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**Attachments:** FINAL MA 1 15 08 For review.ppt; Recession Scenario focus on Commercial Mortgages011108.ppt

Attached are the presentations discussed at this morning's RPC meeting. The first addresses commercial and residential position risks and the second repo positions for comparable collateral.

# Recession Scenario

Prepared For: Risk Policy Committee

## Economic Environment

- **Economy enters consumer led recession**
  - Two quarters of GDP contraction
- **Fed eases more than is currently discounted**
- **Unemployment increases by 2-3%**
- **Corporate profits drop 15-20%**
- **Home prices drop 17% over next two years**
  - What is already discounted?
- **Commercial Real Estate prices**
  - US – Price decline about 10-14%
  - International - ?

# Commercial Mortgages

### **Parameters Used in CMBS Stress Test**

- **Two year Treasuries down 100bp, ten year down 25 bp**
- **Housing and Real Estate related Equities down 25% over six months**
  - **SRS – ultra short REIT index up 50%**
- **Securizable loans risks are allocated to rated buckets**
  - **Fixed rate loans AAA subordination 12.7%**
  - **Floating rate loans AAA subordination 32.4%**
  - **B-notes – CMBS B index**
- **CMBS Spreads wider by 50%**

CMBS Credit Spreads

AAA	AA	A	BBB	BB	B
148.75	342.50	507.50	867.50	1,050.00	1,312.50

**Stress losses for CMBS Conduit (01/11/2008)**

Desk	Asset/Hedge	Product Type	Deal Reference	Notional (\$MM)	MV (\$MM)	Spread Dv01 (\$/bps)	Stress Losses Components (\$MM)			Total Stress Loss Net (\$MM)	
							Spreads	Equity	Interest Rate		
NY CMBS CONDUIT	Whole Loan	Whole Loan - CMBS fixed	Bonitos	155	179	93	(35)	-	4	(51)	
			Loans with earmout provision	465	465	354	(47)	-	9	(35)	
			Low leverage deal	755	302	494	(32)	-	17	(35)	
				Market leverage deal	453	457	314	(34)	-	9	(25)
			Whole Loan - CMBS floaters	Balance sheet loans	812	806	243	(29)	-	0	(29)
				Bonitos	2,433	2,295	620	(398)	-	0	(398)
				Floating rate securitization	4,904	4,731	2,253	(310)	-	0	(310)
			<b>Subtotal</b>		<b>10,291</b>	<b>9,756</b>	<b>4,341</b>	<b>(594)</b>	<b>-</b>	<b>39</b>	<b>(555)</b>
		Hedge									
			CDS CMBS Index		(2,470)	(2,913)	(1,235)	288	-	0	288
			Credit Deriv		(110)	(110)	(55)	4	-	0	4
			Flare/urisk		1,319	1,315	-	-	-	-	19
			TFBS CMBS Index		(2,825)	(2,325)	(1,975)	143	-	-	143
		US Interest Rate Swaps		(1,867)	(1,867)	-	-	-	-	(30)	
		Equity		(190)	(190)	-	-	95	0	95	
		<b>Subtotal</b>		<b>(5,972)</b>	<b>(5,507)</b>	<b>(3,265)</b>	<b>425</b>	<b>95</b>	<b>(11)</b>	<b>519</b>	
		<b>NY Grand Total</b>		<b>4,119</b>	<b>4,249</b>	<b>1,077</b>	<b>(169)</b>	<b>95</b>	<b>28</b>	<b>(136)</b>	
London CMBS	Whole Loan	Whole Loan - CMBS fixed	Fixed rate securitization	451	661	336	(44)	-	-	16	(28)
			Market leverage deal	130	123	75	(10)	-	-	3	(7)
					Whole Loan - CMBS floaters	Floating rate securitization	767	745	405	(53)	-
			<b>Subtotal</b>		<b>1,578</b>	<b>1,530</b>	<b>822</b>	<b>(106)</b>	<b>-</b>	<b>19</b>	<b>(88)</b>
		Hedge									
			US Interest Rate Swaps		(1,413)	(1,413)	-	-	-	-	(33)
		<b>Subtotal</b>		<b>(1,413)</b>	<b>(1,413)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(33)</b>	
		<b>London Grand Total</b>		<b>155</b>	<b>117</b>	<b>822</b>	<b>(126)</b>	<b>-</b>	<b>(16)</b>	<b>(12)</b>	
Tokyo CMBS	Whole Loan	Whole Loan - CMBS floaters	Bonitos	-	-	-	-	-	-	-	
			Floating rate securitization	1,276	1,270	635	(85)	-	-	(85)	
			<b>Subtotal</b>		<b>1,276</b>	<b>1,270</b>	<b>635</b>	<b>(85)</b>	<b>-</b>	<b>-</b>	<b>(85)</b>
		Hedge									
			Credit Deriv		(55)	(55)	(43)	3	-	-	3
		US Interest Rate Swaps		(56)	(56)	-	-	-	-	(1)	
		<b>Subtotal</b>		<b>(141)</b>	<b>(141)</b>	<b>(43)</b>	<b>-</b>	<b>-</b>	<b>(1)</b>	<b>2</b>	
		<b>Tokyo Grand Total</b>		<b>1,134</b>	<b>1,128</b>	<b>595</b>	<b>(85)</b>	<b>-</b>	<b>(1)</b>	<b>(83)</b>	
		<b>Grand Total</b>		<b>5,819</b>	<b>5,495</b>	<b>2,494</b>	<b>(851)</b>	<b>95</b>	<b>13</b>	<b>(543)</b>	

**Stress losses for CMBS Secondary (01/11/2008)**

Location	Description	Asset/Hedge	Product Type	MV (\$MM)	Spread DV01 (\$K/bp)	Stress Losses (\$MM)		Total Stress Loss (\$MM)
						Interest Rate	Spreads	
NY	CMBS	Cash	Fixed	895	499	20	(59)	(49)
			Fixed - NIM	0	(0)	0	(0)	(0)
			Floater CMBS	597	17	-	(18)	(18)
			CMBS IO	16	5	0	(0)	0
			Agency Debt	(0)	-	(0)	-	(0)
			IO- Project	2	1	0	(0)	(0)
			Project Loans	49	17	1	(13)	(12)
	<b>Subtotal</b>			<b>1,559</b>	<b>499</b>	<b>21</b>	<b>(99)</b>	<b>(79)</b>
	Hedge	Cash Synthetic	Treasuries	71	-	0	-	0
			TRS CMBS Index	161	41	-	(8)	(8)
			CDS CMBS Index	(931)	(657)	(16)	80	64
			Credit Derivs Swap	(256)	(138)	-	63	63
<b>Subtotal</b>			<b>(1,675)</b>	<b>(754)</b>	<b>(31)</b>	<b>135</b>	<b>103</b>	
<b>Total</b>			<b>(116)</b>	<b>(256)</b>	<b>(11)</b>	<b>35</b>	<b>25</b>	
London	London	Cash	Economic Residual	0	0	0	(0)	(0)
			IO	2	55	0	(0)	(0)
Tokyo	Tokyo	Cash	Floater	1,316	469	-	(62)	(62)
			IO	35	3	0	(0)	(0)
<b>Grand Total</b>				<b>1,287</b>	<b>272</b>	<b>(11)</b>	<b>(28)</b>	<b>(39)</b>

## Risk Discussion

- **Max Stress Loss Target**
  - A function of probability of realizing the stress scenario
  - Reduced risk appetite
  
- **Risk Reduction Program**
  - **Selling inventory**
    - What is the cost?
  - **Hedging/Trading strategies**
    - Directly correlated products
    - Macro hedging
      - 2/10 Curve trades
      - Corporate CDS
      - Equities



# Residential Mortgages

**Residential Markets**

**ABX Market Performance**

**Model cum loss, Price, and Yields**

**Current State of Recession stress for the Non Agency  
Residential mortgage portfolio**

**HPA stress**

**Spread widening**

**Completeness**

**Parameters Used in Residential Stress Test**

Scenario Description
<b>Benign Scenario</b>
RMBS Assets: Benign HPA, RMBS AAA & AA -25bps
MACRO Assets: Non RMBS Spreads Tighten 20%
ST Rates Up 25 bps, LT Rates Up 25 bps, \$US +10%, Stocks + 10%
<b>Mild Recession</b>
RMBS Assets: Mild Recession HPA, RMBS AAA & AA +25 bps
MACRO Assets: Non RMBS Spreads Widen 50%
ST Rates -50 bps, LT Rates -10 bps, \$US -5%, Stocks -15%
<b>Serious Recession</b>
RMBS Assets: Serious Recession HPA, RMBS AAA & AA +50 bps
MACRO Assets: Non RMBS Spreads +100%
ST Rates -100 bps, LT Rates -20 bps, \$US -10%, Stocks -20%
<b>Deep Recession</b>
RMBS Assets: Deep Recession HPA, RMBS AAA & AA +100 bps
MACRO Assets: Non RMBS Spreads + 200%
ST Rates -150 bps, LT Rates -40 bps, \$US -15%, Stocks -30%

**HPA Scenarios**

Scenario	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Home Price Model	(5.2)	(3.0)	3.6	3.8	2.9	2.9	3.0	3.1	3.2	3.2
Benign	(3.7)	(1.4)	3.6	3.4	2.5	2.5	2.6	2.9	2.9	3.0
Mild Recession	(6.8)	(5.4)	2.9	4.0	3.4	3.4	3.5	3.6	3.6	3.6
Severe Recession	(7.4)	(7.5)	1.1	3.3	3.5	3.8	4.0	4.2	4.1	4.0
Deep Recession	(8.8)	(9.6)	(0.5)	2.4	3.2	4.1	4.5	4.8	4.7	4.6

Collateral	Cum Loss	* % of current balance
Prime	0.30	
Air-A	5.71	
Option ARM	9.80	
Subprime	23.03	
Scratch And Dent	9.06	
Seconds	42.55	

**Non Agency Product Stress -- 01/08/2008**

ABS/RMBS	Current Market Values (\$MM)		Scenario Analysis	Market Value Changes (Product Only) (\$MM)			
	MV	MS Price	MV (\$MM)	Range	Mild Recession	Severe Recession	Dist. Hypothesis
Prime	601.5	521.6	602.2	9.0	(6.5)	(11.1)	(19.0)
Net Prime	288.2	241.6	288.2	0.0	(6.5)	(11.1)	(19.0)
First Lien Cash	8,408.8	7,504.8	8,419.0	55.18	(297.1)	(530.0)	(805.7)
First Lien 25% Secur Stock	(350.3)	(336.6)	(350.3)	(23.1)	73.6	107.5	151.8
Net First Lien	8,058.5	7,168.2	8,068.7	32.08	(223.5)	(422.5)	(653.9)
Subprime Cash	1,967.4	1,242.4	1,971.6	236.0	(228.6)	(379.2)	(537.9)
Subprime 25% Secur Stock	(2,756.8)	(2,729.0)	(2,756.8)	(302.9)	242.1	376.1	500.4
Net Subprime	(789.4)	(486.6)	(785.2)	(66.9)	(86.5)	(103.1)	(137.5)
Asset Sec'd Cash	2,157.7	965.1	2,157.7	32.8	(54.1)	(102.1)	(158.5)
Asset Sec'd Secur Stock	2,244.8	987.0	2,244.8	28.2	(30.9)	(41.5)	(67.1)
Net Assets	4,402.5	1,952.1	4,402.5	61.0	(85.0)	(143.6)	(225.6)
Subtotal Non-Agency	13,392.2	9,265.1	13,392.2	392.2	(304.3)	(524.2)	(766.8)
MS-CDO	1,265.3	1,187.7	1,264.0	94.7	(172.9)	(329.4)	(435.7)
MS-CDO Secur Stock	(300.0)	(300.0)	(300.0)	(36.4)	65.7	106.2	139.6
Net MS-CDO	965.3	887.7	964.0	58.3	(107.2)	(223.2)	(296.1)
MS-CDO Cash	(25.0)	(25.0)	(25.0)	(30.4)	(15.2)	14.3	29.1
Subtotal MS-CDO	940.3	862.7	939.0	27.9	(122.4)	(208.9)	(267.0)
RMBS Cash	16,619.7	12,383.8	16,634.2	222.1	(805.2)	(1,379.9)	(1,994.7)
RMBS Secur Stock	(3,407.1)	(3,365.9)	(3,407.1)	(61.9)	381.4	569.8	791.8
Net RMBS	13,212.6	9,017.9	13,227.1	160.2	(423.8)	(810.1)	(1,202.9)

**Macro Trading**

Macro Hedge P&L	Benign	Mild Recession	Serious Recession	Deep Recession
Product	P&L (\$MM)	P&L (\$MM)	P&L (\$MM)	P&L (\$MM)
Equity	(25.87)	25.87	38.80	51.74
Spreads	(10.51)	21.01	42.03	84.05
CMBX (Nees)	(3.09)	6.18	12.36	24.73
Short Rates bps	(20.26)	40.51	60.77	81.02
Long Rates bps	18.70	(7.48)	(11.22)	(18.70)
IGs	(29.08)	11.63	17.45	29.08
FX Scaupster	0.81	23.15	32.90	38.69
FX	13.02	(6.51)	(13.02)	(19.53)
<b>Total Hedge P&amp;L</b>	<b>(56.3)</b>	<b>114.4</b>	<b>180.1</b>	<b>271.1</b>

**Stress Scenarios with Macro Trading**

ABS/RMBS	Market Value Changes (\$MM)			
	Benign	Mild Recession	Serious Recession	Deep Recession
RMBS Total Proceeds	922.1	(805.2)	(1,379.9)	(1,994.7)
RMBS Total Product Changes	(361.9)	381.4	589.8	791.8
<b>RMBS TOTAL</b>	<b>560.2</b>	<b>(423.9)</b>	<b>(790.1)</b>	<b>(1,202.9)</b>
Macro Trading	(56.3)	114.4	180.1	271.1
<b>Net Total</b>	<b>503.9</b>	<b>(309.5)</b>	<b>(610.0)</b>	<b>(931.8)</b>

## Risk Discussion

- **Max Stress Loss Target**

- Probability of realizing the "deep Recession" scenario
- Reduced risk appetite

- **Risk Reduction Program**

- **Selling inventory**
  - What is the cost?
  - Selling part of the net synthetically
  - Selling with term financing
- **Hedging/Trading strategies**
  - Directly correlated products
  - Macro trading



**Repo Financing for Non IG Counterparties\***

Financing of Non-Investment Grade Counterparties by Type of Underlying Collateral						
Data as of 01/11/2008 (\$mm)						
Collateral Type	Collateral Sub Type	Loan Amount	Market Value of Collateral	Derived Haircut	# of CPs	# of CPs w/Loan Amt >\$30mm
<b>Residential</b>	Alt-A	1,057	1,268	17%	53	4
	A-Quality	845	1,137	26%	19	1
	CDO	434	574	24%	28	2
	Pvt CMO Floaters & Fixed**	2,836	3,170	11%	62	9
	Subprime	701	853	18%	36	2
	Whole Loan	24	27	11%	2	0
<b>Residential Total</b>		<b>5,898</b>	<b>7,029</b>	<b>16%</b>		
<b>Commercial</b>	CDO	179	232	23%	9	0
	CMBS	2,331	3,464	33%	38	11
<b>Commercial Total</b>		<b>2,510</b>	<b>3,696</b>	<b>32%</b>		
<b>Corporate</b>	CLO	191	305	37%	14	0
<b>Other</b>	Other	19,757	20,473	3%		
<b>Non-IG Counterparty Total</b>		<b>28,355</b>	<b>31,503</b>	<b>10%</b>		

\*Repo Financing does not include TRS's, Synthetics or CTC Loans

\*\* \$1.2bn is prime, \$1bn is Alt-A, balance is misc.

**Repo Financing for Non IG Counterparties**

Financing of Non-Investment Grade Counterparties by Type of Underlying Collateral Rating and Type																							
Data as of 01/11/2008 (\$mm)																							
COLLATERAL RATING																							
Collateral Type	Collateral SubType	AAA		AA		A		BBB		BB		B		CCC		CC		C		NR		Total Loan Amt	Total Est. WC
		Loan Amt	Est. WC	Loan Amt	Est. WC	Loan Amt	Est. WC	Loan Amt	Est. WC	Loan Amt	Est. WC	Loan Amt	Est. WC	Loan Amt	Est. WC	Loan Amt	Est. WC	Loan Amt	Est. WC				
Residential	Alt-A	903	11%	32	26%	8	34%	62	39%	8	43%	9	30%	-	-	-	-	-	-	35	54%	1,057	17%
	A-Quality	7	17%	440	16%	100	23%	87	35%	46	47%	26	53%	-	-	-	-	-	-	99	33%	845	26%
	CDO	230	13%	49	20%	21	36%	19	23%	10	39%	15	19%	-	-	-	-	-	-	91	36%	434	24%
	Pvt CMO Floating & Fixed	2,729	10%	33	19%	17	25%	16	26%	7	30%	1	30%	-	-	-	-	-	-	33	12%	2,836	11%
	Subprime Vehicle Loans	545	10%	62	22%	9	45%	39	39%	22	42%	1	30%	2	30%	1	55%	1	30%	19	51%	701	18%
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	0	24	11%
Residential Total		4,414	10%	378	20%	224	27%	222	30%	72	38%	62	36%	7	30%	2	55%	2	30%	206	29%	5,298	18%
Commercial	CDO	26	12%	-	-	16	30%	31	36%	0	40%	7	30%	-	-	-	-	-	-	104	15%	179	23%
	CMBS	214	9%	0	15%	2	20%	194	21%	215	26%	15	63%	1	71%	-	-	-	-	1,681	36%	2,331	33%
Commercial Total		240	10%	0	15%	2	20%	215	26%	215	26%	22	63%	1	71%	-	-	-	-	1,785	36%	2,510	33%
Corporate	CLD	36	10%	11	15%	19	22%	25	30%	14	45%	28	44%	-	-	-	-	-	-	36	57%	191	37%
Other	Other	17,830	4%	717	0%	151	0%	17	32%	33	0%	-	-	2	55%	4	50%	2	60%	999	2%	19,757	3%
Non IG counterparty Total		22,494	5%	1,354	10%	466	20%	489	30%	355	34%	101	49%	5	57%	5	52%	3	57%	3,082	27%	28,355	10%