Citibank Structured Credit Derivatives
ABS CDO Front Office Meeting Minutes

FEDERAL RESERVE BANK OF NEW YORK

Agenda: Discuss the ABS CDO Business as part of Citibank European Structured Credit Derivatives (ESCD) Target Exam

Date: November 1, 2005
Prepared by & Dates: Mark Sexton; November 2, 2005
Attendees:

FRBNY	**Citibank**
Kevin Coffey; Team Leader	Chris Carman, ABS CDO Front Office
William Hallacy; Examiner-in-Charge	Alan Shaffran, Business Head, ESCD
Cathy Voigts; Market Risk Coordinator	Nash Jooma, Compliance
Mark Sexton; Examiner	**OCC**
Erin Long; Examiner	Andrea Vourvoulias
Alla Vaynrub; Examiner	Don Delaney

FRBNY examiners met with staff from the front office of Citibank's ABS CDO trading desk to discuss the business generally, and more specifically issues related to risk measurement, new products, customer franchise, and potential growth of the business. Chris Carman and Alan Shaffran represented the desk.

The ABS CDO trading desk is one of five trading desks that make up the European Structured Credit Derivatives business reporting to Alan Shaffran in London. The ABS CDO desk is primarily responsible for trading tranches of ABS risk which are principally hedged by cash ABS securities. Their customer base consists of hedge funds, banks, and asset managers.

The following are highlights of this meeting. A complete set of answers to the scope questions related to this product will be contained in the Product Memo at the conclusion of the exam.

ABS CDO Trading

Chris explained that they work to run the desk like a corporate correlation book with a mandate to provide product to the bank's customers. They currently have 5 people in London and 1 in New York, to service the US client base. The business used to be primarily focused on ABS CDO trades where the desk would buy cash assets and short tranches. Now the focus is more on packaging customized products for clients. Volumes for the desk used to be 45-50% from the US with the rest coming from Europe. Now almost all new underlyings are coming out of the US (mostly sub-prime mortgages), with 80% of that business in MBS and the rest in CMBS. The customer base has similarly swung towards the US which now accounts for 70% of transactions.

The desk currently has a portfolio with 60 tranches vs. 800 cash bond hedges. The also have 40 single name ABS CDS trades. The do no market-making in either cash bonds or single name CDS. Almost all of their tranche business is in the mezzanine tranches. Looking ahead to 2006, Chris explained that they are hoping to develop more of a two way market in their tranche business to help address some of the "one way" basis risk of the desk's current portfolio. The idea is to got hedge fund clients to short US mortgages via tranches to provide an offset to some of the current risk in the portfolio. Also coming in 2006 will be the launch of the ABSXX index which will consist of 20 of the most actively traded ABSs.

Current Risk Positions & Key Risks

The major risk position the desk is carrying is in the BBB tranche where they are running a large short in ABS largely with home equity loan underlyings. They are also running a long position in AAA tranches against this.

On a day to day basis the key risks that the business faces are as follows:

- *Basis Risk-* not all CDO positions are hedged with the exact bonds underlying the CDO
- *Quantity of Underlyings* – it is a challenge to know all of the reference underlyings well as the number of different reference underlyings grows.
- *Documentation* – transactions are all customized so it is time consuming to confirm them. Standard ISDA documentation has helped somewhat.
- *Operations & Booking* – due to complex and tailored nature of each transaction booking and operations procedures must be watched closely
- *Spreadsheets* – the desk runs risk in a spreadsheet environment. This is not an ideal control environment and they are aware of that.

Limits

Chris described the limit structure as "model based limits", acknowledging the fact that the risk based limits do not capture things like basis risk. Model risk on the desk is controlled by the reserve policy rather than by limiting the volume of transaction types. The main limits are on total interest rate exposure (DV01), credit spread exposure (CR01) by rating concentration, single issuer CR01 and Market Value, and credit correlation (total and by capital structure). A complete list of limits is contained in the table below:

1) Interest Rate Exposure			Long Risk	Short Risk
Interest Rate (Total)	DV01 ($ per – 1bp)	LIMIT	$100,000	($100,000)
2) Rating concentration Credit Exposure ("Waterfall")				
Rating Concentration AAA or lower	CR01 ($ per -1bp)	LIMIT	$906,250	($1,500,000)
Rating Concentration AA or lower	CR01 ($ per -1bp)	LIMIT	$362,500	($900,000)
Rating Concentration A or lower	CR01 ($ per -1bp)	LIMIT	$271,875	($700,000)
Rating Concentration BBB or lower	CR01 ($ per -1bp)	LIMIT	$181,250	($500,000)
Rating Concentration BB or lower	CR01 ($ per -1bp)	LIMIT	$54,375	($150,000)
Rating Concentration B or lower	CR01 ($ per -1bp)	LIMIT	$36,250	($100,000)
Rating Concentration NR	CR01 ($ per -1bp)	LIMIT	$18,125	($50,000)
3) Single Issuer Credit Exposure				
Single Name AAA	Net Long MV ($MM)	LIMIT	$250	
Single Name AAA	CR01 ($ per -1bp)	*Trigger*	$100,000	($222,222)

Single Name AA	Net Long MV ($MM)	**LIMIT**	$100	
Single Name AA	CR01 ($ per -1bp)	***Trigger***	$40,000	($88,889)
Single Name A	Net Long MV ($MM)	**LIMIT**	$80	
Single Name A	CR01 ($ per -1bp)	***Trigger***	$32,000	($71,111)
Single Name BBB+	Net Long MV ($MM)	**LIMIT**	$60	
Single Name BBB+	CR01 ($ per -1bp)	***Trigger***	$24,000	($72,727)
Single Name BBB	Net Long MV ($MM)	**LIMIT**	$60	
Single Name BBB	CR01 ($ per -1bp)	***Trigger***	$24,000	($72,727)
Single Name BBB-	Net Long MV ($MM)	**LIMIT**	$60	
Single Name BBB-	CR01 ($ per -1bp)	***Trigger***	$24,000	($72,727)
Single Name BB	Net Long MV ($MM)	**LIMIT**	$30	
Single Name BB	CR01 ($ per -1bp)	***Trigger***	$12,000	($40,000)
Single Name B or lower	Net Long MV ($MM)	**LIMIT**	$20	
Single Name B or lower	CR01 ($ per -1bp)	***Trigger***	$8,000	($26,667)
Single Name NR	Net Long MV ($MM)	**LIMIT**	$10	
Single Name NR	CR01 ($ per -1bp)	***Trigger***	$4,000	($13,333)
4) Credit Correlation Total and by capital structure				
Credit Correlation (Total)	Corr01 ($ per 1% shift)	**LIMIT**	$400,000	($400,000)
Super-Senior	Corr01 ($ per 1% shift)	**LIMIT**	$2,000,000	($2,000,000)
Senior	Corr01 ($ per 1% shift)	**LIMIT**	$1,200,000	($1,200,000)
Sr Mezzanine	Corr01 ($ per 1% shift)	**LIMIT**	$1,200,000	($1,200,000)
Jr Mezzanine	Corr01 ($ per 1% shift)	**LIMIT**	$1,200,000	($1,200,000)
Equity	Corr01 ($ per 1% shift)	**LIMIT**	$1,200,000	($1,200,000)

VaR & Stress Testing

The ABS CDO positions do not feed into GMR and are not captured in the daily VaR calculation. This issue is documented in the Market Risk Reporting group's *Reporting Issues* document. They will look to address this in Q1 2006. For now MRM relies on the risk reporting and analysis provided by Steve Barnett in the Business Risk group. Also, the risks of the desk are included in the quarterly Risk Manager Estimates, stress scenarios run by Market Risk Management.

New Trade Types

Chris highlighted three types of new trades that the desk has been looking at this year:

- *First-to-Default-Basket* – They have traded one of these but are finding the deal to be unfriendly from a regulatory capital standpoint.
- *Cap Swaps* – This product is approved but has not yet traded. The idea behind the trade is to capture the value of imbedded options in US floating rate mortgages and monetize it

for investors who want the credit exposure to mortgages but don't want a cap on potential interest income.

- *Total Return Swaps* – These trades create some infrastructure issues for the group as they must be booked through an SPV.