US Commercial Mortgage Backed Securities

- How we got to 2007
- How we move past 2007

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CMBS Structure Efficient for Lenders and Borrowers

- **Buyers / Lenders:**

Rating	% of Deal	Buyer Base
AAA	80%	Buyers with relative value call Fast Money (hedge funds, prop desks) Money Managers
AA	5%	Traditional Insurance Companies in lieu of making loans
A	5%	Traditional Insurance Companies in lieu of making loans
BBB	5%	Traditional Insurance Companies in lieu of making loans
BB	1%	Real estate opportunity funds w/12% - 15% promised returns to fund investors
B	1%	Real estate opportunity funds w/12% - 15% promised returns to fund investors
NR	3%	Real estate opportunity funds w/12% - 15% promised returns to fund investors

- **Issuers / Borrowers:**

Positive	Efficiency of cost of funds provided cheaper financing than a whole loan borrower
Negative	Inflexible lender – too many parties adhering to servicing standard

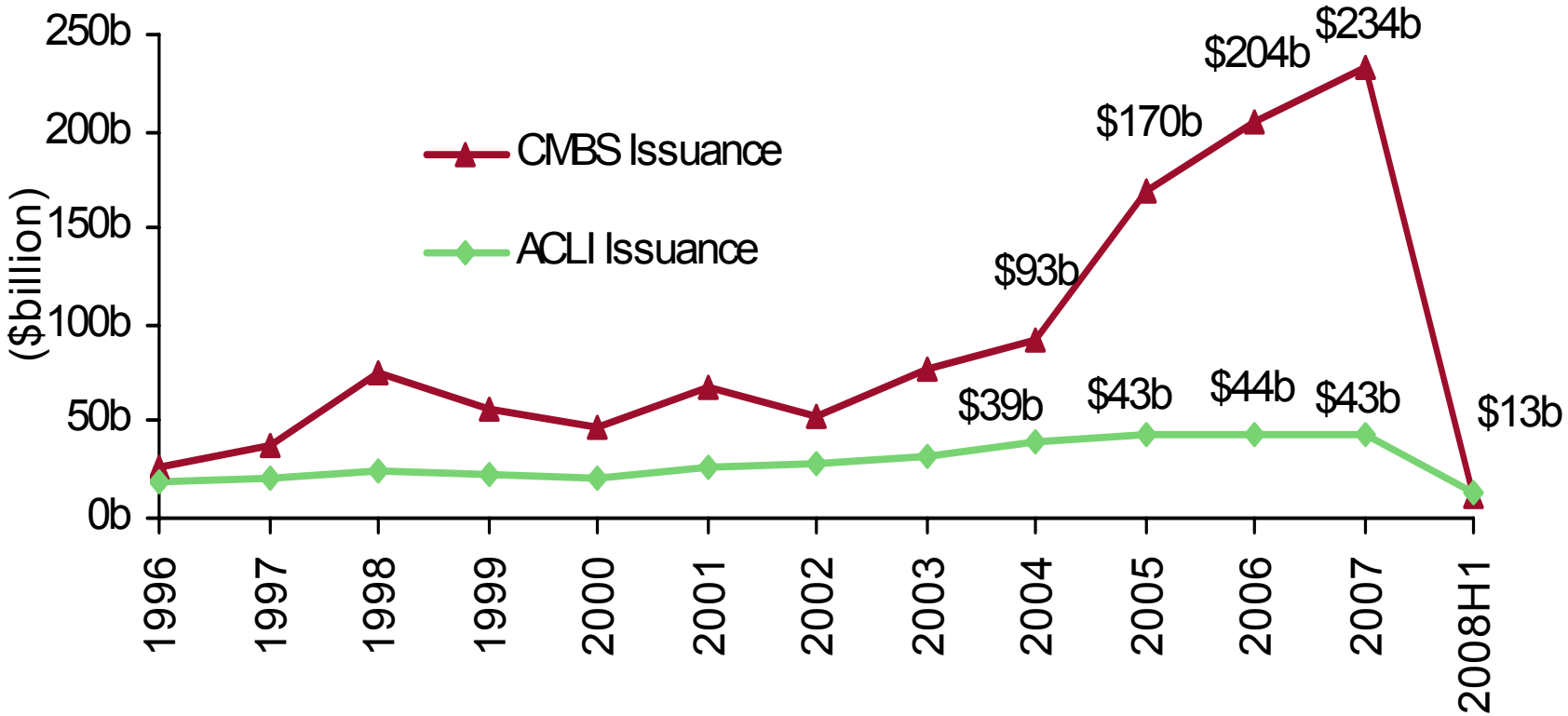
- **Disproportionate Liquidity Caused Problems:**

  -Fast money purchased below AAA

  -CDO brought new buyers to BBB classes

  -Credit curve became too flat and encouraged levered lending

CMBS Issuance



Debt Markets Fueled Equity Markets / CRE Financial Statements

Commercial Real Estate Transaction Balance Sheet

- Similar to RMBS market, increased leverage enticed buyers to spend more on the same property thereby elevating property prices

Pre 2007

Assets		Liabilities / Equity	
Property	100,000,000	Mortgage Debt	80,000,000
		Equity (20%)	20,000,000
Total	100,000,000		100,000,000

2007

Assets		Liabilities / Equity	
Property	120,000,000	Mortgage Debt	102,000,000
		Equity (15%)	18,000,000
Total	120,000,000		120,000,000

Debt Markets Fueled Equity Markets / CRE Financial Statements

Commercial Real Estate Transaction Income Statement

- Unlike residential real estate, commercial real estate derives net income
- NOI - largest contributor to real estate valuation
- Comparison of Net Operating Income underwriting

	Pre 2007		2007	
Rents	5,000,000		6,000,000	
Parking Income	100,000		125,000	
Total Revenues		5,100,000		6,125,000
Building Maintenance	2,000,000		1,900,000	
Utilities	375,000		345,000	
Payroll	250,000		225,000	
Total Expenses		2,625,000		2,470,000
Net Operating Income		2,475,000		3,655,000
Property Value with 7% cap rate		35,357,143		52,214,286

Cap Rates

- Property Value = NOI / Cap Rate
- Cap Rate is a simple way to express returns on NOI
  - If required return to own building is 7%, you can pay $52,214,286 for the building with 2007 underwriting to get back NOI of $3,655,000
- If Cap Rate is higher than financing rate, building has positive cash flow
- Availability of cheap debt fueled lowering of cap rates
- Lower Cap rates fueled increased property valuation

Price Appreciation via Cap Compression

- In addition to aggressive underwriting and cap rate compression fueled property price appreciation

	Pre 2007	2007
NOI	2,475,000	3,655,000
Cap Rate	7%	6%
Value	35,357,143	60,916,667

Commercial Real Estate Income Statement – Same Asset / Different Underwriter

Issuers began underwriting income to pro-forma rents instead of rents in place which led to:

1) Loose interpretation of revenues and expenses
2) Aggressive underwriting and abnormal property appreciation

599 Lexington Avenue ; co-lenders / seperately securitized by Credit Suisse & JP Morgan

599 Lexington Avenue

Loan Information

Original Principal Balance[1]:	$300,000,000
Cut-off Date Principal Balance[2]:	$300,000,000
First Payment Date:	April 1, 2007
Mortgage Interest Rate:	5.4930% per annum
Amortization Term:	Interest only[3]
Hyperamortization:	N/A
ARD Date:	N/A
Maturity Date:	March 1, 2017
Maturity/ARD Balance:	$300,000,000
Interest Calculation:	Actual/360
Call Protection:	Lockout/defeasance until the date that is six (6) months prior to the Maturity Date.
Loan per SF:	$736[1]
Up-Front Reserves:	None
Ongoing Reserves:	None
Lockbox:	Hard
Subordinate Financing:	None

Property Information

Single Asset/Portfolio:	Single Asset
Property Type:	Office
Property Sub-Type:	Central Business District
Location:	New York, NY
Year Built/Renovated:	1986/NA
Square Feet:	1,019,461
Occupancy at U/W[4]:	97%
Ownership Interest:	Fee

Major Tenant(s)	NRSF	% of Total NRSF	Lease Expiration
Sherman & Sterling LLP	517,658	50.8%	8/31/2022
Kirkpatrick & Lockhart	125,176	12.3%	10/31/2017
Goodwin Proctor LLP	117,298	11.5%	10/30/2008

Property Management: Boston Properties Limited Partnership

	12/31/2004	12/31/2005	12/31/2006	U/W
Net Operating Income:	$41,242,009	$41,198,416	$41,932,203	$53,641,052
Net Cash Flow:				$52,547,834
DSCR[1]:				1.26x

Appraised Value:	$1,000,000,000
Appraisal Date:	2/1/2007
Cut-off Date LTV Ratio[1]:	75.0%
Maturity/ARD LTV Ratio[1]:	75.0%

599 Lexington Avenue

Mortgage Loan Information

Original Principal Balance[1]:	$225,000,000
Cut-off Date Principal Balance:	$225,000,000
% of Pool by IPB:	4.2%
% of Group R-1:	7.3%
Loan Seller:	JPMorgan Chase Bank, N.A.
Borrower:	BP 599 Lexington Avenue LLC
Sponsor:	Boston Properties Limited Partnership
Origination Date:	02/12/07
Interest Rate:	5.49300%
Interest-only Period:	120
Maturity Date:	03/01/17
Amortization Type:	Interest-only
Original Amortization:	N/A
Remaining Amortization:	N/A
Call Protection[2]:	L(26),Def(87),O(7)
Cross-Collateralization:	No
Lock Box:	Cash Management Agreement
Additional Debt[1]:	$525,000,000
Additional Debt Type:	Pari Passu Loan
Loan Purpose:	Refinance

Property Information

Single Asset/Portfolio:	Single Asset
Title:	Fee
Property Type:	Office – CBD
Square Footage[3]:	1,030,309
Location:	New York, NY
Year Built/Renovated:	1986
Occupancy:	97.3%
Occupancy Date:	02/01/07
Number of Tenants:	24
Historical NOI:	
2004:	$40,948,065
2005:	$41,242,206
2006:	$41,932,203
UW Revenues:	$81,216,358
UW Expenses:	$27,958,570
UW NOI[4]:	$53,257,788
UW Net Cash Flow:	$52,242,058
Appraised Value:	$1,000,000,000
Appraisal Date:	02/01/07

Commercial Real Estate Income Statement – Same Asset / Different Underwriting

Issuers began underwriting income to pro-forma rents and not rents in place

450 Lexington ; financed in 2005 & financed again in 2007 with very different appraisal and NOI

2. 450 Lexington Avenue

Loan Terms	
Cut-Off Date Pooled Balance:	$205,000,000
Inv Grade Shadow Ratings (S/M/F):	BBB-/Baa3/BBB-
Interest Rate:	LIBOR plus 77 bps
LIBOR Cap:	4.50%
Amortization:	Interest only
Initial Maturity Date:	July 9, 2007
Extension Option:	Three one-year extensions provided that (i) no event of default exists and (ii) the Borrower purchases a 4.50% LIBOR cap for the extended term
Call Protection:	Prior to 7/9/07: Locked out 7/10/07-1/8/08: 0.50% fee Thereafter: Prepayable at par
Exit Fee:	0.50% fee payable if loan repaid on 7/9/07
Collection Account:	Hard Lockbox
Monthly Reserves:	1/12 of annual ground rent, property taxes and insurance premiums and $15,175 for capital expenditures
Leasing Reserves:	Each month commencing 7/9/07, the Borrower will reserve an amount sufficient to have $40 psf available for renewal/replacement leasing costs relating to any leases scheduled to expire between 7/9/07 and 12/31/08. In addition, $416,667 per month commencing 7/9/08 and $1,250,000 per month commencing 7/9/09 will be reserved to cover renewal/replacement leasing costs related to the space leased by Davis, Polk & Wardwell
Additional Debt:	$100,000,000 A Mezzanine Loan $50,000,000 B Mezzanine Loan $30,000,000 C Mezzanine Loan

Property Information	
Single Asset/Portfolio:	Single Asset
Property Type:	Office
Location:	New York, NY
Year Built:	1992
Collateral:	910,474 sf Class A office building
Sponsors:	Westbrook Real Estate Partners / Murray Hill Properties / SITQ
Property Manager:	Shorenstein Company
Leased (as of 7/1/05):	99.9%
Budgeted 7/05-6/06 NOI:	$25,870,894
In-Place UCF:	$22,175,905
Stabilized UCF:	$30,668,496
Appraised Value:	$485,000,000
Appraised By:	Cushman & Wakefield
Appraisal Date:	May 23, 2005

450 Lexington Avenue

Loan Information

Original Principal Balance[1]:	$110,000,000	
Cut-off Date Principal Balance[1][2]:	$110,000,000	
First Payment Date:	August 11, 2007	
Mortgage Interest Rate:	7.0425580645% per annum	
Amortization Term:	Interest-only	
Hyperamortization:	N/A	
ARD Date:	N/A	
Maturity Date:	July 11, 2012	
Maturity/ARD Balance[1]:	$110,000,000	
Interest Calculation:	Actual/360	
Call Protection:	Lockout/defeasance until the date that is three (3) months prior to the Maturity Date.	
Loan per SF[1][2]:	$340	
Up-Front Reserves:	Debt Service Reserve:	$32,188,079[3]
	TI/LC Reserve:	$317,000[4]
	Tenant Improvement and Rent Abatement Reserve:	$16,285,000[5]
Ongoing Reserves:	Tax and Insurance Reserve:	Yes[6]
	Replacement Reserve:	Springing[7]
	Ground Lease Reserve:	Yes[8]
Lockbox:	Hard	
Subordinate Financing:	Yes[9]	

Property Information

Single Asset/Portfolio:	Single Asset		
Property Type:	Office		
Property Sub-Type:	Central Business District		
Location:	New York, New York		
Year Built/Renovated:	1992/N/A		
Square Feet:	910,473		
Occupancy at U/W[10]:	100%		
Ownership Interest:	Leasehold		
Major Tenant(s)	**NRSF**	**% of Total NRSF**	**Lease Expiration**
Davis Polk & Wardwell	650,288	71.4%	5/31/2022
Warburg Pincus[11]	125,539	13.8%	7/31/2024
Citigroup Global Markets, Inc.	35,989	4.0%	12/31/2014
Property Management:	CB Richard Ellis, Inc.		
	12/31/2005	**12/31/2006**	**U/W**
Net Operating Income:	$27,236,720	$26,564,405	$42,072,046
Net Cash Flow:			$41,841,562
DSCR[1]:			1.89x
Appraised Value:	$851,000,000		
Appraisal Date:	August 1, 2007		
Cut-off Date LTV Ratio[1][2]:	36.4%		
Maturity/ARD LTV Ratio[1]:	36.4%		

Rating Agency / Credit Enhancement

Rating Agencies come to value via NOI and Cap Rates

Rating Agency NOI is usually haircut to issuer's NOI due to :

- Lower revenues
- Higher expenses

Rating Agency Cap Rates higher than issuer/appraiser cap rates

- 20 year look back over most stressed period and arrive at cap rate where properties traded

Rating Agency LTV ("RA LTV") went significantly higher as underwriting got increasingly aggressive

- Values over stressed period remained same
- Amount lent on properties went significantly higher

RA LTVs were apparently ignored when coming to final credit enhancement levels

Vintage	RA LTV	AAA C/E	AA C/E	A C/E	BBB C/E
2001	81.2%	20.6%	16.7%	13.0%	9.0%
2002	81.0%	18.0%	14.6%	11.0%	7.6%
2003	82.7%	16.5%	13.3%	9.7%	6.3%
2004	84.5%	13.4%	10.8%	7.9%	4.8%
2005	92.7%	12.5%	10.3%	7.6%	4.5%
2006	96.9%	11.8%	9.8%	7.3%	4.0%
2007	104.9%	12.2%	10.2%	7.6%	4.5%

CMBX

- Akin to ABX for Commercial Real Estate
  ABX commenced trading in Jan-06
  CMBX commenced trading in Mar-06

- 5 Series

Series	Vintage
06.1 a/k/a CMBX.1	Aug-05 to Jan-06
06.2 a/k/a CMBX.2	May-06 to Oct-06
07.1 a/k/a CMBX.3	Nov-06 to Mar-07
07.2 a/k/a CMBX.4	Apr-07 to Sep-07
08.1 a/k/a CMBX.5	Aug-07 to May-08

- Indicative levels (CMBX.4)

	25-Oct-07	24-Oct-08	Change (bp)	Change (pts)
AAA	39	215	176	11.9%
AA	186	960	774	39.9%
A	390	1415	1025	45.1%
BBB	670	2125	1455	48.5%
BBB-	800	2625	1825	49.7%

- Self governing instrument over the markets that was sorely missed from 2002 to 2006

CMBS / CMBX Basis

Represents the difference between where CMBS and CMBX trades

CMBX has positive attributes over CMBS :

- CMBX represents exposure on CMBS bonds with matched term financing
- CMBX has more liquidity as bulge bracket dealers are all making markets in same "security"
- CMBX is a diversifed pool of credits (25 constituents for each class)
- Hedging needs on CMBS
  - CMBS is fixed rate of instrument susceptible to shortening / extending, where most buyers turn into floaters via paying fixed on swap
  - CMBX trades on a spread basis only, eliminating interest rate risk

In times of market stress, the basis grows as investors embrace the relative qualities of CMBX

	AAA Cash	AAA CMBX	Basis
30-Apr-07	25	7	18
31-Jul-07	57	33	24
31-Oct-07	67	39	28
31-Jan-08	165	133	32
30-Apr-08	163	104	59
31-Jul-08	262	163	99
28-Oct-08	555	217	338

How Market Will Likely Re-Emerge

- Minimum equity contribution by owner
- Consistent and regulated U/W standards
- Rating Agency Regulation
  - Consistent application of rating agency LTV to subordination levels
- Confirmation of CMBX or similar ongoing product to govern market

Opportunities in Current Environment

Current Delinqucies

Vintage	2002	2003	2004	2005	2006	2007	total
30Day Dlq Bal Pct	0.09%	0.15%	0.16%	0.13%	0.20%	0.19%	0.17%
60Day Dlq Bal Pct	0.08%	0.07%	0.04%	0.04%	0.04%	0.07%	0.05%
90Day Dlq Bal Pct	0.20%	0.17%	0.19%	0.12%	0.21%	0.12%	0.16%
FCL or REO Bal Pct	0.40%	0.14%	0.11%	0.19%	0.13%	0.03%	0.12%
total	0.76%	0.56%	0.50%	0.48%	0.57%	0.41%	0.50%

Delinquencies low because borrowers have very aggressive financing terms on properties and will stay with properties while positive cashflow

1 Low coupons
2 Interest Only Periods
3 Low required reserve payments (building renovations, etc)

Problems will likely occur at refinance date

CMBX Implied Losses

	Price	Spread	Implied % Loss at Maturity	Implied Months til 100% loss
AAA	87.76	215	21%	N/A
AA	58.6	960	77%	N/A
A	52.18	1415	N/A	80
BBB	41.49	2125	N/A	46
BBB-	33.49	2625	N/A	35