

# Commercial Real Estate Loss Expectation and CMBS/CMBX Prices

BY JUN CHEN, Ph.D., AND JON SOUTHARD

WHILE PRICES HAVE BEEN SLOW TO CHANGE IN THE COMMERCIAL real estate equity market, the commercial real estate debt markets have been driven by ever increasing costs and decreased availability of mortgages. The origin of this pricing change lies within the Commercial Mortgage-Backed Securities (CMBS) market. By some estimates, the CMBS market accounted for roughly half of the new commercial mortgage originations in 2006 and 2007, highlighting the predominant influence of the public debt market on the liquidity and the pricing of commercial real estate today.

The broader re-pricing of risk that started with the subprime mortgage crisis has eventually led to a dramatic widening of the credit risk spreads of CMBS bonds across all rating categories beginning in the fall of 2007. In fact, the spreads became so wide during the first quarter of 2008 as to make it a money-losing business to originate and securitize commercial mortgages through the public market. Only three new CMBS deals came to the market in the first quarter of 2008, with a total volume of just above \$5 billion, a sharp contrast to about \$60 billion CMBS issuance during the same period last year. Such a drastic downshift from the CMBS market is effectively holding up the overall commercial mortgage market by raising the risk premiums (spreads) as well as reducing the availability of capital for commercial real estate debt financing.

One of the causes of these trends has been the movement of a set of derivatives that provide insurance against defaults—the CMBX. Each of the CMBX indices is made up of 25 underlying CMBS bonds with the same credit ratings. The parties that believe in deteriorating credit

performance of the commercial real estate collateral can bid up the default protection premiums through trading CMBX indices, and vice versa. Since the inception of the CMBX indices just about two years ago, investors including hedge funds and opportunistic traders have been able to take highly leveraged bets on the underlying real estate market conditions without holding the actual bonds. Most market participants have expressed concern that those “synthetic” bets may have led to increased

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volatility in the pricing of underlying bonds as some of these bets would undoubtedly attempt to profit from the short-term market volatility rather than taking a traditional long-term perspective. As explained in this article, the prices on these derivatives as well as prices in the CMBS market have reflected levels that are far out of line with what any likely future income stream of the underlying mortgages would suggest.

A thorough economic analysis suggests that the capital markets have overreacted to the likely uptick in commercial mortgage defaults and losses over the next few years. Through an analysis using CBRE/Torto Wheaton Research's commercial real estate market forecasts and Moody's Commercial Mortgage Metrics (CMM), we find that the CMBX/CMBS spreads in the beginning of 2008 have substantially overestimated the default and loss rates, exceeding the realistic forecasts by as much as three times. CMBX tranches rated "A" and above are particularly undervalued from a credit performance perspective. In other words, looking at real estate market fundamentals, we view the widening of CMBX/CMBS spreads as unjustified. We strongly recommend that capital market participants carefully consider both the challenges and the opportunities in today's turbulent marketplace before jumping to the conclusion that a commercial real estate market meltdown is inevitable.

While we agree there is little doubt that the loosened underwriting standards in the commercial mortgage market over the last few years will contribute to higher default and loss rates for those recent vintages, we also conclude that the cumulative ten-year loss rate for the entire CMBS conduit market is a manageable 2.53 percent for our baseline scenario. Our analysis further shows that, while the 2006 and 2007 vintages are likely to experience more than twice the losses of the 2002 and 2003 vintages, the losses in these worse vintages should not affect the principal repayments of the investment-grade CMBS tranches rated "A" and above, even though some of the recent BBB-/BBB tranches will be under stress. More specifically, the aggregated future collateral losses for the CMBX deals are forecast to be 2.5 percent, 3.6 percent, 3.3 percent, and 3.7 percent for CMBX.1, CMBX.2, CMBX.3 and CMBX.4, respectively. All these baseline analysis loss numbers are significantly below the double-digit loss projections built into the current CMBX spreads. In fact, in a severe financial stress scenario that

has a mere 5 percent chance of happening, the highest ten-year loss rate is 8.5 percent for CMBX.4, still beneath what the current CMBX pricing is calling for.

### COMMERCIAL REAL ESTATE OPERATES IN A DIFFERENT MARKET THAN FOR-SALE RESIDENTIAL REAL ESTATE

The U.S. economy has entered 2008 with loads of uncertainty, magnified by ever-increasing stress and volatility in the financial markets. The continued write-downs of housing-related asset-backed securities on the balance sheets of many global financial institutions are the biggest driver of uncertainty in the financial markets, as the breadth and magnitude of such write-downs in the future are still unknown.

The write-downs reflect downward mark-to-market revaluation of a wide range of financial assets, including the most talked about subprime mortgage-backed securities (MBS). The market value of the broader asset-backed financial instruments has dropped significantly since the beginning of 2007, driven by the worse-than-expected credit performance of the underlying collateral—subprime residential mortgages first and foremost, which in turn have been the victim of house price bubbles and the lax underwriting standards of eager lenders nationwide during the bubble years. The spiking of the default rates of subprime mortgages not only requires much larger loss reserves for financial institutions holding these mortgages and their derivatives, it also leads to significantly increased risk premiums and, consequently, much lower market prices for any financial instruments associated with subprime mortgages and their siblings. The initial loss estimate for the residential mortgage sector was around \$100 billion; as the housing market has continued a downward spiral without any credible indication of the bottom arriving, the estimate has since been revised up to around \$200 billion.

The problems appear so severe as to have sent waves of panic through the financial markets in the last few months, and to have stirred fears of economy-wide recession. Because the problems did come from actual weakness in parts of the economy (especially the housing market, which is indeed experiencing its first-ever nationwide price decline since such statistics became available 40 years ago from the National Association of REALTORS®), it seems understandable and necessary for market players to ask the question about where the next

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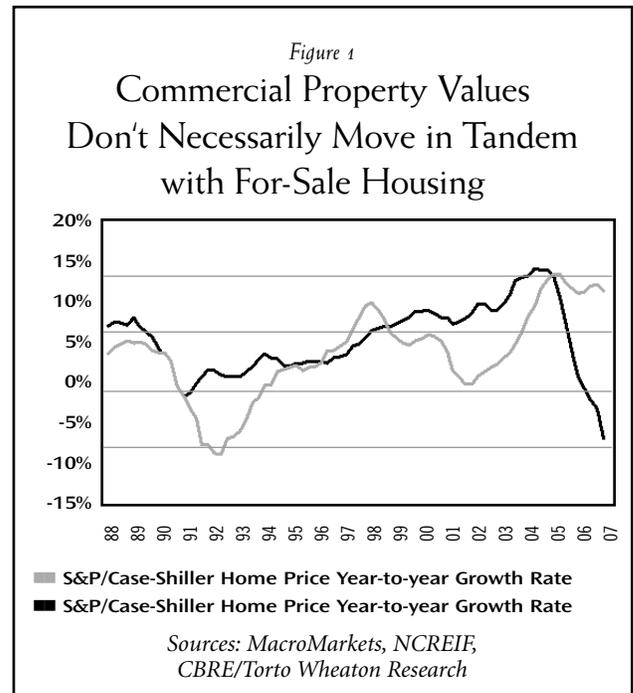
big trouble spot could be—particularly hedge funds, which have profited from having foreseen the housing downturn. The growing concern has now begun to focus on the commercial real estate market, commercial mortgages and related CMBS/CMBX securities. It was, after all, commercial real estate that led us into the S&L crisis and played an important role in dragging the overall economy into a recession in the early 1990s.

Before delving into the details of our analysis to address the expected default and loss rates for the CMBS/CMBX market, we would like first to emphasize that, in general, commercial real estate operates in a totally different market segment than its residential counterpart.

Commercial real estate is neither a substitute of nor a competitor to the housing market. Not only do the major players in this field tend to be well-capitalized institutions or sophisticated, wealthy families, but the demand drivers are totally different and the supply response has its unique characteristics. In essence, commercial real estate is a highly heterogeneous, capital-intensive, investment-oriented asset class whose value is primarily derived from steady income flows. In contrast, for-sale residential real estate is a largely homogeneous good, the primary objective of which is consumption. In fact, the last time for-consumption houses emerged as an investment asset, we saw the collapse of the market later on, as we are witnessing today. While there has been some correlation between commercial and residential real estate, as both are certainly driven to some extent by macro-economic forces, there exists insufficient intrinsic automatic correlation between the two markets to support the practice of simply deducing commercial real estate market conditions and expectations from what we observe in the housing market.

The chart below (Figure 1) highlights the weak correlation between commercial property values and home values over the past twenty years. It should be apparent that the two have not moved in tandem and that no clear correlation exists. In fact, the correlation of growth rates between the two indices became negative (-0.22) in the past ten years.

To further this comparison, we can also compare the fundamentals of the two markets. One of the lessons learned in the commercial real estate bust of the 1990s was that the balance of supply and demand at the market

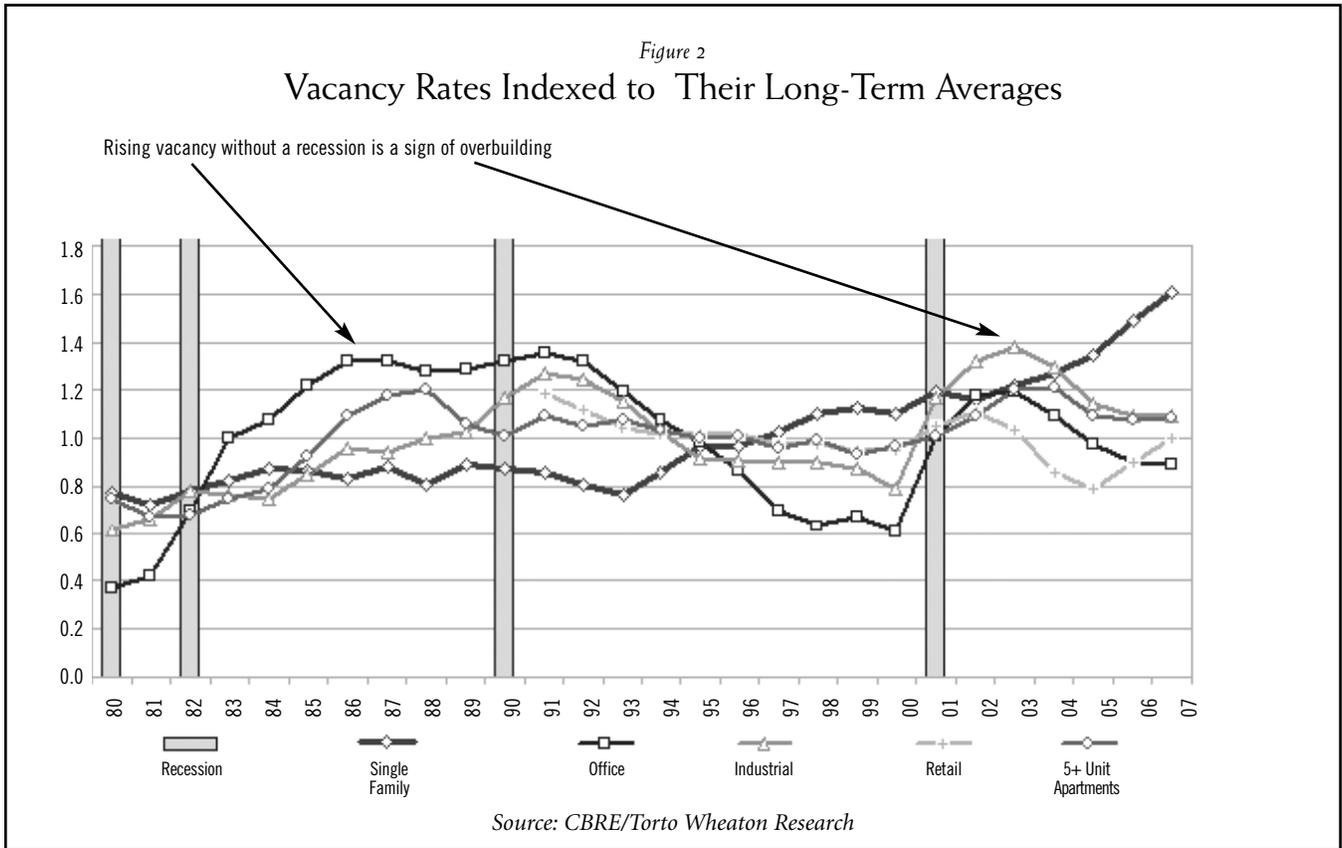


level can have a profound effect on the security of loans, no matter the financial soundness of the owner. Supply and demand balance is easily summarized by the vacancy rate. The chart below (Figure 2) compares each of the various major property types with single-family housing by indexing their vacancy rates with their long-term averages. There is a connection between the property types in that recessions, shaded below, provoke increases in vacancy rates. But there have also been periods where, despite a strong economy, overbuilding raised vacancy rates. Most commercial real estate markets experienced this in the 1980s. Over the past five years, residential real estate experienced this pattern while commercial, perhaps having learned from past mistakes, saw exactly the opposite—a pattern of reduced vacancy rates.

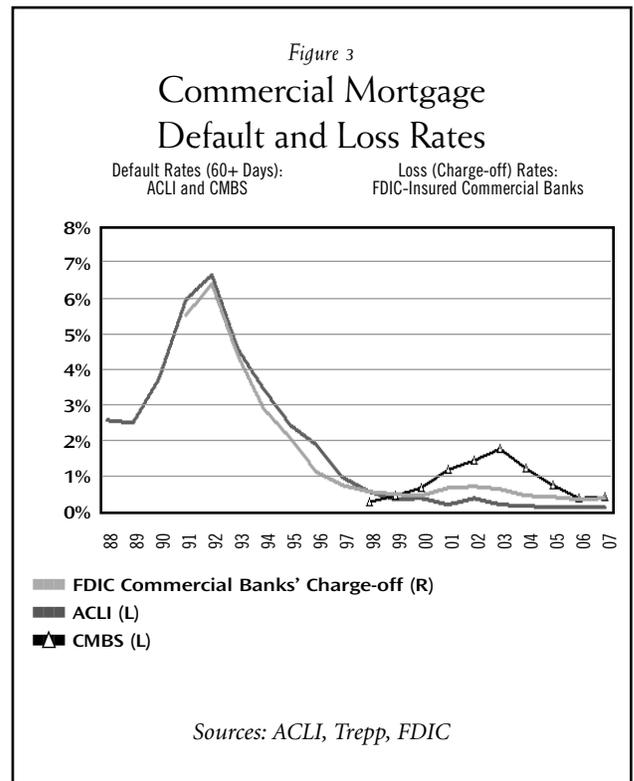
### HISTORICAL COMMERCIAL MORTGAGE LOSS EXPERIENCE AND CURRENT MARKET ASSUMPTIONS

In this section, we compare the loss levels implied by current CMBS/CMBX spreads to the historical default and loss data. We then compare this to more detailed default and loss assumptions that incorporate information about today's markets and loan characteristics, and then move on to recommend that CMBS/CMBX instruments not be priced based on loss estimates from a doomsday scenario.

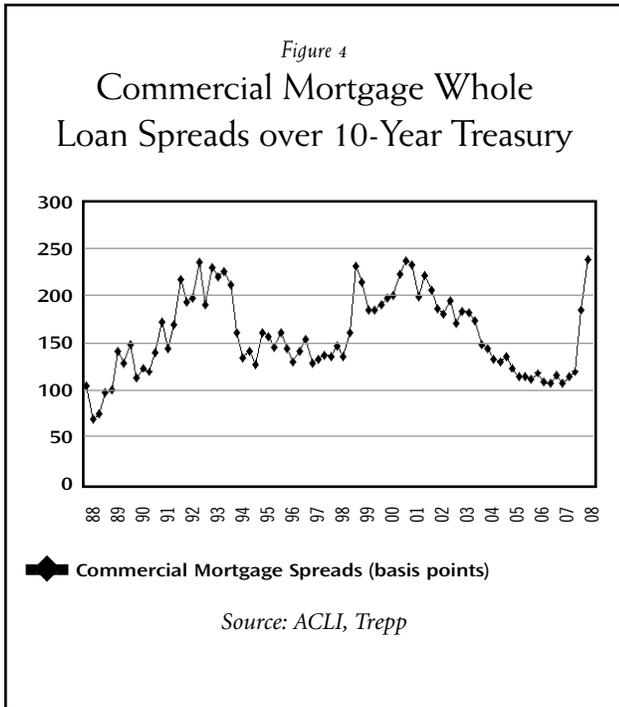
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To understand concerns about potential future collateral losses on commercial mortgages, it is useful to look at the history (Figure 3), which can be contrasted with the current implied loss assumptions. Including the periods with the worst commercial real estate downturn in the early 1990s, the historical data shows that, for all the commercial property types, the peak annual default rate (defined as 60 days past-due or worse), according to American Council of Life Insurers (ACLI), was 6.6 percent in 1992, and the peak loss rate (total charge-offs reported by FDIC) was 1.6 percent for all the commercial banks that were FDIC-insured.<sup>1</sup> While the numbers are on different scales, they fit extremely well and make perfect sense when we put them together. For instance, assuming roughly 50 percent of the default loans were liquidated and 50 percent loss severity for liquidated loans during the market stress<sup>2</sup>, the implied peak loss rate from the ACLI default data would be: 1.7 percent (= Default Rate x Liquidation Rate x Loss Severity = 6.6 percent x 50 percent x 50 percent). Although one could argue for different liquidation rates and loss severities, we believe the implied ACLI loss rates are conservative, given



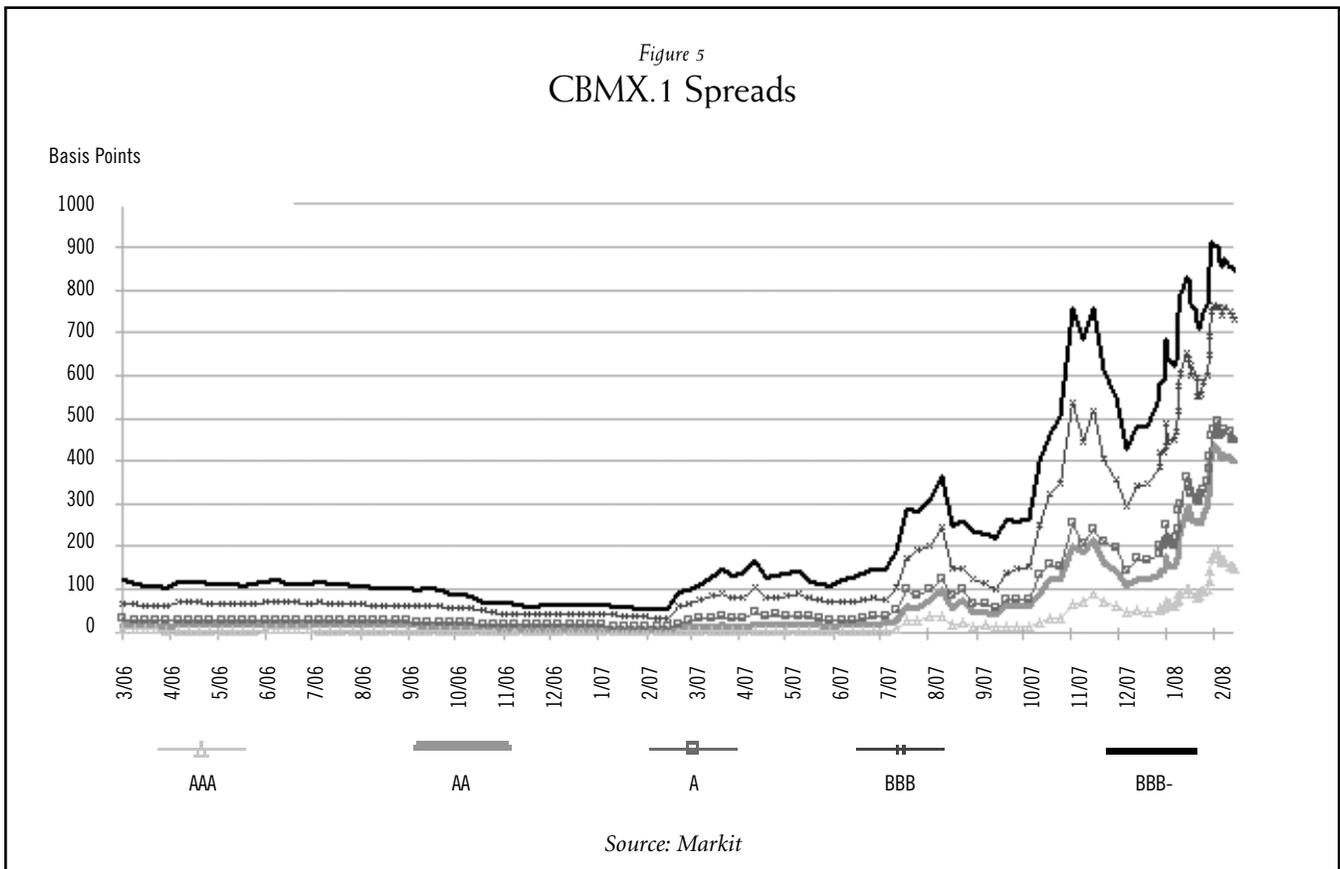
## Commercial Real Estate Loss Expectation and CMBS/CMBX Prices



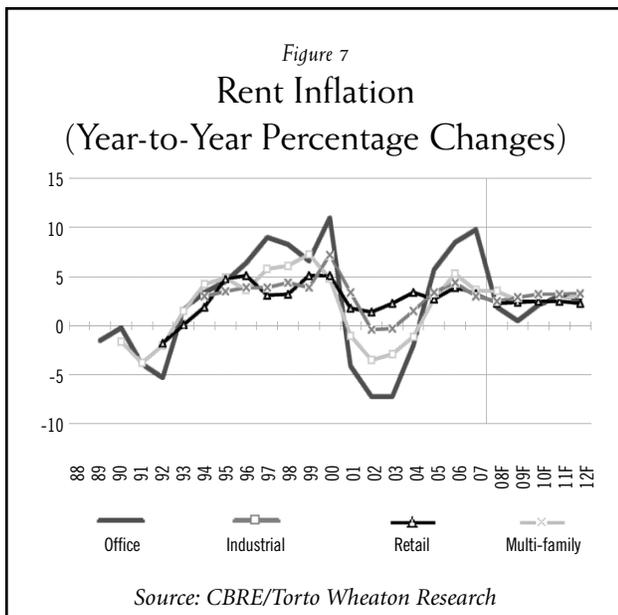
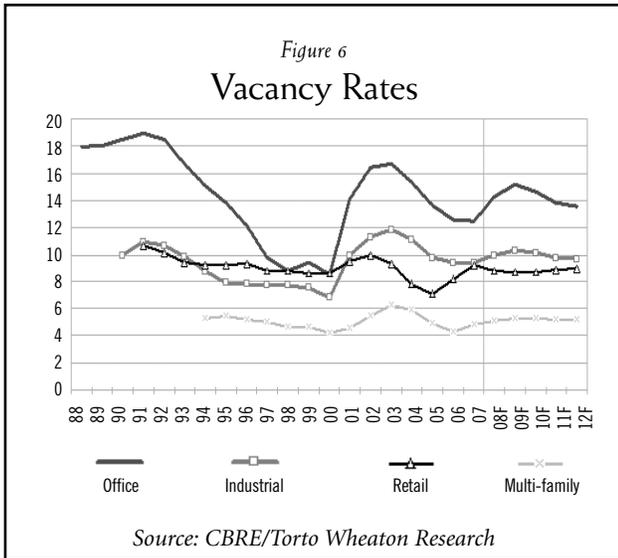
that bank loan portfolios tend to include more construction loans with less ability to retain tenants during a downturn. In other words, the combination of the data series provides a unique and valuable perspective of the “worst case” of the industry experience.

Another very important finding from Figure 3 is that, in the last ten years or so, life insurance companies have been performing better than the commercial banks, while the CMBS market has underperformed the other two market segments. Much of this difference relates to property type differences, with greater concentrations of health care loans, in particular, weighing down the CMBS market. Plus, the inability to trade out of loans as they season provides CMBS with a distinct disadvantage.

If we consider the loss experience of commercial banks as the industry benchmark—which seems very reasonable from our analysis—the average annual loss rate for all the commercial properties was 40 basis points between 1991 and 2007 with lows of less than 10 bps (2004-2007) and a high of 160 bps (1992). If the high default and loss rates



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were sustained for a number of years, combined with the fact that, historically speaking, the CMBS market does appear to perform worse than the benchmark, then a cumulative lifetime (7–10 years for most commercial mortgages) default rate above 10 percent is possible if the commercial real estate market were to experience some of its worst years for a sustained period of time.

This double-digit loss estimate is substantiated by the most quoted longitudinal commercial mortgage default study, by Snyderman and Esaki, et al. They reported the worst lifetime default rates for the 1986 origination

cohort of nearly 32 percent, implying the realized lifetime loss rate for that cohort may indeed be as high as 10 percent.<sup>3</sup>

Using the above thinking process and drawing quick conclusions about future credit performance from the worst loss numbers ever recorded, it is concerning that the implied losses currently priced into the CMBS and CMBX markets appear to match those doomsday loss estimates. See figures 4 and 5 on the spreads of commercial mortgage whole loans and CMBX tranches. Notice that the CMBX instruments started trading during the most benign market environment in early 2006, which makes the widening of the spreads look more alarming than they would otherwise. Moreover, there is significant evidence that in early 2008, CMBX spreads are leading the commercial mortgage whole loan spreads to widen even more.

So, after we have fully understood the implications behind today's CMBX trading and associated widened spreads, the question has now become: are the levels above reasonable? In other words, is a correct conclusion on future CMBS losses being drawn, given today's commercial real estate market environment? Our analysis of the fundamentals and past pricing of real estate suggests that the answer is a definitive "no."

While we should never unduly dismiss such a doomsday scenario, since sound risk management is all about preparing for uncertain future should anything bad happen, we do also firmly believe that most investors would do well to ask the following questions: since commercial mortgage losses are primarily driven by the deterioration in collateral performance measured by both income flows and capital values, what must happen in the overall commercial real estate market for losses of that type to occur? How likely is this worst-case scenario to happen in the next few years? What is the most likely loss, then, based on the current commercial real estate market condition and the future economic outlook?

Remember: no financial asset should be valued based on a stress scenario that has only a 5 percent chance, or, worse, a 0.1 percent chance of happening. If this were practice, the whole financial market would be malfunctioning. Sadly, our view is that parts of the financial market, including the CMBS/CMBX market, are currently in such disarray; it is our intention to offer our best

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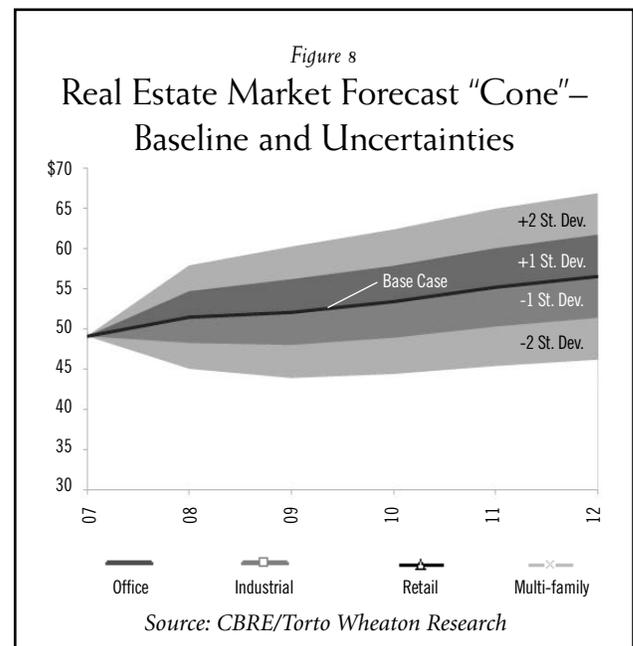
opinions about the commercial real estate market outlook and its implications for commercial mortgage defaults and losses.

### COMMERCIAL REAL ESTATE MARKET OUTLOOK

Given that the economy is certainly slowing down this year, CBRE/Torto Wheaton Research is forecasting mildly rising vacancy rates and slower rental growth rates across the major property types, nationwide, for the near future. Barring a far deeper and longer-lasting recession than most economists expect, however, the forecasted increase in vacancy rates would be mostly offset by a moderate increase in rents during 2008. Economic rent is the market average rent multiplied by the market occupancy rate, and the net effect shown by this measure will be for the space market to stay flat for the year. What is most certainly helping the space market today is the relatively constrained amount of new supply coming onto the market. Given today's vacancy rates, to push vacancy rates back to the levels of 1990 would require a catastrophic scenario in which massive layoffs caused large blocks of space to be released back into the leasing market. To achieve such rates in the office sector, the fall in demand would need to be 50 percent worse than the demand losses of 2001, which themselves were unprecedented. While 2008's space market will certainly be much slower than that of the last few years, overall, the situation is expected to turn out a lot better than in the 2001 recession.

Acknowledging the increased risk and volatility in the capital market, our baseline forecasts include increases in commercial real estate cap rates. While these forecasts are determined market by market, averages amount to roughly 70 bps, 40 bps, 40 bps and 60 bps for office, industrial, retail and multi-housing, respectively. The likely upward movement of cap rates would certainly create downward pressure on the market prices of commercial properties, though—importantly—this process will take several years. A crucial aspect, however, is how increases in income will offset these declines. In particular, the property types with long leases (retail, office and industrial) will all see increases in income, as frequently below-market rents roll up to the higher market levels. The stronger the market over the past two years, the larger this existing premium is. Furthermore, it is important to note that even if rents do decline, the gap with rents currently paid by tenants is often a sizable difference that would need to be closed.

The combination of income and the valuation of that income forms our baseline forecast for the commercial real estate market. Recognizing that the market is never certain and there is always volatility around the expected scenario, we further conduct probability-based, forward-looking scenario analysis to capture all the uncertainties around our baseline forecast. The “cone” below (Figure 8) represents a typical rent and value forecast exercise that has a base-case expectation (the middle-line) and all the likely scenarios within the 95 percent confidence interval. In other words, based on the historical dynamic relationships, as well as the current real estate market condition,



we are 95 percent confident that the future real estate market outcome will be somewhere between the plus and minus two standard deviation lines.

Let's use the Chicago office market as an example: our baseline forecast calls for an increase of 27,300 office-using jobs for the service sector and a decrease of 500 office-using jobs for the Finance, Insurance, and Real Estate (FIRE) sector in the next two years. For the same time period, our 95 percent stress-case forecast calls for a job loss of 10,500 for the service sector and a job loss of 7,100 for the FIRE sector. In comparison, the magnitude of the stress-case job loss is more severe than that of the 1991 recession, where the maximum two-year job loss

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was 2,900 for the service sector and 5,000 for the FIRE sector. As a consequence, the Chicago office vacancy rate would increase by 4.9 percent in the stress scenario, versus a 1.5 percent increase in the base case and the rental rate would decline by 3.9 percent in the stress case, compared to a 6.5 percent increase in the base case. Meanwhile the office value would also decline by 20 percent, compared to a decline of 8.7 percent in the base case. Needless to say, in our view, the baseline is the most likely case and the borderlines around this “cone” have the least probability of happening.

Figure 9

### Cumulative Ten-year Loss Projection for the CMBS Conduit Universe

Cohort Cohort	Current Balance	Base-case Loss %	Stress-case Loss %
1999	\$25,137,477,043	1.10%	1.60%
2005	\$132,994,369,122	2.20%	4.40%
2006	\$161,346,884,854	3.30%	7.10%
2007	\$198,358,299,399	3.50%	8.20%
Total	\$740,094,069,914	2.53%	5.32%

Source: CBRE/Torto Wheaton Research

The importance of having such a probabilistic “cone” is that we can now quantify the likelihood of future scenarios in a consistent and probabilistic manner. We don’t believe it to be very meaningful to debate whether a scenario (even a doomsday one) would ever happen, since—however small—there is always a possibility. A player’s chance at winning the lottery is absurdly slim; however, people win. The more meaningful practice is to look at how likely each scenario is to happen. There are surely thousands of different opinions out there and the critical difference is that some are more likely and more realistic than others. As mentioned earlier, any financial assets—including the CMBS/CMBX instruments—should be priced looking at a probabilistic range of outcomes, while taking into consideration the uncertainty (volatility) of the expectations. This is exactly the approach we are going to take in analyzing the baseline

and stress-case loss estimates for the CMBS collaterals. Luckily, we have a perfect tool, readily available to analyze the overall CMBS/CMBX market—Moody’s Commercial Mortgage Metrics (CMM).

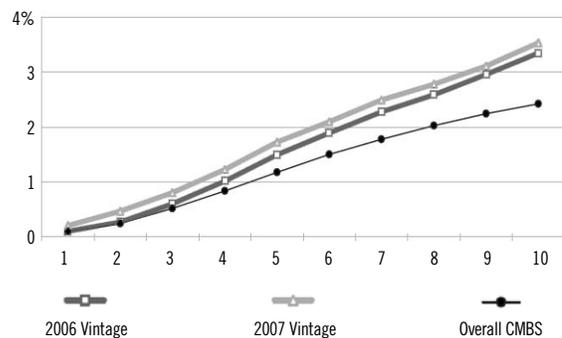
### CMBS LOSS PROJECTION AND CMBX SPREADS

CMM is used to run every loan with sufficient information in the CMBS universe. The results of those runs are displayed in the tool “CMM on Trepp,” which takes into consideration all the important loan-level characteristics such as debt service coverage ratio (DSCR) and loan-to-value (LTV) ratio as well as the real estate market forecast “cones” provided by CBRE/Torto Wheaton Research. We find that the overall loss rate of the entire CMBS conduit universe is forecast to be 2.53 percent cumulatively over the next ten years, or roughly 25 bps annualized loss on average. As a result, we estimate \$18.8 billion of future losses for the entire CMBS conduit universe.<sup>4</sup>

A careful look at the CMBS loss projection table also reveals that the last two vintages (2006 and 2007) do have higher expected losses than the ones from 2002 and 2003. This is not surprising, given the widely recognized fact

Figure 10

### CMBS Cumulative Loss Rates



Source: Trepp, CBRE/Torto Wheaton Research

that the commercial mortgage underwriting standards deteriorated at the peak of conduit origination. The substantially higher origination volume starting from 2005 through 2007 undoubtedly brought in loans that would not have been underwritten during normal business times. Overly abundant capital through that period very likely artificially inflated the property prices for certain assets, and the loans that originated in 2006

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Figure 11  
Loss Protections

CMBX	Baseline Loss%	Average Subordination		# of Bonds w/Current Subordination Less than Baseline Losses			Stress Case Loss % *	CMBX Market Implied Losses**	Note
		BBB-	BBB	BBB-	BBB	A			
CMBX.1	2.5	3.3%	4.5%	1	0	0	5.0%	11.2%	2005 deals
CMBX.2	3.6%	3.2%	4.3%	17	5	0	7.9%	11.1%	2006 deals
CMBX.3	3.3%	2.8%	3.9%	19	7	0	7.4%	10.5%	2006 deals
CMBX.4	3.7%	3.4%	4.4%	20	2	0	8.5%	11.4%	2007 deals

\* The stress case is defined as the one that has 5% statistical probability of happening.

\*\* Based on our analysis from the average trading spreads between Feb. 1 and Feb. 21, 2008, published by Markit.

Source: CBRE/Torto Wheaton Research

and 2007 are expected to perform particularly poorly, though the worsening of loan quality started around 2005. That said, we would also like to point out that the 3.3 percent and 3.5 percent cumulative ten-year loss rates for the 2006 and 2007 vintages are nowhere close to having a disastrous effect on the commercial mortgage market, as these numbers are still considerably below those experienced in the mid- to late-1980s. Recall that the earlier analysis shows that the worst vintage (1986) from the Snyderman/Esaki studies reported a lifetime loss rate of around 10 percent, which is about three times our loss estimates for the 2006 and 2007 CMBS cohorts.

In sum, while the recent CMBS vintages are likely to perform worse than previous vintages over their lifetime, relying on the worst loss number in history for trading CMBS/CMBX securities would be less appropriate than performing a forward-looking analysis based on the current market conditions. Very importantly, our analysis highlights the value of due diligence in understanding the underlying collateral and identifying both absolute and relative values in today's market.

We next examine the timing of the CMBS defaults and losses, since it usually takes some time before credit problems start to surface after loan origination. For commercial real estate, unlike residential, it normally takes a few years before any volatility in the market starts to affect the lease rolls and in-place rents. As such, commercial real estate income growth is often affected by long-term leases, and moves slowly. The default seasoning

pattern has been well documented from the historical data in the literature. There is no apparent exception this time; our analysis shows that any stress in the market today will not show up as large losses until 2010-2012, when the dominating 2006 and 2007 vintages started to season. We expect the peak annual loss rates for the overall CMBS universe to be 32-33 bps between 2010 and 2012—just more than double the 14- to 16-bp annual loss rates reported by the commercial banks between 2001 and 2003, when the last recession led to slightly more defaults and losses. In particular, the 2007 vintage is expected to reach its peak loss rate of 50 bps per year in 2012, still just about one-third of the charge-off rate experienced in 1992 by all the commercial banks. In terms of cumulative lifetime losses, we expect future losses for the worst vintage in this cycle (the 2007 vintage) to be 3.5 percent, which is about one-third of the estimated realized loss for the worst vintage (1986) of the mid-1980s to mid-1990s commercial real estate cycle.

We should point out as well, that our analysis does incorporate higher refinancing risks for the vintages of 2006 and 2007, most of whose loans are maturing in 2016 and 2017. This is not only because the loans were underwritten at tighter spreads and lower cap rates, but also because the majority of the loans in these cohorts are either partially or fully interest-only (IO) loans, which brings a lot more risk when the loans mature and are ready to be refinanced. The loss rate uptick seen in CMM for the later years of the 2006 and 2007 vintages reflects this expectation. As a result, the cumulative loss curves of

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the 2006 and 2007 vintages are not forecast to flatten out in the later years as much as the standard loss curve for the overall CMBS universe.

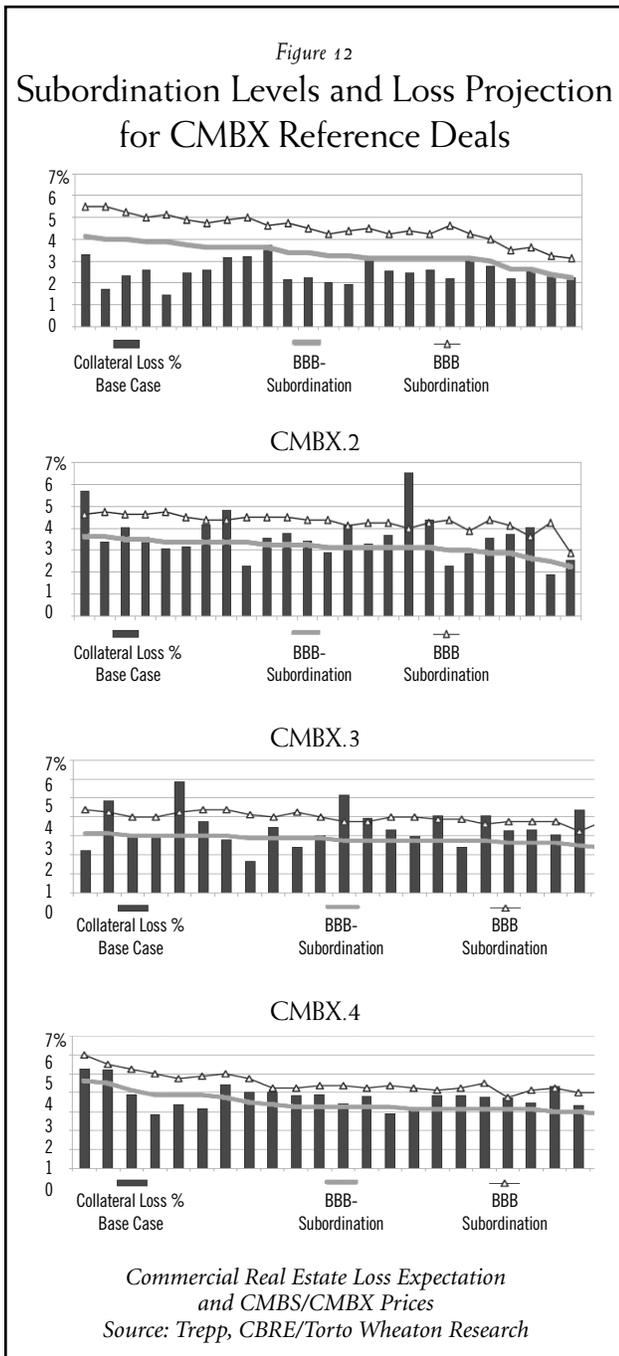
As the future is always uncertain no matter how confident we are with our baseline forecast, we conduct a range of simulations based on the “cones” concept as explained earlier. We can look at different results along this range of

possibilities, including a “worst case” scenario which has merely 5 percent chance of happening. In this case, the loss projection for the overall CMBS universe is 5.32 percent, just half of what the CMBX market price is implying.

Figure 11 reports specifically the collateral loss projections for all four CMBX indices. At the overall level, our baseline loss projections were less than one-third of that the CMBX spreads were implying during the first three weeks of February 2008. In fact, the implied loss rates from the CMBX market are even much higher than our loss projections in the stress scenario, which has only 5 percent chance of happening from a statistical viewpoint. Put another way, the chance of the CMBX implied loss rates happening is statistically very, very minimal. And it is indeed quite shocking to see that the market is actually pricing and actively trading based on such a low probability event.

Looking through the collateral loss projections for all the CMBX deals, as displayed in CMM on Trepp, we find a wide range. What is particularly evident in the market is that not all deals are created equal: while some of the bonds are likely to have potential credit issues—especially the “BBB-”-rated bonds in CMBX.2 through CMBX.4—most of the “BBB”-rated bonds are expected to perform well and none of the “A”-rated bonds are expected to have principal repayment problems from our baseline analysis. Even at the “BBB” level, since each CMBX index is constructed as a basket of equally-weighted bonds (i.e., each underlying bond is limited to contributing up to 4 percent loss to a particular index), the CMBX BBB indices as baskets of bonds are unlikely to suffer losses at the level implied by the current spread level.

Take the CMBX.3 BBB tranche as an example. If the trading spread is at 1200 bps and the notional amount is \$100 million, the protection seller would receive almost half of that notional amount up front and would also receive \$2 million per year as insurance premium. Even assuming the principal write-downs would be 100 percent for all seven underlying BBB bonds that have current subordination levels that are less than the expected loss rates<sup>5</sup>, the floating payments would still be maxed out at \$28 million in losses (7 x \$4 million) that are expected to occur gradually over a number of years. This appears to be very rich rewards for the risk taken. Other factors, including the intrinsic diversification benefit of pooling the 25 underlying bonds on equal



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weights and the back-end loaded credit loss seasoning pattern, in our view, further strengthen the value proposition for protection sellers. The fact that none of “A”-rated underlying bonds would suffer principal loss while recent CMBX A tranches are still being traded at spreads of 600-800 bps speaks loudly about the massive dislocation between the financial market and the commercial real estate market.

Purely from a fundamental perspective, our analysis shows that the additional credit loss-related spreads required for “A”-rated tranches would be about 100-150 bps for CMBX.2 and CMBX.3 indices and 250-300 bps for CMBX.4, even during our macro-economic stress scenario.<sup>6</sup> The CMBX AA and AJ tranches should withstand a commercial real estate meltdown in the magnitude of the early 1990s. The current 400- to 500-bp trading spreads of these tranches simply bear no relationship to the collateral performance in any reasonable scenario. Also bear in mind that different CMBX indices could have drastically different performance prospects, for instance, our analysis suggests that the BBB- and BBB tranche of CMBX.1 offers exceptional value to protection sellers at the current spread level, even though the similar tranches from CMBX.2 through CMBX.4 may be less so.

We certainly acknowledge that short-term trading has made it difficult to act on a long-term fundamentals view in this market environment, as the CMBX market currently appears to be driven by macro hedge funds and additional technicals. Investment opportunities do exist, however, for value investors who possess deep knowledge and are capable of recognizing intrinsic value regardless of the transient market sentiment. The key is due diligence and understanding each deal and its unique collateral characteristics. We would like to stress once again that, though we expect collateral performance for CMBX.2, CMBX.3 and CMBX.4 to be worse than original rating categories would suggest, the substantially widened CMBX spreads may compensate for the future credit risks involved.

### CONCLUSION

Unlike the residential real estate market, where a fundamental imbalance of supply and demand has led to the decline of the home values, the commercial real estate market remains healthy and is expected to perform well from a space market perspective, even as the economy

runs into a period of slow or no growth. While vacancy rates across all major property types are expected to inch upward for the next few years, the peak vacancy level, expected around 2009, will be lower than the peak in 2002/2003. Furthermore, there is strong momentum for market rents to continue growing and all major property types are expected to have positive—albeit lower—rental growth rates in 2008 and 2009. Benefiting additionally from long-term leases signed up from the last few years, net operating income is also expected to do well, despite some forecasted reduction in the overall occupancy rates, thereby providing sufficient cash-flow protection for the credit performance of commercial real estate loans.

By applying CMM on Trepp, which incorporates our real estate market forecasts, we conclude that the cumulative ten-year loss rate for the entire CMBS conduit universe to be 2.53 percent. While we do find that 2006 and 2007 vintages are expected to perform a lot worse than earlier vintages, their baseline loss projections of 3.3 percent and 3.5 percent are far from enough to cause a disaster in the commercial real estate market. On a similar note, the highest collateral loss rate for the CMBX series in the baseline analysis is forecast to be 3.7 percent, just one third of what the current market spreads have built in. Even in a stress-case scenario that has only 5 percent chance of realization, we find that the stressed ten-year cumulative loss rates are still significantly below what the current CMBX spreads are implying. In sum, our bottom-up fundamental analysis of the future collateral performance is not able to explain such wide spreads as exist in today’s CMBX market, especially for tranches rated “A” and above. As such, we strongly recommend that market players take a deeper look at the commercial real estate market outlook and carefully mark the CMBS/CMBX to market by incorporating realistic projections of the underlying collateral performance. Just as with any other asset-backed security, the absolute and relative value of CMBS/CMBX can be much better identified if we understand the underlying assets better. ■

### ENDNOTES

*This article is a variant of a piece previously published by Torto Wheaton Research in its TWR Viewpoint.*

1. Both ACLI and FDIC cover most institutions in their territory industries; therefore the statistics reported by both are quite representative of the overall industry experience.
2. In the latest update of Snyderman (Esaki and Goldman,

## Commercial Real Estate Loss Expectation and CMBS/CMBX Prices

“Commercial Mortgage Defaults: 30 Years of History,” CMBS World, 2005), it was reported that 55 percent of 90+ days default loans were eventually liquidated. Since the default rates here are defined as 60+ days delinquent, we feel it is safe and reasonable to assume a 50 percent liquidation rate. The average loss severity was reported as 33 percent, without more detailed breakdowns. CMM shows loss severities would be higher during market downturns.

3. We used a calculation method similar to that mentioned in the earlier paragraph, to derive the 10 percent loss estimate.
4. A very crude extrapolation can be applied to estimate upward to \$84 billion of base-case losses for the overall U.S. commercial mortgage industry, based on the CMBS conduit market’s 22 percent share of the aggregate \$3.2 trillion commercial mortgage holdings in the U.S.

5. Most of these bonds are not expected to suffer 100 percent principal loss; therefore, the principal write-downs could be substantially less. Here we apply conservative estimates just to make our argument.
6. We do not intend to predict any short-term spread movements as in the current environment that would be dictated more by the market technicals. The spreads might actually drift higher before moving back to reasonable levels to be in line with commercial real estate fundamentals.

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