

23 March 2009

# Commercial Real Estate Outlook Q1 2009

## *Commercial Real Estate at the Precipice*

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Deutsche Bank





## Key Themes as of Q1 2009

- CRE fundamentals dramatically weaker across most major property segments and markets
  - Price declines of 35-45% (or more) expected, exceeding those of early 1990s
  - Rent declines and vacancy rates may approach those of the early 1990s
  - Current downturn is demand shock induced versus over-supply induced downturn of early 1990s
  -
- Conduit collateral performance deteriorating at historically fast pace
  - Total delinquency rate likely to exceed 3.5% by year-end
  - May reach 6% by 2010
- By far the greatest risk facing CMBS is maturity default risk, not term default risk
  - Large percentage of CMBS loans made in 2005-2008 will not qualify for refinancing without substantial equity injections due to:
    - Much tighter underwriting standards
    - Massive price declines
    - Declining cash flow



## Key Themes

- Government programs needed to avoid hundreds of billions of dollars of distressed CRE hitting the market and perpetuating a downward spiral in CRE prices
  - Damage to bank portfolios
  - Damage to insurance company portfolios
  - Other financial institutions
  
- TALF
  - CMBS included at some point – details sketchy
  - Unlikely to help CMBS appreciably in the near-term
  
- How bad it gets in CRE depends on how bad the economy gets

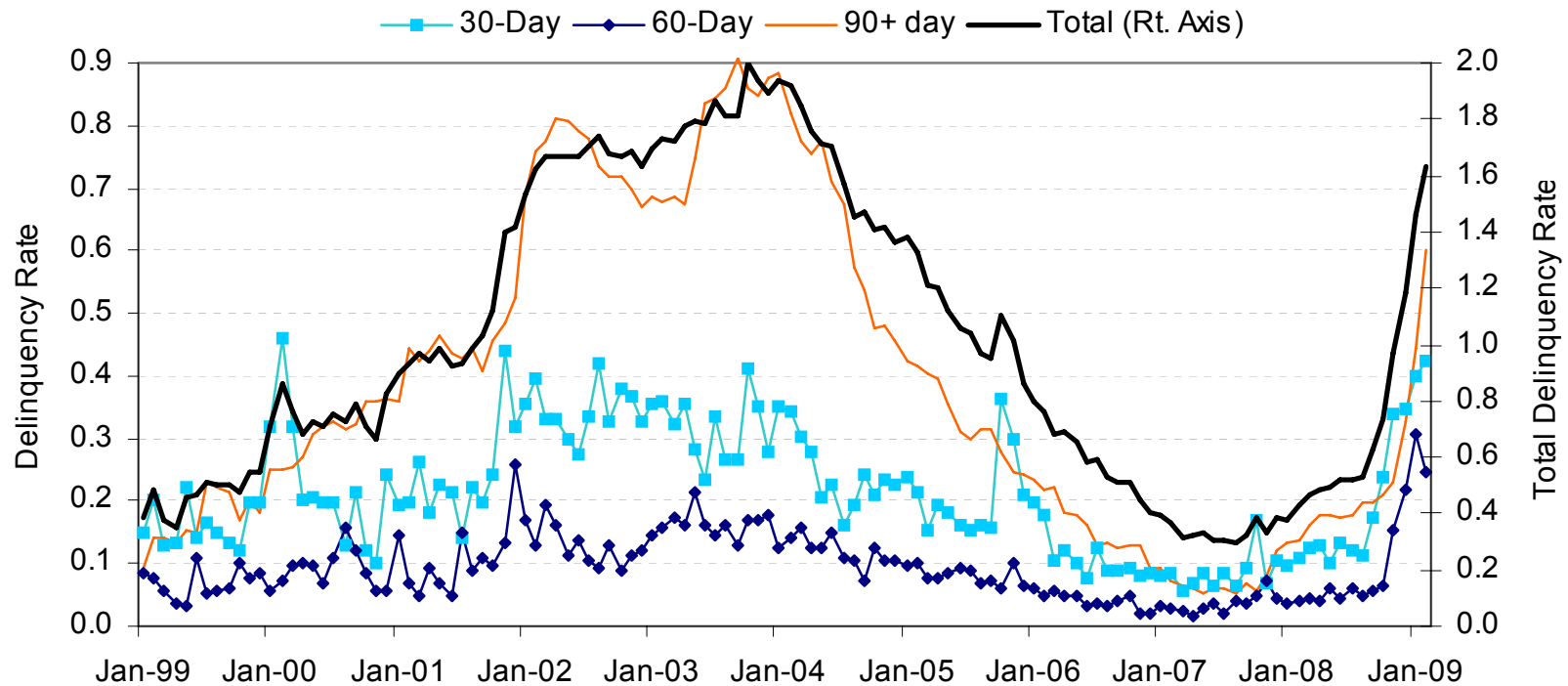


# Commercial Real Estate Fundamentals



## CMBS Collateral Performance Trends

# Aggregate delinquency rates rising sharply



Source: Intex, Trepp

- Deterioration accelerating sharply since September 2008
- 30-day and 60-day delinquency rates up 300-400% in six months
- Expect aggregate delinquency rate will be in excess of 3.5% by end of 2009, and 5-6% by late 2010

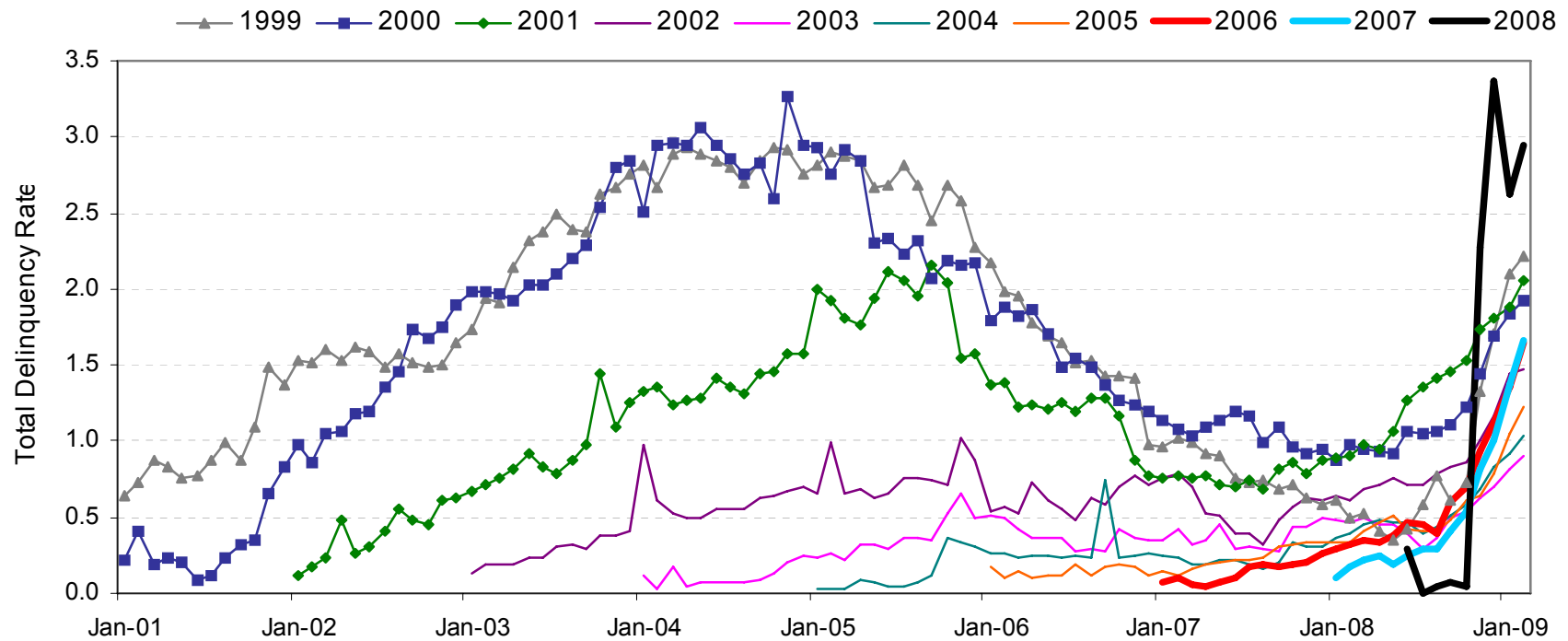
## Monthly delinquency rate increases at historic high

Date	Aggregate		30-Day		60-Day		90+ Day		Foreclosure		REO		Total		Chg (bp)
	# Loans	Balance (\$ Bil)	# Loans	% (Bal)	# Loans	% (Bal)	# Loans	% (Bal)	# Loans	% (Bal)	# Loans	% (Bal)	# Loans	% (Bal)	
Jan-08	69,326	728.0	140	0.095	39	0.035	136	0.131	41	0.029	103	0.090	459	0.380	-0.5
Feb-08	68,894	725.8	157	0.109	51	0.042	137	0.138	51	0.038	109	0.107	505	0.433	5.3
Mar-08	68,615	724.6	140	0.126	55	0.043	157	0.162	49	0.038	109	0.093	510	0.463	3.0
Apr-08	68,230	725.0	125	0.129	51	0.039	170	0.176	54	0.053	104	0.091	504	0.488	2.5
May-08	67,630	722.2	125	0.100	51	0.059	166	0.178	58	0.056	110	0.098	510	0.492	0.4
Jun-08	67,056	719.9	127	0.134	56	0.046	164	0.174	62	0.056	115	0.111	524	0.520	2.9
Jul-08	66,351	715.6	140	0.121	56	0.062	175	0.179	64	0.054	108	0.109	543	0.524	0.4
Aug-08	65,735	711.8	136	0.111	63	0.050	183	0.197	64	0.057	115	0.118	561	0.533	0.9
Sep-08	65,158	708.2	163	0.173	64	0.055	191	0.196	88	0.076	123	0.124	629	0.624	9.1
Oct-08	64,537	703.8	184	0.238	74	0.066	198	0.211	101	0.089	132	0.135	689	0.739	11.5
Nov-08	64,056	701.0	250	0.339	94	0.153	223	0.231	112	0.104	136	0.142	815	0.969	23.0
Dec-08	63,704	698.6	339	0.345	154	0.218	271	0.327	131	0.129	147	0.167	1042	1.185	21.6
Jan-09	63,273	695.6	358	0.398	210	0.308	343	0.443	136	0.140	161	0.174	1208	1.462	27.8
Feb-09	63,022	693.5	371	0.425	194	0.246	447	0.600	147	0.185	168	0.177	1327	1.634	17.2

Source: Intex, Trepp

- Monthly *increases* in the total delinquency rate were in 0-3bp range prior to September 2008
- That accelerated to the 10bp range in September and October 2008
- Since October, monthly delinquency rate increases have accelerated sharply to the 20-25bp range, a pace of deterioration that is without precedence

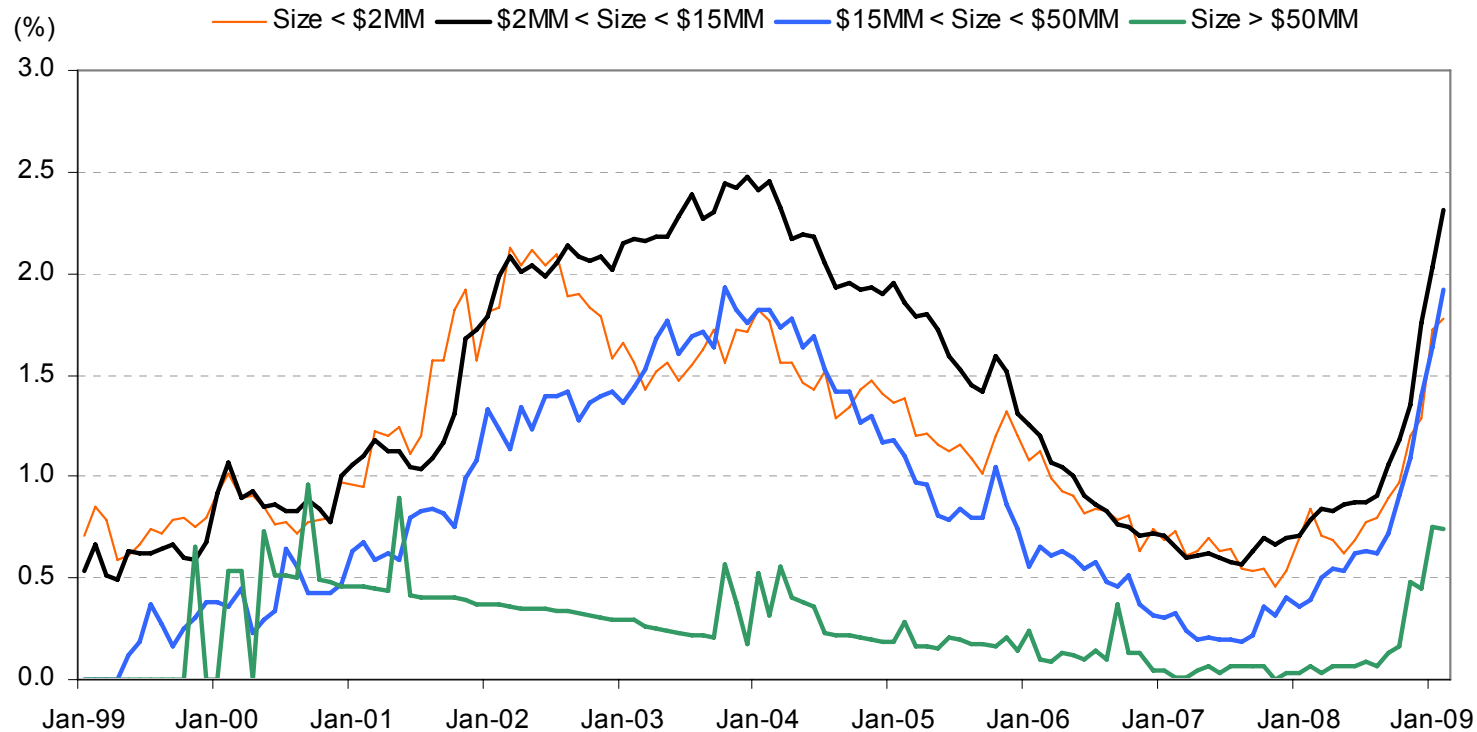
# Even seasoned vintages showing renewed deterioration



Source: Intex, Trepp

- Maturity defaults removed from the data, leaving only term-delinquencies
- All vintages exhibiting significant deterioration; 2001 back to previous peak
- Deterioration far more severe in 2006, 2007 and 2008 vintages

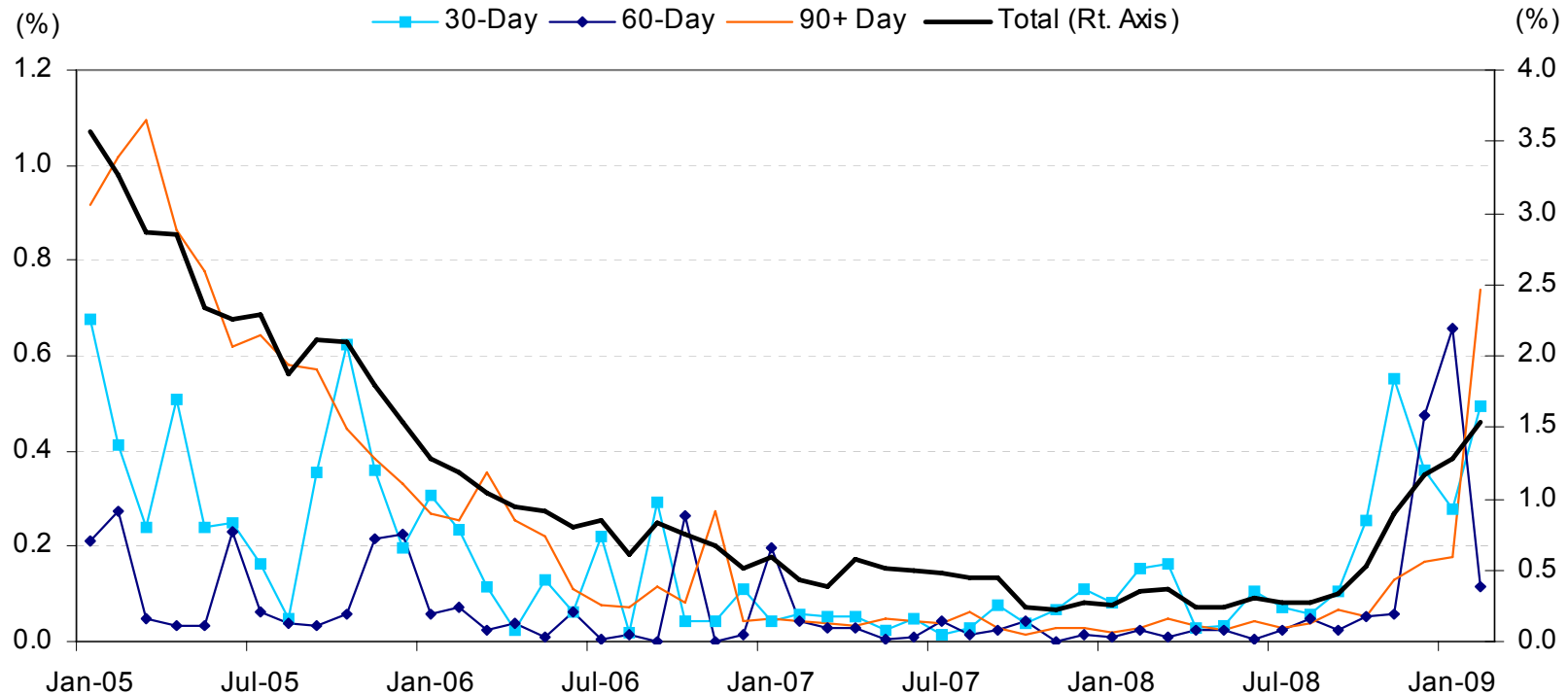
## Deterioration across loans of all sizes, small and large



Source: Intex, Trepp

- Historically, larger loans exhibited performance that was far superior to that of smaller loans
- This is unlikely to be the case going forward, as underwriting weakened most for larger loans

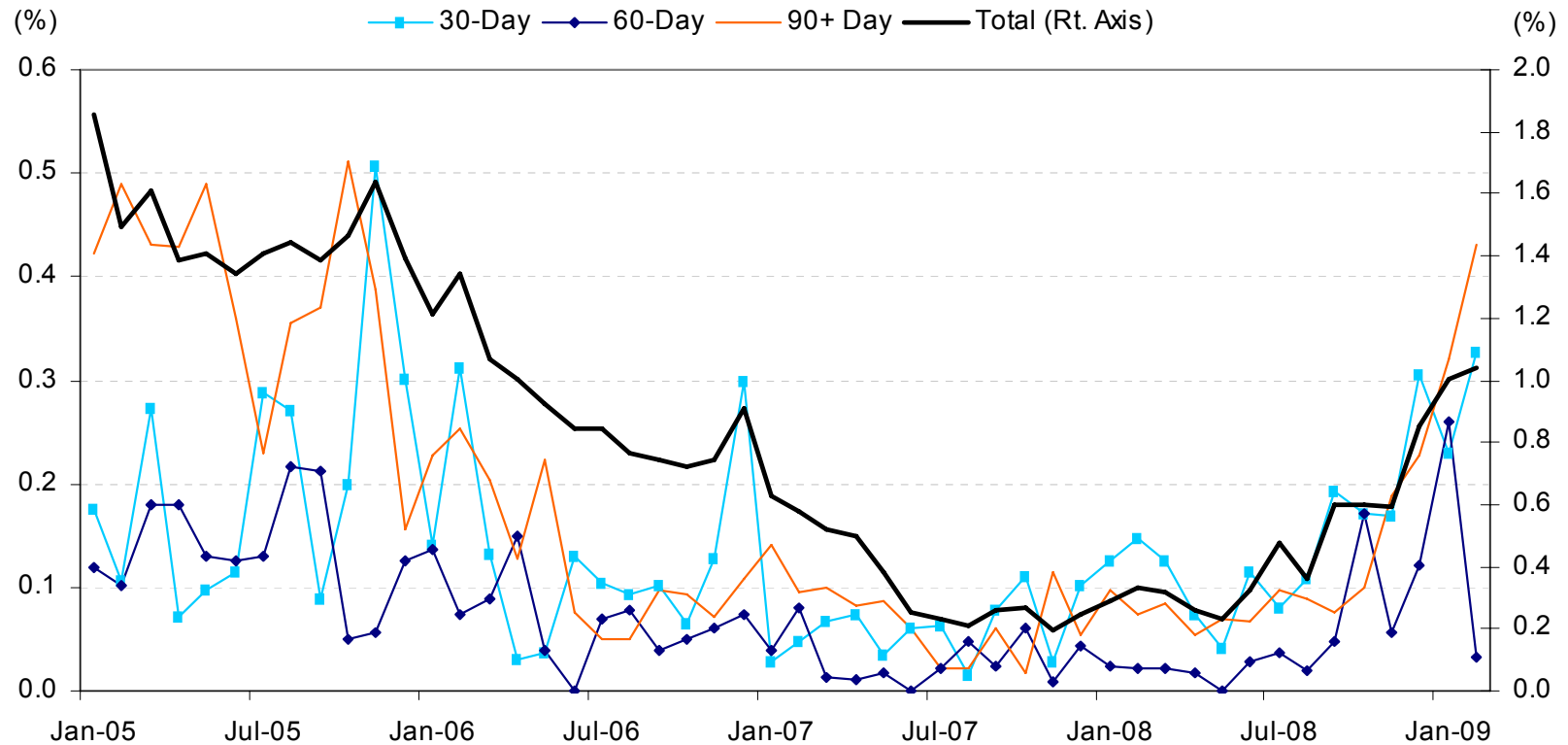
# Hotel loan deterioration now beginning to take-off



Source: Intex, Trepp

- Most independent hospitality research firms predicting 10-20% declines in NOI
- This would make the downturn worse than that of 2001-2003, when cumulative default rates reached nearly 25%
- Expect hotel to be one of the hardest hit sectors in this downturn

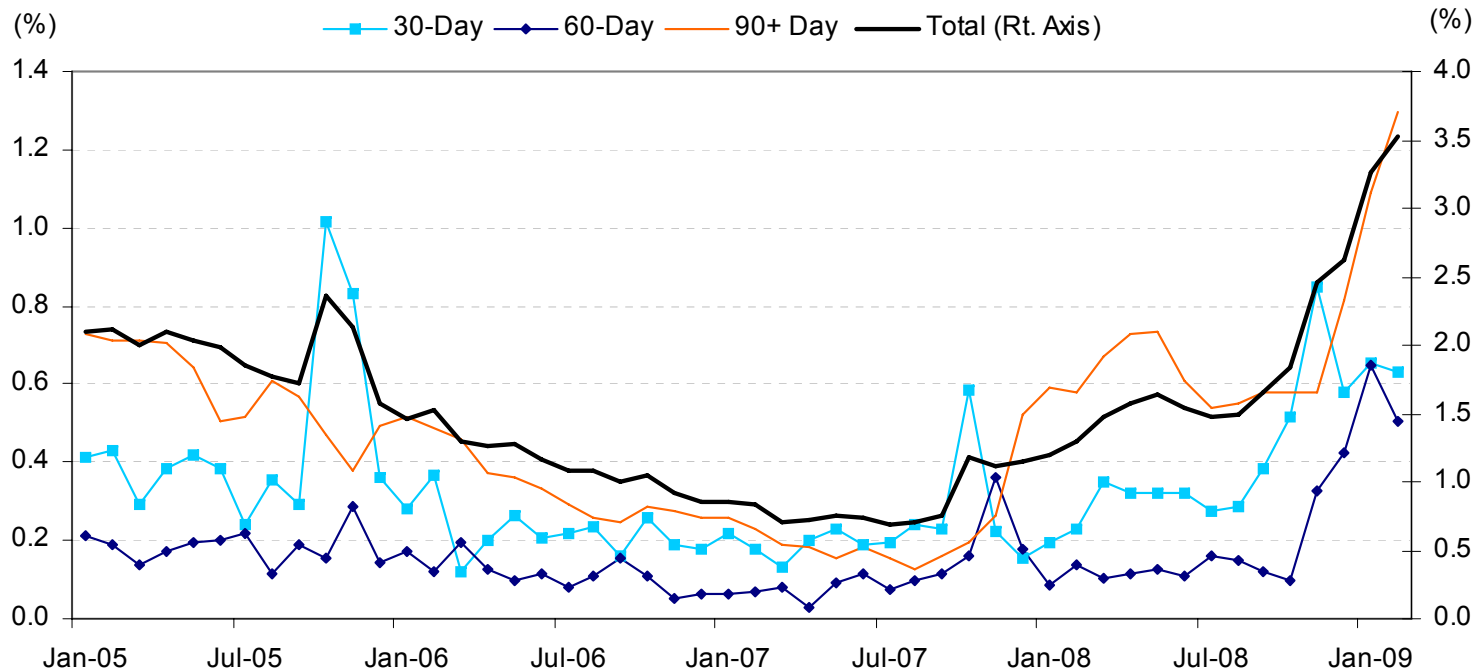
# Industrial sector showing only moderate deterioration



Source: Intex, Trepp

- Deterioration has been relatively restrained to date
- But declining production and collapsing international trade (i.e. many ports seeing cargo traffic down 30%) spells trouble for the demand for industrial space

# Multifamily experiencing by far the worst deterioration to date

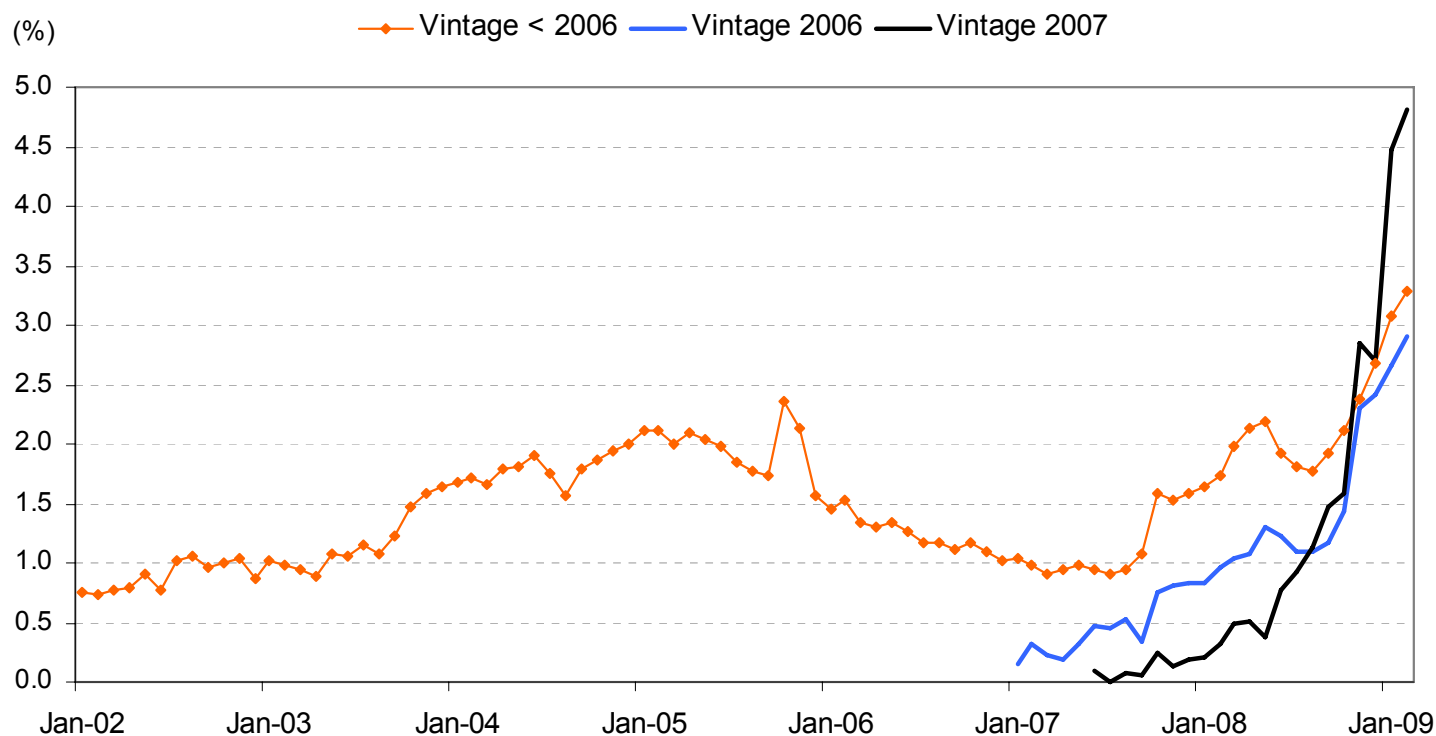


Source: Intex, Trepp

- Current total delinquency rate of 3.53% far surpasses previous peak of 2.35% in October 2005
- Average monthly increase of 43bp in total delinquency rate since October 2008



# Multifamily deterioration accelerating sharply



Source: Intex, Trepp

- Extraordinary pace of deterioration in 2006 and 2007 multifamily relative to previous vintages

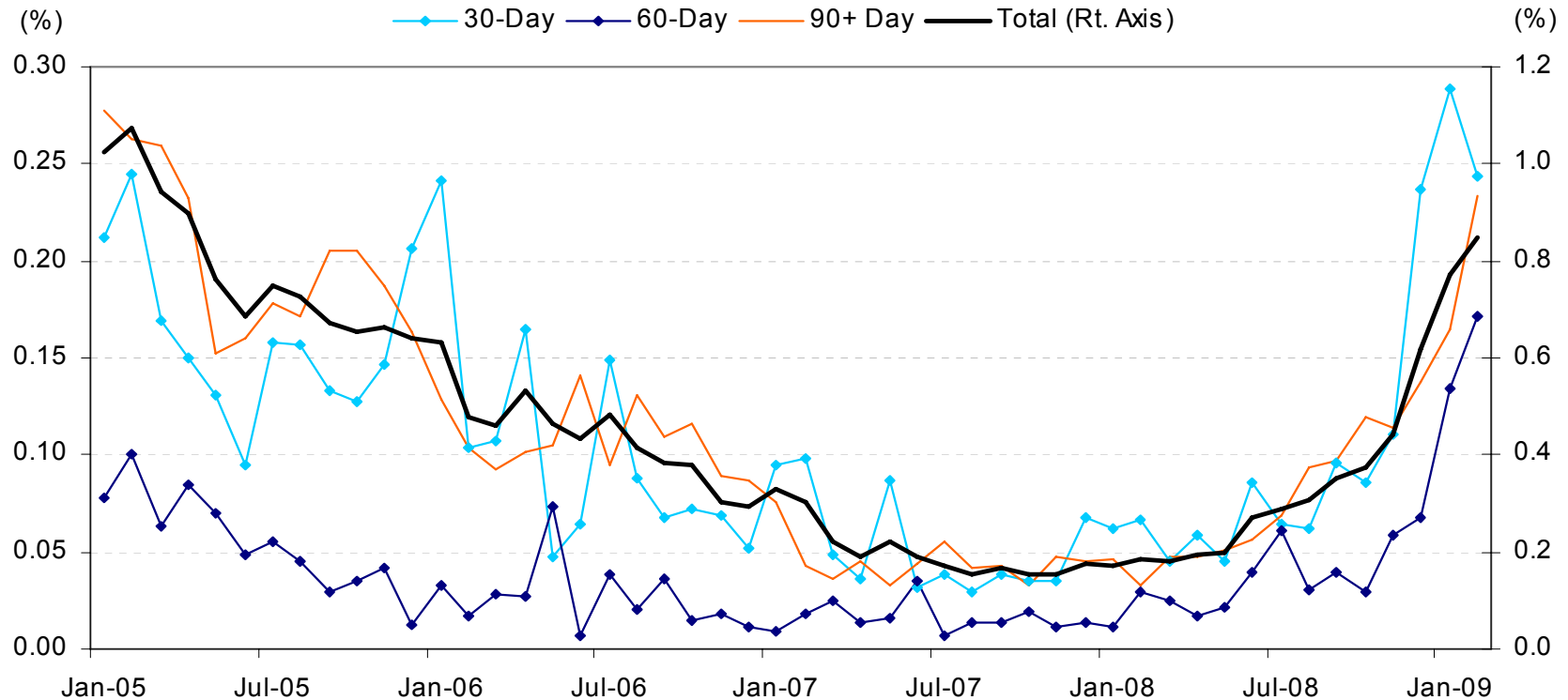
## Midwestern “rust-belt” states plus Florida, Georgia and Texas among worst multifamily performance

Rank	State	As of Jan 2009			As of Aug 2008		% Growth Since August
		# of Loans	# of Delinquent Loans	Balance-Weighted Delinquency Rate (%)	# of Delinquent Loans	Balance-Weighted Delinquency Rate (%)	
1	Tennessee	360	19	8.19	11	4.02	104
2	Georgia	919	31	7.79	9	1.88	315
3	Florida	1,441	63	7.29	26	3.24	125
4	Michigan	574	30	6.37	22	5.08	25
5	Nevada	396	12	5.15	3	0.96	438
6	Texas	3,597	109	4.92	69	3.03	63
7	Illinois	435	14	4.73	14	3.87	22
8	Ohio	834	22	4.65	15	2.63	77
9	Indiana	343	13	3.46	10	3.06	13
10	Connecticut	264	5	3.13	4	1.70	85
11	Oklahoma	300	9	3.12	11	3.74	-17
12	New York	2,576	18	3.04	6	0.36	741
13	Kentucky	171	4	2.38	2	0.67	257
14	Missouri	264	6	2.34	5	2.01	17
15	Mississippi	150	2	2.27	3	2.67	-15

Source: Intex, Trepp

- Big increase in number of delinquent multifamily loans in Florida over past six months, from 26 to 63
- Texas, Florida and Georgia (Atlanta) make their expected appearances
- Interestingly, California and Arizona, ground zero for residential mortgage problems, continue to experiencing very low multifamily delinquencies

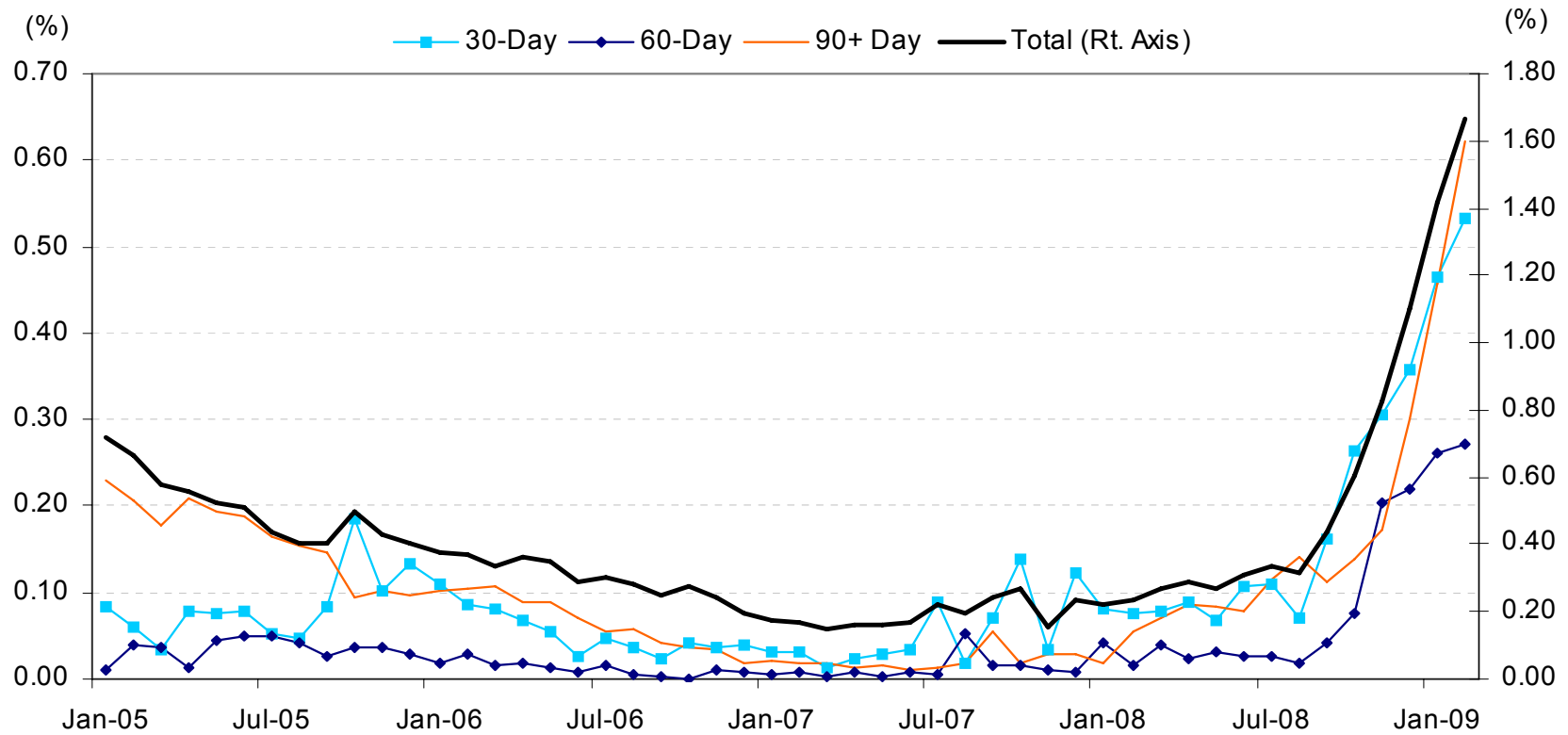
## Office exhibiting the least deterioration to date, but...



Source: Intex, Trepp

- Given the deterioration in employment rates in general, and office employment rates in particular, we expect office to be one of the hardest hit property segments
- At 85bp, total office delinquency rates remain low

## Degree of deterioration in retail is extraordinary

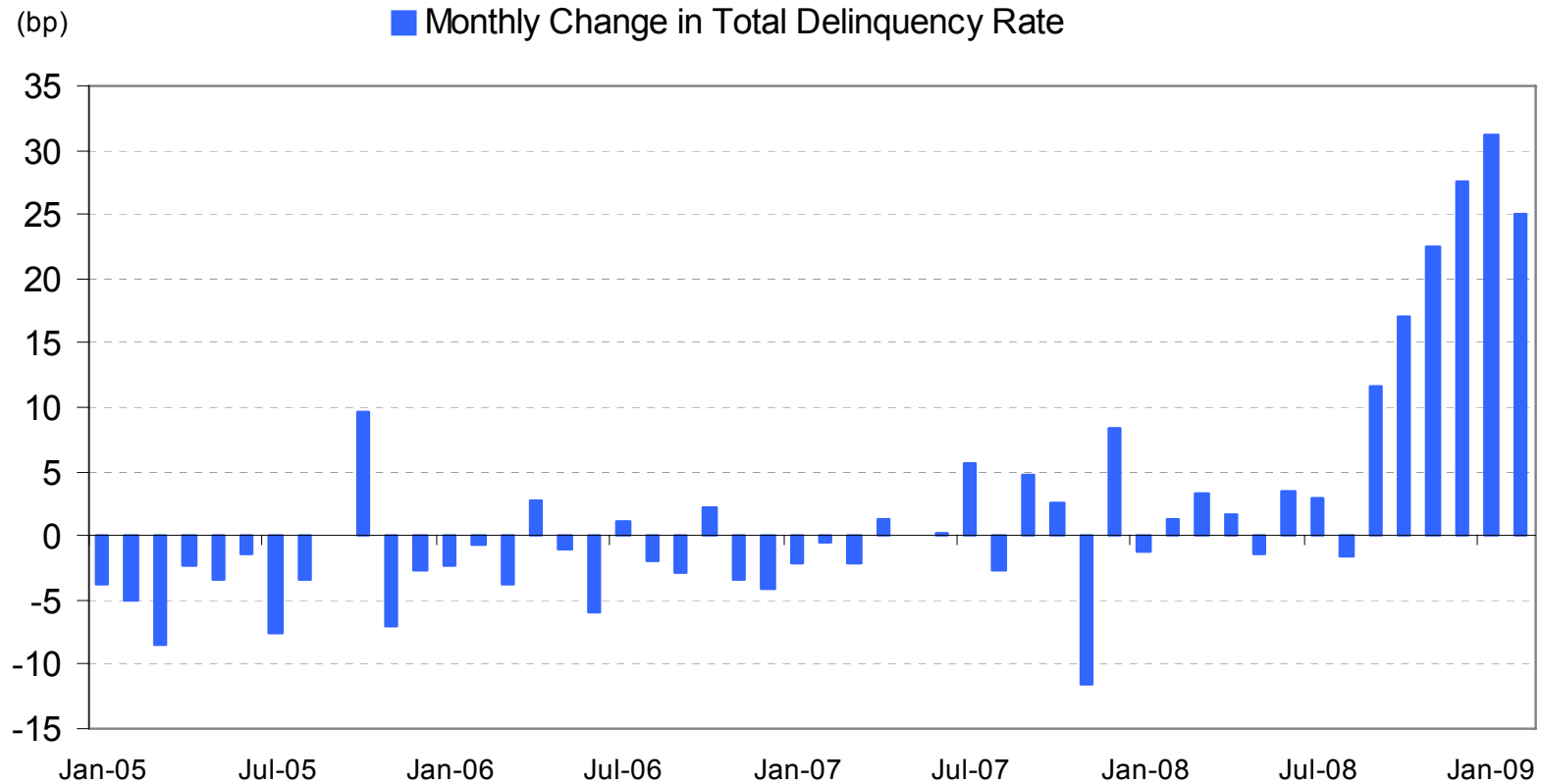


Source: Intex, Trepp

- Retail total delinquency rate—1.66%--has surpassed its previous peak set in September 2002
- Delinquency increases not driven by single-tenant retail



## Monthly increases in retail delinquency rate of 20-30bp

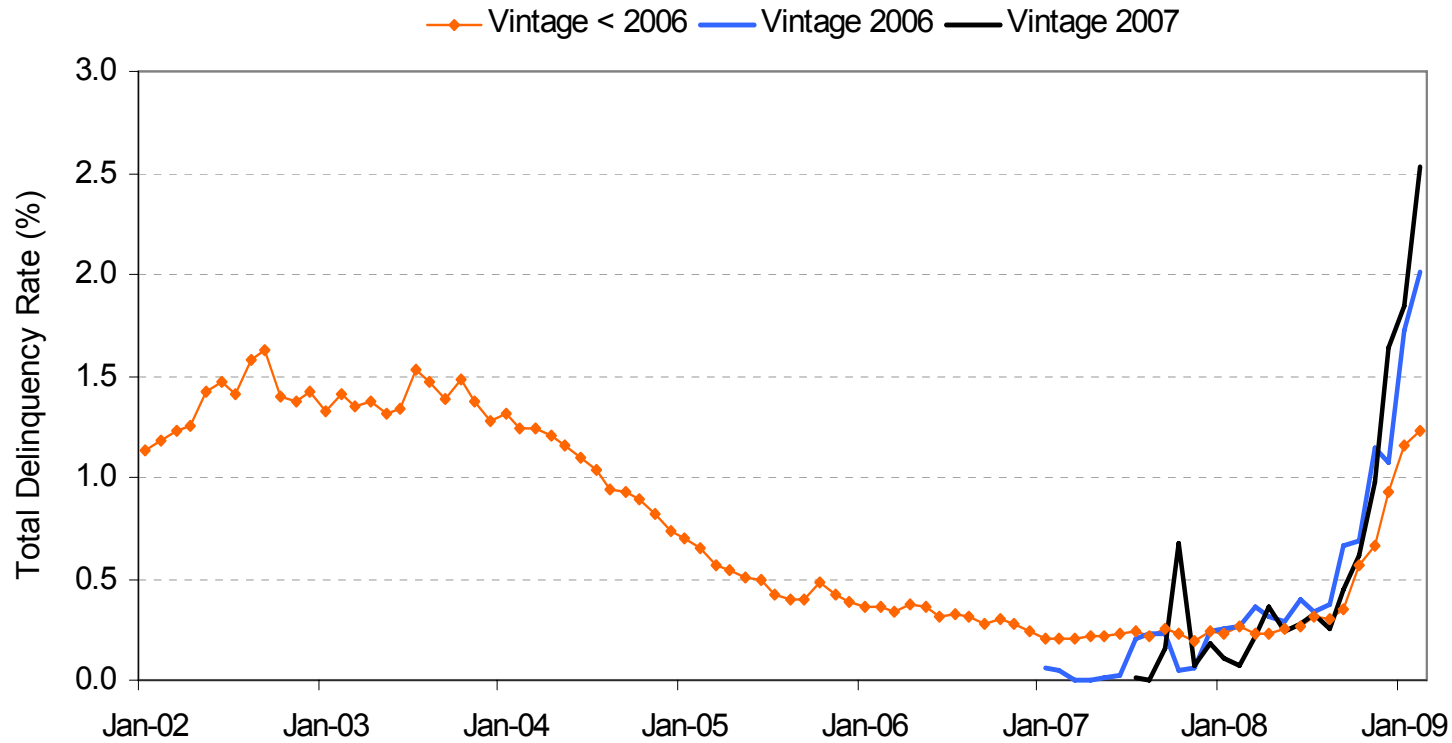


Source: Intex, Trepp

- Retail delinquencies now rising at 20-30bp per month
- Prospects for retail particularly worrisome given the historically large declines in consumer spending and increases in retailer bankruptcies



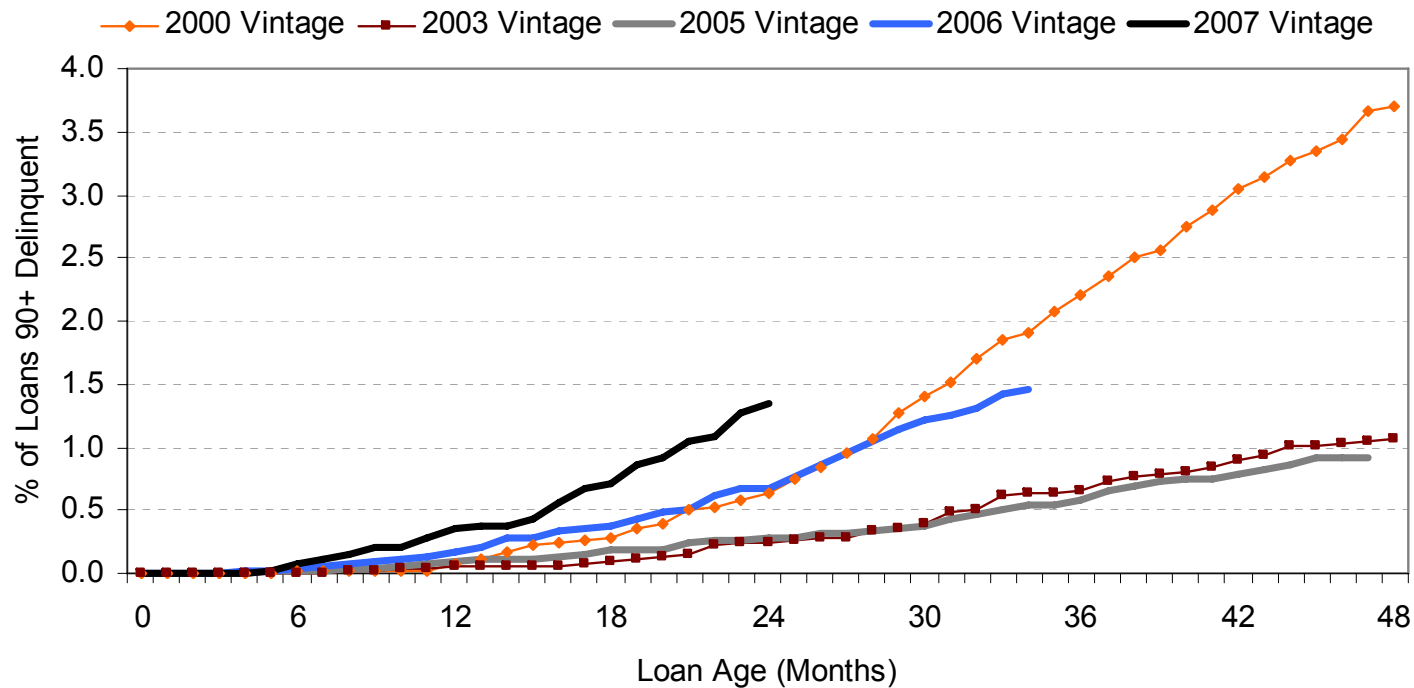
# Retail deterioration much more severe for more recent vintages



Source: Intex, Trepp, Markit

- Retail delinquency rate in 2007 vintage (at 2.54%) is twice that of the pre-2006 vintages

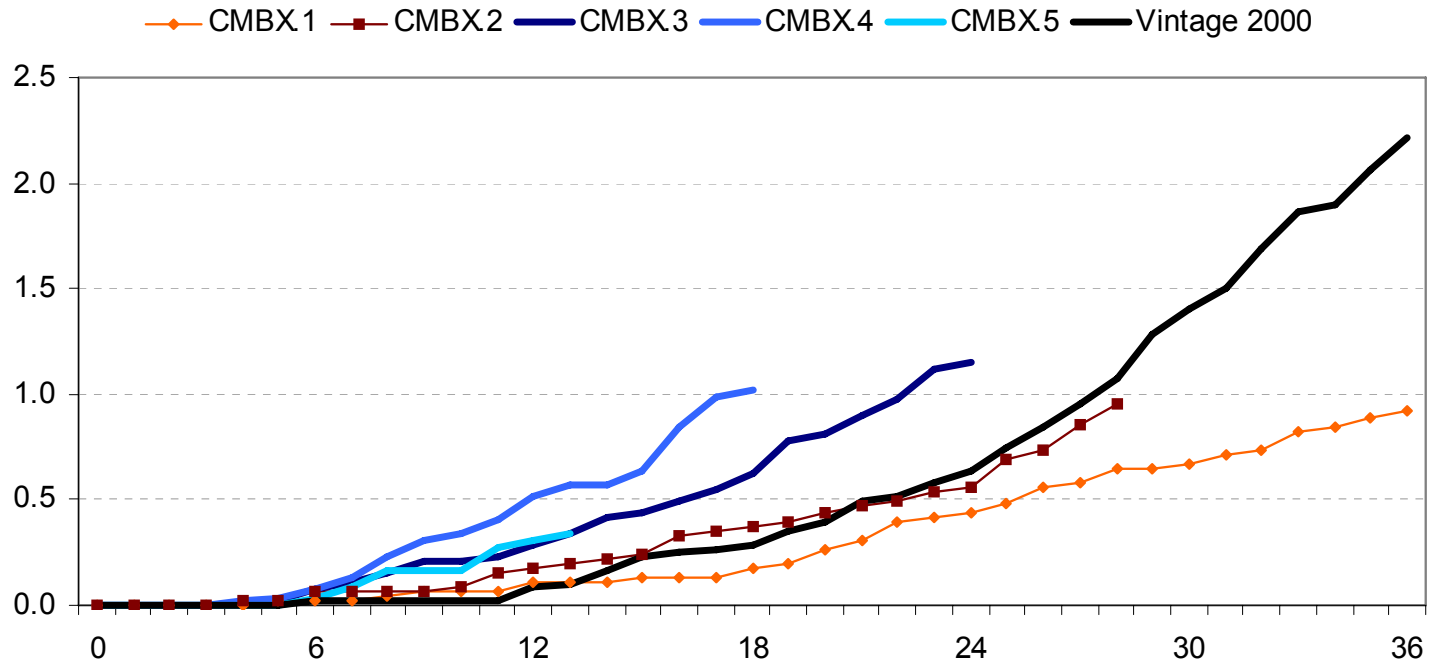
## 2006 and 2007 vintage loans clearly underperforming past vintages



Source: Intex, Trepp, Markit

- 2006 performing in-line with 2000 vintage, the worst performing vintage to date
- 2007 underperforming 2007 and 2000 by vast margin

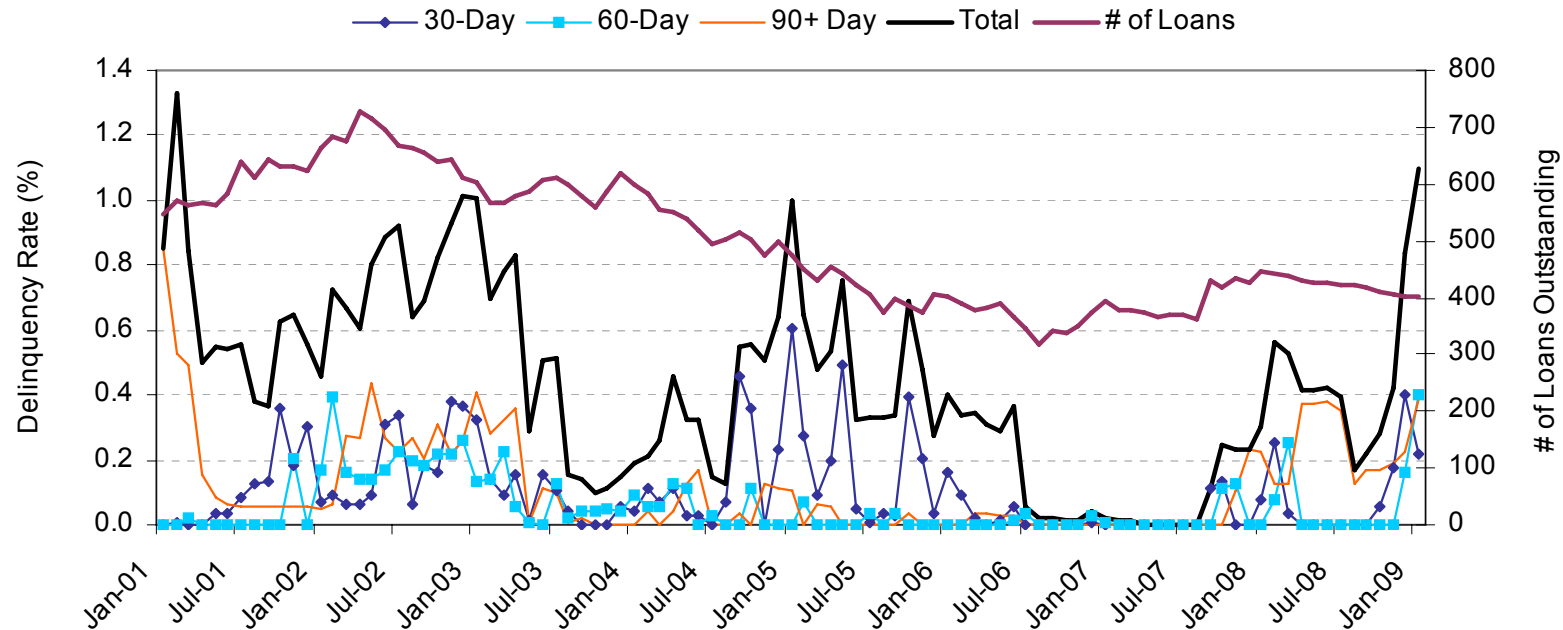
# CMBX series performing sequentially worse



Source: Intex, Trepp, Markit

- CMBX.1 and CMBX.2 performing well relative to past vintages on age-adjusted basis
- CMBX.4 underperforming both CMBX.3 and CMBX.5

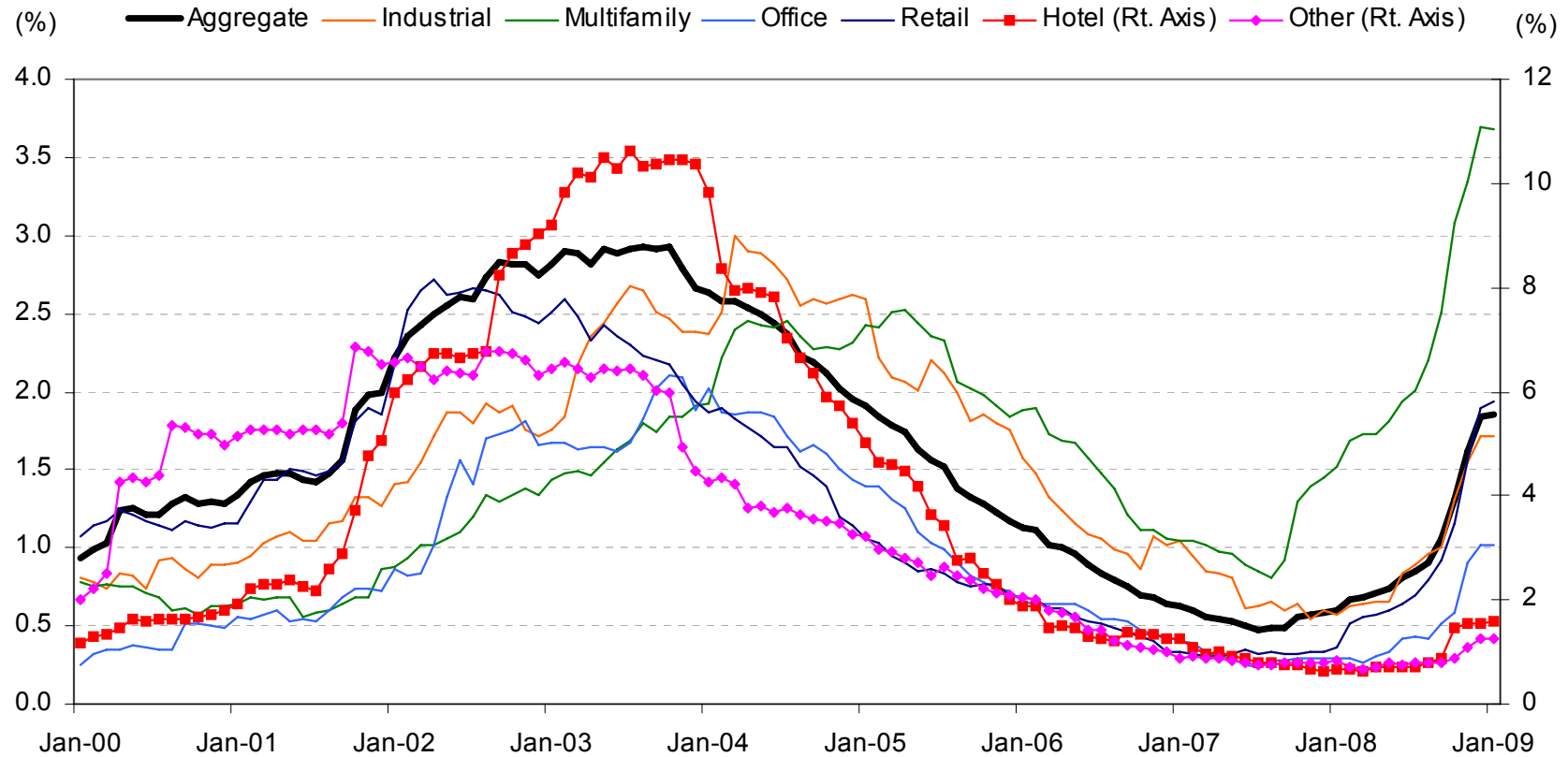
## Term performance beginning to deteriorate in floating rate loans as well



Source: Intex, Trepp

- Declining LIBOR rates in downturns means declining debt service a natural macro hedge
- Maturity defaults and extensions remain main near-term concern unless cash flows contract significantly

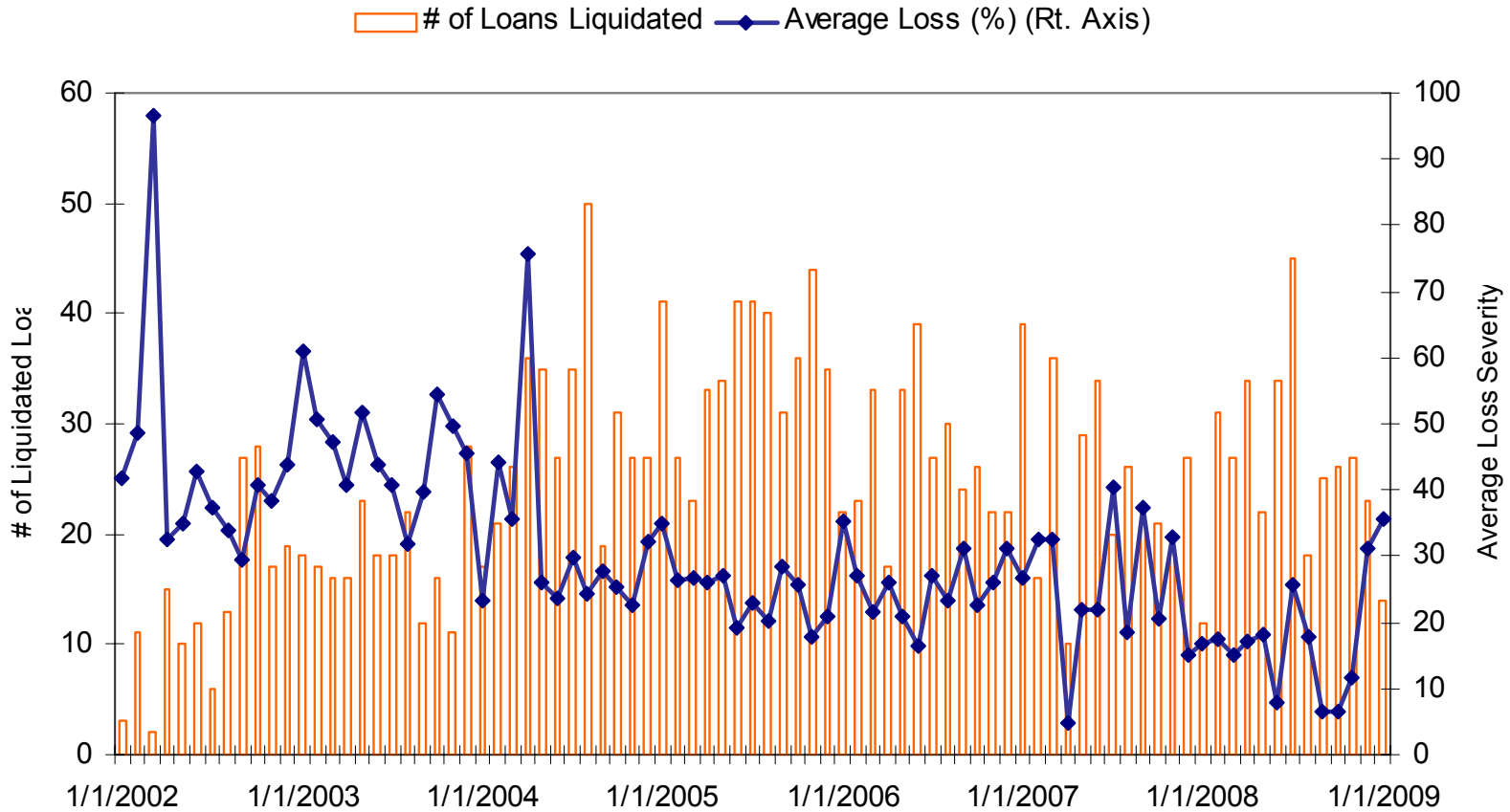
# A dramatic increase in specially serviced loans



Source: Intex, Trepp

- Currently 1,363 loans (\$12.9 billion) in special servicing versus 656 (\$4.6 billion) one year ago
- Special servicing looks to become much more lucrative

# Loss severity rates appear to be on the rise



Source: Intex, Trepp

- Currently 1,363 loans in special servicing versus 656 one year ago
- No clear trends in loss severity rates by property type



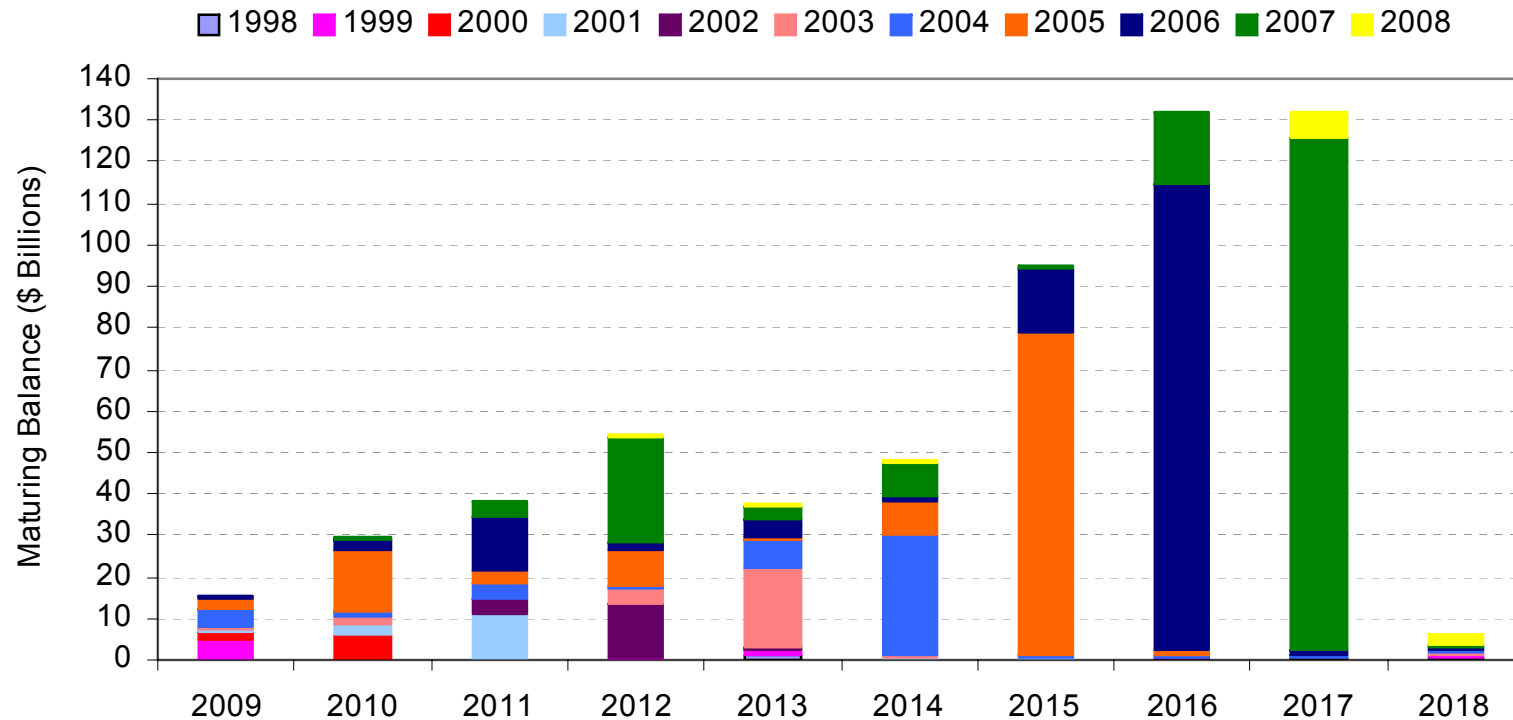
## **Maturity Default and Extension Risk**



## Key issues in assessing maturity default risk

- Amount and timing of scheduled loan maturities
- Two different sources of maturity default risk:
  1. Risk that loans will not qualify to refinance
    - Tighter underwriting standards
    - Massive price declines
    - Weakening cash flow
    - Time frame: 2010-2012
  2. Complete disruption of capital markets, even for loans qualified to refinance
    - CMBS market
    - Banks/thrifts
    - Life insurance companies
    - Pension funds
    - Time frame: 2009 onwards
- Current situation in maturity defaults and extensions
- Quantifying maturity default and extension risk
- Will it be widespread maturity extensions or mass foreclosures and liquidations?

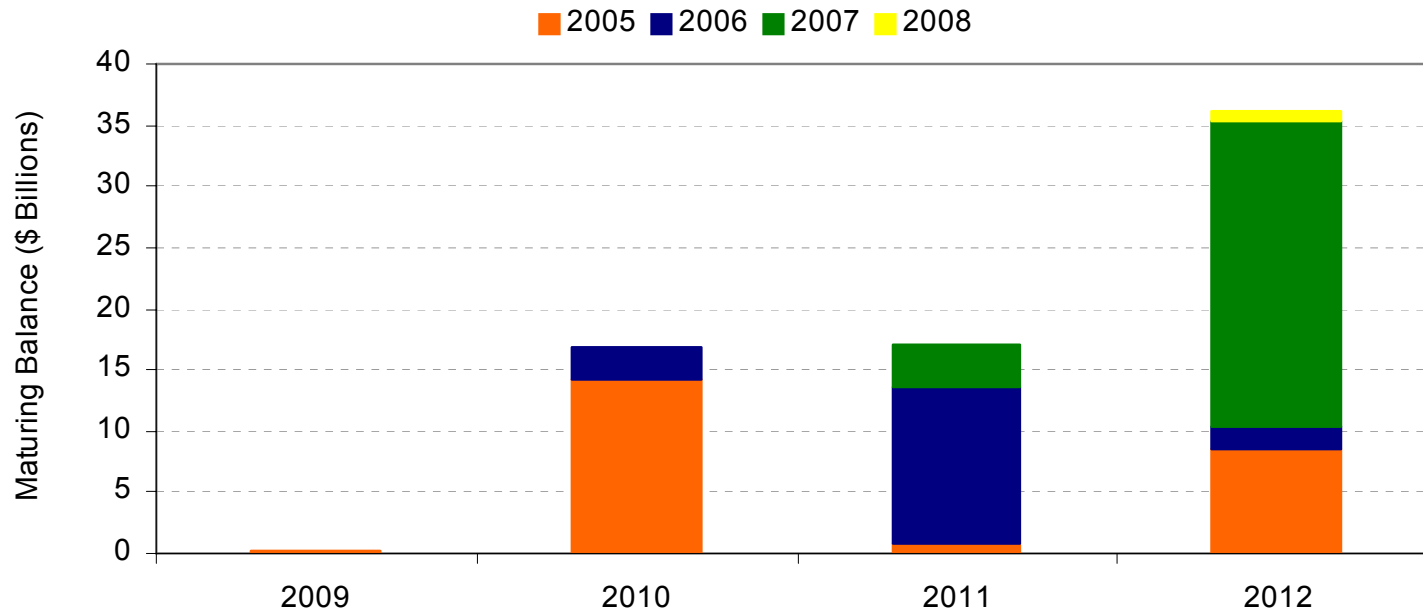
## Moderate amount maturing over through 2010, but rising quickly in 2011 and 2012



Source: Intex, Trepp

- \$15 billion maturing in 2009 and \$30 billion in 2010
- Amounts maturing in 2010-2012 also moderate, but high concentration of risky 5Y IO loans from 2005-2007

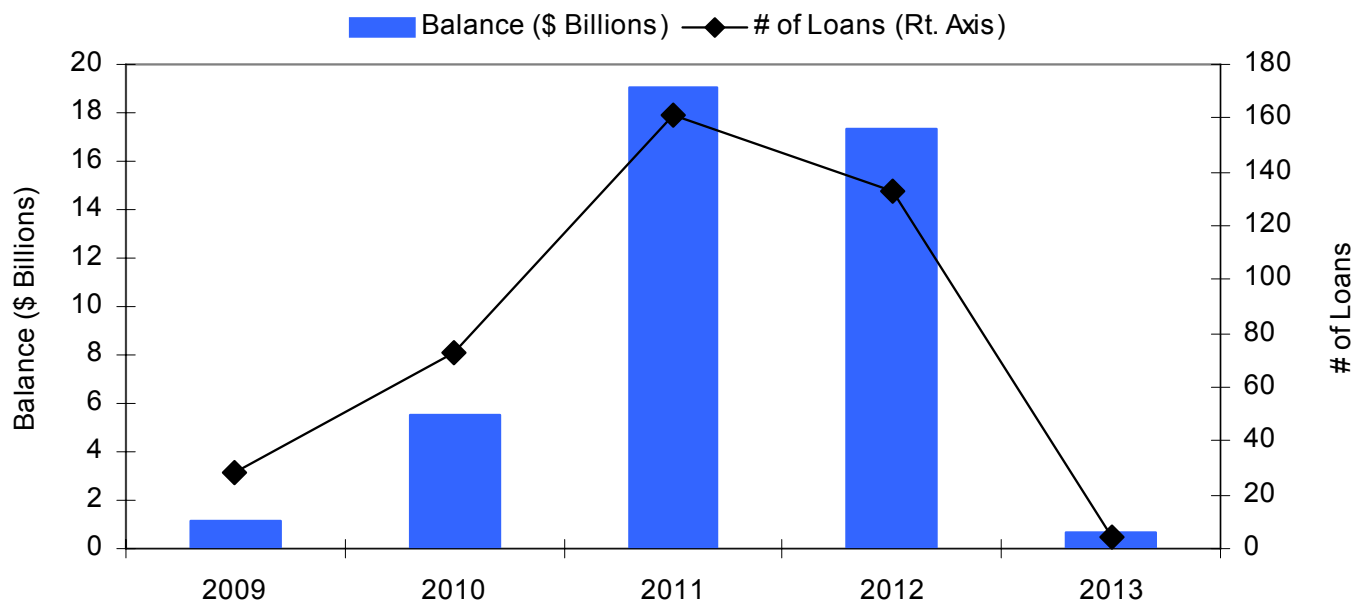
## Large amount of short-term loans from 2005-2007 vintages maturing in 2010-2012



Source: Intex, Trepp

- \$15-\$25billion of 5Y IO loans in each of 2010, 2011 and 2012
- Many of the riskiest pro forma loans from 2005-2007 were structured as 5Y IO loans

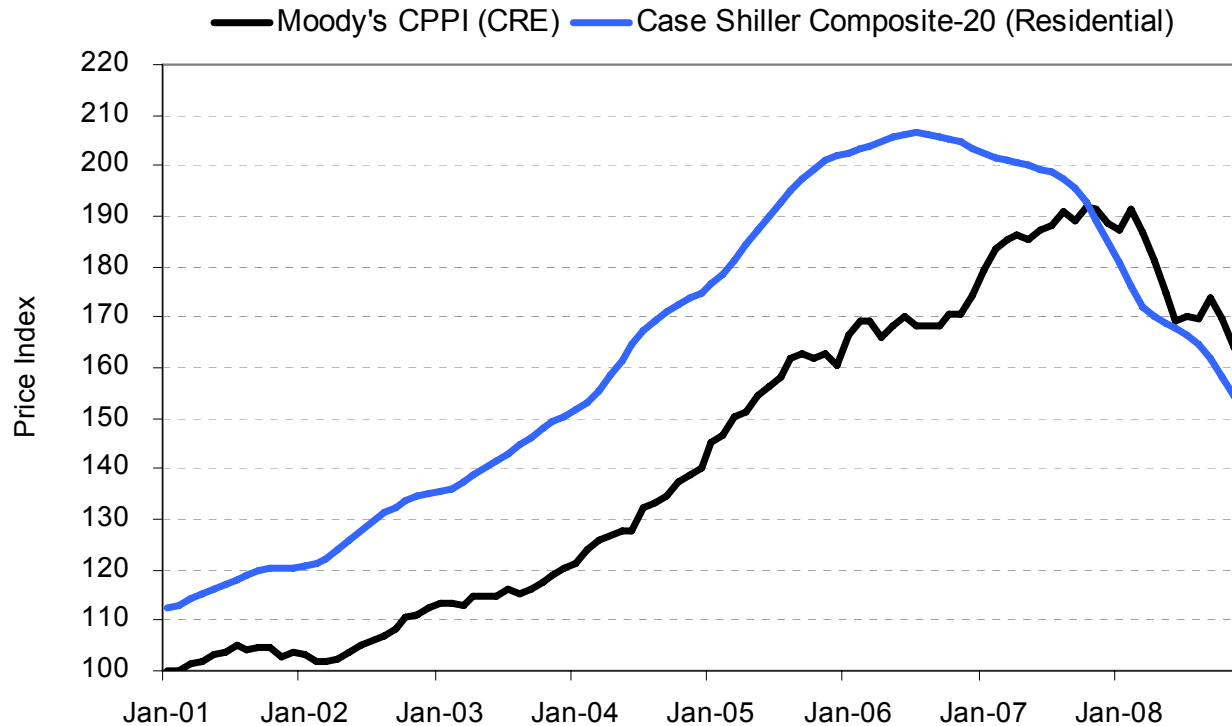
## Modest amount of large floating rate loans maturing in 2009 and 2010



Source: Intex, Trepp

- Approximately \$1.5 billion of loans maturing in 2009, and \$6.2 billion in 2010
- Major risk coming in 2011-2012, with \$35 billion in loan maturities

## Declining property prices pose a significant threat to loans needing to refinance over the next decade



Source: Moody's and REAL and Case Shiller

- CRE prices peaked in October 2007 after appreciating of 30% since 2005 and 90% from 2001
- Moody's CPPI down 16.4% from its peak, while Mood's TBI is down 22.5%



## The 1540 Broadway experience...

- CBRE Richard Ellis Investors reported (WSJ) to be buying 1540 Broadway, class B+/A-office in Time Square
- Property originally acquired from EOP by Macklowe Properties in February 2007 for \$1,080 per square foot
- CBRE purchase price of \$403 per square foot
- Represents almost 63% price decline over past 24 months

## Required ROE for levered CRE investors suggests price declines of 45% or more

	2007 Underwriting	New Underwriting	New Underwriting 15% NOI Decline
Cap Rate (going-in)	4.8%	7.4%	8.6%
Purchase Price (\$MM)	105	68	58
Loan to Value	85%	66%	60%
Equity (\$MM)	16	23	23
Loan Amount (\$MM)	89	45	35
Amortization	10	30 yr	30 yr
10 year UST	4.69%	2.86%	2.86%
Swap Spread	50	25	25
Credit Spread	45	500	500
All-In Rate	5.64%	8.11%	8.11%
Yr 1 Interest Cost (\$MM)	5.05	3.61	2.82
Yr 1 DSCR	1.00 x	1.25 x	1.36 x
Yr 10 NOI (\$MM)	6.5	6.5	5.5
Cap Rate (exit)	4.8%	7.4%	8.6%
Yr 10 Value	137	89	64
<b>ROE</b>	<b>13.8%</b>	<b>12.8%</b>	<b>13.0%</b>
<b>Implied Price Decline</b>		<b>35%</b>	<b>45%</b>

Source: Deutsche Bank Securities



## The further property prices decline, the more vintages that will face refinancing issues

### Price Decline From October 2007 Peak

12%  
24%  
37%  
41%

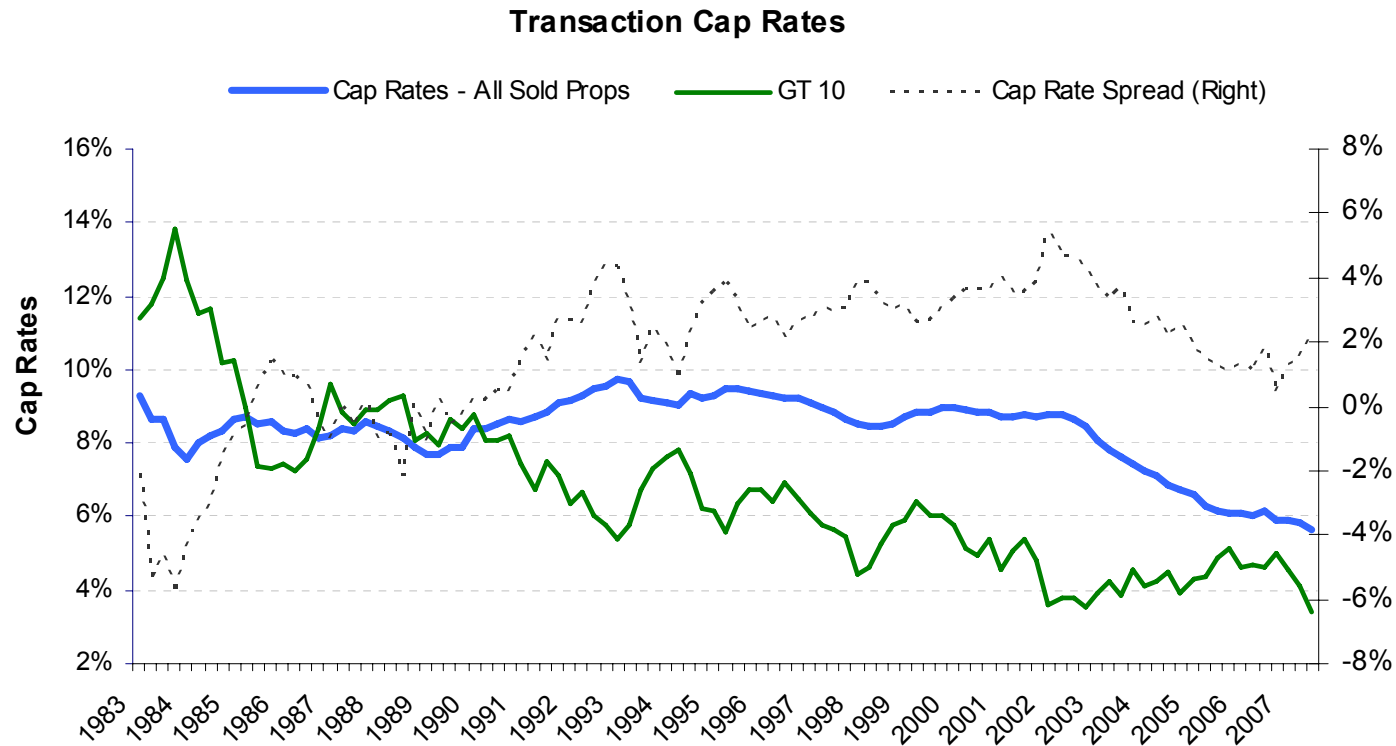
### Takes Prices Back To:

Early 2006  
Early 2005  
Early 2004  
Early 2003

Source: Moody's, Deutsche Bank Securities

- Price declines that have already taken place may pose significant problems for 2006 and 2007 loans that mature during the 2011-2012 period
- Further price declines would likely create significant problems for earlier vintages

# How far prices will decline is one of the major questions



Source: Moody's, NCREIF, Real Capital Analytics

- Cap rates increasing to 7% imply a 14% price decline, increasing to 8% a 25% price decline, increasing to 9% a 33% decline and increasing to 10% a 40% decline
- We expect price declines of 35-45%, and possibly more

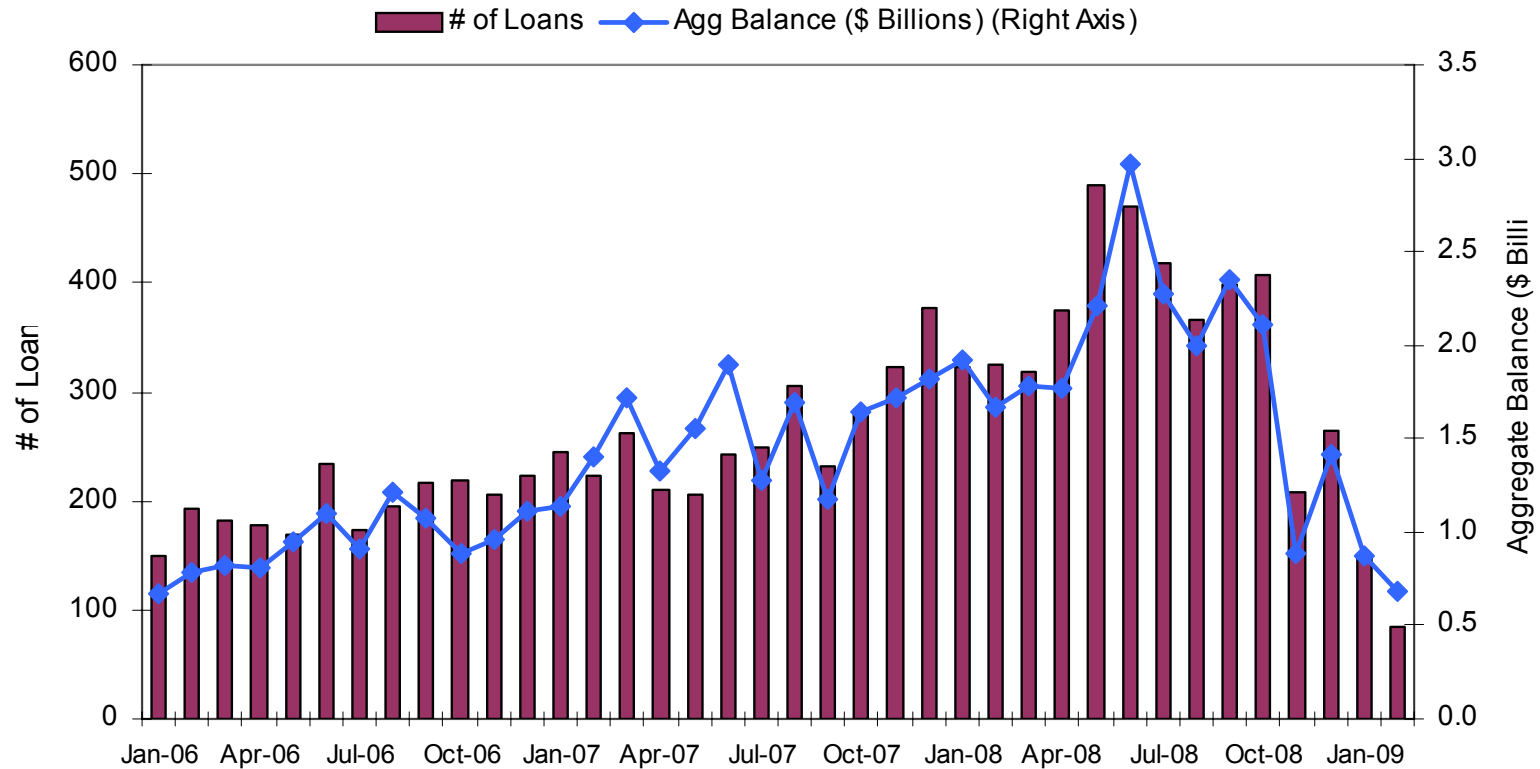
## Many 2006 and 2007 deals have very significant exposure to short-term loans

Rank	2006 Vintage Deal		2007 Vintage Deal	
	Deal Name	% Loans <5Yr Maturity	Deal Name	% Loans <5Yr Maturity
1	GSMS 2006-GG6	34.8	MSC 2007-HQ12	49.2
2	MSC 2006-T21	27.8	BACM 2007-2	38.9
3	MLCFC 2006-1	25.8	MSC 2007-IQ14	28.2
4	LBUBS 2006-C7	24.9	WBCMT 2007-C32	27.7
5	BACM 2006-6	24.9	GECMC 2007-C1	26.5
6	GSMS 2006-GG8	24.8	JPMCC 2007-LD11	24.9
7	COMM 2006-C8	23.1	LBCMT 2007-C3	24.5
8	MLMT 2006-C1	22.6	BACM 2007-1	24.0
9	CSMC 2006-C1	21.7	BSCMS 2007-PW16	23.7
10	CD 2006-CD2	21.0	JPMCC 2007-LDPX	23.5
11	CWCI 2006-C1	21.0	CD 2007-CD4	22.7
12	BACM 2006-5	20.8	MSC 2007-HQ13	22.4
13	BSCMS 2006-T22	20.8	GCCFC 2007-GG11	21.1
14	MLCFC 2006-4	20.7	MSC 2007-HQ11	20.9
15	BSCMS 2006-T24	18.6	LBUBS 2007-C6	20.9
16	JPMCC 2006-LDP9	17.6	BACM 2007-3	20.8
17	JPMCC 2006-LDP6	17.4	JPMCC 2007-LD12	20.4
18	BACM 2006-4	17.3	WBCMT 2007-C34	20.3
19	JPMCC 2006-CB16	17.0	GCCFC 2007-GG9	19.7
20	WBCMT 2006-C28	16.8	LBUBS 2007-C1	19.2

Source: Intex, Trepp

- Many deals have 20-30% exposure to short-term loans, but exposures can run as high as 50%

# Number of loans paying off each month dropping precipitously since October

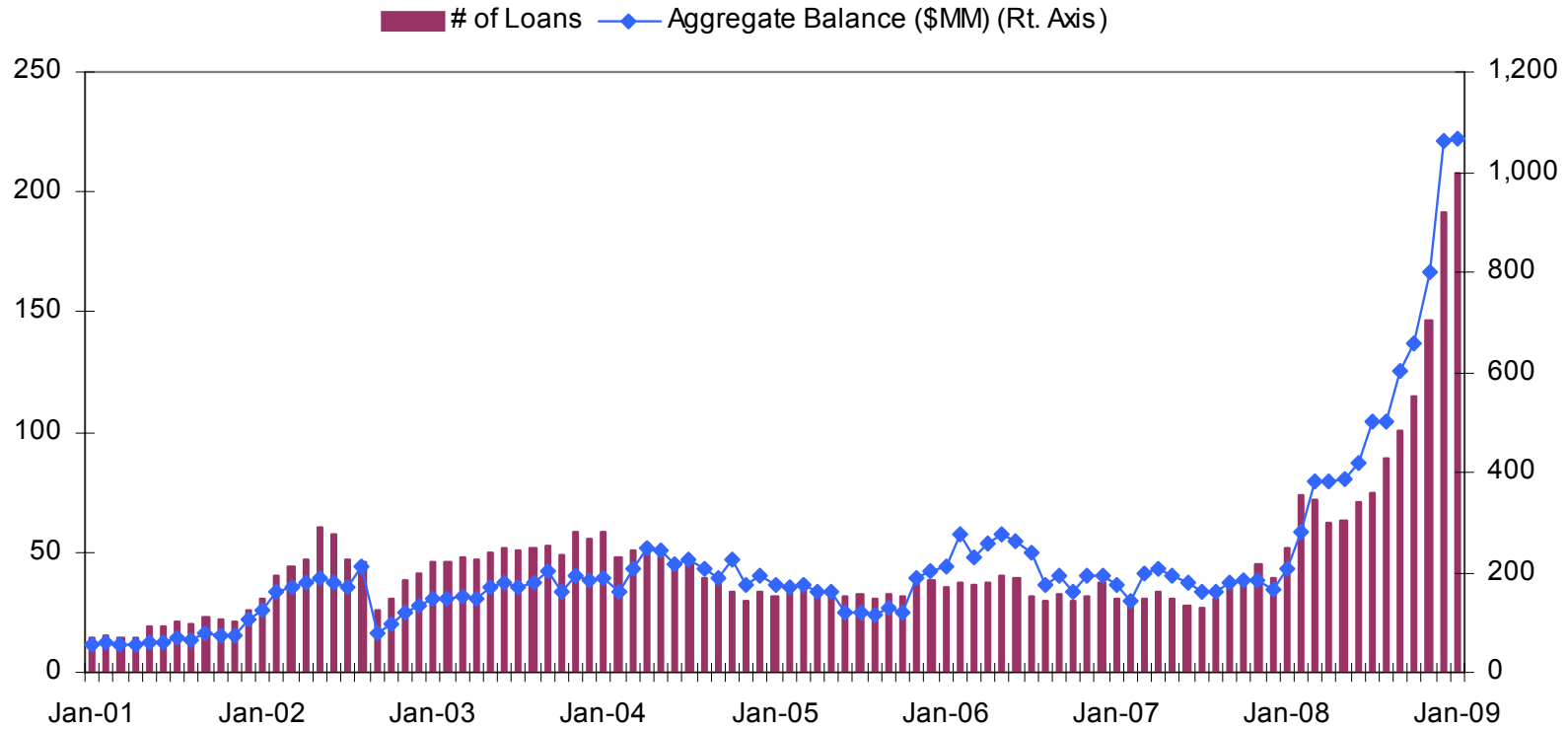


Source: Intex, Trepp

- On average, 400+ loans refinancing each month in 2008 prior to October
- That number is now below 100 per month, and falling



# The number of conduit loans passing their maturity date without refinancing is growing rapidly



Source: Intex, Trepp

## Indication that of conduit borrowers are having problems finding refinancing

Maturity Month	% Outstanding 12M Prior	% Outstanding 6M Prior	% Outstanding 3M Prior	% Outstanding 1M Prior	% Outstanding Mat Date	% Outstanding Mat Date+1	% Outstanding Mat Date+3	% Outstanding Mat Date+6
Jan-06	48	38	15	12	29	23	16	13
Feb-06	49	36	19	13	32	16	0	0
Mar-06	39	31	17	15	25	20	5	5
Apr-06	41	30	24	17	39	29	18	14
May-06	43	35	24	20	28	7	3	0
Jun-06	43	35	28	20	17	7	7	3
Jul-06	46	35	25	15	31	8	8	8
Aug-06	49	38	26	18	23	13	3	0
Sep-06	49	39	29	21	37	5	5	2
Oct-06	38	25	15	11	37	16	11	5
Nov-06	54	46	36	13	33	24	12	6
Dec-06	50	35	26	16	53	19	16	6
Jan-07	36	27	16	12	20	7	7	5
Feb-07	39	30	20	16	38	25	16	0
Mar-07	40	34	20	14	29	21	0	0
Apr-07	38	30	24	15	10	5	5	2
May-07	38	27	17	11	25	14	7	4
Jun-07	38	24	18	13	32	12	10	5
Jul-07	44	35	23	16	26	19	7	2
Aug-07	49	41	23	18	27	20	11	3
Sep-07	38	31	22	16	23	14	5	3
Oct-07	40	32	24	19	27	22	12	5
Nov-07	35	28	20	14	22	8	6	1
Dec-07	37	30	22	15	38	19	10	5

Source: Intex, Trepp

## As of October, little indication that of conduit borrowers having significant problems finding refinancing

Maturity Month	% Outstanding 12M Prior	% Outstanding 6M Prior	% Outstanding 3M Prior	% Outstanding 1M Prior	% Outstanding Mat Date	% Outstanding Mat Date+1	% Outstanding Mat Date+3	% Outstanding Mat Date+6
Jan-08	38	33	25	18	26	19	7	2
Feb-08	41	35	27	20	32	22	6	5
Mar-08	39	35	30	22	32	11	8	2
Apr-08	39	33	27	20	23	11	7	4
May-08	33	29	23	19	26	12	4	3
Jun-08	47	40	33	24	29	13	6	2
Jul-08	49	46	37	25	25	13	8	6
Aug-08	50	46	37	24	30	17	8	6
Sep-08	51	49	40	27	26	15	11	
Oct-08	47	47	35	25	33	21	13	
Nov-08	53	48	39	27	40	28	21	
Dec-08	46	43	35	25	38	23		
Jan-09	50	45	40	31	29	23		
<b>Feb-09</b>	<b>50</b>	<b>47</b>	<b>39</b>	<b>29</b>	<b>46</b>			
Mar-09	56	51	42	35				
Apr-09	53	50	41					
May-09	54	52	43					
Jun-09	54	48						
Jul-09	38	34						
Aug-09	39	35						
Sep-09	50							
Oct-09	43							
Nov-09	52							
Dec-09	48							
Jan-10	50							
Feb-10	49							

Source: Intex, Trepp

- % of loans that have not refinanced one month prior to maturity has doubled or tripled

## Refinancing problems already showing up in a major way in large floating rate loans

Deal	Loan Name	Maturity Date	City	Trust Balance	Property Type	Status
COM07F14	Macklowe EOP Portfolio	2/8/2008	New York	1,130,000,000	OF	Paid Off
GCC06FL4	The Tides	2/8/2008	Miami Beach	13,047,002	Condo	Paid Off
GMAC00F1	The Key Bank Building	2/8/2008	Anchorage	2,916,581	OF	Paid Off
LBFR03C2	One IBM Plaza	3/8/2008	Chicago	130,211,771	OF	Paid Off
CSF05CN1	Hotel 71	4/7/2008	Chicago	61,281,847	Condo Conversion	Maturity Default
BALL03B2	Westland Shopping Center	4/8/2008	Westland	50,000,000	RT	Paid Off
LBFR05C4	321-329 Riverside Avenue	2/15/2009	Westport	8,400,000	OF	Extension
LBFR06C5	5670 Wilshire Blvd	5/8/2008	Los Angeles	50,538,690	OF	Paid Off
MSC06XLF	Waikoloa Land	7/8/2008	Honolulu	7,030,000	Land	Paid Off
JPC04FL1	Oasis Apartments	4/10/2009	Las Vegas	2,286,250	MF	Extension
CTG04FL1	Jamestown Mall	6/8/2009	Florissant	3,567,648	RT	Extension
WBC07W08	717 Fifth Avenue	9/8/2008	New York	130,000,000	MX	Paid Off
LBFR06C2	The Crossings at Otay Ranch	2/15/2009	San Diego	17,247,626	Condo Conversion	Extension
BSC04BB3	Riverside Center	9/12/2009	Utica	28,238,000	RT	Extension
LBFR06C2	Mandalay on the Hudson	12/8/2008	Jersey City	8,096,211	MF	Paid Off
LBFR06C2	Avalon at Seven Hills	12/8/2008	Las Vegas	13,888,724	Condo Conversion	Term Default, Disc Pay Off
WBC06W07	Leestown Square	12/15/2009	Louisville	19,500,000	OF	Extension, 60 Days Delinq
CTG04FL1	Hensley Distribution Center	1/1/2009	Tempe	3,132,849	IN	Paid Off
LBFR06C2	Village Oaks	1/1/2009	Tampa	17,232,764	Condo Conversion	Term Default, Paid Off

Source: Intex, Trepp

- Of the 19 floating rate loans scheduled to mature in 2008, 10 paid off and 3 defaulted at maturity (i.e. non-performing) and 6 obtained maturity extensions
- Expect vast majority of floating rate loans maturing in 2009 to be either maturity defaults or extensions



## Estimating the number of loans that will qualify for refinancing

- Project individual property cash flows using Portfolio and Property Research (PPR) rent growth and vacancy assumptions
- Specify average cap rates at each future date for each property type
- Use the above to deduce LTV and DSCR at maturity for each loan under this scenario
- Specify assumptions about maximum LTV and minimum DSCR for refinancing
- Calculate aggregate value of loans that do not qualify for refinancing

## Scenario assumptions

### ■ PPR Recession Scenario – Aggregate 5Y NOI growth by property type

<b>PPR Aggregate Current-to-Trough NOI Decline</b>	
<b>Property Segment</b>	<b>% NOI Change</b>
Industrial	-8.5
Multifamily	-4.4
Office	-13.1
Retail	-16.1
Hotel	-20.0

### ■ Assumed current and future cap rates

<b>Property Segment</b>	<b>Current</b>	<b>2yrs Fwd</b>	<b>5yrs Fwd</b>	<b>10yrs Fwd</b>	<b>18 yrs Fwd</b>
Multifamily	9.5	9.5	9.0	8.0	8.0
Non-Multifamily	8.5	8.5	8.0	8.0	8.0

Source: PPR, Deutsche Bank Securities

## Loans maturing 2009-2012: Lenient underwriting

### Loans Maturing 2009 - 2012

#### Refinancing Requirement: LTV < 80

Property Type	# Loans	Balance (\$BB)	# Defaulted Loans	Defaulted Balance (\$BB)	% Not Qualifying (Count)	% Not Qualifying (Balance)
Hotel	475	7.4	183	3.9	38.5	52.8
Industrial	1,189	5.8	356	2.1	29.9	36.4
Multifamily	3,793	24.4	1959	16.5	51.6	67.5
Office	2,629	40.9	1196	27.1	45.5	66.3
Retail	4,156	44.6	1612	22.7	38.8	50.8
Multi Property	672	22.0	249	10.4	37.1	47.2
Other	1,545	9.4	513	5.1	33.2	54.0
<b>Aggregate</b>	<b>14,459</b>	<b>154.5</b>	<b>6,068</b>	<b>87.7</b>	<b>42.0</b>	<b>56.8</b>

Source: Intex, Trepp

- For loans maturing through 2012, even lenient underwriting requirements imply the majority (56.8%) of loans will not qualify
- Out of \$154.5 billion of maturing loans, \$87.7 billion do not qualify
- Office and multifamily are most severely impacted segments

## Loans maturing 2009-2012: Conservative Underwriting

### Loans Maturing 2009 - 2012

#### Refinancing Requirement: LTV < 70

Property Type	# Loans	Balance (\$BB)	# Defaulted Loans	Defaulted Balance (\$BB)	% Not Qualifying (Count)	% Not Qualifying (Balance)
Hotel	475	7.4	200	4.2	42.1	57.3
Industrial	1189	5.8	438	2.7	36.8	45.8
Multifamily	3793	24.4	2170	18.4	57.2	75.2
Office	2629	40.9	1459	31.0	55.5	75.7
Retail	4156	44.6	2181	28.5	52.5	64.0
Multi Property	672	22.0	300	11.9	44.6	54.1
Other	1545	9.4	667	5.9	43.2	62.5
<b>Aggregate</b>	<b>14,459</b>	<b>154.5</b>	<b>7,415</b>	<b>102.5</b>	<b>51.3</b>	<b>66.4</b>

Source: Intex, Trepp

- For loans maturing through 2012, conservative refinancing assumptions imply approximately two-thirds of maturing loans will not qualify for refinancing
- Fewer than 25% of multifamily loans and 25% of office loans qualify under this scenario

## 2007 vintage loans maturing 2009-2012: Conservative Underwriting

### 2007 Vintage Loans Maturing 2009 - 2018

#### Refinancing Requirement: LTV < 70

Property Type	# Loans	Balance (\$BB)	# Defaulted Loans	Defaulted Balance (\$BB)	% Not Qualifying (Count)	% Not Qualifying (Balance)
Hotel	79	2.7	61	2.3	77.2	86.4
Industrial	53	0.6	48	0.5	90.6	81.3
Multifamily	197	3.6	184	3.5	93.4	96.8
Office	197	7.6	180	6.7	91.4	88.8
Retail	118	2.0	113	1.9	95.8	98.4
Multi Property	81	4.2	39	1.7	48.1	40.8
Other	135	2.1	92	1.8	68.1	84.0
<b>Aggregate</b>	<b>860</b>	<b>22.8</b>	<b>717</b>	<b>18.5</b>	<b>83.4</b>	<b>81.1</b>

Source: Intex, Trepp

- The vast majority of 2007 originated conduit loans maturing through 2012 are unlikely to qualify for refinancing
- What proportion will be extended and what proportion foreclosed

## Loans maturing 2009: Conservative Underwriting

Loans Maturing 2009						
Refinancing Requirement: LTV < 70						
Property Type	# Loans	Balance (\$BB)	# Defaulted Loans	Defaulted Balance (\$BB)	% Not Qualifying (Count)	% Not Qualifying (Balance)
Hotel	83	0.7	16	0.1	19.3	16.5
Industrial	215	0.9	54	0.4	25.1	39.6
Multifamily	647	2.7	292	1.6	45.1	59.3
Office	428	4.1	166	2.0	38.8	48.6
Retail	720	6.3	243	3.4	33.8	53.2
Multi Property	96	2.7	36	0.6	37.5	24.2
Other	325	1.3	111	0.4	34.2	29.4
<b>Aggregate</b>	<b>2,514</b>	<b>18.8</b>	<b>918</b>	<b>8.5</b>	<b>36.5</b>	<b>45.2</b>

Source: Intex, Trepp

- Even loans maturing in 2009 look to face significant value deficiency hurdles

## Loans maturing 2009-2018: Conservative Underwriting

### Loans Maturing 2009 - 2018

#### Refinancing Requirement: LTV < 70

Property Type	# Loans	Balance (\$BB)	# Defaulted Loans	Defaulted	% Not	% Not
				Balance (\$BB)	Qualifying (Count)	Qualifying (Balance)
Hotel	2756	34.3	575	11.5	20.9	33.5
Industrial	3666	20.3	1428	10.3	39.0	50.5
Multifamily	11880	81.8	6524	57.4	54.9	70.1
Office	9192	162.9	5008	114.6	54.5	70.4
Retail	18121	169.4	11368	124.0	62.7	73.2
Multi Property	2541	72.0	1095	32.7	43.1	45.4
Other	5923	34.6	2520	19.3	42.5	55.8
<b>Aggregate</b>	<b>54,079</b>	<b>575.3</b>	<b>28,518</b>	<b>369.7</b>	<b>52.7</b>	<b>64.3</b>

Source: Intex, Trepp

- For loans maturing through 2012, conservative refinancing assumptions imply almost two-thirds of maturing loans (\$370 billion) will not qualify for refinancing
- Less than 19% of multifamily loans and 25% of office loans qualify under this scenario

## Loans maturing 2009-2012: Lower Cap Rates

### Loans Maturing 2009: Lower Cap Rates

#### Refinancing Requirement: LTV < 70

<b>Property Type</b>	<b># Loans</b>	<b>Balance (\$BB)</b>	<b># Defaulted Loans</b>	<b>Defaulted Balance (\$BB)</b>	<b>% Not Qualifying (Count)</b>	<b>% Not Qualifying (Balance)</b>
Hotel	475	7.4	128	3.4	26.9	45.9
Industrial	1189	5.8	227	1.6	19.1	27.6
Multifamily	3793	24.4	1343	13.2	35.4	54.1
Office	2629	40.9	972	21.7	37.0	52.9
Retail	4156	44.6	1177	17.7	28.3	39.6
Multi Property	672	22.0	148	3.5	22.0	16.1
Other	1545	9.4	330	1.8	21.4	19.5
<b>Aggregate</b>	<b>14,459</b>	<b>154.5</b>	<b>4,325</b>	<b>62.9</b>	<b>29.9</b>	<b>40.7</b>

Source: Intex, Trepp

- The estimates, of course, are sensitive to the assumed cap rates, among other things
- Assuming all cap rates are 100bp lower still results in 41% percent of loans not qualifying to refinance

## Loans maturing 2009-2018: Lower Cap Rates

Loans Maturing 2009: Lower Cap Rates						
Refinancing Requirement: LTV < 70						
Property Type	# Loans	Balance (\$BB)	# Defaulted Loans	Defaulted Balance (\$BB)	% Not Qualifying (Count)	% Not Qualifying (Balance)
Hotel	2756	34.3	345	8.9	12.5	25.8
Industrial	3666	20.3	885	7.2	24.1	35.5
Multifamily	11880	81.8	3871	39.7	32.6	48.6
Office	9192	162.9	3663	92.6	39.8	56.9
Retail	18121	169.4	8217	97.3	45.3	57.4
Multi Property	2541	72.0	613	14.3	24.1	19.9
Other	5923	34.6	1586	9.5	26.8	27.5
<b>Aggregate</b>	<b>54,079</b>	<b>575.3</b>	<b>19,180</b>	<b>269.6</b>	<b>35.5</b>	<b>46.9</b>

Source: Intex, Trepp

- With lower cap rate assumptions, approximately \$270 billion of the \$575 billion of maturing loans (47%) would not qualify to refinance



## **We regard these estimates as lower bounds because of the following factors:**

- PPR NOI projections are optimistic, in our view
- Applying projections in this way does not capture the distributions around MSA/property type averages
- The minimum LTV is more likely to be in the 60-65 range, not 70.
- We are imposing only value (LTV) constraints, not cash flow coverage constraints (DSCR)
- In imposing additional cash flow coverage constraints, need to take account of much higher financing costs relative to financing costs of existing loans



## **Will special servicers extend vast swaths of loans, possibly for many years, or foreclose and liquidate?**

- Under our scenario, approximately 75% of loans cover their debt service at maturity
- This suggests that vast numbers of loan extensions for performing loans may be the eventual outcome
- Logic underpinning such a move is that there would be sufficient CRE price appreciation during the extension period to allow loans to refinance at some point
- But what impact would the hundreds of billions of dollars of potentially distressed CRE hanging over the market have on the likelihood of significant price appreciation during this period?
- In our view, much of these losses are unavoidable, even in a mass extension environment

# Appendix 1

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