assumptions and implementations to make sure that they are vetted. All of these things have to go through a vetting process to demonstrate that a trader is not inputting whatever he wants into this model.

BUERGEL: There is a robust description of the model in the Qs and Ks, and it continues to evolve through the years; it's a living and breathing thing.

BARNES: Getting to a level of comfort around the use of that model has been one of the biggest challenges. Bebe's email here was to reinforce to the finance people that if we're using it as a tool to do comparison, we don't need it to go through the valuation process, but if it's being used as formal model then we need to go through a formal process.

BONDI: What does MVG refer to?

BARNES: Model Valuation Group.

BONDI: What about MRM?

BARNES: Market Risk Management, which was my group.

BONDI: Let's talk about CITI-FCIC E 00725149, an email to Bebe Duke.

BARNES: That Sunday was significant because we were about to come out with an 8K that coincided with Chuck Prince's departure. In previous Qs and Ks, Citi had made some disclosure that models had gone through an independent valuation process. We wanted to disclose that the model that was used for these significant write downs had not gone through this valuation process, and there was significant pushback on this.

BONDI: Did you write this summary?

BARNES: Yes.

[Susanna Buergel leaves temporarily. Michael Berger enters.]

BONDI: "It is MRM's opinion that the model should be used as a decision making tool rather than as a formal pricing tool…" What do you mean by that?

BARNES: In the brief time that we had to assess that model, it was evident that the model had a number of key assumptions that we did not have time to examine before we used it to write down the super seniors.

My aim through this wording was to reinforce the fact that using this model to officially value the positions of the inventory did not eliminate in any way the heightened amount of valuation uncertainty. What I did not want was for someone to get significant comfort that since there had been a valuation, that there was a high degree of confidence that this valuation was the right one.

BONDI: Did they heed your advice?

BARNES: I don't believe they did. They used this model for the valuations.

BONDI: Were there subsequent corrections?

BARNES: Yes. Some assumptions around the model were better described and the model has since gone through a number of changes, all for the better in my opinion. There are still too many assumptions that can't be independently verified because the market doesn't exist or lacks the necessary liquidity. As a result, when I left the company, the model had still not been given a full validation status. All models that had to go through validation had to go through a Level 1 validation, which was an initial test, and then depending on the importance of the model, it gets prioritized for a more robust valuation. This model was so overly reliant on those assumptions and inputs, that I did not feel like I could sign-off that the model could be relied upon. Dominic Wallace, my colleague in London, agreed with me.

While the model had been calibrated to market prices more comprehensively, there were still too many inputs which were critical to the output of the model that could not be adequately substantiated.

BONDI: What is the importance of valuation to risk management?

BARNES: These positions are still subject to fair value accounting standards. To the extent that changes in their fair values directly impact income immediately, we have to respect that. While risk management was not responsible for signing off on the integrity of the books of the firm—that rested with finance—some aspects of the valuation could be best assessed by risk management. It clearly could not be assessed by the business, and because the risk management group directly oversaw the trading, they were arguably better equipped to examine the inputs and assumptions than the finance organization.

BONDI: In managing risk, you have to know how much you have in order to properly manage it.

BARNES: The super senior is a great example of something where ultimately, when the losses were taken, almost brought the company under. The market had lost confidence with Citigroup. If it weren't for bailout funds…

Arguably Citigroup had the necessary book value to cover the losses, but ultimately there was a loss of confidence, and that's critical. From a risk standpoint, you have to know your starting point.

BONDI: Valuation is absolutely critical to a company and risk management?

BARNES: Totally.

[Break from 12:10 to 12:17]

NORMAN: What are bespoke trades?

BARNES: The term came out of London, and I believe the history is that it's customized or tailored for the investor. It's really a portfolio which is customized by the investor rather than determined by the manager. In credit correlation, they have tranches which reference standard indices, or you could go to the credit correlation desk and ask for a portfolio which includes specific things.

BONDI: Let's talk about CITI-FCIC 00091499.

BARNES: The $7.5 billion was not increased. The limit for the single As and the BBBs was increased. The original limit was $2 billion each.

BONDI: In the first quarter of 2007, were there any other increases?

BARNES: There was an increase in super senior from $30 to $35 billion. That's the amount of super senior that was retained by the business. It was increased because the number of deals that the business was underwriting was increased. The ability of the business to hedge that exposure became more limited. There was somewhat of a reluctance to use the monolines, and banks were more unwilling to enter into a transaction where they retained the super senior. This was a 90-day temporary extension.

BONDI: Was this a mistake?

BARNES: In hindsight, yes.

Bebe Duke would have made this decision to increase the super senior with the endorsement of Nestor Dominguez and Michael Raynes. This was probably in second quarter 2007, after the increase in A and BBB.

BONDI: Would you have done the same analysis?

BARNES: Yes, but again this was not the "true worst case" scenario. It was the 99% confidence interval. At the time, the common wisdom across the business side and in the industry acknowledged the risk of principal loss and mark-to-market, but because of the subordination beneath the super senior, these risks were perceived to be very low.

BONDI: Did anyone oppose or express reservations about the increase?

BARNES: When I came in 2005, the limit for super senior was around $40 billion, so it didn't really increase. The level of super senior had been relatively static for a number of years. If you look at the average and peak exposures around that limit, they are very close. It was a very structural limit. It was viewed as a complete out-of-the-money option that there could be a loss in the portfolio.

I do remember conversations and a meeting with business people early in the third quarter—in July or August of 2007—with Michael Raynes and Chad Leat. I and a colleague in London talked with Michael and Chad, who was Michael's boss. I expressed the concern that there was a possibility of principal losses. Back then, the focus was the unsold warehouses and retained super-senior positions.

Dominic Wallace was my colleague on the call, and he shared my concerns. He is still with Citi. Michael and Chad were surprised, but their immediate reaction was to take a look at it. If we had immediate concerns, they would investigate it. It ultimately led us down the path of trying to value the positions.

BONDI: You mentioned how you presented some adverse market stress test when the limits were increased on the warehouse; is that different than what's presented in 91499?

BARNES: No, it would have been the same. History suggests that the likelihood of that loss would go well beyond 99%.

BONDI: Was there an end of 2007 review of the limits?

BARNES: No.

BONDI: How could I find how they changed in 2007?

BARNES: Any changes would have been logged into this web-based limit system.

BONDI: We'd like to find how the limits changed.

BARNES: I know that there were formal approvals from Bebe for those exceptions. That would have been via email.

BONDI: Were there any other increases with respect to CDOs in 2007?

BARNES: I don't recall any. There was a point later in 2007 where effectively this business was not in a business-as-usual mode, so the limits framework was no longer the control on what this business was doing. The business was in a full liquidation mode. We had many discussions about whether we should set limits for a business that is in liquidation, and whether they should be cascading to try to get them down to a certain level in a few months time. We ultimately decided that lowering the limits would not be productive.

SPG is the Subprime Portfolio Group. When Brian Leach reorganized and formed a real estate group that focused on all real estate, risk oversight of that SPG group went to that group. I continued to help in an advisory role because of my familiarity with that business.

BONDI: In 2007, prior to the events that you described in July with the Bear Stearns funds, do you recall any decrease in limits with respect to any of the CDO operations?

BARNES: I don’t, no.

BONDI: CITI-FCIC 00004247 is a presentation to the Financial Control Group.

CITI-FCIC 00004244 are typed notes on “Liquidity Puts.”

CITI-FCIC 00037356 is an October 19, 2006 memo from Tobias Brushammar.

BARNES: For 4247: I did not help prepare this memo, but I attended the meeting. Risk management has a valuation role. This meeting was initiated by the Pricing Control Group (PCG) that oversees the pricing control process. PCG is part of the financial control organization and roles up eventually to the CFO. It was run at this time by Paul Smith, who was the head of the pricing control group.

BONDI: What is your understanding of the function of the financial control group with respect to liquidity puts?

BARNES: Its primary responsibility was to make sure that positions were correct and accurate and that positions were marked to their fair value. They independently price verified inputs, were responsible for P&L reporting, and books reconciliation. There is a Product Control group within FCG that faced off against its business unit.

Paul Smith ran the Product Control Group that included the CDO business. The CDO product controller at that time was Graham Jackson. James Hua and Tobias Brushhammar (quants) both worked for Paul in the pricing group. Liquidity puts were marked to fair value and were quite quantitative. They are funded by asset-backed commercial paper (ABCP), but the issuer can convert the ABCP into a liquidity backstop facility which is known as a liquidity put. This portfolio was already over $20 billion when I started in 2005.

BONDI: Why did you stop issuing liquidity puts?

BARNES: I didn’t view a liquidity put transaction or a retained super senior on our portfolio as any different in risk. The fact that it was contingent on something happening—ABCP not willing to roll—that was Citi’s risk. The liquidity puts always rolled up into the super-senior limits. Some business people thought that this should be a lower risk for Citi. In general, that was probably Janice Warne and Nestor Dominguez who thought this—they were both involved in the creation of the liquidity put program.

BONDI: What was Bushnell's opinion?

BARNES: I don't know.

BONDI: What was the earliest conversation that you remember having with Bushnell about liquidity puts?

BARNES: We talked about super senior, and that in my mind included liquidity puts. We reported them separately, but they were all reported against a single limit.

The liquidity puts were put on hold because Citi Treasury did not want to increase the contingent claim or the size of the program. If the ABCP market would freeze up, Citi would immediately have to fund that ABCP.

BONDI: Were you involved or consulted in that decision by Treasury?

BARNES: No.

BONDI: Did you ever have a conversation with David Bushnell concerning liquidity puts?

BARNES: Starting in July 2007 I was talking to David every day. The liquidity put situation was not a binary event; it happened gradually. In these deals, Citi was the primary dealer or marketing agent for the ABCP that was financing these super-senior positions. Over the course of July, as the market became spooked by BSAM and SIVs, Citi's inventory of ABCP that could not be resold into the market increased dramatically.

Randy Harrison and Bob McAndrew—the co-heads of the short-term desk— and Nestor, Michael, Finance, and Treasury were all involved in a meeting to discuss whether Citi should continue to reoffer that ABCP. This increase in ABCP was not one event; it increased over time.

The liquidity put problem was magnified because in at least three deals, the manager was BSAM—these were Klio I, II, and III—and one of these deals was more than $2.5 billion.

BONDI: Did any of this ABCP go into Citi SIVs?

BUERGEL: No, they issued ABCP; they didn't buy it.

BONDI: Did you have any role in the SIVs?

BARNES: No.

BONDI: Did you or anyone in your group have conversations with Susan Mills or anyone in the securitization group?

BUERGEL: She's on the private side.

BARNES: No, I wouldn't have talked to her. People on the secondary side, like Jeff Perlowitz and Mark Tsesarsky, no. In hindsight, that was an error, and that's something that Citi has changed.

The business had evolved from CBOs (Corporate Bond Obligations?) to agency CDOs, non-agency CDOs, etc. That business remained a part of the CDO business, but I was not a real estate expert. We tried to compensate for that by my having a counterpart that covered the GSM side of the business (securitization). We've come to work more closely together. I think that was a flaw in the business and risk management model.

BONDI: Had there been one unit between the securitization and the CDO side, what would that have changed?

BARNES: Risk management tended to be managed along business lines. In hindsight, it would have been better to look along risk factors. That isn't to say that Bebe and David Bushnell did not encourage collaboration—I was two offices away from my colleague who covered the GSM business—but I didn't understand the nuances of what was happening within the securitization market or what was happening to the underlying loans (underwriting standards, fraud, etc.) Ultimately, the rating agencies, the dealers, and the regulators were all too slow to catch on. One massive regret is that we didn't reach out to the consumer bank to get the pulse of mortgage origination. An industry-wide problem is that we didn't have the tools to understand the underlying collateral.

BONDI: Did you ever get any information from the Surveillance Unit headed by James Xanthos under Susan Mills?

BARNES: No, I was privy to public information given by our research unit (Rahul & ___). That was the type of market knowledge and surveillance that we were privy to. It was the straw that broke the camel's back.

BONDI: Do you recall anything that the securitization groups at Citi were doing in terms of scaling back or minimizing their positions while the CDO desk was increasing their positions?

BARNES: There are definitely seasonal effects. At the end of the year, the securitization process comes under stress because of liquidity, but I don't recall the securitization business ever sharing concerns about the viability of the market or that a cliff was coming. From a risk standpoint I didn't have any discussions with my counterparts about risks in the mortgage markets.

Ultimately Randy Barker and Geoffrey Coley both reported up into the head of Fixed Income. I was not privy to those types of discussions.

BONDI: What meetings did you have with regulators in 2006 and 2007?

BARNES: I would regularly meet with regulators at the OCC and Fed. I do recall a meeting with representatives from the SEC to talk about subprime; that meeting involved business, finance, and risk groups from GSCP and GSM. It mentioned the super-senior positions quite differently from everything else, reflecting the conventional wisdom of the time.

CITI-FCIC 00007657 is the deck

After BSAM, the OCC and the FRBNY came in to review our positions—more or less a post mortem about what happened with Bear Stearns. We had weekly calls that lasted until the end of 2009, and for a period of time we had daily calls. Our access to the regulators and the regulators' access to the risk side were very transparent.

BONDI: Did regulators ever express concern about how you valued your exposures?

BARNES: Not that I recall, but finance highlighted uncertainty about how we were valuing our product. The regulators acknowledged that. On the corporate credit side, there has been tremendous progress made on improving transparency in exotic and plain vanilla products. Regulators raised issues about it, but didn't have solutions.

BONDI: When the ABCP came on the balance sheet in August 2007, are you aware of Maheras being aware of these events?

BARNES: I don't remember him being in those meetings.

BONDI: Randy Barker?

BARNES: I don't recall Randy Barker or Geoff Coley being in those meetings.

BONDI: Gary Crittenden?

BARNES: It was probably a Corporate Investment Bank thing rather than a corporate thing. We thought that the market was just spooked by BSAM, and we were going to keep rolling the commercial paper because the consensus was that the risk of principal loss was very remote.

NORMAN: 91499: quote. Does that mean that the limits are lower?

BARNES: If we looked at a BBB RMBS held in a CDO warehouse, we would stress that at half the amount than if it were held elsewhere, because we had first loss protection from the manager. As importantly, up until June 2007, the business had warehoused hundreds of deals and never taken a loss. While it had to live with the mark-to-market volatility during warehousing, historically it had always recovered its cost.

BONDI: What was your compensation in 2006 and 2007?

BARNES: My total compensation was around 36 CFR 1256.56 - P with base salary, incentives, and stock options. That was the same in both 2006 and 2007.

NORMAN: Who was doing the proprietary secondary trading of CDOs?

BARNES: In early 2007, the head of the trading desk was Donald Quintin.

BONDI: Have you ever given a deposition related to your work at Citi?

BARNES: Yes, but not related to my works in CDOs.

BUERGEL: There have been shareholder demands served on the board. Counsel for the board has interviewed certain employees.

BONDI: Have you been interviewed by SEC enforcement?

BARNES: Not related to my work for the past few years.

BONDI: [Explains need to keep things confidential. Clarification that Susanna Buergel is Mr. Barnes's counsel.]

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