

CRE Finance Council CMBS E-Primer

A comprehensive overview of commercial mortgage backed securities

a publication of



CRE Finance Council®
The Voice of Commercial Real Estate Finance

CRE Finance Council CMBS E-Primer

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Chapter 1 *An Overview of CMBS*

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The Voice of Commercial Real Estate Finance

Chapter 1: An Overview of CMBS

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“**W**hat are commercial mortgaged-backed securities?” That question opened the first chapter when this e-primer was initially posted online in the early half of 2007. Who knew then that the phrase “mortgage-backed securities” would become part of the common vernacular, frequently featured during the next few years on the 6 o’clock news when reporting on the fiscal crisis in the U.S. and abroad?

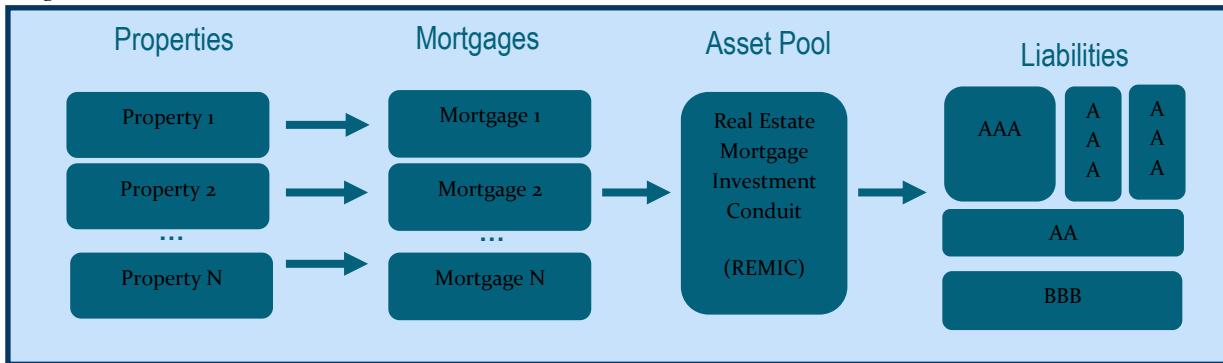
The testing of the infrastructure around mortgage-backed securities in general, the nuances revealed in commercial mortgage-backed securities in particular, and the new terms and deal parties that emerged in CMBS, will necessarily be a key differentiator between the 2013 version of this e-primer and its pre-fiscal crisis edition.

Commercial mortgaged-backed securities (CMBS) are bonds whose payments derive from a loan or a pool of loans on commercial real estate. “Commercial real estate” includes both business properties and multi-family real estate such as apartment buildings.

“Commercial mortgage-backed securitization” is the process by which a loan, or more commonly a group, or pool, of loans is packaged into a deal structure, and CMBS are created and issued. These bonds are “tranched,” or split into different risk levels, thereby allowing investors to buy varying levels of risk.

The process of creating various risk levels of the bond, so that the CMBS purchaser, or investor, may seek the credit level that suits its risk profile, appeals to a diverse investor base. Bonds are rated everywhere along the credit curve, from “Triple A” to “unrated.”

Figure 1: CMBS Transaction Architecture



If you were to look at the process of CMBS securitization from 20,000 feet, it would look something like Figure 1.

To properly understand CMBS is to give significant consideration to both the real estate characteristics of the loans and the structural characteristics of the transaction. The pursuit of a possible CMBS investment requires that it be analyzed from three perspectives: the property level, the loan level, and the bond level. Most asset-backed and mortgage-backed transactions entail only the last two levels. The importance of

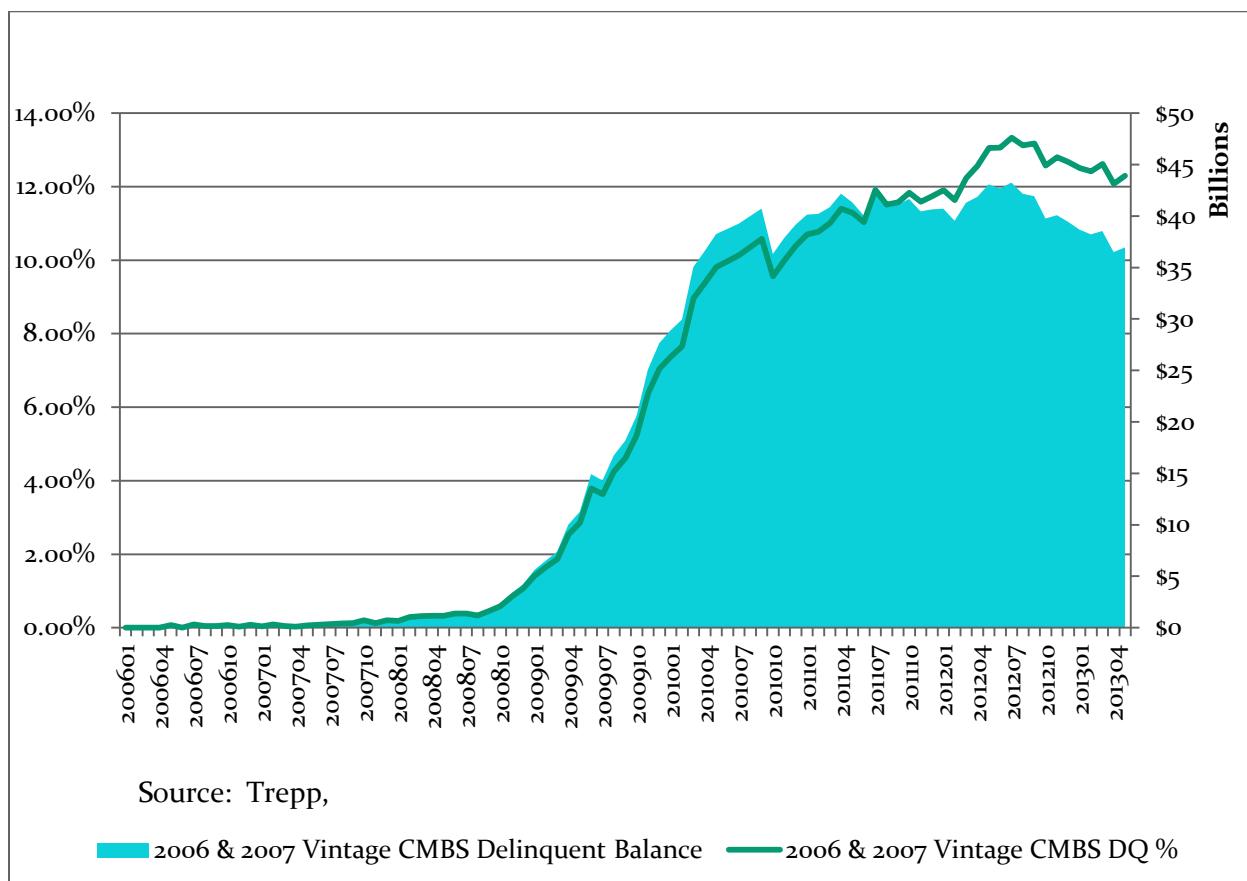
the first level of analysis, the individual properties that back the loans, requires a detailed level of real estate and credit risk analysis not typically associated with ABS and CMO securities. Potential CMBS must be considered from these three levels to fully understand the transaction and to properly assess the risk over a variety of possible real estate markets and cycles.

As Figure 1 illustrates, each of the three levels of the CMBS architecture has its own unique issues. It is at the property level where the analysis benefits from a “traditional” real estate focus. At the property level, there are the fundamental questions: Is there sufficient property cashflow, after operating expenses and capital expenditures, to pay off the loan? What is the likelihood of the major tenants meeting their lease obligations? What is happening in the regional real estate markets? Many of the factors that influence the performance of commercial properties are based on regional economic trends overlaid on the condition of individual properties and borrowers, and these factors are the same for either a CMBS lender or a portfolio lender.

There is, however, a dramatically different dynamic in terms of the relationship between the borrower and loan holder in the CMBS environment compared to traditional portfolio lending. In the traditional paradigm, the lender is familiar with the borrower and has a direct understanding of the credit issues involved with each loan. The lender develops a financial profile of the borrower (based on reviews of rent rolls and financial statements) and develops knowledge of the performance of the local market in which the property is located. In addition, the lender and borrower mutually establish provisions and allowances for losses, as well as work out strategies to cure the loan should it become non- performing. In CMBS, there is no direct relationship between the borrower and the ultimate provider of capital, the CMBS investors. Instead, a CMBS transaction is administered by a number of third parties. Prior to the financial crisis which began in 2007, the principal third parties were the bond trustee, the master servicer and the special servicer. Since 2009, many new issues of CMBS have included an “operating advisor” as well.

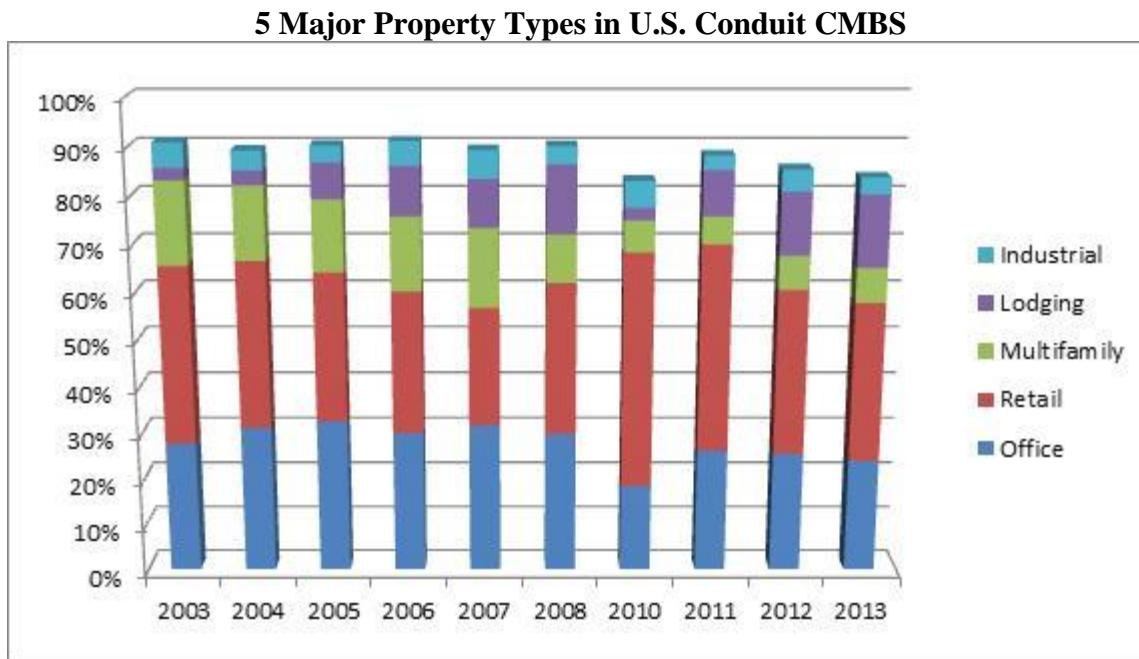
In CMBS, investors are collateralized by the loans through a financial vehicle which uses tranching to concentrate the credit risk by bond class. Essentially, the safest bonds receive principal and interest first, and the riskiest bonds have the greatest exposure to losses. The inflation of real estate values in the middle of the last decade combined with aggressive underwriting in 2005 through 2007 led to transactions which could not endure any type of downturn, let alone the “Great Recession”. The size of the losses on some loans, and the speed with which those loans defaulted, exposed the inherent tensions among the various participants in a CMBS transaction. The industry continues to deal with the fallout of the Great Recession, as subsequent Chapters will reference. (See Figure 2.)

Figure 2: Vintage 2006 and 2007 Delinquencies



CMBS pools typically contain loans on multiple property types across various geographic regions, thereby distributing risk and improving credit quality, but requiring investors to understand the performance characteristics of multiple properties and regions. The underlying properties are commercial enterprises which need to be evaluated from a projected income statement basis. As part of the fundamental property-specific re-underwriting that forms the basis of commercial real estate analysis, investors must also consider the performance of the individual properties relative to comparable properties and relative to regional economic trends. A look at historical issuance levels by the five property types that have accounted for nearly 85%-90% of CMBS collateral over the sector's history (retail, office, multi-family, lodging, and healthcare) shows the varying attractiveness of different properties over time. Figure 3 presents some interesting trends—over time, healthcare as collateral all but disappeared; lodging plummeted post 9/11, but rebounded; multi-family declined as a share of conduit lending; and the relative importance of retail versus office has ebbed and flowed.

Figure 3: Distribution of Major Property Types in Conduit Lending



Source: Trepp, LLC

Notes: Excludes certain conduit transaction sponsored by FDIC, Freddie Mac and Fannie Mae

As the E-Primer will illustrate, the CMBS industry today continues to evolve as it absorbs the lessons of the real estate bubble and the crash which followed. The infrastructure of CMBS continues to support analysis performed at all three levels—property, loan and bond. To appreciate the process and infrastructure of CMBS, it is helpful to proceed as follows:

- CMBS history and evolution
- Originating and underwriting commercial mortgages for CMBS
- Structuring
- Investing in CMBS:
 - AAA rated CMBS securities
 - Investing in mezzanine CMBS
 - Investing in CMBS IO
 - Investing in B-Piece CMBS
- Closing CMBS transactions and servicing commercial mortgage loans
- An overview of the taxation of REMICs
- CMBS subordinate debt

CMBS History and Evolution

The CMBS industry as we know it today has its roots in the commercial real estate loan market. To appreciate CMBS now, it is helpful to note how that loan market evolved over the past 30-plus years.

Paramount throughout this evolution has been the need to create liquidity (the ease of selling an instrument), and a secondary market (the ability to resell an investment vehicle after its initial issuance). Portfolio lenders (institutions such as insurance companies, banks and pension funds that invest their own capital in mortgages) needed to respond to variable interest rate environments with alternative ways of disposing of their commercial whole loans. As early as the 1980s, different portfolio lenders attempted early forms of commercial mortgage securitization to dispose of these loans; at other times, the interest rate environment prompted them to pull these loans back into their private portfolios.

Ultimately, the creation of the Resolution Trust Corporation (RTC) provided an impetus for institutions to dispose of their commercial whole loans. Given that the RTC was created by the government to dispose of the financial assets of failed depository institutions, an opportunity to pursue securitization was created and gained traction. In the 1990s, however, the industry lacked the infrastructure to support these transactions, and the market began to create some of the elements it needed, such as third-party mortgage servicing, information standards, and performance data, to name just a few.

By the time the RTC completed its work in 1995, institutional investors' interest in CMBS was on the rise. Despite the fact that portfolio lenders still intended to lend on new commercial whole loans for their portfolios, the market also pursued the creation of commercial mortgages specifically for securitization. Special securitization lenders, known as "conduits," would prove to be a key part of the growth and expansion of the CMBS industry.

Credit for the industry's expansion also went to a more systematic approach to loan creation, more standardized investor reporting and data, and the group of investors known as the "B-piece" investors who were willing to invest in the first-loss risk class. By the late 1990s, many traditional portfolio lenders were beginning to embrace the options that the CMBS industry provided them.

Between the late 1990's and the end of 2006, the market enjoyed reasonably steady, record-breaking issuance levels, including international issuance. Calendar 2007 saw the highest issuance records ever—only to see issuance fall off sharply throughout most of 2008 and 2009 as the effects of the fiscal crisis impacted the need for continued commercial real estate financing.

The onset of the global financial crisis in July 2007 led to an immediate and sharp decline in the level of CMBS issuance in both the U.S. and global markets. Recovery outside of North America continues to be extremely slow. Current estimates for 2013 U.S. issuance are in excess of \$75 billion. In the United States, non-agency CMBS vanished from the market for a period of almost 18 months. Issuance restarted at a trickle in 2009, and returned to a level of \$30 billion in 2011, and approximately \$50 billion in 2012.

As detailed in Chapter Two, The History and Evolution of the CMBS Industry, the market at the end of 2011 was working to address the issues which the Great Recession exposed. Issuance levels were starting to rise, and international issuance was reemerging. The CMBS industry will continue to evolve and reestablish its position as a vital source of capital to the commercial real estate market.

Originating and Underwriting Commercial Mortgages for CMBS

Understanding the mechanics of commercial mortgage origination is a necessary foundation for understanding the CMBS process as a whole; the demand for, and supply of, commercial mortgage capital is an important factor in potential securitization levels.

Notwithstanding the traditional differences between portfolio lenders and securitization lenders, many of these distinctions have blurred. Many portfolio lenders originate mortgages for securitization, and similarly, many investment banks have originated mortgages to hold to maturity for income. All lenders compete for commercial mortgages and tout their relative strengths: certainty of execution, less costly pricing, maximum proceeds, servicing, and post-closing flexibility. Lenders source commercial loans by soliciting financing opportunities directly from potential borrowers, or indirectly through intermediaries, such as mortgage brokers.

The loan underwriting process centers on evaluating the credit risk associated with the loan; beyond the initial critical decision of whether to lend or not, the credit risk impacts the size and pricing of the loan. As Chapter Three, Originating and Underwriting Commercial Mortgages for CMBS, elaborates, assessing commercial mortgage credit risk involves evaluating four key factors: the borrower, the market, the collateral, and the loan structure. Chapter Four, Structuring, further details the loan structuring process. Within the evaluation of these four factors, debt service coverage ratio (DSCR) and loan to value ratio (LTV) emerge as two seminal metrics for both originators and investors.

Varying real estate cycles provide a telling test of the strength of underwriting standards as lenders compete for commercial mortgage loan originations.

Structuring

Issuing CMBS involves structuring both the loans to be used as collateral, as well as structuring the securitization itself.

The idiosyncrasies of individual commercial mortgage loans can have dramatic impact on a transaction. Thus, the loan structuring process has adapted over time to address, during loan origination, aspects of the loan that will be valuable in a securitization. The goal of these adaptations has been to make a pool of commercial mortgage loans contain more common terms, and appear more homogeneous, even though the underlying properties are dissimilar. As Chapter Four illustrates, some of these adaptations have included: standardizing payment due dates, issuing balloon loans with the same timeframe, standardizing prepayment priorities, and the use of defeasance.

Not all efforts to homogenize loans can completely alter a unique loan's effect on a transaction. Marginal loan analysis addresses the profitability impact of a borrower's non-standard loan terms, such as modifications to balloon term, amortization term, and prepayment provisions, among other items. Resulting adjustments to the loan's pricing follow from the analysis of this impact. Loan structuring also entails splitting larger loans into senior-subordinate components ("A-B notes"), or across multiple transactions ("pari passu").

To structure the bond itself, cashflows from whole loans are allocated to a variety of bond classes or "tranches." Key to the structuring process is the allocation of credit risk as well as cashflows. Each tranche represents a security with its own credit rating, average life, and other characteristics. In the process of structuring these tranches, the setting of coupons, the allocation of penalty cashflows, the

creation of derivative securities, and various structural innovations that further the rules determining how the bonds are paid (the “waterfall”), are critical areas of focus.

Ultimately, a key takeaway from Chapter Four is that our ever-changing economic environment will continue to impact structural innovations in issuing CMBS.

Investing in CMBS

As Figure 1 illustrated, and as Chapter Four will further detail, whether a buyer of investment-grade, mezzanine, IO, or B-pieces, it is important that the investor have an understanding of what is happening at each of three levels of analysis: property, loan and bond.

AAA Rated CMBS Securities

AAA CMBS are the bonds that form the top tranches in a CMBS structure, have the highest credit enhancement in the structure and have historically been considered the safest of CMBS investments (a presumption that was tested during the fiscal crisis). AAA CMBS can actually further break down into sub-levels: Super Senior, Mezzanine Senior (AM's) and Junior Senior (AJ's). AAA CMBS receive payments of interest and principal before any other class of bonds in a senior-sequential structure. However, that payment priority also means that AAA CMBS receive recoveries from defaulted loans, and hence must be wary of early prepayments. Therefore, although AAA CMBS enjoy protection from principal shortfalls, investors in these bonds still need to be mindful of the bonds' sensitivity to default, prepayment and extension risks. Careful investors in these bonds consider the amount of spread needed to offset the potential effects of the projected defaults, prepayments and extensions on the underlying collateral, given the bond's price, structure and the yield curve.

Mezzanine CMBS

Mezzanine CMBS are the middle tranches of a typical CMBS structure. Ranging from AA+ through BBB-, the mezz bonds represent all of the investment-grade tranches between AAAs and non-investment-grade tranches. While cashflows from mezzanine tranches are not sensitive to early prepayments like AAA CMBS, or defaults that result in losses to the below-investment-grade securities, these bonds still pose risk to investors. Given this risk and the popularity of the mezz classes, strong real estate analysis, particularly in assessing the potential performance of the underlying collateral, is critical to finding and evaluating the value of this bond class.

CMBS IO

A CMBS IO is the bond that receives the excess interest in a conduit deal. CMBS IOs are created by stripping coupon from either the entire underlying collateral pool or from individual CMBS classes. The determination of the cashflow attributed to the IO is a function of the IO's coupon and the IO "notional balance" (the sum of the outstanding principal balances of the stripped principal-pay classes). CMBS IOs are often misunderstood, and their pricing does not always reflect their real value. The focus in evaluating IOs has less to do with prepayments (due to call protection), and instead has more to do with the credit performance of the underlying mortgage collateral.

B-Piece CMBS

B-piece CMBS, also known as "high yield," refer to CMBS bonds rated BB+ and lower. These bonds are at the greatest risk of significant loss of principal and nonpayment of interest, since they are last in the

waterfall. As the investor most at risk, careful B-piece investors heavily assess the real estate underlying the commercial mortgages. Accordingly, the B-piece investor is typically the “controlling class” under the terms of the agreements underpinning CMBS transactions, and have greater control over troubled assets, and access to more information, than other holders of other bond classes. Without doubt, the conflicting objectives of the B-piece investors, who may be affiliated with the special servicer, and the AAA investors, have served as one of the most difficult issues exposed in CMBS since 2007.

Closing CMBS Transactions, Parties, Key Documents and Servicing

Once the CMBS transaction has been “closed,” it must be managed throughout its life. Third-party service providers are appointed for this purpose. Prior to 2009 (sometimes referred to CMBS 1.0) these service providers typically included a Trustee, a Master Servicer and a Special Servicer, each of which, along with the Depositor, is a party to the pooling and servicing agreement (PSA) which governs each transaction. Subsequently, an Operating Advisor role was also created with a goal of managing potential conflicts.

Going forward from the issuance of CMBS and throughout its life, these parties work together to manage the affairs of the transaction. Chapter Six, Closing CMBS Transactions, Parties, Key Documents and Servicing, details the role of each third-party service provider to a transaction and the functions each provide to enable the performance of CMBS.

Core deal participants, such as the investors, controlling class holder, borrowers, and the rating agencies, each have their own roles and responsibilities as well. It is notable that as the CMBS industry has matured, the roles and obligations of third parties and deal participants have been adapted to meet the needs of the evolving CMBS market. An array of legal documentation, whether in the category of loan, securitization or disclosure documents, exists to help govern and guide the CMBS transaction, and understanding their substance and interplay is valuable.

Finally, from the monthly distribution cycle, with its timeline of critical due dates, to loan defaults, defeasances, amendments, transfers of servicing, and potential conflicts that can exist in a CMBS transaction, it is critical to understand some of the post-issuance events that can transpire. Overwhelmingly, the history of CMBS has shown that the relevant parties have interacted with each other to address these events in a manner that continually bolsters the reputation of CMBS as a stable fixed income investment.

An Overview of the Taxation of REMICs

The CMBS industry participant will often hear that one major development that enabled the growth of the mortgage securitization market over the last 20 years has been the real estate mortgage investment conduit (REMIC) provisions in the Internal Revenue Code. Today, over 90% of CMBS transactions elect to be treated as a REMIC.

A REMIC is a trust that holds a pool of mortgages, issues a series of bonds, and complies with the various REMIC provisions that affect the structure, operation and income tax treatment of the trust. While Chapter Seven, An Overview of the Taxation of REMICs, will elaborate on significant restrictions on the management and operation of REMICs imposed by the REMIC provisions, it also explains the multiple reasons for the popularity of the REMIC structure: it is not subject to tax, can be highly leveraged to minimize the tax impact on its equity investors, and can issue multiple securities structured to be attractive to issuers and investors.

CMBS Subordinate Debt

No introduction to the CMBS market today would be complete without an understanding of the A/B note structure. This structure developed out of the growing need of borrowers to have greater leverage than typically permitted in a CMBS loan.

Originally created for floating rate transactions, and now widely incorporated into fixed-rate CMBS, the practice of splitting large loans over several deals or decreasing the leverage of a large loan has grown in frequency and popularity, so as to increase the secured and unsecured leverage placed on a property. The structure also addresses the need of issuers who have increasingly looked to mitigate event risk and achieve loan diversity.

The “how” and “why” to split a mortgage is elaborated in Chapter Eight, CMBS Subordinate Debt, which also illustrates how the senior/junior structure effectively segregates the loan to the investors who value the components most. It is widely expected that investors may see more A/B note structures and the increasing use of mezzanine debt in the coming years as issuers take advantage of the greater credit enhancement that can be achieved by bifurcating the loan—and also take advantage of a commercial real estate market that supports such secondary leverage.

Conclusion

The most significant realization this E-Primer can provide is an appreciation of the mature and capable infrastructure the CMBS industry offers investors. From the guidelines and dynamics core to the CMBS process, to the industry’s drive to provide more and better information, to its willingness to evolve structures and responsibilities as market needs dictate, to its vast opportunities for analysis, the CMBS industry provides both firmament and flexibility. These are hallmarks of a credible asset class sure to be viable and vibrant for years to come.

The downturn in CMBS issuance was caused by the collapse of the real estate bubble (primarily in the U.S. single family market) which triggered a global recession and financial crisis. The downturn was deep and started a major restructuring of the CMBS industry which continues today. (See Figure 4.)

Figure 4: Comparison of Real Estate Value Declines, 1929 – 2013.

Major Value Decline – Prospect is a Long Recovery

Period	Decline	Duration	Time to Recover
1929 to 1933	-44%	4 years	8 years
1941 to 1943	-42%	2 years	2 years
1989 to 1993	-32%	4 years	10 years
1999 to 2002	-4%	3 years	2 years
2007 to Present	REITs: -38% Direct: -43%	4 years	?

Sources: Trepp LLC, Moody's, NCREIF, Bureau of Economic Analysis

Market dynamics will produce a continuing resurgence of the CMBS market for a number of reasons: (i) recovering real estate markets will increase the demand for fixed rate, longer-term loans; (ii) active portfolio lenders in the current market are facing constraints on the total amount of lending they can do, as well as the types of loans they can fund; (iii) investors continue to find value in the CMBS asset class; and (iv) the market is adapting to the changes and needs which emerged from the recession. We expect the CMBS market to stabilize with total CMBS outstanding between \$550 billion and \$600 billion, and to grow with the broader real estate market thereafter.

By every measure, CMBS are expected to continue to grow globally and maintain their long history of attracting capital from an ever-increasing body of investors—which in turn will provide more financing to commercial real estate borrowers in both the domestic and international arenas. ♦



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Chapter 2 *CMBS History and Evolution*

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Chapter 2: CMBS History and Evolution

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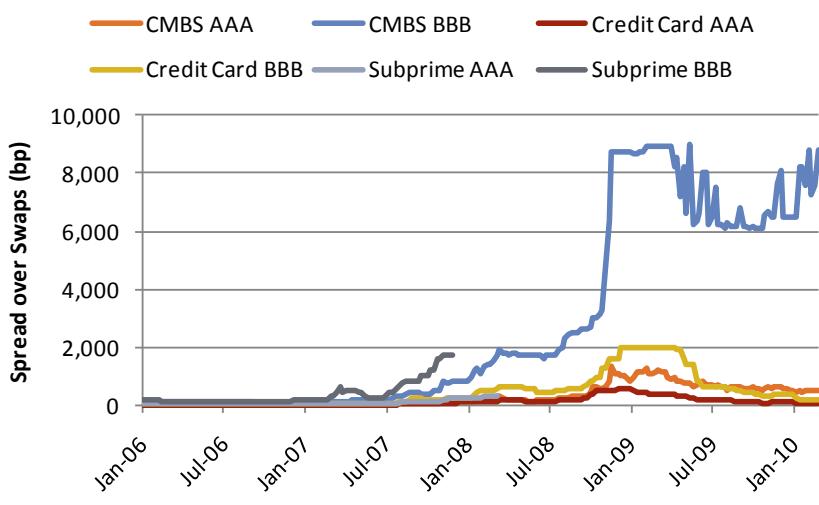
CMBS History – Investor Demand Drives Evolution

In this chapter we provide a history of how the CMBS market has evolved over time to take loans and create structured bond classes. We highlight how investors shaped the information provided at issuance and the ongoing reporting of CMBS, then successfully lobbied for and created additional AAA credit enhancement. We also outline the roles and responsibilities of master and special servicers, and how those are changing due to the potential conflicts of interest exposed after the 2008 recession. In recent times investors demand has reshaped CMBS version 2.0 to include greater oversight of servicer actions and better transparency. We expect that CMBS will continue to evolve as credit availability remains restricted over the next few years, and the capital markets may be the only way to refinance some of these commercial borrowers that are overleveraged but can still service their debt.

CMBS Gets Hit By 2008 Crisis, But Then Proves Resilient

Starting in 2007 residential MBS provided the genesis for the ongoing financial crisis, but over the past few years all securitized products, including CMBS, have experienced significant distress. Exhibit 1 shows the securitized products dislocation starting in 2007, driven by the theory that if subprime mortgage structures had been severely under credit-enhanced (including any 2nd level securitization structures, e.g. CDOs¹) — then most securitized products might not survive an expanding recession.

Exhibit 1: Securitized Product Spreads



Source: Amherst Securities Group LP, The Yield Book

Exhibit 1 shows subprime spreads widening and eventually becoming illiquid, but it also depicts the eventual recovery in credit cards, autos and other more traditional securitized products. Although triple-B CMBS spreads widened the most, it is important to realize that they continued to get marked, whereas AAA subprime RMBS became difficult to quote post-2008.

¹ Collateralized Debt Obligations

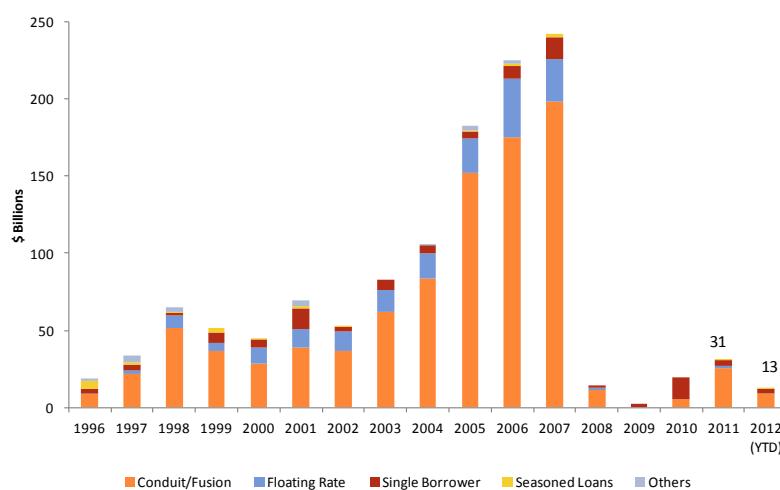
Admittedly, the recovery in these products was initiated by government liquidity programs (such as TALF, the term asset-backed securities loan facility), plus help from secondary buying (by PPIP, the public-private investment program specifically set up to spur bond demand). However, as market conditions stabilized, true support came from real money investors who felt able to determine which structured cash flows would be safe and potentially offer excess returns. There was also some validity to the concern that commercial mortgage collateral was originated, sized and rated in procedures that were somewhat similar to those in subprime, Alt-A and other troubled products. But even with those concerns, investors could recognize that many CMBS bonds were money good, and most legacy super-senior bond still retain a triple-A rating. So it is not too surprising that after the 2008 recession that ongoing investor demand has enabled new CMBS issuance to be originated and issued.

This revival has been driven by investors' ongoing interest and support of CMBS, which has also been the driver that enabled CMBS to evolve and improve over time. In this paper we describe the historic investor / issuer / servicer relationship and how it shaped, and enabled, CMBS to continue providing commercial mortgage loans for borrowers.

CMBS — A Product of Evolution

CMBS is likely showing greater resilience because it was created following a similarly difficult commercial real estate recession in the early 1990s, when the RTC (Resolution Trust Company) looked to financial markets for a method to dispose of various commercial mortgage loans the government inherited from distressed savings and loan companies. As the FDIC already had responsibility for these underperforming pools, most of these transactions were more focused on providing financing than on transferring risk. The mechanism for these types of deals was a fairly large overcollateralization, with the equity pieces retained by the sponsor. Following those fairly simple initial deals, institutional investor demand continued to develop for commercial loan-supported securities. So as the RTC wound down their disposition program, the securities market had sufficiently evolved to provide an effective low cost source of funding for commercial real estate. This resulted in investment banks starting new loan origination programs in order to construct diversified commercial mortgage pools for distribution.

Exhibit 2: CMBS Annual Issuance



The first loans originated for securitization included both high quality single large loans packaged into what the market calls "single-issuer transactions", and pooled loans placed into "multi-borrower transactions". Exhibit 2 shows the growth in these transactions.

The issuance trend in Exhibit 2 shows a market with a consistent level of single

Source: Amherst Securities Group LP, Intex Data Solutions

asset/issuer transactions, but with a tremendous increase in multiple loan pools as issuers and investors searched for more bond product. These multi-loan pools also started to absorb some larger potential single

asset loans, mixing them with the more *granular* smaller fixed-rate loans, and creating “fusion multiple-loan issuance”. As that latter product type picked up, those two categories came to dominate CMBS issuance. Over the years the market has attempted to distinguish when a granular conduit transaction should be classified as a more lumpy “fusion” transaction. Multiple CMBS pool definitions exist, and today, most participants simply view the fusion category as indicating there are larger loans within these pools that could significantly affect the credit/prepayment of the underlying bonds. Any number of large loans can affect the outcome for any bond, and that credit investors should be reviewing the larger loans within a pool regardless of whether that pool is classified as a “conduit” or “fusion” pool.

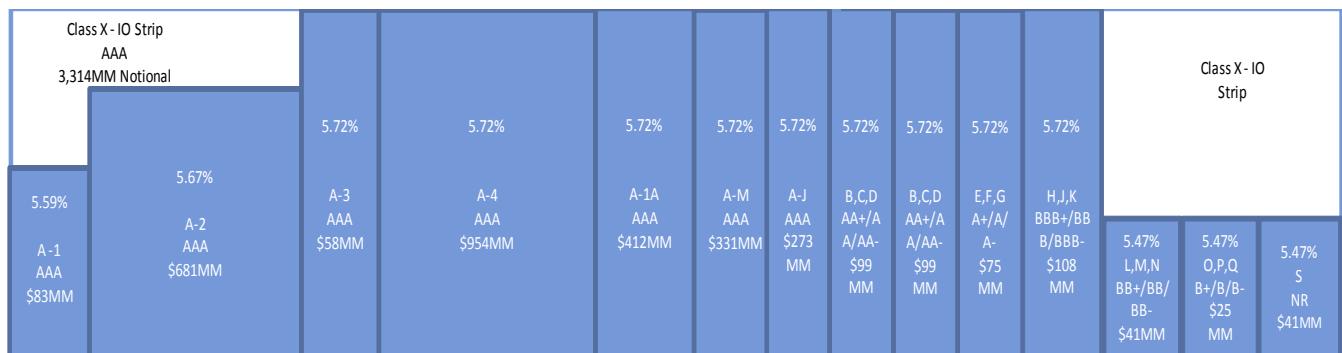
The loans going into conduit/fusion pools are fixed-rate mortgages; usually 10-year loans in the \$2-25 million range, but fusion pools can contain a single loan as large as \$500 million (in one case, up to 18% of the overall pool). After 2004, more 5- and 7-year loans began populating these pools, and principal amortization on those loans became less frequent (e.g., 86% of 2007 issuance had loans with some interest-only period). As the conduit market developed, issuers and investors both understood the importance of bond cash flow certainty – thus fixed rate mortgages have always had severe restrictions on prepayments. This is accomplished either via yield maintenance penalties or defeasance requirements.

Yet, property borrowers undertaking acquisitions, or who think they can improve a property’s cash flow, frequently do not want to lock into a long term based upon the leverage that can be justified by the properties’ initial acquisition profile. Instead, this type of borrower will frequently seek a shorter term floating-rate loan, with the intention of establishing a larger longer term fixed-rate loan post-transition of the property. These types of loans could be originated with either a traditional portfolio lending bank, or a Wall Street securitization program. If a CMBS program provided the transitional loan it was usually a 3-year floating-rate mortgage with two or three 1-year loan extension options. The resulting floating-rate loans are much more transitional and were generally more risky than fixed-rate mortgages, but they provided collateral to create a small CMBS floating-rate category. Exhibit 2 shows the floating-rate issuance category as being no more than \$30 billion in any single issuance year. Floating-rate CMBS issuance is complementary to fixed-rate issuance, and should be viewed as a supporting bond type within a healthy CMBS market, but is only a small part of the CMBS universe and not really the focus of this paper.

CMBS Bond Structure

Beyond the initial overcollateralization approach, this new CMBS market quickly evolved to the point where there was sufficient investor demand to transfer *all* of the risk via the securitization. This transition happened as expert investors developed to analyze and buy each pool’s first loss piece, followed by investor interest in the next loss piece, all the way up to mainstream investors that were only interested in the safest cash flows at the top of the credit structure. In Exhibit 3 we show how the entire mortgage pool’s weighted average coupon (WAC) may be divided up among bond classes via pool cash flow entitlements that amortize, are bullets, or absorb the pool’s excess coupon as IOs.

Exhibit 3: Fixed-Rate CMBS Bond Structure — A Generic 2007 Deal



Source: Amherst Securities Group, LP; Intex Data Solutions

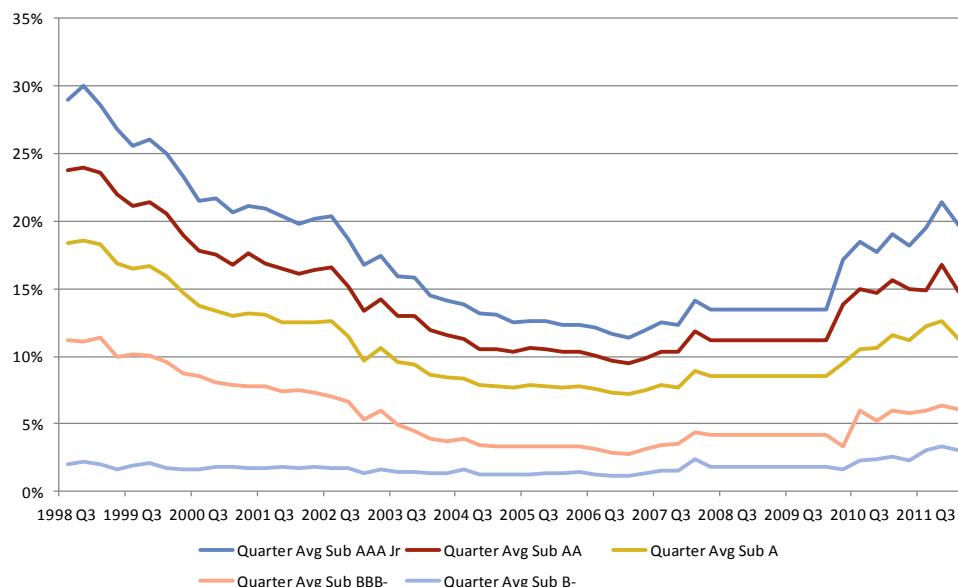
Each shaded blue vertical column of the rectangle in Exhibit 3 represents principal slices of the entire mortgage pool, with slice height representing the coupon entitlement and width representing the loan principal supporting each class. The structure above is a sequential prepayment and loss structure that allocates prepayments and principal recoveries sequentially to the classes on the left-most side of the rectangle, and reduces the classes on the right-most column by any principal writedowns. The first 2 or 3 classes on the left have a shorter term and lower coupon, with the front A1 to A4 classes actually being time tranches into 3-, 5-, 7- and 10-year classes, to create a highly rated triple-A class with different terms to satisfy different investors' demand. The non-investment grade credit classes on the right side have relatively lower coupons and would have been sold at a discount, so the coupon rate rarely reflects their credit risk. The pools' weighted average excess mortgage coupon is sold as an interest-only (IO) strip (shown in the exhibit as the white excess boxes on the top left and top right of the rectangle). Sizing and selling of excess coupon IO strips evolved into various bond classes that can have different levels of prepayment and default exposure in order to tailor their cash flow stability to investor demands. But in this publication, we will focus on how credit protection levels are established and how they evolved to suit investors' tastes.

CMBS Structure—Credit Enhancement Levels

These credit support levels are a key factor as they provide the loss protection and are the basis for the investment viability of each bond class. If investors thought these credit support levels were inappropriate for any bond class, the CMBS market would not be able to sell new bond pools. In Exhibit 4 we show historical rating agency credit support levels on conduit pools, and highlight how far these levels and natural triple-A levels² had contracted from 1998 to 2007 and then have recently increased.

² A “naturally” rated triple-A is a term we use to describe the lowest subordination level rated as triple-A by the rating agencies. We use the term “naturally” rated because as CMBS evolved, several higher levels of credit support were created that also received triple-A ratings.

Exhibit 4: Fixed-Rate Multi-Loan Pool Subordination Levels



Source: Amherst Securities Group LP, Intex Data Solutions

We started the chart in Exhibit 4 with 1998 data, as credit support levels were established after the 1991-92 commercial real estate recession (which we view as a historically severe collateral market, brought on by extreme overbuilding, speculative buying, and tax-driven acquisitions). In contrast, the levels one decade later in 2007 represent those achieved after CMBS had established a steady credit collateral track record. Following the naturally rated triple-A support levels, in Exhibit 4 we see that the 30% credit support in 1998 plummeted to 12.5% by Q1 2007. Much of this contraction in credit support actually took place between 1999 and 2003, as rating-agencies adjusted models to account for amortization and other factors that their original sizing analysis had ignored. Yet clearly by early 2007, issuers had also mastered pool origination and loan sizing to a science, in order to minimize the support levels achieved at the rating agencies. In addition, CMBS issuers would get preliminary levels from all three major rating agencies, and usually select the best two rating stacks for their issue. This represents a potential conflict, which likely pressured rating agencies to lower enhancement levels; yet seasoned CMBS investors were highly aware of decreasing levels. And as we will discuss later, other methods evolved to preserve their credit support.

In developing credit support levels, we would say that the original rating agency analysis was based on a fairly robust database of distressed commercial real estate performance from the early 1990s. From that data, agencies could assess statistical benchmarks for when commercial mortgages default, what absolute level of cumulative defaults was probable, and likely loss severities. *Using this stressed empirical data, the agencies could estimate new pool credit support sizing based on the leverage of specific commercial mortgage loans within a loan pool, then adjust those levels by requiring additional subordination for factors such as decreased pool diversity, or for property or geographic concentrations.*

We generally view that early data as providing a conservative foundation for agency support levels in the 1990s. As time progressed, rating agency models were refined, and even provided a benefit for amortization in 1999. But thereafter, competitive loan origination pressures mostly eliminated commercial loan amortization (by 2005). At the same time, the underwriters/issuers continued to push property cash flow evaluation and underwriting standards. This forced rating agencies to go to great

lengths to remove and normalize some unreasonable pro forma assumptions in their analyses. This created a classic “issuer versus rating agency” situation while credit support level and ratings evolved in a competitive lending environment, as bankers sought to minimize loan funding costs.

Even though the early 1990s’ commercial real estate experience provided good data upon which to base initial rating agency subordinations, starting in 1999, rating criteria adjustments reduced those support levels, and by 2003, CMBS investors with real estate knowledge were becoming concerned. So while there was real data and analysis in the rating-agencies’ sizing of these CMBS levels — the overall CMBS investor base is conservative and focused on how that credit support could be reduced or eliminated under some worst case default and loss analysis approaches. As a result when CMBS credit enhancement levels severely contracted in 2004, proactive CMBS investors went on strike and insisted that additional enhancement be provided beyond what rating agencies required at the triple-A level. The first such transactions settled with new additional triple-A classes that had a total of 20% credit support, which was considerably higher than the 12-15% natural triple-A created by the rating agencies. The ante was upped a few months later, when investors lobbied for, and got, a 30% base enhancement, which created a third higher quality class well above the 12-15% triple-A level which was being set by the rating agencies. This 30% enhancement at the AAA level created significant investor confidence in the senior CMBS credits, which substantially increased investor demand. Exhibit 5 shows the simple math within a generic 2007 CMBS transaction, of just how much default loss protection these credit enhancement levels provide (assuming 40% loss severity on every mortgage that defaults).

Exhibit 5: CMBS Loss Protection— A Generic 2007 Deal

Tranche	Original Rating	Current Rating	Orig C/E	Expected Severity	Breakeven Default	Breakeven CDR
A1	AAA	AAA	30.00	40%	75.00	100.00
A2	AAA	AAA	30.00	40%	75.00	100.00
A3	AAA	AAA	30.00	40%	75.00	100.00
A4	AAA	AAA	30.00	40%	75.00	28.20
AM	AAA	AAA	20.00	40%	50.00	12.00
AJ	AAA	A	11.75	40%	29.38	6.00
B	AA+	BBB	10.75	40%	26.88	5.40
C	AA	BBB-	9.75	40%	24.38	4.81
D	AA-	BB	8.75	40%	21.88	4.25
E	A+	BB	8.13	40%	20.33	3.91
F	A	BB	7.38	40%	18.45	3.50
G	A-	BB	6.50	40%	16.25	3.04
H	BBB+	B	5.25	40%	13.13	2.41
J	BBB	B-	4.25	40%	10.63	1.92
K	BBB-	B-	3.25	40%	8.13	1.44
M	BB	B-	2.38	40%	5.95	1.04
N	BB-	B-	2.00	40%	5.00	0.86
P	B	B-	1.50	40%	3.75	0.64
Q	B-	CCC	1.25	40%	3.13	0.52

Source: Amherst Securities Group, LP; Bloomberg LP

The first four classes in Exhibit 5 that have artificially established subordination at 30% would require a simple 75% cumulative pool default rate if every loan that defaulted lost 40%. Given that the CMBS 30-day+ delinquency rate has only recently breached 10% — the risk of principal loss on a 30% or 20% supported class is only likely to occur very infrequently. Thus the market refers to the 30% class as super-senior bonds (“dopers”), and to the 20% AM class as “mezzanine triple-A”. Moving down the credit structure to the naturally triple-A rated AJ (“junior AAA”) bonds within Exhibit 5, the average 11.75% support still supports average pool defaults of 29%. After 30 months of recession, and given the lag that follows CMBS properties, certain underperforming transactions may very possibly reach that level of default. Losses become even more likely as we move down the credit structure into many of the mezzanine investment grade bond classes. However, after the 2008 recession, rating agencies ratcheted up their methodologies to a point that would require 15-22% credit support for a new naturally rated triple-A bond, and they created correspondingly higher levels on some of the lower rated classes.

Much of that rating agency tightening response was driven by the low mortgage availability experienced during 2009, which had many market participants actually envisioning delinquency rates of 30-50%. So as one moves down the credit stack, the timing of losses becomes important, as not all defaults will happen and be liquidated immediately. To consider the impact of timing, in Exhibit 5 we also show the constant default rate (CDR) that would actually pierce a credit class’ principal. The exhibit’s table shows that a 6% annual rate would be required to impair the AJ; 4.8% annual CDR would hurt the double-A; and 3.5% CDR would ding the single-A bonds. However, many fixed-rate fusion conduit pools have large single loans that comprise 5-18% of the pool; defaults on any of those individual loans could immediately pierce the pool’s credit protection. Given that the rating agency assessment created downgrades, combined with an investor outlook shift that anticipated negative events on many of the larger loans — then as securitization markets sold off — many CMBS bonds reacted similarly to the sell-off in subprime bonds. Today, most originally rated mid- to low-CMBS investment grade classes continue to trade as very low priced credit IOs, with little expectation of final bond principal being paid.

To understand the risks and potential of these mid- and lower level bonds, the market spent the next several years analyzing available post recession loan information and refining the science of estimating when larger loans may default, and whether a loan might be modified or liquidated by its loan servicer. To help in such timing considerations, we will describe how the bonds are created and how servicing mechanics of the transaction could affect a bond’s cash flow.

Converting Origination to Bonds

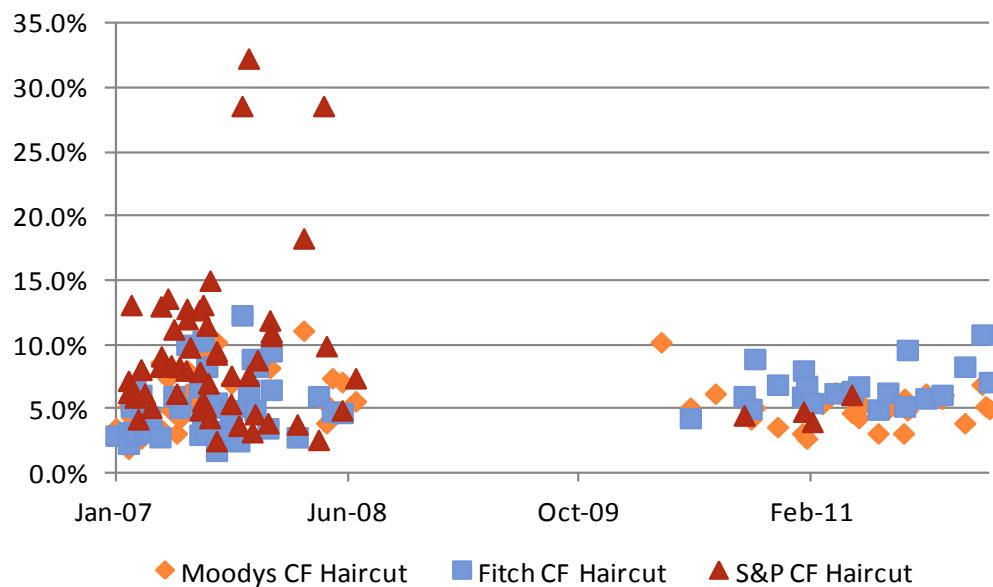
Over the past decade, most potential commercial mortgage borrowers have developed the habit of retaining a mortgage broker to present the borrower’s financials in the best light to potential lenders. Wall Street origination programs (usually called “conduits”, as in “conduit to a securitization exit”) typically require the broker to provide 3 years of financial statements for each property, rent rolls, market and demographic information along with sponsor background and business plan. The mortgage broker would typically underwrite these numbers to create a marketing estimate of property cash flow that they would try to get the originator to use when sizing just how much debt the property could support. Potential lenders would review these proposed financing packages, and re-underwrite the broker’s cash flow to determine what they felt (given that property, and the then-current market) they could reasonably get the rating agencies to underwrite. Each rating agency established their own underwriting guidelines, including minimum specific market vacancy expectations and re-leasing costs for properties. Referencing those agency guidelines, issuers would create an underwriter’s cash flow, which they would use to estimate proceeds and mortgage coupon as they bid to originate the loan in a highly competitive environment. Over time an issuer would win and aggregate a sufficiently number of loans that they could submit (in aggregate) with supporting documentation for review and underwriting to the rating agencies’

more conservative standards. The resulting rating agency cash flow estimated for the overall pool would usually be somewhat lower than the issuers' underwritten cash flows, which created a rating agency "haircut".³

Property cash flow underwriting is difficult to stretch, so typically the toughest rating agency parameter adjustment came from the property capitalization rate (which is actually a property yield, commonly referred to as a "cap rate"). The rating agency cap rate valuation parameter from the early 1990s was usually in the 9-10% range, which was significantly more conservative than where properties traded during 2005-2008, or even more recently. Similarly, interest rate refinancing costs were assumed to be at 8.5-10.5% (when actual interest rates were in the 5% range). With rental markets experiencing significant rental increases into 2006 and 2007, issuers focused their underwritten property cash flow on the potential benefit of higher rental rates (but as we just mentioned, rating agencies could easily mark these down to what were usually lower market rates creating a "hair cut" to the issuer-proposed figures). Rating agencies used the resulting stressed leverage measures to estimate the required rated credit enhancement based on how a specific stressed debt service coverage ratio (DSCR⁴) or loan to value (LTV⁵) had historically defaulted, assuming the underlying collateral was consistent with loans originated in the late 1980s and early 1990s.

In Exhibit 6 we show more conservative 2007-2012 rating agency discounts (haircut) to the issuers' underwritten cash flows in 6(a), and then in 6 (b) we show the resulting rating agency LTVs from the presale reports they release for each rated transaction.

Exhibit 6a: Rating Agency Cash flow Haircuts

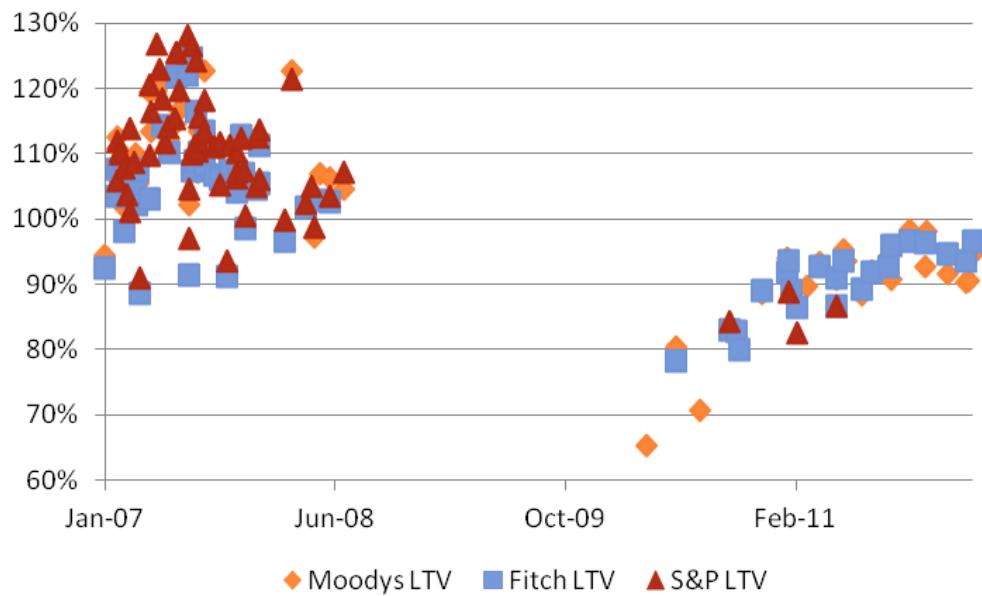


³ Rating agency cash flow haircut - the % that the agency pool cash flow is less than the underwritten cash flows submitted by the issuer. Typically the rating agency marks property rents down to market levels, assumes that vacancy rises to local market conditions, and reviews expenses overriding the figures provided by the issuer.

⁴ Rating agency DSCR – the debt service coverage ratio the agency assigned to the pool, usually based on re-underwriting cash flow and a stressed interest rate (currently 9.25% for Moody's).

⁵ Rating agency LTV - the loan to value % the agencies assign to the pool, usually based on their re-underwriting the issuer's cash flow to sustainable levels, then capitalizing those figures at above market stressed cap rate yields in the 9-10% range.

Exhibit 6b: Rating Agency LTVs



Source: Rating Agencies, Amherst Securities Group LP

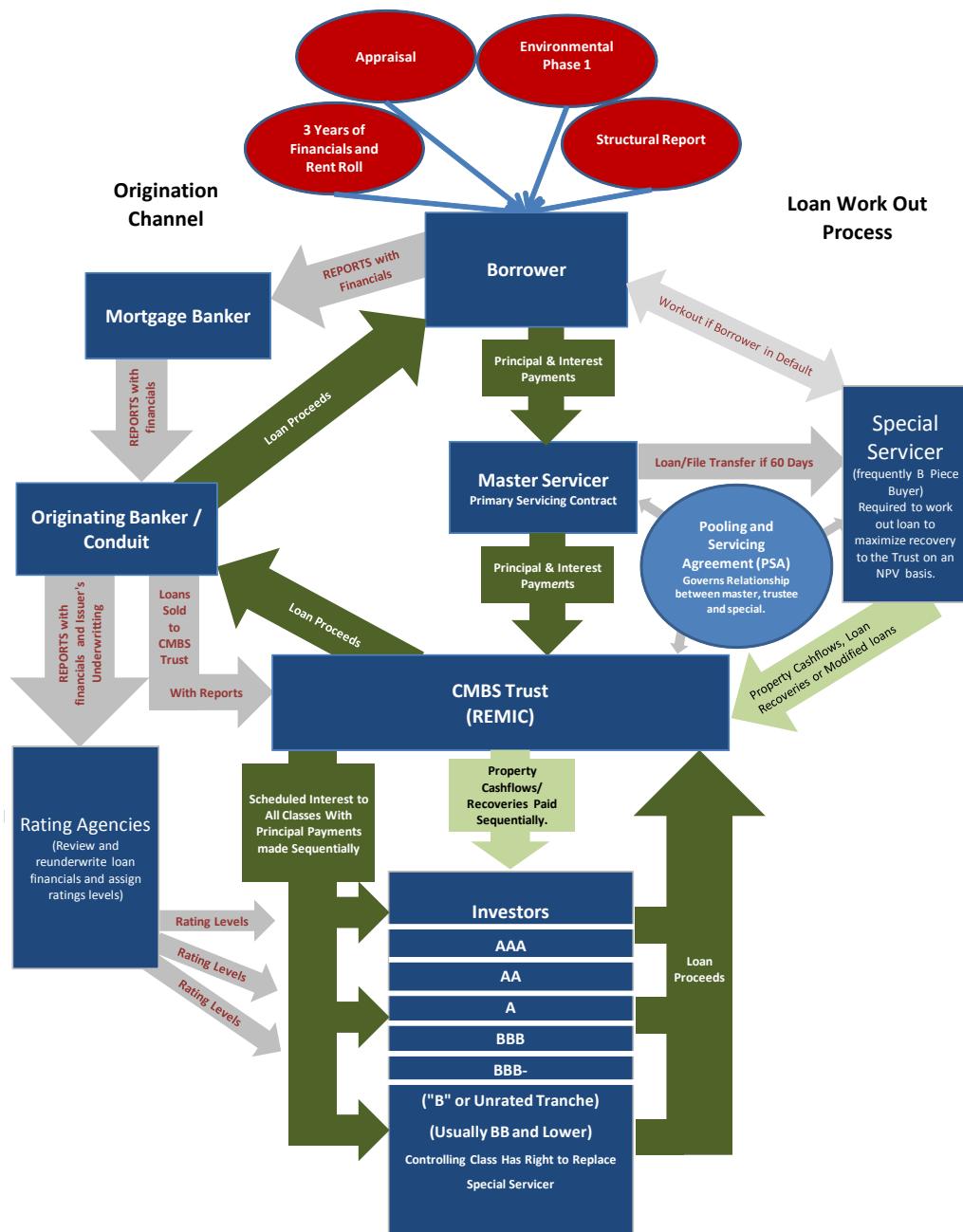
Looking at these two graphs, we see that rating cash flow haircuts typically ran 3-15%, with S&P discarding 25% or more of the underwritten cash flow three times during 2007. The resulting LTVs usually were 20-50% higher than those estimated by issuers submitting the pools. Since some investors buy based on vintage, we caution that they may want to discount the trend toward higher stated rating agency LTV assessments, which increased in the 2nd half of 2007, as rating agencies became aware of deteriorating economic conditions from their RMBS market participation. As subprime performance deteriorated, the rating agencies very clearly toughened their underwriting parameters. Because of late 2007's heightened underwriting, it is very possible that late 2006 - early 2007 vintage CMBS contains some of the more aggressively underwritten CMBS issuance, even though their assessed rating agency LTVs were lower than late 2007 issuance.

Specifically, April 10th 2007 was a key date on which Moody's announced they were formally toughening their model by increasing cash flow haircuts and raising cap-rates by 0.25%. At that point neither S&P nor Fitch indicated any need to change their own models (but we did detect that all rating agency cash flow haircuts immediately rose post-April 2007, while rating agency-assessed LTVs increased by 4 to 10%). But due to the RMBS crisis, over the subsequent 18 months senior CMBS management at each rating agency would be replaced and rating agency methodology changed to anticipate even tougher future recessionary conditions. Interestingly, issuance post-2009 usually shows a smaller rating agency discount to cash flows and values, as the underwriters also tightened standards, effectively performing the rating agencies' function for them. Given this reaction, we have come to view these changes in underwriting and rating standards as part of the credit cycle that takes place after any crisis. However, in the past year we would note an upward trend in rating agency LTVs; we caution investors to keep a close eye on this metric, as new issue underwriting continues to get more and more aggressive. At the same time, given little new research to justify tightening rating agency methodologies, the market was left to wonder why the original ratings based upon significant performance data from the 1990s' recession were insufficient to withstand the current economic cycle.

CMBS Structure—Shaped By Participants

The real story in understanding CMBS really isn't the rating agencies – it's the various groups of specialized CMBS investors, and the structures they have driven over the years. In Exhibit 8, the left side of the flow chart shows the traditional CMBS loan origination channel with the various levels of credit investor review and the right side shows the transaction's cash flows and servicing participants.

Exhibit 8: CMBS Structure and Participants



Source: Amherst Securities Group LP

In the top left of Exhibit 8 we see a *borrower* submitting financials and property data to a *mortgage broker*, then, after a competitive underwriting process, agreeing to loan terms. Once the loan closes, the *loan originator* warehouses the commercial mortgage until there is sufficient mortgage collateral to create a *CMBS- issuing trust*. Most CMBS trusts are set up as a real estate mortgage investment conduit “REMIC” structure, which enables mortgage cash flows to be passed directly onto investors without withholding tax. The four *red circled* items at the top of Exhibit 7 detail the various reports collected during loan origination. These form the basis for financial and appraisal information that is electronically summarized in the issuing “Annex A”, an Excel file included in the CMBS transaction’s marketing materials. The diagram’s *green arrows* designate cash flows, such as loan proceeds, advances and ongoing monthly flows; *grey arrows* indicate information and data either initially provided or updated periodically by the servicer.

The light blue circle in the diagram shows a *pooling and servicing agreement* (PSA), which governs the relationship between the *loan seller*, *servicer*, *trustee* and *special servicer*. Typically, if investors want to understand how a specific loan will be handled in a specific situation, they would consult the PSA, which is usually available from one of the three cash flow modeling services. The PSA also outlines the loan seller’s representations and warranties for the mortgage pool. If a loan violates one of these representations the loan servicer, who is independent of the issuer, is often quick to require the loan seller to buy it back. There have been several issuer/servicer disputes over loan representations, which demonstrate how vigilant an independent servicer and subordinate bond holder can be.

As we move to the diagram’s middle portion, we see what happens as a transaction is funded by investors. The central box labeled *master servicer* shows the master servicer receiving the mortgage payment (usually in the first few days of a month), then transferring those cash flows to the *trustee*, which pays the respective bond classes on the 15th of the month. The master servicer is also responsible for making property- or loan-specific advances to the extent such advances are deemed recoverable and are needed by the special servicer or the trustee to maintain bond cash flows.

The diagram’s right side shows what has traditionally happened when a loan defaults, with related files being handed over to the special servicer once the loan has been in default 60 days. The special servicer is responsible for working out defaulted loans, and makes the decisions on those properties. The master servicer and trustee receive a preset fee stripped from the pool’s cash flow; the special servicer usually receives a higher fee if actually servicing a distressed loan (usually 25 bps, but it can vary by deal and in many cases can also vary for specific pool assets). The special servicer is also usually entitled to a 1% workout fee for any successful disposition or modification should the loan be returned to the master servicer. This 25 bps may not seem like a huge fee (as a loan officer can likely work on 8-10 open files, with average loan size of possibly \$7 million) — but these fees should generate sufficient funds to pay additional workout personnel, creating a scalability in a recessionary crisis. Unfortunately, these fees are rarely modeled in cash flow programs, even though they can increase severities and reduce cash flow to subordinate credit bonds (however, in Amherst’s CMBS ALIAS analytic system, we do account for these fees when calculating Yield/Price). Investors may try to account for these fees by raising various loans’ expected loss severity, but it would be more accurate to model loans’ actual cash flows net of fees (which can build up over time).

Besides working out the mortgage for a servicing fee, the special servicer also retains an appraiser to determine the property’s value, which is then used by the master servicer to determine if advances should be made to maintain the bond structure cash flows. As previously mentioned, the master servicer has the obligation of making advances for loans that may no longer be feeding the trust at the original, fully anticipated coupon rate. In exchange for making these advances, the master servicer earns prime, or prime+1%, on outstanding advances, and this obligation has a senior claim against the specific loan’s

recovery when it is liquidated. However in early 2000, a few loans that defaulted recovered less than the outstanding loan advance obligation, which created a principal claim back to the entire transaction. To protect against this type of over-advancing, most CMBS issuers created an automatic appraisal reduction mechanism, whereby the special servicer was required to obtain and accept a new property appraisal for the property within a specific time (typically 60 days after the transfer from the master to the special or about 120 days after initial default). The master servicer then uses 90% of that new appraised value for advances. This “reduction for advances” is commonly referred to as ASER (appraisal subordinate entitled reduction), and the amount is an ARA (appraisal reduction amount). Thereafter, this appraisal is then updated annually to ensure that advances are restricted if the property market continues to deteriorate. This protective mechanism is meant to maintain bond cash flows to the extent there is value in the underlying loan – yet it can shut down cash flows of subordinate CMBS bonds well in advance of any actual loan liquidation. With many of the larger 2007 loans having experienced early defaults, this feature is yet another nuance for credit investors to model and anticipate.

The key element of the chart in Exhibit 7, and the reason the CMBS structure may have good stability — is the fact that historically, the special servicer has typically also been the first loss buyer. This is by design, as in CMBS issued before 2009, the lowest outstanding class that still has 25% of its principal outstanding has direction rights over the workout of defaulted loans within the pool. This “control” usually requires the special servicer to get the controlling class consent for a loan modification, but the servicer is also held to a servicing standard that requires them to maximize the loan recovery on a net present value basis. Sometimes the PSA will list the loan modifications permitted, but most times there is very little restriction. That effectively permits the special servicer to undertake extensions and/or rate reductions. The controlling class designation has traditionally shifted when actual realized bond class losses exceed 75%, but on recent post-2009 CMBS 2.0 issuance, control has shifted based upon the appraisal reductions (which previously only governed master servicer advancing). While these processes may seem complex, they have evolved over time, intending to maintain stable bondholder cash flows, enhance servicer flexibility in what can be complex borrower workout negotiations, and facilitate decisive decision making on the key issues of liquidation and extension. But as legacy CMBS loans have seen some questionable modifications, we will now discuss how CMBS 2.0 has evolved to address servicing governance and limit special servicer control.

Servicer Conflict of Interest – Potential Investor-Driven Class Warfare

Because it is important that a commercial mortgage servicer have flexibility, a potential conflict of interest is created if the servicer is a subordinate investor with the power to call the loan workout shots, or to implement almost any loan modification. This has always been a point of friction between investment grade investors and servicers. During the 2001 recession many investors were frustrated as servicers prematurely waived prepayment penalties when their bonds traded at a premium. Post-2009, the market has seen several hundred loan modifications that extended loans rather than foreclose them while bonds were trading at a discount. However, the CMBS market now has more than a decade of experience with modifications, as we show in Exhibit 9 below.

Exhibit 9: Historical Loan Modification Resolutions

Year Mod	Loans	Balance (\$MM)	DQ Before Mod			DQ After Mod			Paid Off				Liquidated				
			Loan Count	Bal (\$MM)	Bal %	Loan Count	Bal (\$MM)	Bal %	Loan Count	Balance (\$MM)	Bal %	Mod To Payoff Mos	Loan Count	Bal (\$MM)	Bal %	Workout Lag	Sev.
2002	44	1,345	4	50.4	3.7	5	49.1	3.6	40	1,108.3	82.4	27.0	3	50.1	3.7	83	72.3
2003	73	1,444	9	102.5	7.1	8	150.7	10.4	71	1,438.0	99.6	16.5	11	126.7	9.5	30	15.5
2004	151	2,024	8	45.6	2.3	22	198.9	9.8	113	1,795.6	88.7	29.4	23	201.2	9.9	43	37.8
2005	55	1,170	12	66.5	5.7	6	53.8	4.6	44	1,106.7	94.6	18.7	6	47.2	4.0	49	42.3
2006	21	93	5	13.1	1.4	5	254.9	27.3	17	779.3	83.5	20.8	7	151.3	16.2	48	34.7
2007	29	1,483	2	8.4	0.6	6	146.5	9.9	19	1,077.8	72.7	38.3	4	18.3	1.2	45	9.0
2008	38	744	12	248.2	33.4	10	175.3	23.6	17	344.3	46.3	19.9	5	46.6	6.3	31	40.0
2009	331	10,654	129	2,403.9	22.6	59	1,591.8	14.9	135	3,268.7	30.7	19.6	59	980.9	9.2	20	27.8
2010	603	27,448	327	7,688.2	28.0	58	1,073.7	3.9	139	5,055.6	18.4	16.4	47	936.9	3.4	16	14.2
2011	521	18,974	312	9,802.9	51.7	36	1,228.7	6.5	74	1,892.3	10.0	6.1	35	953.7	5.0	7	5.7

Source: Amherst Securities Group LP, Intex Data Solutions

The pink section of Exhibit 9 shows that on modified loans the servicer has actually recovered 58 to 94% of the loan amount since 2003. From that standpoint servicers have had a positive recovery experience on loans that they have granted some type of modification. So while 2009 shows a significant increase in modifications, given recent high loss severities experienced early in the 2009 market, there was a strong likelihood that extensions were the most appropriate action to maximize long-term loan recoveries on a net present value basis.

Feeding the modification increase in late 2009, the IRS granted more REMIC flexibility for special servicers to modify loans before an event of default, and we did see several loans extended for multiple years in exchange for cash investment by the borrower. Typically a servicer should only be making 3- or 6-month extensions in order to maintain the threat of foreclosure and encourage a borrower to refinance the property. However over the past 36 months, there have been many exceptions to this approach when a borrower is prepared to invest cash in a struggling property's reserve accounts or pay some of the principal balance, which can materially improve the servicer's estimate of NPV recovery.

During 2009, several special servicers lobbied the IRS for REMIC changes that would enable them to use the loan's original loan terms to offer new financing to a new buyer after a foreclosure in order to maximize the loan recovery on the property. That "vendor take-back" financing is a common practice for portfolio lenders in order to maximize loan recoveries, but could create a temptation to delay losses for a servicer that was also a subordinate bond holder. That loan recycling proposal is shelved for now; all loan modifications undertaken by a servicer must involve the original borrower, in order to utilize the original mortgage financing. As a result, the most questionable work-out approach we have seen to date is called a "hope note mod" which involves splitting the original mortgage into a senior note (potentially with a lower rate) and a second low coupon note (which receives excess interest beyond the obligation of the senior note⁶). The first note is usually sized a little larger than the recent appraised value to ensure it is a challenging debt obligation to repay, as any excess proceeds to the second note are shared by the CMBS transaction and the original borrower. This sharing of the second cash flow is meant to encourage the borrower to invest in the property, but many investors would prefer simple loan foreclosure or loan liquidation, as the business strategy of sharing the recovery benefits with the borrower conflicts with the concept that the mortgage creditor is entitled to all the benefits of distressed collateral. The servicer would argue that on some complex assets, replacing the original borrower can cost significant cash flow loss, and that in most cases, the original borrower is in the best position to minimize losses on a property. Since 2009 we have tracked more than 130 loans defaulted with the servicer using a "hope note" modification. Recently improved reporting has highlighted that special servicers have been collecting fees from the borrower for this service, on top of the fee they are entitled to collect from the trust (which is why CMBS 2.0 documentation now restricts the third party fees that special servicers can collect).

The concerning aspect of this "hope note" approach is that it can delay a significant loan loss, which can maintain a subordinate class's control rights over an entire CMBS transaction. Post-2010, new issuance now transfers ownership based upon appraised value. This may overcome concerns about control, but then the question of appraisal accuracy arises. Fortunately, servicers' influence is limited, to the extent that they only affect the outcome of troubled loans (in which case, investors should assume servicers make business decisions that can affect bondholder's returns depending upon their position in the bond structure and whether their holdings are discount or premium bonds).

As delinquencies rose and many larger loans defaulted, investors in various bond classes have challenged this servicing structure, or decisions under it. In the troubled single-issuer Extended Stay Hotel transaction, this took the form of some mid-investment grade bondholders trying to restructure the \$4.4 billion of first mortgage debt, even before it was transferred to the special servicer. In that case the special servicer eventually prevailed on behalf of all the bond investors. But with GGP-related loans (a retail REIT, and the largest single borrower within all CMBS deals), we saw the borrower use the parent's bankruptcy to force extensions upon a large portion of what were supposed to be bankruptcy-remote and separate loans. These actions helped the GGP parent emerge from bankruptcy with multiple bids for the collateral that would repay most of subordinate corporate debt (clearly demonstrating that the judge's decision to extend mortgages resulted in the direct transfer of economic value from supposedly secured mortgage holders to the equity and subordinate debt holders, as the CMBS bond investors will continue to earn what are now below-market mortgage rates on what became freely pre-payable mortgages). This borrower-driven result shows that there can be unexpected business decision risk in any CMBS default, especially when larger loans are involved that can motivate various large interested parties to consider innovative investment strategies.

One of the largest interesting cases of loan workouts involves a large investor in bonds supported by the \$3 billion Peter Cooper mortgage loan (which had an additional \$1.4 billion in subordinate unsecured

⁶ Investors interested in a full discussion of hope notes should read: "CMBS Hope Notes (or Hoping for Fees)? – Suggest that CMBS Needs Better Governance", Darrell Wheeler, Vivek Tiwari and Joe Yu, Amherst Securities, LP, January 27, 2012.

mezzanine debt). In that instance, a specific bond investor actually sued the special servicer, challenging the decision to foreclose on that property. After losing the lawsuit to the special servicer, the mezzanine lender sold their position to the special servicer, facilitating an ownership transfer without foreclosure. At the time, the various parties were fighting in court and there are clearly many different stakeholders interested in how this loan will get worked out. While the courts can be receptive to modifications versus foreclosures, in this case we suspect it was difficult for the plaintiff to demonstrate that they were representing the majority of debt holders' interests relative to the special servicer's clear directive to realize the highest NPV on the asset for all mortgage holders. Yet the outcome on the dispute did delay foreclosure and has since proven to be fortuitous for the loan, which was recently appraised at \$3 billion (the same as the first mortgage amount). We should also mention that while that asset has improved its value, the current cash flow is insufficient to refinance the first mortgage, which makes some type of loan modification or assumption likely for this particular specific large loan workout⁷.

These disputes over the economics of various servicers' actions demonstrate the proactive nature of CMBS investors. These various actions suggest that while loans can be structured for securitization, in moments of distress things rarely go as originally planned, and investors should anticipate that loan workouts take 24 months or longer, and that bondholder risk can include liquidations just as easily as extensions. With more activist investors having bought CMBS positions at both discount and premium prices, the market should anticipate that many of the large loans may potentially incur credit stack-motivated litigation. Yet having proactive investors question the special servicer's major actions should be seen as yet another demonstration of how the structure and its investor base are vigilant, and should help ensure that balanced decisions are being made by servicers for the entire trust.

It is also important to appreciate the benefits of a first loss buyer's 3rd party credit review, as CMBS loans were originated in a process that included having a seasoned CMBS investor review and accept the subordinate position, effectively creating (the now fabled phrase) "skin in the game". Typically, these first loss buyers would review the collateral pool, appraisals, and financial data for a 2-6 week period before committing to buy the junior claims of the pool. During that time most loans would receive a physical site inspection from various potential first loss buyers of the transaction. Even after an agreement has been reached to purchase the pool, it was fairly common for the first loss buyer to kick out a percentage of the pool just before the public securities were sold. Unlike residential MBS pools, these 3rd party servicer/first loss buyers have also been aggressive in requiring loan issuers/sellers to take back mortgages that proved not to fulfill the loan sellers' representations and warranties. While many of these first loss buyers developed CDO programs to finance their activities, it was unlikely that the existence and growth of CDOs caused them to buy loans they assessed as default risks, as these subordinate buyers command tremendous power and could reject any loan in which they could foresee future default risk. Looking back at 2007 and 2008 CMBS issuance, several issuers reported that loan kick-outs spiked (hitting 18-20% of the pool on issuance) just after Moody's announced their new methodology in April 2007. So, while the rating agencies were assessing new, all time high LTVs and raising credit support levels – first loss buyers were more effectively diminishing the event risk of these pools with 11th hour loan kick outs after rating agency assessment had been completed.

The 2008-2012 Workout Experience Shaped New Issuance CMBS 2.0

Several legacy CMBS experiences shaped the requirements of regulators, bankers and investors, and were incorporated into recent CMBS issuance post-2008 (generally referred to as "CMBS 2.0 or 3.0"). Firstly, because of the clear credit evaluation role played by a 3rd party review, it was not surprising to see the

⁷ Investors Interested in a full analysis of the \$3 billion Peter Cooper loan should read: "More New On Peter Cooper Village & Stuyvesant Town 00 But We still Expect A Long Loan Life", Darrell Wheeler, Vivek Tiwari and Joe Yu, Amherst Securities LLP., March 22, 2012.

Dodd Frank Bill provide flexibility for retention requirements to be tailored by a securitized asset class, potentially enabling a first loss buyer to continue to provide a credit benefit to CMBS issuance. The Report to Congress on Risk Retention by the Federal Reserve⁸ made it very clear that there was a strong benefit to providing flexibility for securitized asset products on risk retention and the corresponding accounting treatment. So while servicers may have conflicts with investors, they can only affect the pool outcome to the extent a loan is in default. We expect that regulators and investors will continue to recognize the benefit of having a special servicer prescreen a pool plus be able to make relatively intelligent workout decisions on the troubled assets.

But the CMBS product has always been the result of evolving market conditions, and after the last crisis we have seen some flaws that could be improved. Specifically regarding concerns over servicing, there was a clear need for the [Commercial Real Estate Financing Council](#) (CREFC)⁹ to create a committee of investors and servicers to review some standard PSA terms and focus on what modifications a special servicer should be entitled to perform. Their intent was not that loan modifications be severely restricted, as CMBS workouts are complex negotiations, but that transparency should be increased with better fee reporting and transaction oversight by an operating adviser (“OP”) that could present an alternative assessment to special servicer actions to the trustee and investors for consideration. We note that on legacy deals, the special servicers have yet to agree to a third party fee reporting standard and negotiations are ongoing. But for new CMBS 2.0 transactions, investors have now achieved a servicing control mechanism that will move with the underlying transaction economics, as the controlling class is now set by the appraised value of the pool. Thus when troubled assets indicate a bond class no longer has 25% intrinsic value, the oversight of the transaction shifts to the next higher class which has the option to replace the special servicer. Previously, only principal received and actual realized losses could change or eliminate a bond class’s transaction oversight. Exhibit 10 summarizes some of the first new CMBS 2.0 transactions that priced.

⁸ <http://federalreserve.gov/boarddocs/rptcongress/securitization/riskretention.pdf>, October 2010.

⁹ Commercial Real Estate Finance Council is an international joint multi-participant industry group overseeing securitization practices involving commercial mortgages. The organization membership consists of >400 firms (institutional investors, servicers, trustees, issuers and rating agencies). The CRE Finance Council meets multiple times a year to set standards, and has many committees overseeing various aspects of CMBS.

Exhibit 10: CMBS 2.0 Issuance

	GSMS 2010-C2						WFRBS 2011-C3						JPMCC 2012-C6					
Size (\$MM)	\$876.5 million						\$1,446 million						\$1,134.0 million					
Date Priced	December 16, 2010						May 26, 2011						April 18, 2012					
Collateral	43 fixed rate loans secured by 108 properties						73 fixed rate loans secured by 144 properties						49 fixed rate loans secured by 118 properties					
Property Types	RT (39%), OF (34%), HT (9%), MX (7%), MF (5%), IN (4%), LA (2%), MH (1%)						RT (50%), OF (20%), HT (10%), IN (6%), MF (6%), MH(4%), SS(2%), MX(1%)						RT (41%), OF (38%), HT (10%), IN (4%), MX (3%), SS (2%), MHP (1%), MF (1%)					
Top 3 loans	52 Broadway : 10.0%, Cleveland Office Portfolio: 7.4%, Station Square: 7.1%						Village of Merrick Park: 12.8%, Hilton Minneapolis: 6.9%, Park Plaza: 6.9%						200 Public Square: 11.2%, Arbor Place Mall: 10.8%, Northwoods Mall: 6.5%					
WAC	5.3						5.6						5.3					
Debt Yield (%)	11.2% (M), 9.6% (F)						10.4% (M), 10.3% (F)						9.9% (M), 9.8% (F)					
WA DSCR	1.83 (UW), 1.74 (M actual), 1.21 (M stressed), 1.37 (F)						1.60 (UW), 1.13 (M), 1.26 (F)						1.62 (UW), 1.07 (M), 1.19 (F)					
WA LTV	58.9 (UW), 88.7 (M), 89.0 (F)						63.3 (UW), 90.7 (M), 90.9 (F)						65.5 (UW), 97.8 (M), 98.6 (F)					
Pct Shadow Rated	16.1						0.0						2.2					
Pct w/ allowed Addl Debt	27.0						13.8						15.2					
Pct with IO Loans	14.6						7.9						16.2					
Pct with Partial IO Loans	18.0						3.5						21.8					
Master Servicer	Wells Fargo						Wells Fargo						Wells Fargo					
Special Servicer	Midland Loan Services						Midland Loan Services						Midland Loan Services					
B-piece buyer	BlackRock						Rialto Capital Advisors						BlackRock					
Operating/Senior Trust Advisor	Pacific Life						Pentalpha Surveillance						Pentalpha Surveillance					
Structure Comments	Special servicer control to the B-piece buyer. Appraisal reductions included in determining controlling class. After E class is reduced by 75% (control event), control shifts to 75% majority of remaining bond holders. Termination of Special Servicer vote if without cause requires 25% of outstanding balance when taking into account principal received and realized losses only. Operating advisor entitled to consult with special servicer on all major decisions post control event and can recommend servicer removal after E class suffers 75% writedown.																	
	Structure						Structure						Structure					
	Class	Rating (M/F)	Sub (%)	WAL	Spd	\$ Price	Class	Rating (M/F)	Sub (%)	WAL	Spd	\$ Price	Class	Rating (M/F)	Sub (%)	WAL	Spd	\$ Price
A-1	Aaa/AAA	17.50	4.87	S+130	101.0	A-1	Aaa/AAA	17.13	2.55	S+65	101.0	A-1	Aaa/AAA	30.00	2.47	S+40	100.0	
A-2	Aaa/AAA	17.50	9.84	S+140	101.0	A-2	Aaa/AAA	17.13	4.79	S+115	101.0	A-2	Aaa/AAA	30.00	4.71	S+80	101.5	
B	Aa2/AA	14.50	9.95	S+195	97.7	A-3	Aaa/AAA	17.13	7.08	S+125	101.0	A-3	Aaa/AAA	30.00	9.91	S+115	102.5	
C	A2/A	11.13	9.95	S+265	92.7	A-3FL	Aaa/AAA	17.13	7.08	S+95	100.0	A-SB	Aaa/AAA	30.00	7.69	S+105	102.5	
D	Baa3/BBB-	5.75	9.95	S+380	85.2	A-4	Aaa/AAA	17.13	9.81	S+115	101.0	A-S	Aaa/AAA	21.25	9.97	S+175	102.5	
E	Ba2/BB	4.38	9.95				B	Ba2/AA	14.25	9.93	S+150	101.0	B	Ba2/AA	16.25	9.97	S+245	
F	B2/B	3.25	9.95				C	A2/A	11.00	9.93	S+210	101.0	C	A1/A+	14.00	9.97	S+365	
G	NR/NR	0.00	9.95				D	Baa3/BBB-	5.50	9.95	S+260	99.8	D	A3/A-	11.50	9.97	S+425	
							E	Ba2/BB	4.00	10.02			E	Baa3/BBB-	6.63	10.03		
							F	B2/B	2.63	10.02			F	Ba2/BBB-	6.50	10.05		
							G	NR/NR	0.00	10.02			G	Ba2/BB	5.13	10.05		
							H	B2/B					H	B2/B	3.50	10.05		
							NR	NR/NR					NR	NR/NR	0.00	10.05		

Source: Commercial Mortgage Alert, Rating Agencies, Amherst Securities Group LP

The structure comments row on these new deals describes the new controlling class mechanism based upon appraisals (not realized losses) as now setting the determination of controlling class, with the investment grade investors usually making decisions together as a class once control shifts from the non-investment grade classes. On the 2010 deal initiating a vote to terminate the special servicer was based on outstanding balance but as we see in the structure comments, the 2011 and 2012 deals have evolved to include appraisal reductions. All of these transactions implemented an operating or senior trust advisor on behalf of the investment grade investors which had a variety of monitoring responsibilities. Due to concerns over FAS 166 and 167, most first loss buyers have not necessarily had direct ownership of the special servicer, and yet are depending upon the servicer to act in the trust's and their best interests. This hopefully prevents the subordinate bond holder from having to consolidate the entire investment trust, but there is still uncertainty around that issue. In fact investors should expect that subordinate bond buying market will continue to evolve as final regulations are established over the next few years. At this point some of the new deals impose a cap on a special servicer's loan workout fees based on loan balance,

forbid special servicer to hire an affiliate broker for a loan sale, and eliminate the special servicer's traditional option to purchase the defaulted loans at fair market value.

Looking over several sets of recent offering documents, we also see several features we would like to see (such as electronic data on secondary debt) as still missing from some of the new marketing formats. That may change as the CREFC implements new best practice standards. But CMBS product continues to evolve as issuers judge investors' response to suggested improvements. One could question whether the market placing/pricing of these recent deals is the best test of long term viability of CMBS — but the hope is that the CREFC continues to play a role in implementing standards that improve information flow and transaction mechanisms.

Loan Maturity Will Limit New Issuance Through 2015

Current regulatory actions leave some originators hesitant to originate, as the securitization/retention rules create an uncertain business environment. Furthermore, the numbers of higher leverage loans maturing is challenging for the more conservative CMBS 2.0 origination standard, which will limit the number of loans that actually qualify for securitization. One of the major origination shifts between late vintage 2006/07 CMBS and new CMBS issuance is that originators returned to conservative standards that size new loans based on more conservative measures relating to DSCR, LTV, and debt yield. This means that many times CMBS 2.0 originators are looking at historical loan performance that has been affected by the 2008 recession, and are therefore stretched to provide sufficient loan proceeds. So in looking at the maturity schedule for potential new loan origination supply, there's a potential for very limited supply through 2015. In Exhibit 11 we show the fixed-rate CMBS maturity schedule in the top table; the bottom table contains the most recent average debt yield (property cash flow / mortgage loan) for the mortgages maturing.

Exhibit 11: Loan Maturity Schedule (Balance (in \$MM) / WAC / Debt Constant)

Deal Issuance Year	Current Balance (\$MM)	2008-	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018+
2004 And Before	93,818	102	619	991	2,901	14,993	25,127	28,684	1,066	1,381	981	16,972
2005	102,036	-	33	1,934	831	7,221	1,189	8,676	71,994	2,166	831	7,162
2006	139,034	-	-	224	4,920	1,613	3,624	698	15,213	103,207	1,690	7,846
2007	170,649	-	2	108	1,019	16,367	2,959	7,932	1,073	17,180	115,759	8,250
2008	9,810	-	-	-	-	435	266	404	156	94	5,785	2,670
Total	515,347	102	653	3,257	9,670	40,629	33,165	46,394	89,502	124,028	125,046	42,901

Deal Issuance Year	Total Debt Exit Yield	2008-	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018+
2004 And Before	14.6%	5.8%	10.0%	10.3%	11.1%	15.8%	14.9%	12.9%	15.2%	18.1%	21.8%	16.1%
2005	10.7%		8.6%	7.7%	9.0%	9.9%	11.5%	12.9%	10.6%	11.1%	9.7%	11.2%
2006	9.9%			7.7%	7.7%	12.8%	10.6%	11.6%	10.7%	9.7%	9.6%	10.1%
2007	8.7%				12.9%	8.4%	9.3%	9.2%	9.3%	8.6%	8.6%	11.1%
2008	9.7%					9.7%	7.5%	8.7%	11.4%	10.9%	9.5%	10.5%
Total	10.5%	5.8%	9.9%	8.5%	9.4%	11.6%	13.8%	12.2%	10.7%	9.7%	8.7%	12.9%

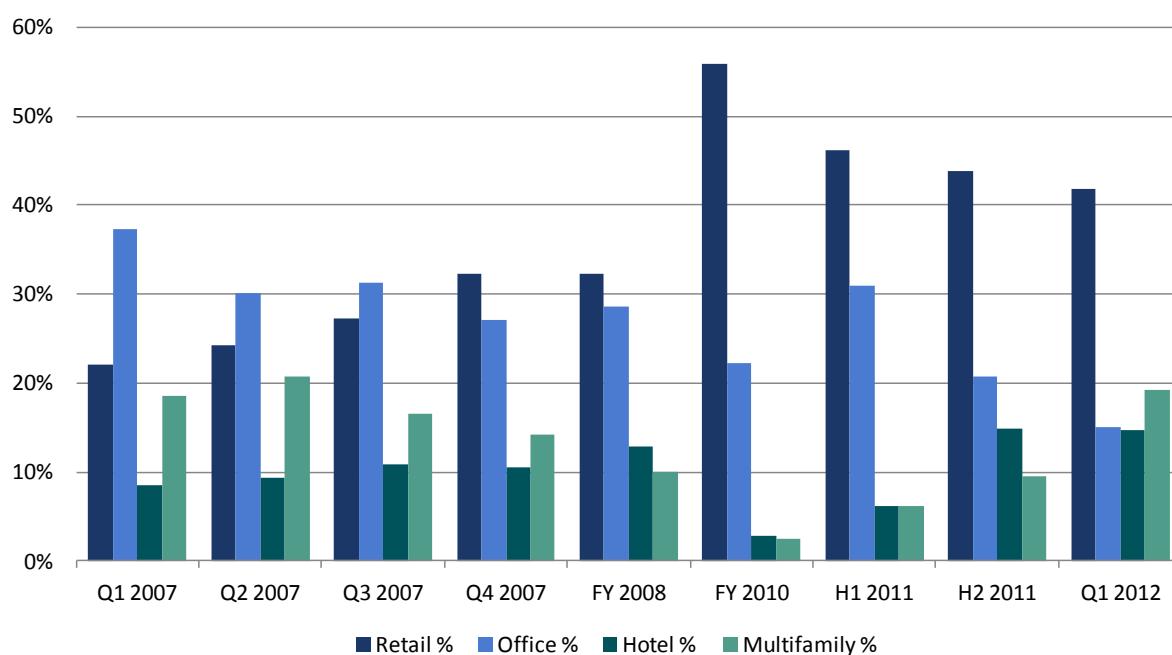
NOTE: Exit Debt Yield is [most recent NOI / expected loan balloon balance]. The maturity schedule excludes split-loans. Source: Amherst Securities Group LP, Intex Data Solutions

Exhibit 11 shows only \$40.6 billion of maturing loans in 2012, with small step ups through 2014. Yet one of the key determinants of whether a loan can be refinanced is its debt yield, which we show in the second table. Debt yield is calculated by taking a property's cash flow and dividing it by the loan amount that has

to be refinanced. Basically any loan with 10% or more of debt yield is seen as being able to carry reasonable interest on its mortgage and likely able to refinance at its balloon even if interest rates increase. Looking at the 2012 maturities, we think that many of the loans should be refinaneable and would say that the \$15 billion of loans maturing that were securitized in 2004 and before should be great candidates for CMBS issuance. However, these loans are so safe as to really be prime targets for portfolio lenders that are also currently originating loans and able to do so at spread levels inside of recent triple-A paper is pricing. So in reviewing Exhibit 10, the origination that the CMBS market really has a chance at are the more marginal loans that have 9% to 11% debt yield, which this year may be as little as \$20 billion.

Due to this limited origination ability, we expect CMBS issuance to be fairly low through 2015, and will only increase as bankers innovate and offer secondary debt financing to win loans with greater leverage, or when CMBS pricing tightens sufficiently in order for CMBS originators to compete with portfolio lenders. As a result, recent CMBS issuance in 2012 has seen a significant increase in rating agency excess leverage, and more importantly, in concentration of more economically sensitive properties such as retail. Exhibit 12 shows a progression of CMBS property composition.

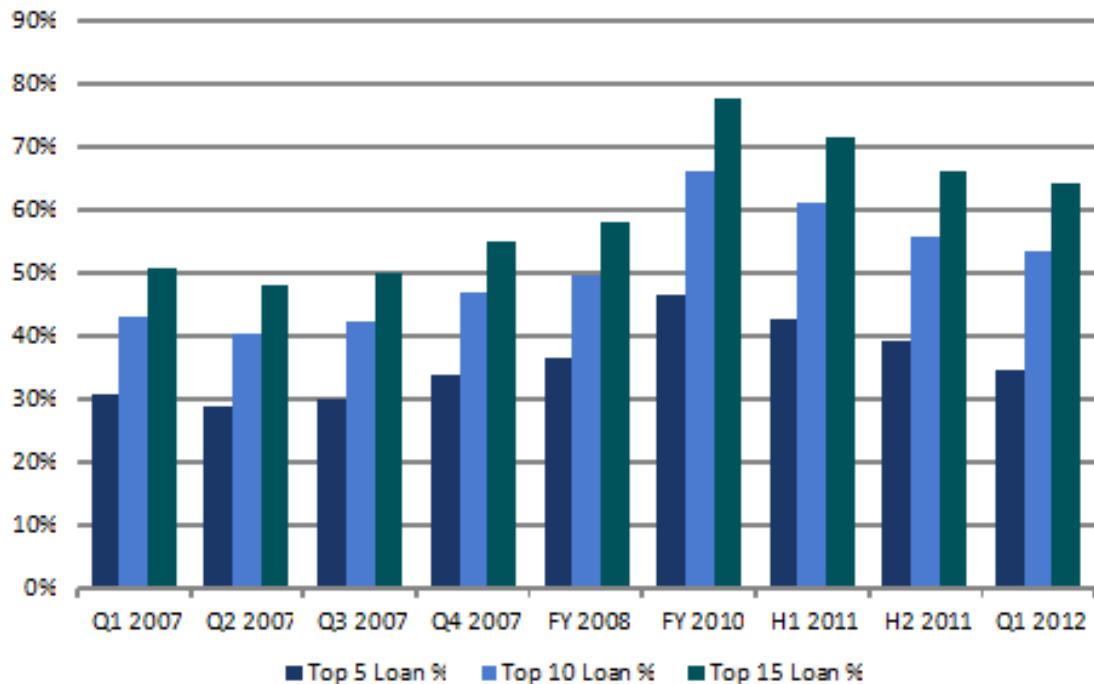
Exhibit 12: CMBS 2.0 Property Concentration



Source: Intex Data Solutions, Amherst Securities Group LP

At the same time, bond market volatility has also created a challenging hedging environment for issuers, as this volatility has meant that the mortgage coupon they booked on new originations has frequently proven to be insufficient to sell bonds by the time a pool can be aggregated and marketed. Because of this “warehouse CMBS spread risk”, issuers have been trying to issue deals within 40 or 60 days of origination, which has limited the CMBS transaction size and restricted pool diversity on the new CMBS 2.0 transactions. In Exhibit 13 we provide a summary of CMBS diversity, and see that many times the top 10 loans in a pool can account for 50% of the collateral.

Exhibit 13: CMBS 2.0 Pool Diversity

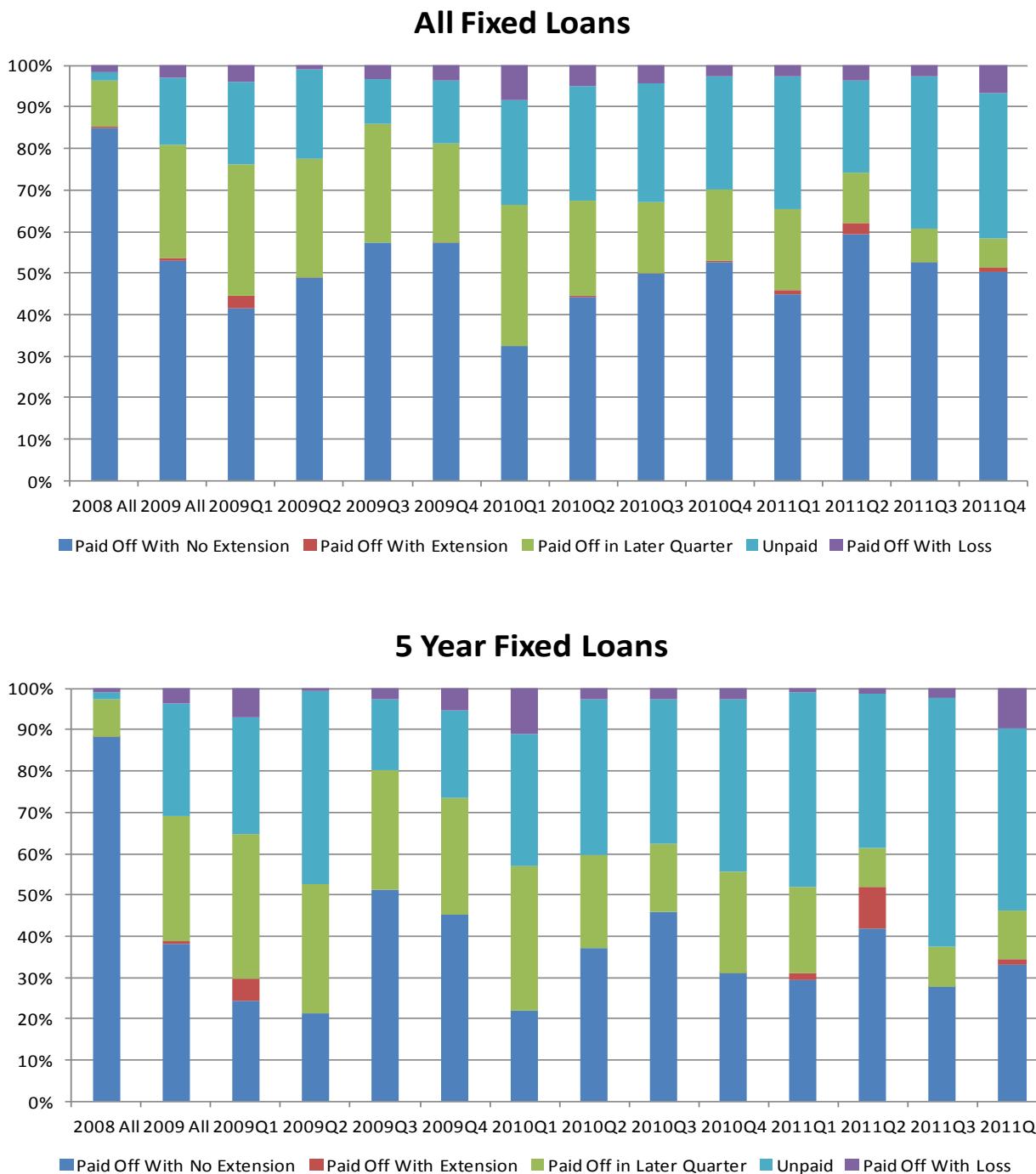


Source: Intex Data Solutions, Amherst Securities Group LP

This limited diversity means that many times a pool will have marginal loans that can potentially term default and which are 5 to 12% of the pool. Given that the triple-B classes only have 6% credit enhancement, this makes it difficult for credit investors to get comfortable in buying the triple-B or even single-A bonds from transactions. So at this point in our CMBS history, the market really needs to develop a hedging tool that will facilitate the origination of larger pools in the next few years. Work is being done on indices that can provide a better warehousing hedge for originators while mortgage collateral is being aggregated, and we do expect a solution eventually.

In the meantime, the CMBS story will likely remain with the performance of legacy issuance as maturing loans continue to create balloon defaults, as a fair portion of maturing loans lack the required 10% debt yield needed in order to create a “safe” new credit loan. In Exhibit 14, we show recent refinancing rates and demonstrate that only 60% of maturing loans have recently been successfully refinancing.

Exhibit 14: Fixed-Rate CMBS Refinancing and Later Resolution Rates



Source: Amherst Securities Group LP, Intex Data Solutions

While both portfolio lenders and securitization programs may have huge appetite for lower leverage loans, the more marginal higher leverage commercial real estate loans still need a securitization exit in order to share the credit risks of these challenged loans. We do not expect that portfolio lenders will ever be able to refinance these over leveraged loans, yet a CMBS security structure does provide the perfect mechanism for selling off the lower risk of a commercial mortgage pool and pricing out the various levels

of credit risks and leverage within the overall pool. From that standpoint we expect that CMBS will continue to evolve as credit availability remains restricted over the next few years, and the capital markets may yet prove to be the only way to refinance some of these commercial borrowers that are over leveraged, but can still service their debt.

In fact, investors and analysts have developed several tools to break down the higher leverage mortgages which Exhibit 13 shows in various stages of default or extension, and can create estimates of expected CMBS bond cash flows.¹⁰ This technology means that the CMBS market is likely the only solution that can evaluate and enable many of these borrowers to refinance into new mortgages, likely with some level of subordinate debt placed outside the trust. ♦

¹⁰ Investors interested in reading about CMBS analytics and how Amherst applies available tenancy information to project properties' future NOI's and defaults, repayments and modifications should review: "CMBS ALIAS Analytics – 'Better Stuff' Helps Discern Value in CMBS", Darrell Wheeler, Vivek Tiwari and Joe Yu, September 14, 2010.



CRE Finance Council CMBS E-Primer

A comprehensive overview of commercial mortgage backed securities

Chapter 3 *Originating and Underwriting* *Commercial Mortgages* *for CMBS*

a publication of



CRE Finance Council®

The Voice of Commercial Real Estate Finance

Chapter 3: Originating and Underwriting Commercial Mortgages for CMBS

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Before the creation of the CMBS market, commercial mortgages were typically held in portfolio through maturity. Most loans were originated by life insurance companies, banks and savings institutions (many of which went out of business during the savings and loan crisis of the early 1990s). In the mid-1980s, lenders began to trade multi-family and commercial whole loans for the first time to support the funding of new originations, patterned off the methodologies developed in the single family sector. By the 1980s, an over-supply of real estate created by aggressive construction resulted in deteriorating real estate fundamentals (i.e., lower rents and higher vacancies) that in turn led to extraordinarily high commercial mortgage delinquency and default rates in the early 1990s. While dealing with these issues, most traditional lenders stopped making new loans and a real estate credit crunch ensued. The capital markets – CMBS – became the industry's primary source of new funds.

CMBS represented a new chapter in real estate finance—the first time that Main Street real estate owners and operators could source funds from Wall Street. New lending entities – conduits – were created solely for the purpose of securitizing the loans. From the mid-1990s through 2007 the CMBS market expanded not only in size, but also in infrastructure with large groups in many financial institutions focused on all aspects of CMBS issuance, secondary trading, servicing, and bond administration.. By 2007 CMBS issuance peaked with approximately \$228.5 billion issued in the US alone. Although insurance companies, banks and mortgage banks were still in the lending business, origination for CMBS comprised approximately 40% of all multi-family and commercial mortgage origination in the U.S in 2007, and an even greater percentage of financings on stabilized income-producing properties.

During this same time period there was an increased demand for both residential and commercial real estate, which contributed to inflation of property values. Part of that demand was fueled by the readily accessible capital provided by the CMBS market. As property values continued to increase, underwriting and lending standards weakened under the belief that the value of tangible real estate assets was not likely to decline. While poor underwriting and lending standards first negatively affected the residential housing market in 2006 and 2007, the commercial real estate market was not far behind. The significance of the recession caused a sudden drop in demand for space and caused risk premiums to rapidly climb. Due to many borrowers obtaining high leverage on their properties, the severity of declining values was amplified, and outstanding property debt began to exceed the value of certain properties.

The global recession that followed in 2008 resulted in a credit crisis and a virtual freeze in lender financing. CMBS issuance also suffered and during 2009 issuance totaled approximately \$2.7 billion, reflecting a 99% decline from the peak issuance just two years prior. As the US economy gradually improved, lender financing started to be available, albeit slowly and with more stringent lending standards.

Despite the drastic decline in issuance activity since 2007, the CMBS industry remains an integral and permanent part of the real estate finance industry. The CMBS business is national, not only providing

funding to real estate in urban centers but reaching out to small towns across America, and expanding globally. The CMBS market plays a necessary role in providing credit to all forms of borrowers, from large public REITs and pension funds to private owners. Analyzing real estate has always relied on understanding the specific location and operations of the property and the strength of the market in which the property is located. To assist with the local knowledge, loan origination is supported by mortgage brokers, appraisers, engineers, environmental consultants, title insurers, and professional service firms in every real estate market in the country.

The CMBS industry supports loan origination for every property type, including multi-family, office, retail, industrial, hospitality, and healthcare. The underwriting for each property type reflects the specific attributes and issues of that segment of the real estate market, and within each property type there are numerous sub-categories that will influence the lender's analysis. For example, an office building may be low-rise suburban or high-rise central business district, the retail may be a regional mall or a grocery-anchored neighborhood center, and a hotel may be a beach resort or roadside limited service. An illustrative list of the various property type segmentations is provided in Figure 1.

Figure 1: Summary of Standard Property Types

Summary of Standard Property Types	
Multi-family	High Rise Garden
Office	CBD High Rise Suburban High Rise Suburban Low Rise
Retail	Regional Mall Neighborhood Anchored Strip Center Unanchored Strip Center Discount/Outlet Mall Power Center Restaurant Automotive
Industrial	Heavy Industry/Manufacturing Light Industry/Assembly Research and Development Warehouse Mini-storage
Hospitality	Resort/Golf Full Service Hotel Limited Service Hotel Extended Stay
Healthcare	Independent Living Assisted Living Skilled Nursing

Many lenders have formed securitization conduits and, in contrast to the credit crunch of the early 1990s, they compete with each other to provide financing to prospective borrowers. As a result, borrowers enjoy

better pricing and proceeds and, if they desire, can leverage their equity positions to achieve higher investment returns.

Commercial Mortgage Supply and Demand

The demand for commercial mortgages comes from a diverse borrower base. Borrowers may be institutional or “mom and pop,” long-term investors or short-term “flippers,” and public or private. Regardless of the characterization, commercial mortgage loans provide property owners with funds to develop and acquire properties and the means to leverage their returns on equity. The supply of commercial mortgage capital comes from a variety of lending sources. Unlike some borrowers, lenders are typically institutional, a function of the size of the capital commitments required.

Lenders may simplistically be characterized as portfolio lenders or securitization lenders. Portfolio lenders originate mortgages to retain on their balance sheet for current income that provides a satisfactory risk/reward balance compared to alternative investments. Their appetite for mortgages is evaluated in the context of performance correlations with other fixed income investments (e.g., corporates, Treasuries and other asset-backed securities). Portfolio lenders generally service their own loans, and represent "one stop shopping" for their borrowers.

Securitization lenders originate mortgages to sell for a profit. They consider mortgages as a profitable trading opportunity. Since they generally sell all the credit risk in the mortgages, they have less incentive to service them and will typically engage third parties for that purpose.

Portfolio lenders have traditionally included life insurance companies and commercial banks. Insurance companies have seen mortgages as a long-term investment compatible with their liabilities, which have traditionally been long-term and fixed-rate. Commercial banks have looked to shorter term, floating-rate mortgages and as a result have dominated the market for construction financing. In either case, portfolio lenders have expected the returns from commercial mortgages to exceed that of other asset classes with comparable risks of loss and illiquidity. Securitizers have traditionally been investment banks, which regard commercial mortgages as just another asset class to turn into investments for their investor client base. Today, distinctions between the two types of lenders have blurred. Insurance companies and commercial banks also originate mortgages for securitization, and investment banks also book mortgages to hold to maturity for current income.

Loan Origination

Competition for Loan Origination

Lenders compete for commercial mortgages, by emphasizing their strengths in the following areas:

- Certainty of execution - the ability to close a loan in a timely manner and upon the same terms as originally quoted.
- Pricing - the ability to deliver funds at a cheap cost.
- Proceeds - the willingness to fully leverage a property for those borrowers who want maximum loan proceeds.
- Servicing - the ability to offer in-house servicing thereby satisfying concerns regarding ongoing borrower needs.
- Post-closing flexibility - the willingness to consider borrowers' requests for loan modifications after a loan has been booked.

Portfolio lenders and securitized lenders can both compete on the basis of certainty, pricing and proceeds. Portfolio lenders and certain securitized lenders (typically those who also lend on the balance sheet) offer in-house servicing. Portfolio lenders can offer a clear advantage in terms of post-closing flexibility if they intend to hold the loan in portfolio. Loans contributed into Real Estate Mortgage Investment Conduits (REMIC) trusts are governed by strict servicing standards and as a result a securitization lender cannot provide borrowers the same level of assurance with respect to post-closing flexibility.

Loan Pricing

One of the easiest ways for a lender to differentiate itself is to compete on price. Pricing in the commercial mortgage market is typically expressed as a credit spread over a Treasury yield for fixed-rate deals, and as a spread over Libor for floating-rate deals.

Pricing approaches differ between portfolio lenders and securitizers. A portfolio lender will consider the role of commercial mortgage investments in its aggregate investment portfolio. The return on commercial mortgage is considered in light of the risk of loss, as well as the correlation of returns with other investment opportunities. A securitized lender focuses on the profit margin available on the resale of a commercial mortgage. While they are concerned about long-term credit risk of the mortgage pools they originate since it affects their reputation, their intention is typically to sell off all risk in commercial mortgages.

The pricing approach employed by a securitized lender is indirectly linked to that of a portfolio lender. Portfolio lenders consider commercial mortgage returns in the context of returns for all fixed-income classes, as do CMBS investors. Since CMBS investor requirements dictate the pricing of securitized lenders, both portfolio and securitized lenders are ultimately influenced by the dynamics of the fixed-income marketplace of which commercial mortgages form only one part.

From the borrower's perspective, loan pricing is considered in conjunction with structural features of the loan which impact their economics and flexibility. For example, a lender may price a loan with a low spread, but may condition that spread on a long lockout period (the time during which the borrower may not voluntarily prepay the loan). Similarly, a lender may allow prepayment, but with a monetary penalty (known as a prepayment penalty) which compensates the lender for low loan pricing in return for other economic advantages that may limit the borrower's flexibility.

Sourcing Commercial Mortgages

Lenders may source commercial mortgages in one of a few ways. One model is a direct lending model. Direct lenders solicit loans directly from the borrower community without intermediaries.

Another model used by lenders is, for lack of a better word, an indirect lending model, also known as a correspondent model or mortgage broker model. The indirect lending model involves sourcing loan opportunities through mortgage brokers who solicit financing bids, typically from multiple lenders, on behalf of prospective borrowers. In reality, no organization is exclusively either a direct or indirect lender. Commercial banks, traditionally direct lenders, now source many of their loans through mortgage brokers. Some insurance companies who rely heavily upon correspondents to solicit and originate loans on their behalf will also field direct inquiry from borrowers.

The direct lender model has certain advantages, most based upon the lender's ability to capitalize on long-standing borrower relationships. One advantage of a direct borrower relationship is the likelihood of seeing a borrower's lending requests first, and perhaps having the ability to match or beat a competitor's offer. However, also implicit in a direct borrower relationship is an obligation of the lender to at least look at all financing requests. This entails a higher degree of risk for a lender, since they will often give their borrower the benefit of the doubt with respect to their ability to execute an asset management plan. The quid pro quo for this implicit obligation is a borrower's perceived commitment to stick with difficult situations and to protect, to some extent, a lender from losses. An additional advantage of a direct lender model is the ability to leverage off borrower relationships so as to cross-sell other institutional products (e.g., cash management, interest rate protection).

Lenders who are not able to, or who chose not to maintain direct borrower relationships, can still be quite successful originators. They see most of their product through mortgage brokers. In order to be successful, these lenders rely on their ability to deliver better pricing and proceeds than a relationship lender may. Even borrowers who maintain direct relationships with several lenders may still avail themselves of the mortgage broker model when looking for financing to ensure they are getting competitive quotes. The additional brokerage fees they may incur in this scenario may be offset by the benefits realized through competitive bidding. In addition, fiduciary requirements to financial partners make soliciting financing through arms-length brokers a prudent approach to financing.

Once a lender and borrower agree upon the general terms of a financing, the two parties will often enter into a loan commitment letter. The commitment letter, drafted by the lender, will specify the key business points of the loan agreement; e.g., rate, term, amortization, prepayment flexibility, etc. The lender will also state the conditions which must be satisfied before it will be obligated to fund. These conditions are often boilerplate, and include loan committee approval, no material adverse change in the market, a minimum debt service coverage ratio and maximum loan to value, and acceptable third-party due diligence reports and loan documentation. Lenders customarily require an upfront deposit from the borrower, which will be credited against third-party report expenses and legal fees; this deposit is designed to ensure that if the transaction never closes, that at least the lender will have lost no money during its due diligence process.

Loan Underwriting

Loan underwriting is a fundamental component of a lender's risk management processes. Effective risk management has been essential to the growth of the CMBS market. Originating and securitizing loans of superior credit quality has bolstered the confidence of CMBS investors, attracting new capital and enhancing the liquidity of the market. Accordingly, the underwriting process for CMBS loans is designed to assess the credit risk associated with loans designated for securitized pools so that the loans can be appropriately sized and priced.

Commercial mortgage credit risk is assessed based on an evaluation of four major factors:

1. The credit and experience of the borrower/sponsor(s).
2. The strength of the market in which the property securing the debt is located.
3. The competitiveness of the collateral (property) in its market and the property's ability to generate adequate cashflow relative to the anticipated debt.
4. The structure of the loan, including amortization, reserves, and any credit enhancements.

Commercial mortgage loans are secured by one or more income-producing properties. While the ultimate goal for an underwriter is to assess the collateral's ability to service debt during the loan term and repay the loan upon maturity, an evaluation of the borrower/sponsor and market is also critical to making that determination. In addition, structural elements (e.g. amortization, reserves, lockboxes, and/or other credit enhancements) are often used to help mitigate certain perceived risks resulting from this evaluation.

The four risk drivers converge in the three key metrics used to underwrite loans and monitor their ongoing performance: debt yield (DY), debt service coverage ratio (DSCR) and loan to value ratio (LTV). In times of low interest rates and cap rates DS CRs and LTV ratios alone might distort the lenders' view of default risk. To address this issue, many CMBS lenders are now using the DY with increasing frequency.

The debt yield is the ratio of the Net Operating Income (NOI) divided by the first mortgage loan amount. Some lenders use Net Cash Flow (NCF) as the numerator, as this would be a more conservative measure. This ratio represents the cash-on-cash return lenders would realize if they purchased the properties at closing rather than finance them. The only factor that the DY ratio considers is how large of a loan the lender is advancing compared to the property's NOI in order to limit the maximum size of the commercial real estate loan and minimize the potential of a balloon default. Higher debt yields imply less risky loans.

The DSCR is the ratio of the annual net cashflow generated by the collateral (more about this later) over the annual debt service (principal and interest) of the loan. Obviously, the DSCR must be greater than 1.0x or the property cashflow is not covering the debt service. For underwriting purposes, just covering debt service is not enough—there should be sufficient cushion to withstand changes in collateral performance during the term of the loan. Since different property types have different patterns of cashflow volatility, the lender's required DSCR will typically differ based on the property type.

The DSCR is considered differently if the loan has a fixed or a floating interest rate. If fixed, the only variable that can change over the term is the net cashflow generated by the collateral. If floating, both the net cashflow and debt service are changing and the lender will stress test the DSCR using different scenarios with higher than current interest rates. For floating-rate loans, a lender may require the borrower to purchase an interest rate cap or swap to limit the volatility associated with interest rate fluctuations. Certain borrowers require a DSCR of 1.0x, or breakeven, at the maximum interest rate specified in the mortgage note.

LTV is the ratio of the loan's outstanding principal balance to the value of the collateral. The LTV reflects the borrower's implied equity in the collateral and is an indicator of the ability of the collateral to withstand fluctuations in value during the term of the loan and support the payoff of the loan at maturity. The higher the LTV, the less cushion for the lender if the collateral value declines. Such declines could result from either issues specific to the subject property (e.g., obsolescence of the property type in its market) or a broader market decline, caused by deteriorating economic and/or demographic conditions. The collateral's value is also driven by capitalization rates, an implied rate of return for the investor. Because capitalization rates sometimes move independently of property performance, the lender is concerned with the equity the borrower or sponsor actually contributes to the transaction. The higher the equity contribution (as opposed to syndicated equity or third-party provided preferred equity or mezzanine financing), the more incentive a sponsor has to protect his or her investment in the property. As with DSCRs, lenders require different LTVs for different property types. Prior to 2007, it was common for lenders to finance up to 80% of the real estate transaction purchase price, requiring the borrower to finance the remaining 20% with either equity or a combination of equity and additional debt. Post 2007, lending requirements have tightened and though the specific financing requirements differ for each lender, most transactions are financed with 60-75% LTV.

The lender may provide varying levels of debt secured by the collateral, often referred to as structured financing. For example, a lender may provide an “investment-grade” loan with a low LTV, a “B-note” with a somewhat higher LTV, and “mezzanine” financing with an even higher aggregate LTV. Typically, only the investment-grade debt is included in a CMBS pool. As such, a loan underwriter must understand all levels of debt and equity, known as the capital structure or capital “stack,” when using LTV as an indicator of the collateral’s credit-worthiness (see also Loan Structure below).

DY, DSCR and LTV are all important indicators of the credit risk of the loan. Lenders use DY in order to limit the loan proceeds they give to the borrower as compared to the property’s proven net operating income. This allows for a direct comparison of the debt load supported by the property-level cash flows. Typically, lenders use DSCR to predict whether the collateral will be able to service the debt during its term. It is therefore a key indicator of the loan’s probability of default. LTV is more often used to predict whether the value of the collateral is sufficient to pay off a loan at maturity. It is therefore a key indicator of the severity of loss in the event of default.

The Borrower

The borrower of most commercial loans that will be securitized is a special purpose entity (SPE) owning only a single asset or a portfolio of assets – the loan’s collateral – and formed to act as borrower for that specific loan. As such, the balance sheet of the borrower is comprised of one asset, the collateral, and one liability, the debt. It is therefore important to distinguish between the borrower and the sponsor. The sponsor is the individual(s) or company behind the borrower, which typically contributes the property to the borrowing entity and holds the majority of the ownership interests in that entity.

Securitized loans are typically non-recourse to the borrower/sponsor, that is, the lender may only look to the value and cashflow of the property to support the debt service and pay off the loan rather than look to other assets of the sponsor. Despite the non-recourse nature of the loan, the lender still analyzes the creditworthiness and experience of the sponsor of the transaction. While the sponsor is not ultimately responsible for paying principal and interest on the loan, it is likely that the sponsor controls the borrower and the management of the collateral. Since the management and performance of the property are essential drivers of credit risk, understanding the sponsor’s management capability is an important component of the analysis.

Lenders use caution in underwriting loans without a single, experienced sponsor, which occurs when the equity in the property has been syndicated to many individual investors, or the borrower is in the form of Tenants-in-Common, or TIC), an increasingly common structure to support the use of income tax related Section 1031 exchanges. This structure has become less common in recent years as Lenders realize the heightened risks associated with it.

The borrower and the sponsor (or one or more individuals or companies related to the sponsor or within the borrower/sponsor structure) typically remain liable for certain “bad boy acts” relating to the borrowing entity or the property (e.g., fraud, misappropriation of funds, waste, certain bankruptcies, and certain environmental risks).

Equally important is an understanding of the sponsor’s prior “credit behavior” in terms of timely payments to and dealings with lenders. Issues with other properties or loans might distract a sponsor from focusing on [*ital: this*] property and loan. The sponsor’s prior behavior toward lenders in difficult situations is an indicator of responsiveness in the event this loan does not perform as expected and is subject to foreclosure or restructure. Would the sponsor be cooperative or litigious? In a problem

situation, the sponsor's behavior significantly impacts the severity of any loss ultimately experienced on the loan.

The Market

The market provides the context for the performance of the property collateralizing the loan. The market must provide demand generators for the property, which will vary depending on the property type. For example, a retail property should be located in a high traffic retail corridor while a business-oriented hotel should be near a concentration of offices with large corporate tenants.

The foundation of real estate demand is employment growth, so the market analysis begins with understanding its economic condition. Ideal market conditions for a lender are characterized by a large, diverse local economy with growing employment and investment liquidity. Job creation drives the need for additional office space, housing and retail services. A diverse economy helps to limit the exposure to the overall market to the extent a given industry or company is experiencing a downturn. Recent layoffs, potential for downsizing, plant closings or other issues alert the lender to potentially weaker real estate demand. This was especially visible during the 2007 downturn and its significant effect on the office market, bringing vacancy rates in some markets over 20%.

The lender also looks at demographic trends, which are related to economic factors. In particular, are people moving into or away from the market and does their income level support the property type (e.g., is there adequate demand for a high-end multi-family property in a market of generally lower income households)? The collateral's functionality and design should be appropriate for the market demographics it is serving.

In addition to demand trends, the lender must understand the supply of real estate in the market, and whether supply and demand are in balance. The lender analyzes the current inventory of space for the property type, understands barriers to development and assesses the impact of new developments, both under construction and planned, on the performance of the subject property over the term of the loan. Proximity and similarity of the new supply relative to the collateral property is evaluated to assess the direct impact it may have on the collateral. Once the demand supply equilibrium becomes imbalanced, with supply exceeding demand, new supply is likely to negatively impact market occupancy and rental rates and cause a decline in the collateral's performance and ability to service debt. Conversely, when demand exceeds supply, occupancy and rental rates are likely to improve, enhancing the collateral's cashflow and ability to service debt.

The Collateral

The primary source of loan debt service and repayment is the cashflow generated from the operation of the collateral. CMBS underwriters are primarily focused on a property's current cashflow, the proven performance of the collateral. Forward-looking cashflows are typically not considered in underwriting loans for CMBS transactions unless the underwriter has strong support for increasing rental revenue or decreasing operating expenses. Estimated current cashflow is typically based on the most recent twelve months of operation, known as the "trailing twelve" or "TTM," or the prior calendar year's operations if the underwriting analysis is performed early in the year. The underwriter compares the most recent property operations to several years of historical results to observe trends and understand significant year to year variances.

The lender assesses the competitiveness of the collateral within its market to determine whether the property will under- or out-perform average market statistics. Many factors determine a property's

competitiveness including its location (particularly in relation to demand generators relative to the particular property type), visibility, access, physical condition, amenities, and parking facilities. These attributes are described in the property's appraisal and property condition report and validated by inspecting the collateral property and comparable properties in the sub-market.

Collateral Net Cashflow and DSCR

To compute the DSCR, the lender must first understand the cashflow generated by the collateral. As mentioned, the underwriter typically focuses on the collateral's current cashflow capability. Most loans that are securitized (particularly fixed-rate loans) are collateralized by stable properties; that is, properties that are fully or near-fully leased to their market potential. If not fully leased, the underwriters will typically not give credit for potential new leases, except in some instances in which a tenant has executed a lease but has yet to take occupancy of its space. Other anticipated improvements in property performance are usually not factored into the underwritten cashflow. However, anticipated deterioration in cashflow or negative events (e.g., excessive lease rollover during the loan term in a property with above market leases, or deteriorating market conditions) are addressed by employing more conservative underwriting assumptions and/or through the utilization of structural enhancements (e.g., reserves or letters of credit).

The lender often adjusts the borrower's presentation of property cashflow to derive a "normalized" or "underwritten" net operating income (NOI). NOI is the cash generated by the property from its usual operations, prior to expenditures likely to be capitalized rather than expensed by the borrower. The underwritten NOI is meant to reflect the stable and consistent net operating income of the collateral, and eliminate any periodic anomalies or revenue and expenses that are not directly related to the property's operation. For example, if a prior year's collateral operating statement included significant investment income that was attributable to the sponsor's investments rather than the property's operations, such income would be eliminated from the analysis. Similarly, if fuel costs were particularly high in the current year, the lender might average the fuel costs over the prior three years to derive a more appropriate indicator of "normal" performance. Capitalized expenses and leasing costs (described below) are deducted from NOI to compute the property's net cashflow (NCF). For underwriting purposes, these capital expenses and leasing costs may be adjusted to derive an underwritten NCF.

The underwriter analyzes each line of the collateral's operating statement provided by the sponsor. Perhaps the most important part of the analysis is assessing the strength of the property's rental revenue. For multi-family properties, the analysis is focused more on market trends and whether the collateral is achieving rents and occupancy levels consistent with market averages. Location, access, parking, proximity to employment and retail centers, services and amenities are also considered in assessing the property's ability to generate demand. For hotels, the lender focuses on the various components of revenue – rooms, food and beverages, concessions, etc. – as well as the property's mix of business/leisure customers, flag and reservation system, and the management experience of the operator. The analysis of senior housing reflects the level of care provided to the tenants, which range from meals to full medical staffs, and whether the revenue is private pay or based on reimbursements from Medicare and Medicaid.

For office, retail and industrial properties, the analysis focuses more on the terms of individual leases and the creditworthiness of the tenants. Leases are reviewed to understand base rent, reimbursements of the property's operating expenses, the terms of the leases and expected rollover. The in-place rental rates are compared to the rental rates achieved at comparable properties in the market to determine whether the building is competitive and rental revenues may rise as leases expire (although such higher rents would not usually be included in underwritten NOI unless the new lease contracts had already been executed). The underwriter also assesses whether the in-place rental rates exceed the rental rates achieved at

comparable properties in the market. Such a rental rate premium may result in the underwriter reducing the rental revenue when computing the underwritten NOI.

The creditworthiness of the tenants in combination with the lease terms is a key driver of cashflow stability. Leases are contracts that typically cannot be terminated unless the tenant is in bankruptcy. Hence, having high-credit quality tenants on long-term leases significantly enhances the stability of the collateral's revenue over the term of the loan.

Certain retail property leases provide for the collection of a percentage of the tenant's sales ("percentage rent") in addition to or in lieu of base rent. Percentage rents are inherently more volatile than contractual base rents due to the variability of consumer demand for the tenant's merchandise. Accordingly, the underwriter will typically evaluate percentage rent on a tenant by tenant basis. Depending on the historical stability and trend of percentage rent collected by the borrower, and current market rental rates relative to the "rent" the tenant is paying (including base rent, percentage rent and reimbursements), the underwriter will determine an appropriate amount of percentage rent to underwrite. Often the percentage rent is underwritten at a discount or excluded altogether from the underwriting analysis due to its volatility.

The underwriter often computes the gross potential rent of the property, that is, the maximum rental revenue that could be achieved if all the space were rented at market rates, and then deducts vacancy, below market rents, bad debt, and rental concessions based on market factors and the property's historical performance. Underwriters might also take an additional vacancy assumption depending on the property's performance, market, and tenant leases. To estimate total property revenue, the underwriter may also include other income from such sources as parking, laundry and other services, depending upon the type and circumstances at the property.

The lender also reviews trends in the operating expenses of the property. Such expenses include the property management fee, employee salaries, utilities, maintenance and repairs, marketing, insurance and real estate taxes. Hotels and senior housing have special expense categories mirroring their revenue components.

Fluctuations in expenses during the past three calendar years or during the last operating year (the trailing twelve months) are normalized to determine the average cost. Another expense is the fee paid to the property manager. When the property is owner managed without a management agreement or when the property's management company is an affiliate of the sponsor, management fees are typically underwritten at market levels for that property type. Real estate taxes are underwritten to current actual levels to the extent it is determined that these taxes reflect a full assessment of the property and that the property is not receiving a tax abatement. To the extent the property is not fully assessed or the property is receiving a tax abatement, underwritten taxes will likely be adjusted upward to the normal tax payments made at comparable properties within that tax district. If the loan is financing a property acquisition, the underwriter also considers whether the sale will trigger a reassessment based on the sales price.

During the past few years, there has been additional focus on insurance coverage, particularly the types of events or conditions that are covered by the policy, and the related cost of the various policies. In addition to standard coverage for hazards, liability and business interruption, coverage for terrorism is now often required for collateral securing CMBS loans. Additionally, if the collateral is in a seismic or flood zone, or a region with a history of windstorms, the underwriter will typically require insurance covering the damage from such events. Underwriters are also increasingly focused on the management of mold, termites, and other factors that may deteriorate the property's condition.

The borrower incurs additional expenses when leasing the property. While the expense of marketing to prospective tenants is treated as an ordinary operating expense, tenant improvements and leasing commissions are not considered part of NOI but are deducted to derive NCF. Tenant improvements are the costs of fitting out a new space for a tenant in an office, industrial or retail property, and include such items as space partitioning, carpentry, light fixtures, restroom renovations, and other interior finishes. Tenant improvements are generally provided by the property owner as an inducement (or concession) to prospective tenants to secure a lease. There is generally an inverse relationship between the level of tenant improvement allowances required by tenants and the strength of the market (i.e., the greater the demand for space the lower the tenant improvement allowance provided by the landlord). The owner may also have to pay a leasing commission to the broker of the leasing transaction. The lender will typically underwrite normalized tenant improvement and leasing commissions for office, retail and industrial properties based on the anticipated lease rollover schedule over the term of the loan, and the costs estimated to re-lease or re-tenant expiring space (typically based on current actual tenant improvement and leasing commissions paid with consideration for current and anticipated market conditions). Depending on the perceived rollover risk during the loan term, the lender may also require that the borrower make contributions (at closing and/or monthly over the loan term) to a tenant improvement and leasing commission reserve, which the borrower can generally draw upon to pay for actual costs associated with re-leasing or re-tenanting expiring space.

The lender also carefully reviews expenses related to the collateral's capital improvements to ensure that each expense is properly designated as an ordinary operating expense (repair and maintenance) or a capital improvement. To both the borrower and the lender, that distinction is very important. Operating expenses are deductible for tax purposes in the year incurred while capital improvements increase the value of the asset on the balance sheet and are then depreciated over the number of years specified in tax code. Therefore, from a tax perspective, the borrower often tries to treat capital improvements as operating expenses to reduce that year's taxes. However, designating the expense as operating instead of capital results in an understated NOI. Regardless of how the expense is designated, it is an outflow of cash in the year incurred, thereby reducing the cashflow available for debt service.

The lender typically engages an engineering firm to inspect the property and identify items requiring immediate repair (typically within 12 months) and items requiring attention over the loan term (the engineer's evaluation period is typically equal to the loan term plus two years). The lender typically requires that a portion of the loan proceeds be set aside in a reserve account at closing to cover the engineer's estimated cost of immediate repairs. The borrower is provided a time frame to complete these repairs (typically 6 to 12 months) and the funds in the reserve account are released to the borrower upon the lender's satisfaction that the identified repairs have been completed.

The lender also often requires the borrower to set aside up-front loan proceeds or make monthly payments into a replacement reserve account in an amount at least equal to the reserves estimated by the engineer (average amount estimated over the engineer evaluation period). The borrower may draw upon these replacement reserves to complete capital repairs over the term of the loan. The lender will typically underwrite an estimate for ongoing capital expenditures based on the lender's minimum guideline for the property type in question or the engineer's estimate, whichever is higher. Replacement reserves are typically deducted from underwritten NOI.

Due to federal regulations extending environmental liability to all owners in a property's chain of title, an environmental issue at the property would significantly limit the lender's ability to foreclose on the property in the event of default. Accordingly, the lender also engages an environmental engineer to prepare a Phase I environmental assessment of the property to identify areas of environmental concern. If issues of environmental concern are identified by the Phase I consultant, the lender may (1) require

additional investigation (a Phase II assessment), (2) require that the issues identified be remediated prior to or subsequent to loan closing (the lender generally requires the establishment at closing of an environmental escrow to cover the costs of any post-closing remediation), (3) require that the borrower implement an operations and maintenance program (in the case of properties with manageable asbestos or lead-based paint), or (4) withdraw or reduce the amount of the proposed financing.

After thoroughly analyzing the collateral's income and expenses and determining the "underwritten NOI," the lender computes the collateral's DSCR. The DSCR measures the ability of the collateral to support debt service, thereby assessing the risk of default during the term of the loan (term risk). Lenders will often use the DSCR to assess balloon risk as well. Based on the maturity loan balance and an assumed interest rate at the time of refinance (lenders may evaluate a range of interest rates), the lender can assess the ability to refinance the loan upon maturity. In low interest rate environments, term risk is generally lower than balloon risk. Often in a low interest rate environment, the determining factor in limiting the loan amount is not DSCR, but LTV. Consequently, in a low interest rate environment, the lenders' loans often exhibit DSCRs that well exceed their minimum thresholds and therefore are able to service the debt during the loan term with greater certainty. However, at the end of the loan term, prevailing interest rates may have increased significantly, making it more difficult for the property cashflow to support a similar level of financing.

Collateral Valuation and LTV

CMBS lenders engage an appraiser to prepare a third-party valuation of the property. These valuations are governed by the Uniform Standards of Professional Appraisal Practice (USPAP) and, if the lender is a bank, the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA). Appraisal methodology typically employs three approaches to value. The income approach is based on the property's cashflow, the sales comparison approach is based on the sale prices of comparable properties, and the cost approach is based on the amount it would cost to replace the property (including the value of the land) adjusted for depreciation. In support of the valuation, the appraiser provides information relating to the attributes of the collateral and the market in which it competes, including comparable sales and rental rates. Depending on economic and market conditions, the appraiser generally places most weight on the income approach when reconciling the final value. The lender typically computes the LTV based on the final value concluded by the appraiser. LTV is both an indicator of the borrower's ability to pay off the loan at maturity as well as an indicator of loss severity in the event of default.

Loan Structure

The lender "structures" the loan, in part, to mitigate the risk associated with the borrower/sponsor(s), market and collateral. The most obvious component of structure is the size of the loan. The smaller the loan, the less debt service and the higher the DSCR based on the underwritten cashflow. Also, the smaller the loan relative to the value of the property (i.e., the lower the LTV), the more equity provided by the borrower and the more cushion the lender has if the loan is foreclosed and the property liquidated to pay off the debt. Hard equity (i.e., cash) is also an important consideration of the lender. Borrowers that have more cash invested in a property are perceived by lenders as being more likely to extend themselves financially to keep a loan from going into default and risking the loss of the property. A refinancing of the collateral that exceeds the balance of the prior debt may cash out the borrower's equity position, thereby minimizing any loss to the borrower if the loan defaults.

Another important element of structure is the amount of principal paid by the borrower during the life of a loan, known as amortization. Loans may be structured as interest only or have a designated amortization term that typically extends beyond the term of the loan (i.e., a loan of 10 years may amortize over a

period of up to 30 years) resulting in a large loan balance at the end of the loan term—the “balloon.” The ability or inability of the borrower to pay off this loan balance at the end of the loan term is known as the loan’s balloon risk. Shortening the difference between the amortization period and the loan’s term accelerates the return of principal to the lender, thereby mitigating the balloon risk. During 2007, interest only loans were common, yet incurred more risk to the lender, as no principal was amortized during the entire throughout the loan term. Currently, interest only loans are less common, as the risk appetite for such loan structures has lessened.

Lenders have numerous other ways to structure a loan to mitigate the risk of the loan. One is to lessen the amount of the securitized loan by bifurcating the loan into two loan notes: a senior “A-note” and a junior “B-note,” where the A-note (having a lower LTV) is more creditworthy and securitized and the B-note is sold to different investors who are willing to accept somewhat higher risk for a higher yield. Beyond an A-note and B-note, the lender may divide the debt into several layers of leverage, each having a higher LTV, and selling the non-securitizable portions to the various investors with appropriate risk preferences. Legally, a Participation Agreement is set up between all participants in the loan, which outlines each party’s rights and remedies.

Reserve funds also mitigate risk. As indicated, replacement reserves are often required for capital improvements, and specific reserves may be created for specific capital projects, tenant improvements, environmental remediation, operating deficits, or other expenses identified during the underwriting process.

In addition to structuring techniques, risk is partially mitigated through insurance, which is purchased by the borrower. Requirements for insurance coverage vary by property type, location and the securitization transaction servicing agreements. As mentioned above, most loans must have coverage for casualty (e.g., fire), liability and, more recently (depending on the nature and location of the property) terrorism. Lenders typically also require business interruption insurance (to cover lost income as a result of a casualty), flood insurance if the collateral is located in a flood zone, earthquake insurance if the collateral is in a seismic zone, and law and ordinance insurance if the property is a legal non-conforming use. The recent number of significant losses due to hurricanes has also focused lenders on windstorms; however, no standards have been established for windstorm coverage. In the past few years, coverage for environmental remediation has also become available to address some issues of environmental concern. Other types of insurance may also be required based on the special circumstances of the property.

Conclusion

Competition among lenders for commercial mortgage originations is intense. Lenders must determine the appropriate tradeoffs between pricing, proceeds, and deal structure while maintaining a disciplined approach to underwriting. Regardless of whether loans are destined for a lender’s balance sheet or securitization, underwriting standards are time tested through many real estate cycles and provide guidance to ensure the highest likelihood of timely payment of interest and recovery of principal. ♦



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Chapter 4: Structuring

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Introduction

Securitization, particularly in commercial real estate, is equal parts “art” and “science”. The practice of creating liquid, tradable instruments through the pooling of less liquid, non-tradable collateral components such as commercial mortgages requires as much analytical skill as it does a feel for investor sentiment. This process, generally referred to as structuring, primarily encompasses the creation of saleable securities but also refers to the pooling of collateral loans.

In contrast to the Residential MBS market where loan terms are highly standardized, defaults and prepayment rates are fairly predictable, and the impact of the performance of any one individual loan on a whole securitization is relatively low, an individual commercial whole loan in a securitization can have a significant effect on the broader pool-wide economics. Thus, transaction structuring is an instrumental part of the distribution process.

Structuring includes the crafting of language governing the allocation of cash flow from collateral, through the REMIC, and to the securities. The allocation of such items as mortgage payments (both principal and interest components), unanticipated principal repayments, default proceeds, principal losses, trust advisor expenses, as well as the source of payment on interest-only strips, vary by each securitization and are often times difficult to decipher.

Structuring also includes the analysis and modeling of the pool of loans serving as collateral to the securities issued by the REMIC. In determining the risk embedded in the collateral pool, rating agencies and investors evaluate the attributes of each individual property and specific loan terms. Pooling tends to mitigate the credit risk associated with individual loans, but since credit risk is non-stationary over time, this granular analysis is necessary to predict volatility of cash flow over time. A well structured pool supported by strong lender-friendly terms, is more likely to perform as expected over time, whereas a poorly structured pool may credit hide flaws that emerge over time.

Issuing CMBS is a complex process. The issuer needs to navigate the competitive loan origination landscape when drafting loan documents, balance this origination effort with market appetite for securities, while maintaining a keen understanding of investor demand for specific transaction structures. This chapter will briefly discuss some of the key components relating to the creation of these securities. Additionally, for the purpose of keeping this discussion introductory, most of what will be discussed in this chapter relates to fixed-rate loans and conduit/fusion securitizations, which comprise the bulk of outstanding CMBS paper.

Evolution of Collateral

CMBS grew out of the ashes of the 1980’s recession and real estate bust. Real estate loans, primarily non-performing, from failed thrifts and savings & loans were pooled up by the Resolution Trust Corporation, a government-owned asset management company. In order to facilitate the sale/distribution of such a large number of troubled assets, these NPL’s were bundled into pools with certificated interests sold to investors who actively worked-out the assets.

As the RTC came to the end of its useful life, commercial lenders and investors who understood the portfolio benefits of RMBS began pooling seasoned, performing mortgages to be distributed through this nascent structure. As such, early CMBS transactions were collateralized by loans that had already been originated for commercial bank or insurance company portfolios; distribution through CMBS was an afterthought. These loans had a wide range of payment terms, highly non-standard call-protection features, and other attributes that made it difficult for investors to price.

As the CMBS market matured during the mid- and late-1990's, issuing investment banks began originating loans slated specifically for securitization. In order to improve the pricing efforts of investors, many seemingly small changes were made to loan documents and lending terms that would result in greater homogeneity of the REMIC collateral. Items such as standardizing the payment due date (when evaluated in conjunction certificate payment dates, has an impact on the trustee's float), standardizing prepayment provisions, standardizing loan tenor (i.e. 10-year term), and the use of defeasance language, helped to create securities that were readily valued by a wide range of fixed income investors.

This influx of crossover investors from the corporate market, broadened demand for the asset class and ultimately helped to maximize the arbitrage between loan funding (collateral WAC) and investor return requirements (distribution WAC). Since the issuing investment bank's profit is primarily derived by this arbitrage, the deepening investor base brought more loan originators into the marketplace, which ultimately led to a reversal of this arbitrage.

Despite the obvious benefits of standardizing commercial mortgage documentation and loan terms, commercial mortgages will always be individually negotiated business contracts, collateralized by a diverse range of property types, geographies, and borrowers. Collectively, these differences do have an impact on the economics of the overall securitization. Investors of the higher risk certificates need to spend additional due diligence efforts to measure and value these differences.

Some of the more common loan terms that affect cash flow, for which borrowers seek modifications are:

- Balloon term,
- Amortization term (no I/O, partial I/O or full I/O),
- Lockbox provisions, and
- Prepayment provisions.

Loan contributors to securitizations need to be aware of this market dynamic when negotiating the final loan documentation, particularly in the current environment. This means being able to assess what a lender should charge for a borrower's desired "non-standard" loan terms. This is accomplished by assessing the impact of adding a loan with the requested attributes to a securitization. The resulting negative or positive impact on the deal's risk profile and thus profitability is used as a guide to the pricing of the individual loan. Further, the amount of the impact is market driven; it's a function of such market conditions as current CMBS spreads, the shape of the yield curve, as well as the predicted impact in rating agency subordination levels. (See Chapter X for a more detailed discussion of loan pricing)

Despite recent market demand for increased transparency and less complex structures, CMBS remains a relatively complex niche of real estate finance. Features such as the creation of pari-pasu loan combinations, the splitting of large loans into senior-subordinate components (referred to as A-note, B notes, etc.), portfolio loans, and subordinated debt (existing or future), are all permanent aspects to CMBS.

Structuring: Overview

The process of allocating cash flow from the collateral loans to the REMIC's securities is akin to allocating risk to targeted investors. This cash flow comes from different components including interest payments, principal amortization, penalties (such as prepayments or late payments). All of which must be allocated to the REMIC's securities.

Investor's risk appetite will drive them to specific tranches, or certificates of the trust, which have a pre-determined priority to receive repayment proceeds. The tranches can be further structured with various average lives as well as into derivative securities receiving interest-only and principal-only. The creation of these tranches is done with guidance from credit rating agencies. Thus, structuring can generally be broken down into two components: the allocation of credit risk and the allocation of loan cash flow.

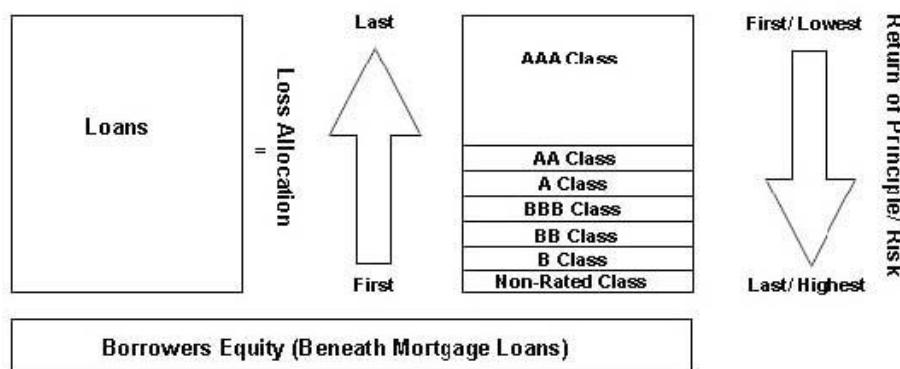
Structuring: Credit Risk

The allocation of credit risk is largely dependent upon the rating agencies determination of subordination levels. As seen in Figure 1, the REMIC's securities broadly receive a waterfall-type priority claim on the collateral cash flow. This waterfall structure grants certain securities, those further up the capital stack, priority over more junior classes. This senior/junior relationship essentially creates credit enhancement for the more senior component, at any given level in the capital structure. In securitization, credit enhancement can be achieved any number of ways, including through a third-party guarantee. However, this senior/junior risk allocation is more organic, reducing the reliance on outside parties.

Most fixed-rate CMBS are structured as fully sequential "senior/subordinated deals." Meaning, all collateral cash flow is allocated from the top of the distribution capital stack to the bottom of the stack. Principal repayment is also paid sequentially, first to the highest rated certificates, then to the next lower rated certificates and so on until the lowest rated securities have been repaid. Losses are therefore allocated "bottom-up", with the most junior class absorbing all losses until it is fully wiped-out, with additional losses then applied to the next most junior class, then so on and so forth.

The diagram in Figure 1 shows the direction of loss allocation and the return of principal. Beneath the loans and outside of the trust is the borrower's equity, which provides additional credit support for the CMBS certificates.

Figure 1: Senior-Subordinated Structure Diagram



Source: Nomura Securities International

The subordination levels determined by the rating agencies, dictate the amount of securities that can be issued at any given credit rating level. These levels specify the minimum amount of bonds that must reside below any given class in order for that class to have a given credit rating. For example, the last dollar AAA-rated class in WFRBS Commercial Mortgage Trust 2012-C8 had 21.50% subordination. This means that 21.50% of the pool is below the AAA class, providing a buffer against credit loss. In other words, the underlying pool of loans must endure losses of principal of 21.50% before the AAA class will suffer a reduction in principal. As will be discussed later, the benchmark measure of subordination is the amount supporting the AAA-class.

Each rating agency uses different analytical criteria to derive appropriate credit support levels, but the common thread is to stress collateral-level cash flows and values to mimic various economic conditions, thereby estimating the amount of subordinated capital necessary to buffer against credit loss.

Intellectually, this amount of credit support stems from the expected default rate multiplied by the expected loss severity anticipated for any given economic climate (aka, credit level). Since higher credit quality tranches are expected to survive more extreme economic climates (when default rates increase and principal losses in the event of default increase), it should reason that the tranches require greater amounts of subordinated capital. Many variables figure into these estimates by the rating agencies, including the structure of the loans, the quality of the underlying assets, the depth of the geographic market.

Subordination levels are not static. As can see from the table below, subordination levels steadily decreased from the mid-1990's through to the beginning of the recent credit crises. This can be attributed to multiple reasons, including decreasing collateral loan defaults, a flattening of the Treasury yield curve, increased acceptance of CMBS as an investment vehicle, and a misunderstanding of risk by marginal investors.

AAA subordination levels (5 year increments)

1996	2001	2006	2011
35.6%	20.5%	12.0%	18.9%

SOURCE: "Volatility, Mortgage Default, and CMBS Subordination" (Downing, Stanton, and Wallace; October 27, 2007); pre-sale reports

Investor demand for a "new and improved" CMBS product has resulted in reversal of the contraction in subordination levels. AAA subordination levels have gapped-out roughly +/-600bps from pre-credit crises levels, however the current pool structure is dramatically different so this may not be a fair comparison. Volatility of subordination levels on new issuance should be expected to continue for the foreseeable future as rating agencies, issuers, and investors grapple with revised criteria aimed at creating a stronger buffer against credit loss.

Structuring: Loan Cash Flow

The allocation of loan cash flow is the second major component of structuring. The structuring of credit is separated from the structuring of loan cash flow in this discussion because the latter is utilized by the issuing investment bank to fine-tune the final structure (and profitability) of the securitization, while the former is largely dependent upon the credit rating agencies. The cash flow allocation process includes setting certificate coupons, allocating penalty cash flows, setting certificate payment dates, creating pari-pas components within the sequential structure, and creating any derivatives that might be a part of the transaction.

The gross cash flow from the collateral loan pool is first allocated to expenses related to servicing the

REMIC, this primarily includes servicer and trustee fees. The scope of these fees are outlined in the pooling and servicing agreement (PSA) and may include servicing, special servicing, liquidation, and workout fees. The remaining, net cash flow is allocated to the securities according to then-current market yield requirements, which can be influenced by the depth and breadth of the issuer's distribution capabilities.

Since one of the business rationales for issuing CMBS is to create value through the arbitrage between the public market for CRE securities and the private market for CRE loans, it is important to understand the allocation of cash flow and how to maximize this arbitrage. This arbitrage can be simplistically thought of as the difference between the weighted average coupon (WAC) of the collateral loans and the WAC of the distributed securities. The excess WAC, or "WAC gap" (technically net WAC gap when accounting for all servicing costs), represents the value created through the private/public market arbitrage, which is sold to investors through separately created securities commonly known as "interest-only strips" or "X-class". This arbitrage stems primarily from two sources: the benefits of investing in liquid, tradable securities (relative to holding a whole loan until maturity) and the credit enhancement from subordinated classes/tranches.

It may seem compelling to maximize this WAC gap by originating poor quality loans at high coupons and selling highly-rated securities at low coupons. The problem with this strategy is that rating agencies and investors take collateral quality into consideration when determining credit support levels and yield requirements. It is therefore incumbent upon the issuing investment bank to fine-tune these multi-dimensional aspects when finalizing the pool composition. It is also important find the correct investor mix relative to the collateral pool risk composition.

Investment-Grade Classes

Investment grade investors, particularly at the AAA-level, are primarily focused on credit risk and liquidity while non-investment grade investors are typically more focused on collateral risk (or real estate risk). Typical credit investors would be mutual funds and insurance companies both of who invest in CMBS so as to match-fund their assets with future liabilities while maintaining adequate liquidity. Money manager and GSE's are also regular credit investors. Relative value is also a driver to investors to/from CMBS, as many investors crossover from other AAA instruments. Given the tight spread by which AAA classes price/trade, it can be said that a securitization's profitability lies in these classes.

As with most aspects of securitization, the AAA-level of a pool is not so clear-cut. This segment of the distribution capital stack is typically sliced into multiple components, some of which can be pari-pas. These components typical include super-duper classes (30% subordination), possibly a super-duper floating-rate class (typically listed as "FL"), a multifamily carve-out (typically listed as a "-1A"), a mezzanine super senior (typically listed as "AM"), and junior-AAA (20% subordination, typically listed as "AJ"). Not all of these components have been consistently utilized since the CMBS began to thaw post-credit crises, but they are important tools when trying to fine-tune the marketability (and thus, profitability) of the securitization.

Due to the sequential aspect of the CMBS structure, it is usually not possible for the classes below the most senior class (usually AAA) to have *average lives* shorter than that of the last cash flow for the senior classes. The senior classes, therefore, can have their principal sequentially trashed in order to create securities with shorter and longer average lives than the class as a whole. A small array of shorter-lived AAA classes is therefore created so as to increase marketing appeal to the portfolio needs of targeted investors.

Coupons on the investment-grade classes are generally set so that the issue prices of the bonds are close to par, with the coupon set based on the 10-year Treasury swap rate plus a modest spread. These classes, in some cases, are issued at a slight premium, depending on market conditions. The spread demanded by the market is dependent on the supply and demand of CMBS-related paper, spreads on competing investment opportunities, including more seasoned (secondary trading) CMBS paper, and the credit quality of the underlying collateral.

Repayment of AAA Classes

In most CMBS deals, there are generally anywhere from two to five AAA classes. These classes are primarily sequential pay, but may also be pari-pasu. Figure 2 is a simplistic conduit transaction taken from 2003. It has two AAA-classes: A1 and A2. The A1 tranche receives all of the interim payments of principal, mainly from the amortization of the loans. The A2 class receives the bulk of its principal payments from the balloon maturity payments of the loans. Note that its principal window is only from August 2012 through January 2013. All of the classes below the AAAs, with the exception of the bottom two, have projected bullet maturities in January 2013. This is due to the closely grouped balloon dates of most of the underlying collateral. These windows are projections assuming no defaults and all loans paying off on their scheduled maturity dates, and can therefore vary based on the actual payments from the loans.

Figure 2: WBCMT 03-C3 / typical conduit deal structure

Tranche	Orig Balance	Average Life	Rating	Credit Support	Principal Window
A1	259	5.7	AAA	21.38	Mar03-Aug12
A2	478	9.8	AAA	21.38	Aug12-Jan13
B	36	9.9	AA	17.50	Jan13-Jan13
C	13	9.9	AA	16.13	Jan13-Jan13
D	26	9.9	A	13.38	Jan13-Jan13
E	13	9.9	A-	12.00	Jan13-Jan13
F	11	9.9	BBB+	10.88	Jan13-Jan13
G	13	9.9	BBB	9.50	Jan13-Jan13
H	13	9.9	BBB	8.13	Jan13-Jan13
J	22	9.9	BB+	5.75	Jan13-Jan13
K	9	9.9	BB	4.75	Jan13-Jan13
L	7	9.9	BB	4.00	Jan13-Jan13
M	2	9.9	B+	3.75	Jan13-Jan13
N	7	9.9	B	3.00	Jan13-Jan13
O	5	10.0	B-	2.50	Jan13-Feb13
P	23	10.6	NA	0.00	Feb13-Jan21
IOII (PAC)	890	5.4	AAA		
IOI	937	8.7	AAA		

Figure 3 is a recent conduit transaction taken from 2012. It has six AAA-classes, including a floating-rate class (the companion fixed-rate class is not shown).

Figure 3: WFRBS CMT 2012-C8 / typical conduit deal structure

Tranche	Original Balance (mm)	Average Life	Rating	Credit Support	Principal Window
A-1	\$97,008	2.92	AAA	30	9/2012-5/2017
A-2	\$187,668	4.92	AAA	30	5/2012-7/2017
A-3	\$414,057	9.87	AAA	30	5/2022-7/2022
A-SB	\$96,932	7.22	AAA	30	7/2022-7/2022
A-FL	\$115,000	9.45	AAA	30	12/2021-05/2022
A-S	\$113,833	9.94	AAA	21.250	NAP
X-A	\$1,024,498	NAP	AAA	NAP	NAP
X-B	\$66,674	NAP	AAA	NAP	NAP
B	\$66,674	9.94	AA	16.125	7/2022-7/2022
C	\$43,907	9.94	A	12.750	7/2022-7/2022
D	\$26,019	9.94	BBB+	10.75	7/2022-7/2022
E	\$45,533	9.94	BBB-	7.25	7/2022-7/2022
F	\$22,767	9.94	BB	5.500	7/2022-7/2022
G	\$26,019	9.94	B	3.500	7/2022-7/2022
H	\$45,534	10.01	NR	0.000	7/2022-7/2022

Source: Kroll Bond Ratings

There are a few important reasons why these classes are tranches into different maturities. Firstly, creating securities of different average lives increases the range of possible investors for any given securitization. Certain investors, such as banks, typically only have an appetite for securities with shorter maturities, while other investors, such as life insurance companies, tend to invest in longer average-life assets. So the AAA class, left as one large block, may have an average life of around seven years (depending on the life of the underlying mortgages) and would therefore not be appealing to either of these two hypothetical investors. The 5.7-year and the 9.8-year that are created after the split in Figure 2, however, become much more attractive for these two investor groups. Further, if the issuer was having difficulty selling the 5.7-year tranche, it might consider splitting it into a 3-year and a 7-year tranche, for example, to fit the needs of specific investors.

An additional driver to the creation of different AAA classes is the shape of the yield curve and its impact on deal profitability. Depending on the difference in yields at different points on the curve, it may be advantageous to create shorter securities and longer securities if the gain on the shorter maturities outweighs the cost of the longer maturities. (i.e., the sum of the proceeds from the additional IO created off the shorter maturity less the decrease in proceeds in IO from the resultant corresponding longer maturity). The constraint on the tranching process is still whether one can find investors for all of the tranches that could be produced.

One of the more attractive attributes of CMBS as an asset class is the average life stability relative to other mortgage-related securities. The prepayment protection provisions present in the underlying loans prevent the dramatic shortening of average lives that can occur in the residential MBS market. Likewise, the onerous penalties for not repaying the loan on time (as well as close monitoring by the servicer as a loan approaches its maturity date) tend to do the same for extensions. As a result, most of the timing-related issues are due to borrower defaults.

Figure 4: changes in average lives and principal windows under various scenarios

Class	0 CRD		1 CDR		2 CDR		25% extended 12 mo	
	Avg Life	Prin Win	Avg Life	Prin Win	Avg Life	Prin Win	Avg Life	Prin Win
A1	5.7	3/03-8/12	5.07	3/03-8/11	4.61	3/03-6/10	5.81	3/03-8/12
A2	9.81	8/12-1/13	9.75	8/11-1/13	9.63	6/10-1/13	9.84	8/12-1/13
B	9.93	1/13-1/13	9.93	1/13-1/13	9.93	1/13-1/13	10.08	1/13-8/13
C	9.93	1/13-1/13	9.93	1/13-1/13	9.93	1/13-1/13	10.65	8/13-10/13
D	9.93	1/13-1/13	9.93	1/13-1/13	9.93	1/13-1/13	10.74	10/13-11/13
E	9.93	1/13-1/13	9.93	1/13-1/13	9.93	1/13-1/13	10.81	11/13-12/13
F	9.93	1/13-1/13	9.93	1/13-1/13	9.93	1/13-1/13	10.84	12/13-12/13
G	9.93	1/13-1/13	9.93	1/13-1/13	9.93	1/13-1/13	10.84	12/13-12/13
H	9.93	1/13-1/13	9.93	1/13-1/13	9.93	1/13-1/13	10.91	12/13-1/14
J	9.93	1/13-1/13	9.93	1/13-1/13	9.96	1/13-2/13	10.93	1/14-1/14
K	9.93	1/13-1/13	9.94	1/13-2/13	10.09	2/13-8/14	10.93	1/14-1/14
L	9.93	1/13-1/13	10.01	2/13-2/13	11.25	3/17-1/21	10.93	1/14-1/14
M	9.93	1/13-1/13	10.01	2/13-2/13	8.62	Total Loss	10.93	1/14-1/14
N	9.93	1/13-1/13	10.01	2/13-2/13	7.42	Total Loss	10.93	1/14-1/14
O	10	1/13-2/13	10.85	2/13-6/16	6.04	Total Loss	10.93	1/14-1/14
P	10.62	2/13-1/21	5.99	Total Loss	3.21	Total Loss	11.39	1/14-1/21
IOII	5.37		5.37		5.37		5.37	
IOI	8.72		8.4		8.11		8.92	

Note: Shading denotes a change in the principal window from the base case scenario, loss scenarios assume a 30% loss severity and a 12 month lag to recovery

Figure 4 illustrates how the average lives and principal payment windows of the different classes change under different default and pure extension scenarios. In the default scenarios, two distinct things are happening to the deal. The first is that the two AAA classes, A1 and A2 are shortening. This is due to the fact that the recovery of principal from the defaulted loans is passed through the deal's waterfall and the AAA classes are receiving principal paydowns in excess of their scheduled amounts. Second, the average life of the lower rated classes are extending (and some are being written off) due to the losses being passed through on the defaulted loans. In the extension scenario, where we assume that 25% of the deal does not repay their loans until 12 months after the maturity date, we see that there is almost no impact on the AAA classes and only a one-year extension on the classes below them.

Super-Senior AAA Classes

Capital markets evolve over time, changing to meet investor demand or assuage investor concerns, as it may be. A significant structural innovation in CMBS around 2004 was the creation of Super-Senior AAA classes. As subordination levels continued to fall in the early 2000's, many investors became concerned that there was not enough credit support to buffer these newly minted AAA classes against defaults and principal losses during a deep or prolonged recession. For these investors, issuers carved-out components of the senior pool that had 20% and 30% subordination. The former class was dubbed the mezzanine AAA class, or AM, while the latter class was referred to as Super Senior. The last AAA tranche is referred to as the junior AAA class, or AJ.

Although the AAA classes share the same priority of payments, losses will not be allocated pro-rata but sequentially between these artificially devised classes. Investors can decide to pay slightly more for the credit support of the Super Senior AAA or pick-up additional spread by investing in the relatively junior AM or AJ classes. These additional carve-outs allow issuers to further fine-tune their allocation of risk, and therefore better maximize the distribution WAC.

Non-AAA Classes

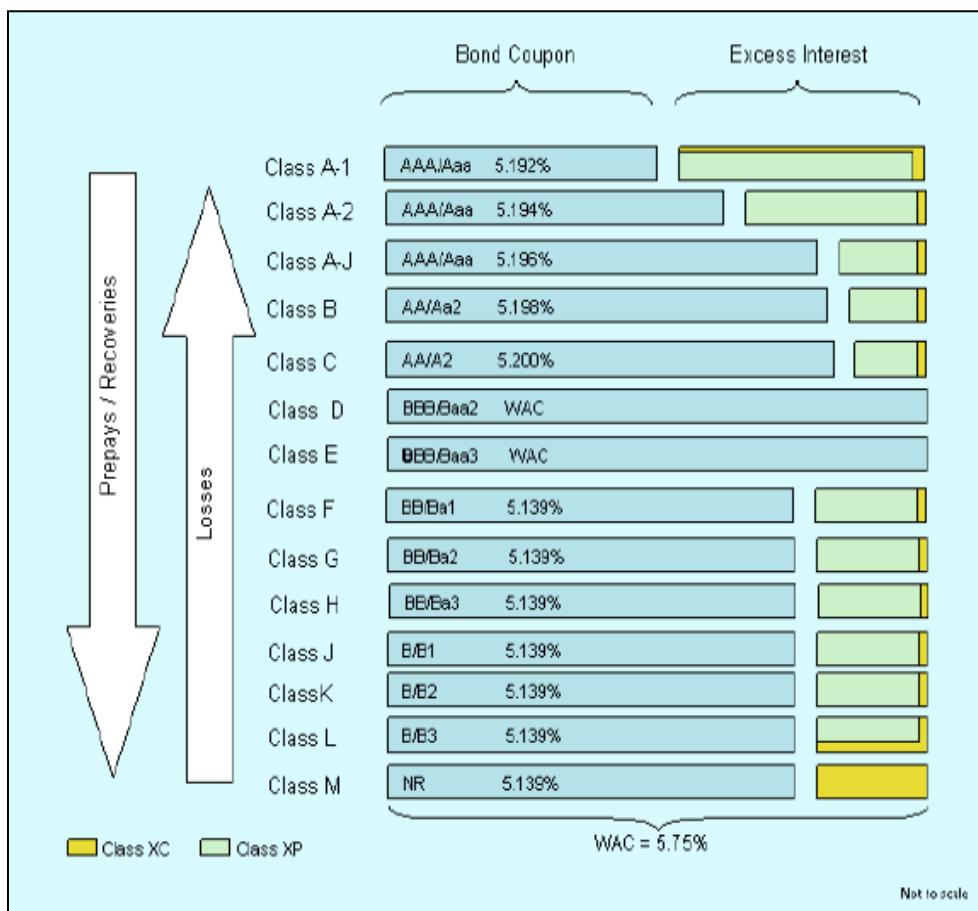
The pricing convention for lower rated classes, the level of which varies over time with market conditions, is slightly different. These investors are generally better equipped to analyze and contend with the multidimensional risk embedded in the collateral, contrasted by the AAA investors, and therefore seek a total rate of return rather than a straightforward spread over Treasuries. Depending on the credit rating of the targeted class, this return requirement could be mid-teens.

Therefore, it is not possible to satisfy these return requirements strictly through collateral cash flow so these classes must be sold at a discount to par plus a minor coupon. The actual coupon rate and discounted sales price is negotiated, which may be impacted by seller provided inducements, such as repo financing.

Interest-Only Classes

To reiterate, one of the business rationales for issuing CMBS is to create value through the arbitrage between the public market for CRE securities and the private market for CRE loans. This arbitrage is manifested as difference between the WAC of the mortgage loans and the WAC of the distributed securities. More simply put, the loans pay more interest than is needed to pay the coupons on the principal-paying bonds that are created. This excess interest is shown in the shaded areas in Figure 5 on the next page.

Figure 5: Representation of Loan and Bond Coupon Structure



In other types of securitizations, this excess interest is used as additional credit enhancements to absorb losses. However, in CMBS, this excess interest is sold as an interest-only (IO) class or classes. Interest-only certificates can be stripped off of all of the classes, individual classes, or combined in any number of combinations. The most simple is a pool IO strip that receives all excess interest over that which is required to pay the bonds. The most popular configuration is to have two separate interest only classes. The first is called a PAC IO, which is a scheduled IO that is highly resistant to losses either from defaults or prepayments. The second is referred to as a companion IO, because it absorbs all of the excess interest after the schedule for the PAC IO has been met.

Rake Bonds

There are structures other than sequential senior-subordinated that are used in CMBS, and many variants on that structure itself. All of the structures and loan descriptions discussed in this chapter thus far have been describing the fixed-rate CMBS market. There is also a much smaller, but not insignificant segment of the market that is floating rate. The floating rate CMBS market generally uses a pro-rata structure in which principal is paid in some amount concurrently to the subordinated classes along with the senior bonds. When sizing for this structure, the rating agencies give a base level of credit enhancement, then increase it to take into account the additional risk to the more senior certificates in allowing principal to be repaid to the more junior certificates prior to the full repayment of the senior debt. Unlike a typical fixed-rate conduit deal in which there is a larger number of smaller loans, these deals typically are made

up of a much smaller number of larger loans. In many cases, the subordinate tranches of these deals will be loan-specific, as follows: the AAA through As will be backed by all of the loans, just as in a normal fixed-rate deal, but there will be BBB and BB classes solely linked to loan 1, and BBB and BB classes solely linked to loan 2 and so forth. These securitized, non-pooled components are referred to as *rake bonds*.

Multifamily Carve-Outs

An example of a variant on the standard sequential senior-subordinated structure would be one that utilizes a multi-family carve-out. In these deals, at the AAA level, the multi-family loans (or a portion of the multi-family loans) are grouped separately from the rest of the collateral. The cash flows to this group come solely from those loans, with the cash flows from the other loans going solely to the non-multi-family class. All AAA classes are supported fully from a credit perspective by all of the loans in the collateral pool. The reason for carve-out is that some investors are only allowed to purchase a deal if it has a high enough percentage of multi-family assets. The overall multi-family percentage in a typical deal was not high enough for them to invest. By creating the multi-family tower, it satisfies that requirement. While it has recently only been done to carve out multi-family assets at the AAA level, in the past this type of segregation has been done on other property types at the bottom of the capital structure as well as the top.

Conclusion

While this chapter is meant to be a survey of common structural attributes in CMBS and of the loans that collateralize them, the marketplace is too diverse and innovative to be captured in a single chapter. The changing lending, rating agency, interest rate, and credit spread environments always drive the way that deals are structured, brought to marketplace, and traded in the secondary markets. Usually the best way to stay abreast of these changes is by reading prospectuses from new deals and rating agency research publications as to their approaches to the sector. Older deal structures are in many ways an insight into the market conditions that existed at the time that deal was issued. As markets make their way through interest rate and property cycles, an investor may even gain insight as to what is likely to be offered in the marketplace tomorrow by looking at deals from the last time we were at this place in the cycle. ♦



CRE Finance Council CMBS E-Primer

A comprehensive overview of commercial mortgage backed securities

Chapter 5.1 *AAA Rated CMBS Securities*

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The Voice of Commercial Real Estate Finance

Chapter 5.1: AAA Rated CMBS Securities

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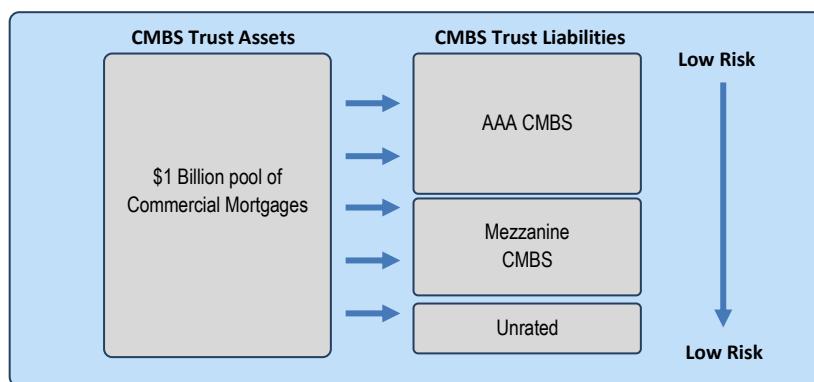
Although some CMBS is backed by fixed rate loans to a single borrower while other CMBS is backed by floating rate loans, the majority of CMBS bonds are backed by large pools of fixed rate mortgages made to different borrowers. The CMBS, backed by many fixed rate loans to different borrowers, is called “conduit” CMBS¹.

Approximately 80% of the bonds for new issue conduit CMBS in 2012 are rated AAA upon issuance. In the boom-period year of 2007, the percentage of CMBS for a newly-issued conduit that was deemed to be AAA by rating agencies averaged about 88%. Therefore the largest share of the CMBS market is conduit bonds that were originally AAA. Many of the bonds issued prior to the Financial Crisis of 2008 were rated too optimistically, and they have been downgraded since. Nevertheless, it is common in marketplace parlance to refer to the pool of conduit bonds that were once AAA or are still AAA as the “AAA market”, and is this type of bond and its market that is the focus of this chapter.

Original AAA rated (OAAA) CMBS are the securities given a AAA rating at issuance from one or more of the Nationally Recognized Statistical Rating Organizations (NRSROs). The commercial mortgages are placed in the CMBS Trust. Bond certificates are issued from the trust based on a senior/subordinate structure. OAAA bonds are further divided into several categories, because some OAAA bonds are required to bear losses before other OAAA bonds in the same transaction bear losses. In other words, there can be junior/senior structuring even among bonds that are all good enough credit to be deemed AAA by a rating agency. Additionally, some OAAA bonds are “fast pay” compared to others, which means that they get repaid earlier under most credit conditions. This will be discussed in greater detail as this chapter progresses.

Figure 1 details a typical conduit CMBS structure.

Figure 1: CMBS Trust



Although OAAA CMBS appear in many forms, they normally have a senior sequential structure. Losses are incurred from the bottom up; while interest and principal is paid from the top down.² Time tranched

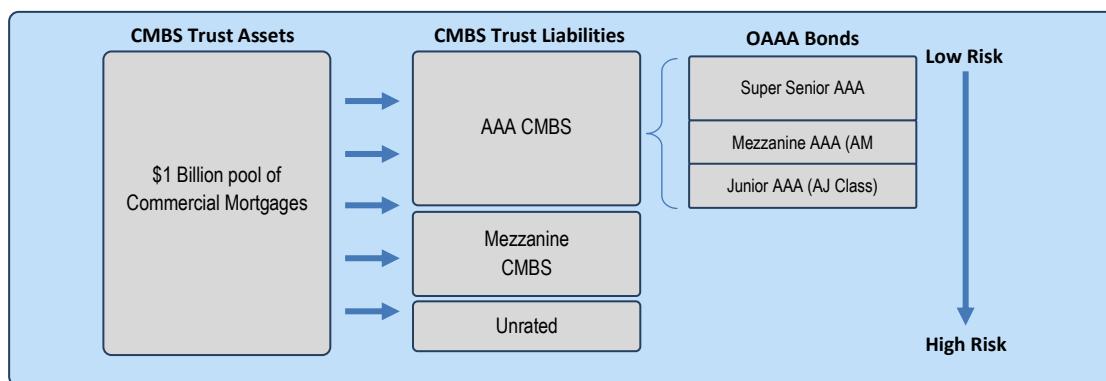
¹ Some investors make the distinction between pure conduit CMBS that is backed only by a large pool of loans, and so-called “fusion” CMBS that is backed by a large pool of loans fused with a few low leveraged loans. Other investors include the fusion CMBS in that bucket of CMBS transactions that they collectively refer to as the conduit universe of CMBS transactions.

bonds are set up so that principal is paid to certain senior most bonds until the “fast pay” bonds are paid in full, and before other senior bonds start to receive principal. Principal payments proceed in such a senior-sequential fashion until the senior bonds collectively begin to incur losses because all of the unrated or mezzanine bonds have been wiped out. This is known as a “cross over point”, and at such a point all of the senior-most bonds begin to receive principal at the same time, with the amount of principal determined by the outstanding pro rata share of each senior-most bond to all senior-most bonds.

Prior to 2005 conduit transactions typically had one level of OAAA bonds. In response to investor concern about lower credit enhancement levels and deteriorating underwriting standards, two levels of OAAA bonds were usually issued in 2005. One class was set at the so-called “natural” credit enhancement (“CE”) level dictated by the rating agencies, which was typically well below 20%, and the other was set in a senior position and included 20% CE. In late 2005, as CE levels trended even lower and underwriting standards deteriorated further, three levels of OAAA bonds were issued in a senior sequential format. In addition to the 20% bond, a more senior bond was added with CE of 30%.

Investor demand drove these structural changes, as many investors that wanted to avoid material credit risk became skeptical about whether bonds being called AAA by rating agencies in the boom time of 2005-2008 were truly credit worthy enough to deserve the AAA moniker. Indeed, the incidence of AAA downgrading for the junior-most OAAA bonds of the boom period proved to be massive when the boom turned to bust in 2008 and afterwards.

Figure 2: CMBS Trust with three levels of OAAA bonds



When the CMBS market revived in 2010, it started out in a decidedly conservative posture, as markets tend to do after a severe bust. Only one level of OAAA bonds was issued. In 2011, underwriting standards began to loosen up and investors, remembering the very recent and steep downgrades of junior OAAA conduit bonds, began to again push back for additional structural protection. In response to investor concern about lower credit enhancement levels and deteriorating underwriting standards, two levels of OAAA bonds were issued with one senior to the other. A junior AAA bond is now commonly issued that has its CE set by the rating agencies while a senior bond is also issued, with CE set at 30%. Figure 2 details the structure with three levels of OAAA in a senior sequential order.

² A modified pro-rata structure is less common where losses are incurred from the bottom up; while interest is paid from the top down and principal is distributed on a pro-rata or modified pro-rata basis.

OAAA from multi-borrower large loan floater³ and single asset/single borrower⁴ transactions generally have only one level of OAAA rated class.

Collectively OAAA CMBS are senior to all other bonds; however, there are differences within the OAAA bond category. The most solid credit conduit CMBS are the Super-Senior OAAAs, whereas one or two junior original OAAA rated bonds are subordinated to other OAAAs. Super-Senior OAAAs form the top tranches in the structure for most 2005-08 conduit CMBS, as they receive interest and principal before any other class in a senior-sequential structure. Losses will not be allocated pro rata but sequentially, first to the Junior OAAA and then to the Senior OAAA. Investors can decide to pay for more credit support in the Senior OAAA or pick-up additional spread in the junior. The additional credit support benefits investors who believe subordination levels for the junior OAAAs are too low.

The Structure of OAAA CMBS

The majority of CMBS utilize a senior sequential structure whereby subordination provides credit enhancement to the bonds and protection against losses. Cash flows from the mortgages are directly passed through to the deal by the mortgage loan servicer, who collects payments from individual borrowers. Unlike other asset classes, the structure does not benefit from any excess spread or overcollateralization, but from internal support from junior bonds where the allocation of loan losses is made in reverse sequential order. The senior subordinated structure requires that principal and interest from loans are used first to pay down the most senior outstanding bonds – the OAAAs.

The super senior bond is the largest bond class with the highest subordination. The bond typically constitutes 70% of the trust and had 30% credit enhancement at securitization.

Super senior OAAA CMBS is typically time tranched into multiple classes with different weighted average lives (“WAL”), payment windows and maturities. The shortest, first-pay OAAA receives principal payments from amortization of the collateral pool, as well as from prepayments, maturities and defaults. Once the bond’s balance is paid in full, the principal is then available to pay the next OAAA bond. The priority of payments benefits the OAAA CMBS in terms of principal protection. However, it also exposes them to changes in the timing of receipt of principal and interest payments.

The super senior category for late 2005 to 2008 conduit CMBS is typically divided into fast paying OAAA classes, including 3-year A1 –Class, 5-year A2-Class bonds, the 7-year A3-Class bonds, and the wide-window ASB-Class bonds that have an initial average life of a little over 7 years. The largest super senior bond is the 10-year class that pays last among the super-senior bonds, which is generally issued as a bond with a little less than 10 years of life initially because the loans that are to pay it off were 10 years long when they commenced, but they have usually aged a little when they were being accumulated by the issuer in advance of the securitization. The last-pay super senior bond is most often designated as the A-4 bond, but it can have an A-5 or an A-6 designation if additional fast-pay bonds were included in the structure.

³ Multi-borrower floating rate CMBS has far fewer loans in the collateral pool than is common for conduit CMBS. The actual loan A-note that is contributed to floating rate CMBS pools is itself usually low leverage, because it has been industry practice to include only loans that were sized to investment grade leverage amounts. That means that a typical loan contributed to a floating rate CMBS pool would have had a loan to value ratio (LTV) below 50% whereas a loan to be contributed to a fixed-rate conduit usually had an LTV of 70% or higher.

⁴ A single asset CMBS deal is backed by one mortgage loan. A single borrower CMBS transaction is a multi-loan securitization in which all of the loans have a common borrower. Usually, the loans in a single borrower pool are cross collateralized.

The “cross-over point” was mentioned above. That is the point where realized losses that have been applied to the CMBS bond stack from losses recognized on the underlying mortgage loans has exhausted the original credit enhancement for the most senior bonds. Since most super senior bonds start with 30% CE, the cross over point is typically 30% for the vast majority of super senior bonds. For example, a \$1 billion CMBS conduit may have \$300 million of bonds junior to the super senior OAAA bonds, and when losses first exceed \$300 million then the cross over point is reached and fast pay OAAA bonds will no longer have a timing preference for repayment compared to other super senior bonds. When losses reach the cross over point, principal is applied to all A-Class designated CMBS (A-1, A-2, A-3, A-4, A1-A and A-SB bonds) on a pari-passu basis. Since 30% credit enhancement is formidable, the cross-over point is unlikely to ever be reached for the vast majority of the CMBS transactions now existing. If 30% losses are reached, it is likely that the fast pay bonds, which comprise a minority of the super senior classes considered collectively, will have previously been paid in full. There is no claw back of principal previously paid out due to the subsequent occurrence of a cross over point.

Provided there is no cross over point, principal flows to A-1 bonds until they are paid in full before principal flows to A-2 bonds, which must be paid in full before A-3 bonds get principal, and A-3 bonds must be paid in full before A-4 bonds get principal.

The fast pay – three year WAL A-1 bonds are shorter term amortizing bonds. They depend on the amortization from the scheduled mortgage payments to pay down its principal. Typically, these bonds have an original balance equal to the scheduled amortization (but not balloon payments) for all of the underlying mortgage loans that is scheduled to occur in years 1-5 of the lives of the underlying mortgages. Generally, the life of these bonds is sensitive to prepayments and default generated liquidation prepayments. Losses resulting from defaults are not expected to rise high enough to affect these bonds.

The fast pay –five year WAL A-2 bonds and the seven year WAL A-3 bonds generally have narrow principal payment windows and rely on a few mortgage loans that have shorter maturities to pay off the class(es). A-2 bonds are commonly sized to correspond with the balloon principal balance of 5 year loans. Accordingly, their expected lives are usually around 5 years. A-3 bonds are commonly sized to correspond with the balloon principal balance of 7 year loans, and their expected lives are usually around 7 years. There can be some variance because loans often have some seasoning when they enter the pool, causing them to have a little less than exactly 5 or 7 years of life to contribute to the lives of the corresponding A-2 and A-3 bonds. Also, some loans start out with an initial life that varies a little from 5 or 7 years, and the A-2 or A-3 bonds may include these loans of non-standard term as part of their expected source of repayment. The actual lives of the A-2 and A-3 bonds can be very sensitive to loan prepayments, default generated liquidation prepayments, and extensions of a few individual loans. Losses resulting from defaults are not expected to rise high enough to affect these bonds. Since A-2 bonds do not begin to repay until A-1 bonds have paid off, and A-3 bond repayments must await full payoff of the A-2 bonds, any shortening or lengthening of the A-1 or A-2 bonds will tend to cascade throughout the capital stack, causing shortening or lengthening of the bonds that are later in the repayment order.

Fast pay – A-SB, A-AB, or A-PB are so-called “planned amortization bonds”. Their principal is due in the waterfall per a fixed schedule that primarily attaches to the loan amortization on all of the loans in the original CMBS collateral pool from months 61-120 of the life of the underlying loans. Like the A-1 bond, they have a five year period for which they are scheduled to pay principal, and they are called “wide window” bonds as a result. In contrast, the A-2 bond is expected to pay principal during a narrow window of time, around the 5 year point. A-3 bonds are a narrow window bond expected to repay around the 7-year point, and A-4 bonds are a narrow window bond expected to pay around the 10 year point.

Some balloon payments may be added to the planned amortization schedule. A-SB/A-AB/A-PB bonds cannot, by contract, pay principal early unless a “cross over point” is reached. They also cannot realize a loss unless a cross over point is reached while they are still outstanding. This class usually has the A-SB A-AB or A-PB designation in the name and has limited extension risk due to the fact that it is first in line to get any principal due to it per its schedule. These bonds have little potential to extend, because not much principal is due in any given month as a comparison to all outstanding principal in a loan pool, and any late principal is paid off by the very first principal to be applied to the bond stack from any source.

The **A1A or Multi-Family Class** is usually backed by cash flows from the multifamily loans and typically sold to Fannie Mae or Freddie Mac. The A1A is a wide window bond, repaid if there is no cross over point by all of the amortization and balloon payments from all multifamily loans, regardless of term. This bond has a nearly 10 year repayment window. The GSEs no longer buy such bonds after 2008, so issuers no longer produce them.

The **Long Pay – Ten Year WAL A-4⁵** bond is considered very strong in terms of credit, however, it has been subject to downgrades in far greater numbers than the fast pay bonds. Since it is the bond which gets paid last among the super senior bonds, it has lower effective credit as compared with the fast pay bonds⁶. Nevertheless 30 points of credit enhancement is formidable. In order to suffer one dollar of loss, in excess of 50% of the loans would need to default and suffer a 60% loss⁷. This 60% loss would require a 51%+ value decline from origination assuming a 70% original LTV. Many of these bonds have in fact experienced an increase in credit enhancement post origination due to pay downs from liquidated loans.

AM Bond or Mezzanine OAAA. This bond is in between the super senior and junior OAAA, and is accordingly called mezzanine OAAA or AM. This class is subordinate to the Super Senior so it has less credit enhancement. It has less sensitivity than the super senior to prepayments and default-induced prepayments. The bond typically constituted 10% of the trust and had 20% credit enhancement at securitization for 2005-2008 CMBS.

AJ Bond or Junior OAAA. This bond is subordinate to all the other OAAA bonds and had the lowest enhancement in the 2005-2008 vintage OAAA stack. This bond would have the most sensitivity to loan extensions, rating migration, and defaults. Since original credit enhancement on these bonds generally ranged from 10% to 13%, it is most vulnerable to post default losses and to downgrades. Indeed, most OAAA that is in AJ form is now rated below investment grade.

The long cash flow super senior, AM or mezzanine senior and the AJ junior senior all have approximate 10-year WAL.

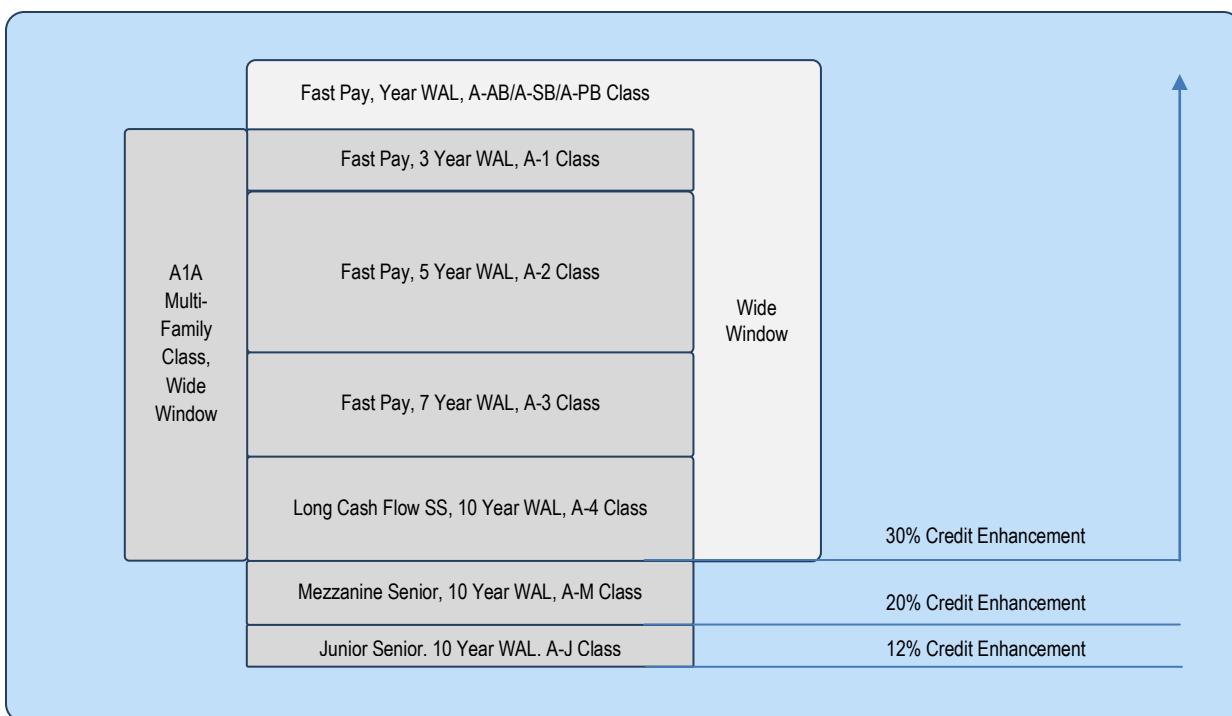
The chart below summarizes the super senior bonds –fast pay, planned amortization and long cash flow as well as the subordinate AM and AJ classes.

⁵ In some transactions the A-5 or the A-6 bond is the last cash flow bond and the A-4 is designated an additional fast pay bond

⁶ As long as the crossover point has not been reached, the fast pay bonds have higher effective credit enhancement since they receive amortization, prepayments, and proceeds from liquidations first, and the principal received is not subject to claw back due to a subsequent occurrence of a cross over point.

⁷ There are certainly other draconian scenarios to achieve a one dollar loss such as the inverse (in excess of 60% default and 50% severity) or any combination that breaches 30% (i.e. 90% default and 34% severity)

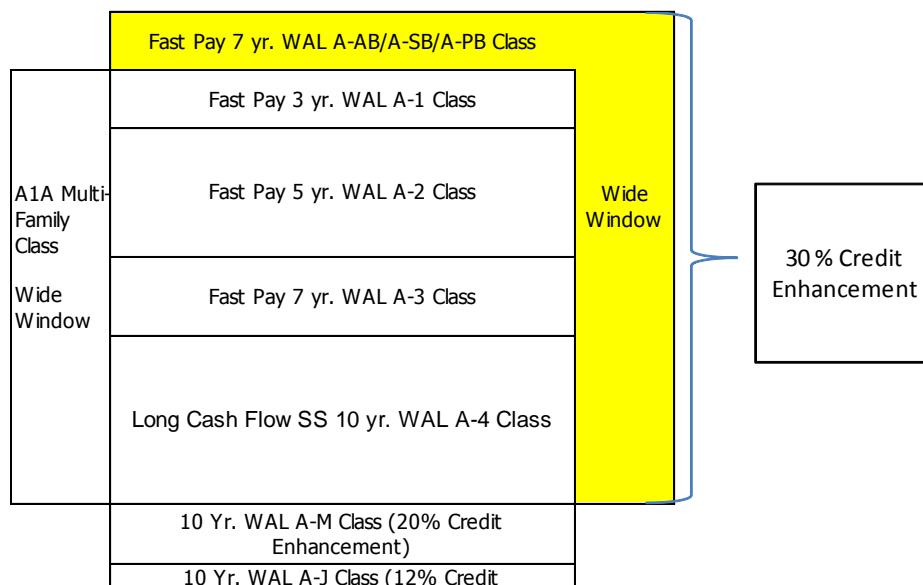
Figure 3: Types of Original OAAA Rated CMBS Securities from 2005-08



Transactions sourced from 2010 to present, have had a maximum of two OAAA class levels, a senior with 30% CE and a junior usually called A-J or A-S with credit enhancement between 15% and 23%. The new deals are structured without class A1A multi-family class,

The chart below summarizes the super senior bonds –fast pay, planned amortization and long cash flow as well as the subordinate AJ classes for recent issuance.

Figure 4: Types of Original OAAA Rated CMBS Securities from 2011-12



Considering the General Risk Profile of OAAA CMBS

The basics of investing in OAAA CMBS are assessing the credit risk of the collateral backing the CMBS securities, estimating collateral losses and which bonds will bear the loss, understanding the timing of cash flow payments to the security, and judging the relative valuation of the security.

OAAA rated CMBS bonds vary in the way they are protected from any cash flow delays and interest shortfalls. OAAA bonds have significant protection from default. However, there is incremental risk to the bonds that pay later versus those that are faster pay, as well as to the more junior OAAA bonds as they are less protected from loss⁸.

OAAA CMBS, have risks attributed to the timing of the commercial mortgage loan cash flows. Investors need to focus on the pool level characteristics and their interaction with the specific characteristics of bond and deal structure.

OAAA rated CMBS bonds, while generally well protected from cash flow delays and interest shortfalls, still have risks attributed to the timing of the commercial mortgage loan cash flows. Investors need to focus on the pool level characteristics and their interaction with the specific characteristics of bond and deal structure. Investors need to focus on the impact of prepayments, default induced prepayments, default induced losses, and extensions.

The Collateral Pool in OAAA CMBS

CMBS payments to investors depend primarily on the cashflow generated from the underlying commercial properties, rather than on the credit of an issuer or borrower. These cash flows support the mortgage payments, which flow through to the CMBS securities. OAAA investors frequently benefit from the loan collateral diversity, which reduces credit risk concentration in CMBS conduit transactions.

Diversity comes in many forms such as the number of loans, geography, property types, loan sizes, borrowers, and originators. This is true for most pools, except for single borrower, single asset, and some large loan or fusion deals, which are more concentrated and have specific risk characteristics. For example, if a pool only has 10 properties, any one loan prepayment or default can have a significant impact to the overall deal. In addition to this diversity, most of the commercial loans benefit from the properties' diversity of cashflows from different tenant exposures, lease durations and industry concentrations.

CMBS loans can provide underlying credit protections like cross-collateralization, and cash management and escrow agreements. The OAAA CMBS bonds also benefit from underlying loan provisions that help mitigate early prepayment risks. These provisions include prepayment lockout periods, yield maintenance, fixed penalties, and defeasance. Thus, the prepayment convexity in CMBS is minimal due to the strong loan protections, which provides good relative value versus other mortgage and ABS products.

Since one of the risks to the OAAA bonds is dependent on the price of the security, which is described in the next few sections, investors should know the basic pricing conventions. Prior to mid-1998, CMBS was priced off comparable average life Treasury benchmarks. Soon after the Russian debt and Long Term Capital Management liquidity crises of 1998, CMBS AAAs began pricing off the swaps curve, due to the

⁸ In addition, the price differential between super senior and AM bonds implies that the market believes that the incremental risk for AM losses is material. The price differential between AJ bonds and Super Senior and AM implies even greater risk.

use of swaps in hedging by originators during the collateral accumulation process and due to better liquidity in swap rates at the time. Since 2003-2004, trades have started using the Euro dollar curve to price very short WAL bonds.

CMBS Analysis

The volatility of the bond's cash flows can be modeled when taking into consideration such things as the timing of prepayments and defaults, extension risk, dollar prices, and interest rate curves. Investors should analyze the deal for potential credit and cashflow impact on the collateral, and how these cash flows affect the OAAA bonds.

The two main factors that affect the yield and total return of OAAA CMBS securities are collateral level risks and bond level risks. Whether using loan level credit driven analytics or static CDR (constant default rates) and CPR (constant prepayment rates) analysis, an investor should judge the bond's characteristics from future changes in the collateral pool, as these characteristics drive total return, yield, and ultimately, the pricing of the bonds. Loan level risks from the underlying collateral are attributed to term and balloon defaults, prepayment, as well as loan extensions.

The Collateral - Estimating the probability of default and the severity of loss

The best way to test the resiliency of a pool of loans is to use modeling simulations to stress in-place rents, expenses, net operating income (NOI), values, capitalization rates, and refinance constants to estimate how many loan term and loan balloon repayment date defaults can be expected to occur, and how deep the losses are likely to be for those loans that do default. NOI should be evaluated in light of the analyst's expectations of long term sustainability, given varying cyclical conditions and various non-marketplace, asset-specific shocks. Adjustments to rent and expenses are made in models to bring them in line with long-term market parameters.

Debt service coverage ratios (DSCR) or NOI over debt service are a good indicator of default probability. If for example the DSCR is below 1.0x, the collateral cannot service its debt payment and some borrowers may not choose to fund the deficiency, so the loan has a high probability of default. Term DSCR is tested by gauging if the new NOI is sufficient to pay the current in place debt service during the term. The balloon DSCR is tested by comparing the new NOI and debt service based on a stressed long term loan constant to evaluate its refinanciability. Another factor in determining the probability of default is Loan to Value ratio (LTV). If for example the LTV is greater than 100%, the borrower may not be motivated to continue paying debt service.⁹

In determining value in modeled stress tests, a capitalization rate is chosen that takes into consideration property type, market, building quality and other factors. The capitalization rate should not necessarily be current market, but reflect where cap rates may rise to in order to gauge what values may be when the loan has to refinance at balloon. The new adjusted NOI is capitalized by the stressed cap rate resulting in a new value.

⁹ Some loans with an LTV over 100% have adequate debt service coverage, so the event of an LTV over 100% does not in this circumstance trigger a term default. If the balloon date is reached and the LTV is over 100%, a default is likely. In fact, defaults often occur upon balloon when the LTV is too high for a refinance but still below 100%, if the borrower does not have the resources to pay down the loan so that it is right sized for a refinance. Ultimately default risk exists for all combinations of DSCR and LTV, and it is positively correlated with lower DSCR and higher LTV.

The new value is compared to the outstanding loan balance at balloon to see if it is refinancable at the new LTV. In the case of a defaulted or likely to default loan, the property value is multiplied by a factor less than 1.0, to reflect the fact that a defaulted loan may incur further post-default value loss, and/or default-related transaction costs including interest accruals, servicing fees, legal fees, etc. This adjusted market value is referred to herein as the “recovery value”. The recovery value is then compared to the loan amount. If the loan amount is less than the recovery value then the loan is deemed to be well enough collateralized that no loss is taken in the stress testing exercise. If the loan amount exceeds the recovery value then the amount of that excess is modeled as a potential loss on the loan. Projected loss for the collateral pool is the product of the rate of loss-given-default times the default probability.

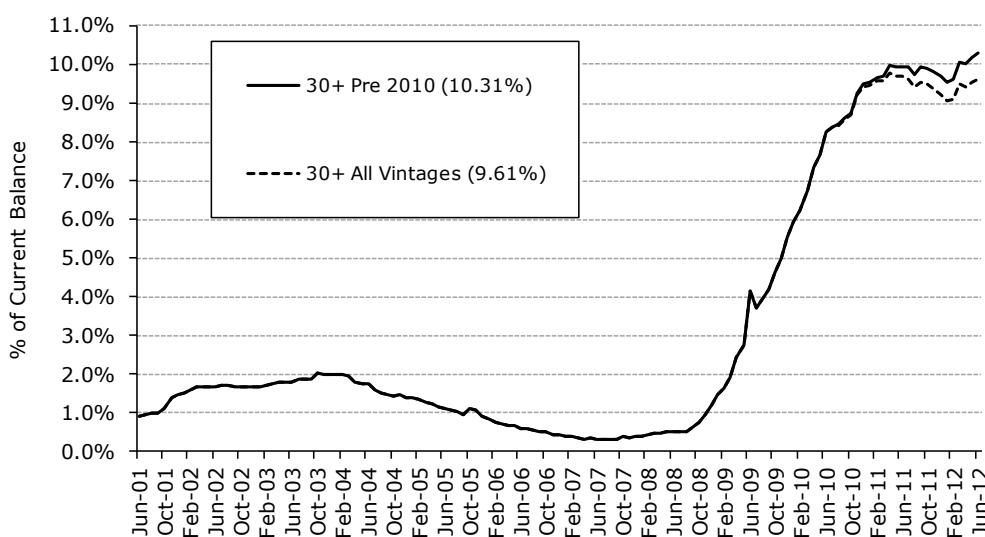
Impact of Defaults on OAAA CMBS

If credit impact are not considered (i.e., held constant) then premium bonds gain value when they lengthen, and lose value when they contract in term. Bonds that are held at a discount benefit from shortening up, and they lose value from lengthening. Premium or discount OAAA bonds, like other bonds, may have their performance enhanced or hurt by lengthening or shortening due to defaults.

Aside from the impact in performance related to a change in realized duration, prepayments can alter the credit worthiness of a bond and therefore its value. Prepayments of loans may lower or raise a given bond's CE, (thus increasing or decreasing the risk of potential downgrade). The general rule is that a loan resolution with a rate of loss lower than the CE on a bond is a resolution event that raises that bond's CE, whereas a loan resolution with a rate of loss higher than the CE on a bond is a resolution event that lowers that bond's CE.

Before 2009, the default rates for CMBS had been low, however, default increased dramatically with the onset of the great recession as seen in Figure 5.

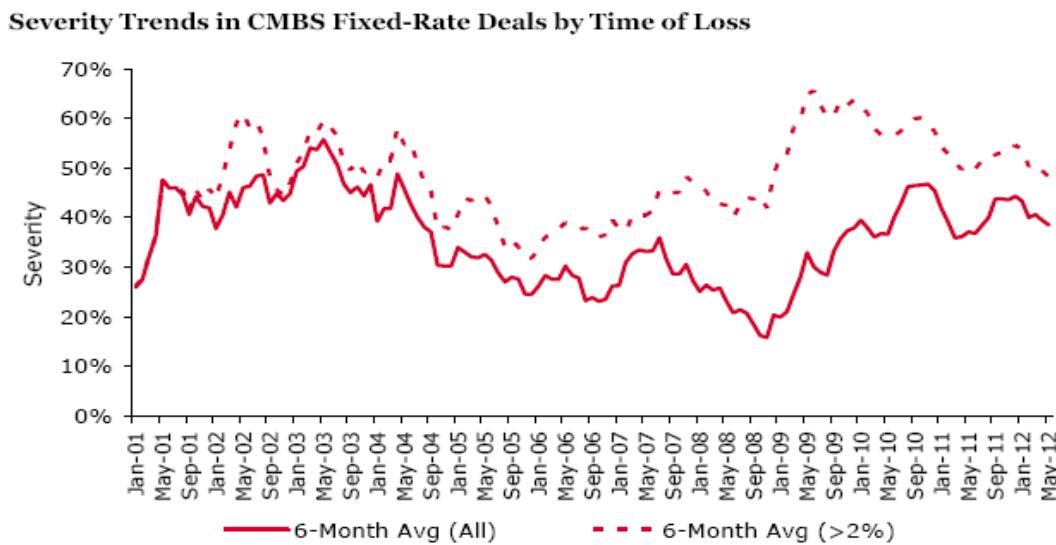
Figure 5: Historical Delinquency Trends



Source: Wells Fargo Securities, LLC, and Intex Solutions, Inc.

The following charts details severity of loss given default.

Figure 6: Severity of Loss Given Liquidation



Source: Wells Fargo Securities, LLC, Intex Solutions, Inc., and Trepp, LLC.

Losses are deducted from the lower tranches and the balance is used to pay down the upper tranches (i.e. OAAA).

For the most part this has not negatively impacted OAAA credit enhancement for the super seniors and AMs although there has been some credit enhancement erosion for AJs¹⁰. In fact credit enhancement has increased on super senior bonds issued between 2005 and 2008, with the median increase¹¹ being 6.8% and the mean 7.8%. Credit enhancement also increased on the AM bonds issued during the same period, with the median increase 1.1% and the mean 2.0%. However, credit enhancement erosion was evident in the AJ bonds. Credit enhancement decreased by -1.7% (median) and -4.4% (mean) for bonds issued between 2005 and 2008. These statistics are as of April 2012 and were provided by Wells Fargo and Intex.

Clearly in many cases the liquidations resulting from default actually resulted in increased credit enhancement because the loss rates for the resolved¹² loans were less than the outstanding credit enhancement for the bonds in question¹³. However, par-payoffs without prepayment penalties result in an economic loss if you are the current pay OAAA and purchased the bond at a premium dollar price, as par principal is returned from the recovery of the defaulted mortgage. The higher the bond premium, the greater the negative impact on the bond's total return from default liquidation.

¹⁰ Source: Wells Fargo, Intex

¹¹ The change is expressed as the change divided by the original credit enhancement – not credit enhancement percentage.

¹² “Resolved” is defined as any kind of resolution including scheduled or voluntary pay off

¹³ When loss rates fall below credit enhancement ratios the credit enhancement rises. When loss rates exceed the credit enhancement ratio the credit enhancement falls.

Due to this credit risk, investors will want to be compensated with higher spreads if they buy a premium priced bond. This compensation, or extra basis points in required yield when pricing the bonds on a paid-as-agreed (zero default basis), can vary at times for the current pay OAAA bonds. Provided that investors believe that eventual loan losses are very handsomely covered by their bond's credit enhancement, they may counter intuitively want collateral with high loss severities (less principal returned to the bonds from recoveries) and long loan resolution periods (extends the cash flows, which benefits yield). The shorter the resolution and the smaller the loss (more par recovered from resolution), the worse the erosion of yield to premium OAAA bonds. Conversely, loan defaults can be an opportunity for discount bonds when the CE for the bond is abundant, causing the bond investor to focus on repayment timing rather than repayment risk. An investor may be willing to pay more (a tighter spread) for a bond that is a discount bond supported by a high risk credit pool, hoping for the early return of principal to the bond from loan liquidations. Conversely, the investor might lose value if too many defaults cause the AAA rating to be downgraded due to subordination erosion. Overall this is a risky strategy as loan losses may mount to the point of causing interest shortfalls or possibly even actual bond losses.

Impact of Prepayments on OAAA CMBS

A significant factor that affects a bond's yield and total return is actual loan prepayments that deliver principal back to the current paying OAAA class. Similar to other mortgage products, CMBS can shorten from prepayments, which come from the borrower's ability to prepay or refinance the loan before its stated maturity. This stems from incentives to the borrower to either reduce borrowing costs or to take out the equity in the property as it appreciates. In general, mortgage rates, cap rates and NOI growth will drive prepayments. However, most CMBS loans have some form of prepayment protection provision that either prohibits or financially discourages the borrower from prepaying the mortgage early. These help offset the effects of loans prepaying before maturity on the cash flows to the deal. The most common provisions are lockout, yield maintenance, fixed penalties, and defeasance. CMBS bonds are not actually callable by their issuer as is the case with many corporate bonds, but the aforementioned disincentives for the CMBS loan borrower to prepay its loans when it is not in default leads observers to say that CMBS has excellent "call protection". In the conduit universe, only 11% of the loans are truly open to prepay in full.

Figure 7: Conduit Loan Call Protections

Conduit Loan Protections	
Lockout	73.4%
Yield Maint	13.2%
PP Penalty	2.5%
Open	10.9%

Source: Trepp, as of April, 2012

The provision percentages have changed over the years, with early origination having more yield maintenance and fixed penalties, while new originations utilized mostly lock-out or defeasance provisions. Defeasance refers to when the borrower may obtain a release of the property without extinguishing the loan by delivering U.S. Treasury bonds that deliver cash flows that match the cash flows of the loan, thus substituting AAA credit into the trust. In this way, defeasance is a credit windfall for CMBS investors. Defeasance and lock-out periods provide a more robust method of prepayment protection versus various penalty based protections. In general, the prepayment convexity in CMBS is

minimal due to the strong loan call protection, which in turn has helped investors protect the return of any excess dollar premiums.

An investor should be aware of the types of prepayment provisions and their effects to the yield on the current pay OAAA class. Prepayments can increase when the loans enter their open period (typically several months before the balloon maturity, loans are open to prepay without penalty).

For example, loans without yield maintenance or defeasance that employ fixed penalties (such as 1% or 2% or par value) upon early repayment should be scrutinized as they may not provide enough payment to compensate the investors of very high dollar premium bonds. In addition, loans that mature specifically within a bond's principal payment window should be analyzed as prepayments may change the characteristics of that bond. If a mortgage is slated to pay down a specific tranche at maturity, and it prepays (or defaults), the bond will have to rely on different mortgages to be paid back in full.

Prepayments can provide some benefits. Bonds priced at a discount will see higher returns from early prepayments. Deals with yield maintenance loans can be appealing as the bondholders can be over-compensated by high prepayment premiums (due to the disconnect between the reinvestment rate on which the yield maintenance is calculated and the yield of the bonds). Overall, OAAA CMBS have less interest rate or convexity risk than other structured asset classes (due to structure and loan call protections), but more default-induced prepayment risk than some bond types.

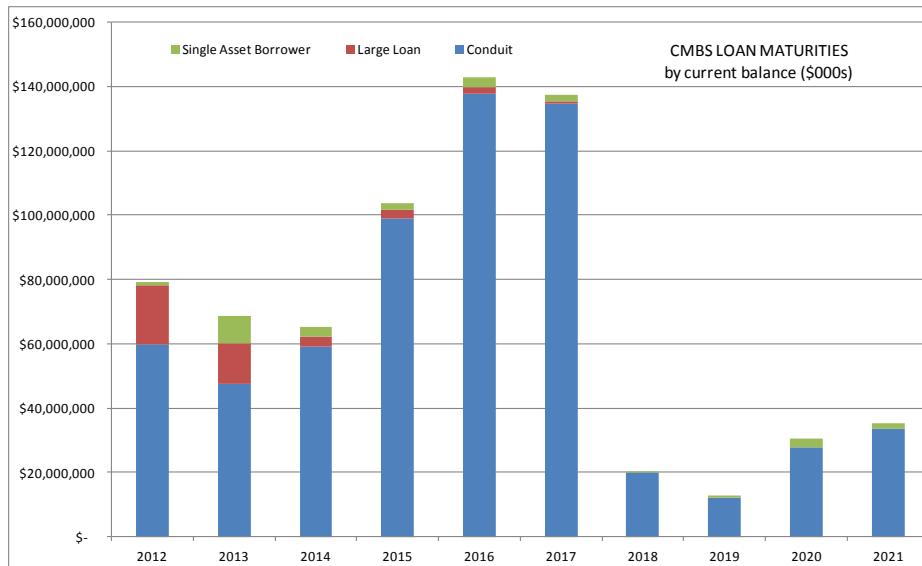
Impact of Extensions on OAAA CMBS

The refinance ability of the underlying loan is important in determining if a loan will pay off at maturity or if it will extend past its maturity. In general, the longer OAAAs have more extension risk from the balloon maturities of the mortgages while the shorter OAAAs are more sensitive to shortening from prepayments and defaults. However, extensions can affect shorter bonds if they are reliant on shorter maturity loans to be paid in full. Issuers may use 5- or 7-year maturity loans to help pay back the 5- or 7-year WAL bond's principal. Placing shorter maturity mortgages in deals help create shorter principal window OAAAs. So, if an OAAA bond has a 7-year WAL and is reliant on one or more specific loans with 7-year maturities to pay back its principal, any extension on those loans will extend the 7-year bond's cash flows as well. Investors should be aware that their bond's principal will most likely be paid by the balloon maturity of these shorter loans, and not scheduled amortizations. If these loans cannot refinance at maturity, then the bonds' cash flows will extend, which could negatively affect the bond's price and yield.

Some deals may have more balloon risk than term default risk; especially if interest rates are materially different at the maturity horizon. Higher interest rates affect borrowing costs. This can affect the amount of loan proceeds in a refinancing to pay off the balloon balances (assuming no increase to property cash flows). In this case, the loan will extend or default at maturity, affecting the underlying cash flows. Generally, investors will project cash flows, and stress these at certain refinance constants and also stress cap rates in order to estimate value and LTV at balloon. These stressed parameters are then used to establish if a loan can refinance its balloon balance.

Refinancing balloon balances is not only dependent on property performance, cap rates and interest rates, but also on lenders' willingness to lend based on liquidity and market conditions at that time.

Figure 8: CMBS Loan Maturities



Source: Trepp

Loans that mature 2015-2017 are by far the largest cohort and were sourced in a low interest rate environment. If interest rates are materially higher those expiration years, and NOI has not increased sufficiently to achieve financeable debt service coverage ratios, than a spike in loan defaults, extensions and losses is likely. Thus, extension risk may materialize as a more significant risk to OAAA securities in the future.

Other Risks in OAAA CMBS

Investors should also be aware of potential conflicts between CMBS participants (such as B-piece buyers, mezzanine buyers, and OAAA investors). As an example, a OAAA investor may want a delinquent loan liquidated so that the senior bond can get paid down while the B-piece investor (in the first loss position) may want the loan extended in the hope that the loan will improve. Conflicts can also exist involving the special servicer. Fees can be generated from a loan being placed with the special servicer even for a short time. Larger fees are generated by a modification that leads to an extension, lower interest rate, or principal pay down. Conflicts of interest involving the special servicer, B-piece buyer, and borrower may harm the interests of the senior bond holders.

Specific property and specific borrower risks exist in all CMBS transactions, but they can be most acute when the loan pools are highly concentrated. Highly concentrated transactions are common to single borrower, single asset, large loan, most floating rate and some fusion deals, as well as mostly paid off conduit CMBS that have only a few loans remaining. These deals generally have lower diversity due to the higher loan concentrations. For example, a fusion deal is where the largest loan is 10% or more of the pool and all loans over \$50 million are 15% or more of the pool. The OAAAs from these deals may have a higher risk of rating volatility, as the loan concentrations can affect cash flows if one large asset defaults. These types of CMBS deals require a different type of analysis, with more emphasis on each individual loan and deal structure than in the use of general conditions in the modeling.

Many floating rate deals have transitional properties with fewer prepayment protections and more extension options. Adverse selection can also be an issue for these pools, where the good loans pay off and the pool is left with a few weaker assets. Investors would want to make sure their OAAAs get paid before the pool adversely selects.

Figure 9: Historical CMBS Issuance by Deal Type

% of Issuance per Type	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 YTD
Floating Rate	13.0	14.8	10.2	8.1	9.2	6.6	0.0	0.0	0.0	3.9	0.0
Single Borrower	4.2	6.9	3.5	3.6	1.9	3.5	7.6	18.6	30.4	9.3	16.7
Lease-Backed	1.0	0.9	0.4	0.4	0.5	0.3	0.0	16.7	5.5	2.2	0.0
Seasoned	3.7	2.7	0.3	0.7	0.1	1.3	0.0	0.0	2.1	1.7	1.5
Large Loan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Conduit/Fashion	42.5	53.6	58.0	57.8	55.6	61.0	56.7	2.2	39.5	73.6	70.1
Non-US	35.5	21.1	27.5	29.5	32.6	27.2	35.6	62.5	20.4	9.3	11.7

Source: Commercial Mortgage Alert, as of YTD March 2012

Price and Structure

The structural risks to OAAA CMBS include the structure, class size and bond price, as well as the shape of the yield curve.

Impact of the Deal and Bond Structure to OAAA CMBS

Investors should concentrate on the structure of the deal, focusing on the principal windows, payment priority (sequential, pro rata), and class sizes. Although most structures are similar in CMBS, OAAA bonds can differ greatly between different deals, as well as between the different OAAA classes within a deal. OAAA bonds can have various principal windows, driven by the time tranching of the structure based on the maturity profile of the pool. The performance of underlying collateral can also affect the principal windows. The WAL of the first-pay bonds are more sensitive to the timing of prepayments and defaults, while the longer OAAA bonds are generally more sensitive to balloon payment risks of the underlying loan. Total return investors are generally attracted to short window classes that are more bullet-like in principal cashflow payments and generally exhibit less payment window volatility.

At any point in time, it is natural that one particular bond class is first in line to receive principal payments. This is the so-called front pay bond. The bond that gets principal after the front pay bond is paid off is the “second pay” bond. Investors will also want to look at the effects of their modeling on the principal window of the second pay or locked-out OAAAs. One reason is to make sure the investor of a bond held at a premium to par doesn’t hold a bond that prematurely becomes the frontpay bond.

In general, most investors would prefer bullet-like cashflows (a bullet is when the entire principal is paid back at maturity) over amortizing securities. Given the opportunity cost of investing in a bullet or amortizing bond, an investor should compare the amortizing bond’s roll down to that of a bullet security. All else equal, investors will prefer the bonds that act like a bullet versus having large principal pay windows.

Investors should also be aware of smaller, shorter OAAA classes, as they are more sensitive to defaults and prepayments or extension, as any principal received early or delayed represents a larger portion of the class. An OAAA class backed by many loans will be subject to less event risk than a bond backed by few loans.

Therefore, the count and lumpiness of the loans associated with a bond class can matter in determining the sensitivity of possible yield loss or gain due to variability in payment timing. Variability in the repayment timing outcomes can be greater for the front pay class, which must be priced in initially and which may be realized through greater pricing variability during the holding period.

Risks and Opportunities in Par, Discount and Premium-Priced Bonds

CMBS bonds should be modeled for changes in average life, duration, yield, principal windows, and total return. The characteristics can be stressed based on the investors' expectations for prepayments, defaults and extensions for the loans that underline the CMBS. Modeling the bonds for these possible outcomes at the loan level will let an investor determine which investment opportunities have the most stable cash flows. Generally, the various scenarios are compared with the static pricing scenario to determine the pool's sensitivity to changes in the cashflow's characteristics. Investors should examine how a bond behaves under stress compared to how similar bonds perform in different deals, as well as make comparisons between the various OAAA classes within a deal, to help determine relative value.

Discount OAAA bonds will benefit if they receive full principal repayment sooner than expected, however will suffer if the cash flows extend or pay slower than expected. The risks are the extension from a loan either not paying off the balance at the balloon maturity, or from modified loans that continue to perform but had their terms changed by the special servicer. For discount front pay bonds, prepayments or defaults represent an economic gain to investors that receive par principal back from the mortgages on their discount dollar priced bonds.

Premium-priced bonds face the risk of early redemption of principal from prepayments without corresponding yield benefit of penalties, as well as principal returning from the recoveries of liquidated loan defaults. OAAA investors have to decide what level of defaults, extensions and prepayments erodes their initial spread from receiving principal back at par. Typically, investors may require higher spread concessions to compensate for this default-induced risk.

Given the minimal convexity from prepayment risk, OAAA CMBS are one of the few long duration call protected instruments in the structured finance markets. In addition, issuers can create various AAA CMBS classes with differing durations to fit many different investor requirements. For most investors, super senior and AM CMBS securities (assuming adequate credit enhancement) provide safety and liquidity to portfolios, as well as compelling relative value over other AAA fixed income investments.

Current Pay OAAA Analytical Framework

One way investors can price the risk of the premium is by looking at the effects to the embedded IO because a premium bond has a par bond component and an embedded IO component.

The cash flows for the par bond are derived by setting the coupon near market yields and therefore the price at par. The difference between the cash flows for this par bond and the contractual cash flows for the premium bond represents the IO. An investor can analyze the IO using various extension, voluntary prepayment and default assumptions, and compare it to the generic IO market pricing levels, for pure IO bonds that have already been striped. However, one should realize that, for structural reasons, generic IOs often differ significantly from IOs embedded in premium bonds since generic IOs often represent a strip off of the entire capital structure of the deal or a grouping of bond classes while the IO component of a premium bond only represents a strip off of one tranche of the capital structure.

This analysis should not be applied across all CMBS deal types, such as single borrower and single asset deals, which may have a lower probability of loan default. These bonds may have an embedded IO that is worth more than conduit IO. However, if a default occurs, these bonds would be more severely affected compared to a diverse conduit deal. A variation to the method of valuing the embedded IO is to value each cashflow as it is received.

Shorter first pay bonds are more complex to value as the resulting implied IOs can have significant variations due to one's modeling parameters, such as estimating the timing of a loan recovery or prepayment. Given these variations, first-pay bonds can be valued on each cashflow as it is received given different modeling scenarios to those cashflows. A typical scenario is to default all delinquent and specially serviced loans at a 40% loss severity and conservatively apply a constant default rate (CDR) to the remaining loans. The resulting yield can be relatively compared among different scenarios as well as different first pay bonds. From an interest spread perspective, a Euro Dollar (E-Curve) comparison can be made for short duration certificates.

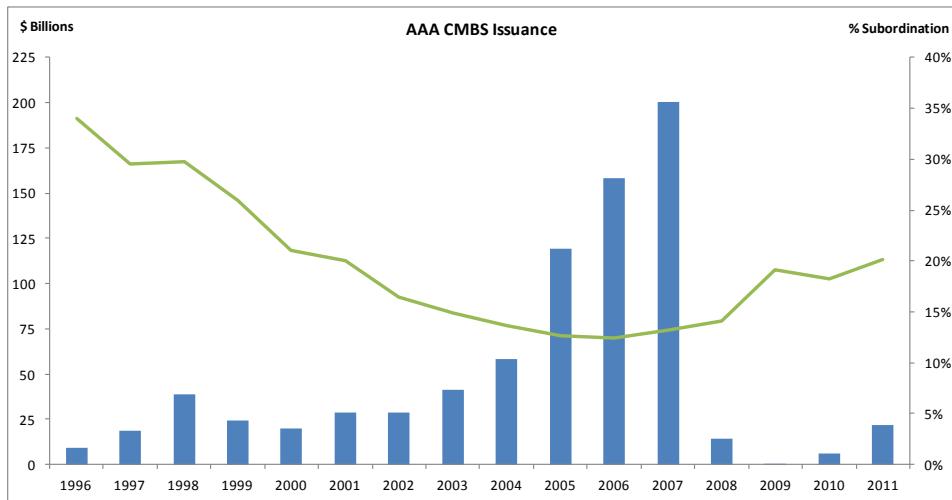
CMBS Performance

In the initial years of the CMBS market leading practices were fairly conservative. However, as markets became infused with an overabundance of capital and lending became more competitive, credit lending standards declined. As credit standards declined so did credit enhancement levels on the junior OAAA rated bonds. This is the opposite of what should have happened, in that rating agencies should have raised required CE to counteract underwriting laxity. As a result of the credit standards and credit enhancement decline, defaults rose.

The Subordination and Credit History of OAAA CMBS

The OAAA CMBS classes become a larger part of the capital structure in deals over time through 2007. As credit concerns mounted in 2008, issuance declined to a small fraction of the 2007 level. There was no CMBS issuance in 2009 until one transaction was executed in the last month of the year. The nascent CMBS 2.0 market came in to being with higher credit enhancement levels for the AAA per the rating agency determination rising from a low of 11% in 2007 to 20% in 2011. The chart below details the trend data.

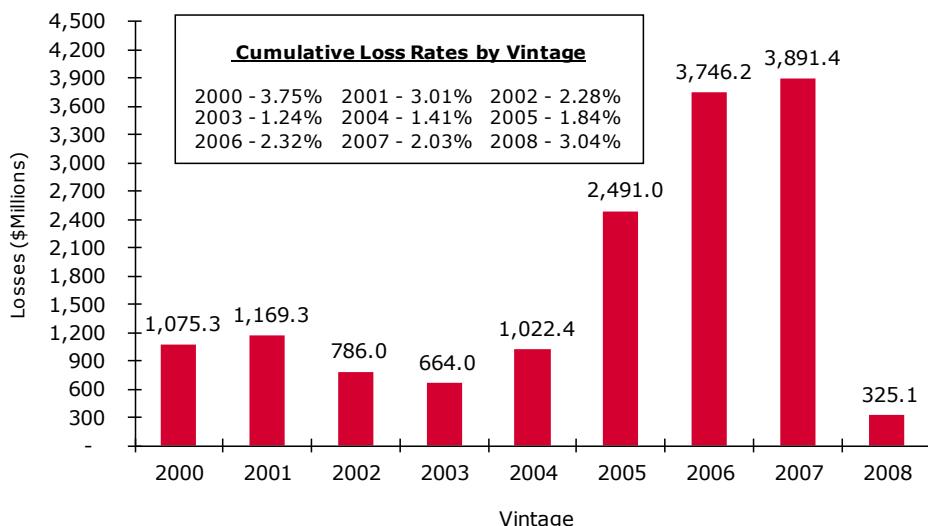
Figure 10: Change in AAA CMBS Issuance and 10-year AAA Subordination Levels



Source: Trepp

As presented earlier in Figure 5, delinquency increased dramatically since the financial crisis. Cumulative losses reflect the lower underwriting standards prevalent 2005-2008. The final cumulative loss figures will not be known until age cohorts mature and all the loans are resolved.

Figure 11: Cumulative Loss Rates for Fixed Rate Conduit Transactions



Source: Wells Fargo Securities, LLC, and Intex Solutions, Inc. June 2012

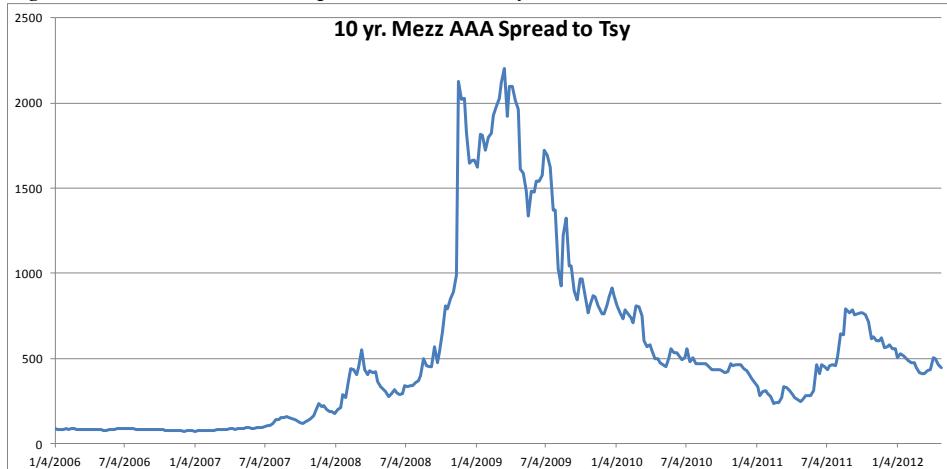
As concern for the credit worthiness of the outstanding bonds increased, spreads widened dramatically. Investors were concerned that the magnitude of delinquencies that occurred in the RMBS sector would also repeat in the CMBS sector, and sharp ratings downgrades were also feared. The following three charts detail how dramatically rates spiked during the crisis of 2008/2009 and how equally dramatically they rebounded. Investors concluded that there was not much risk associated with super seniors and only moderate risk associated with AM bonds. AJ bonds also rebounded but not to the extent of the other two bond categories because of the perceived risk in these relatively thinly enhanced bonds.

Figure 12: 10-Year Duper Spread to Treasury



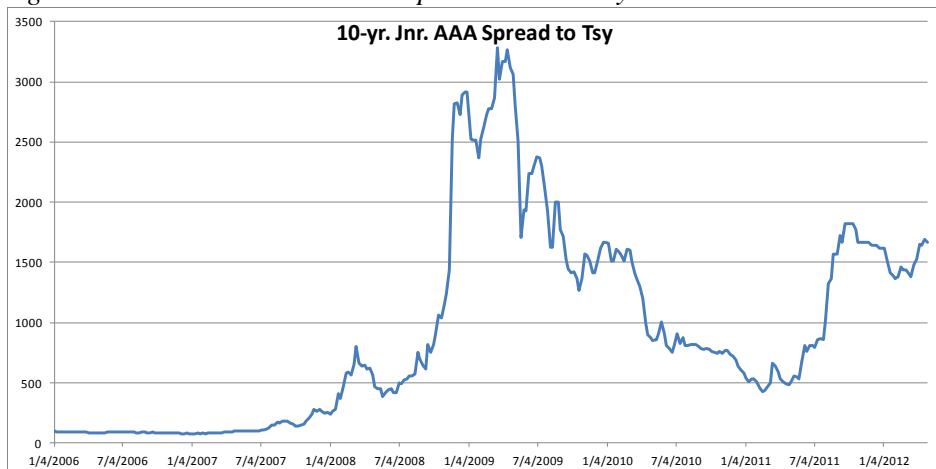
Source: Morgan Stanley

Figure 13: 10-Year Mezz Spread to Treasury



Source: Morgan Stanley

Figure 14: 10-Year Junior OAAA Spread to Treasury



Source: Morgan Stanley

Rating Migration

Historically CMBS ratings were considered stable. However, during the 2008/2009 crisis many formerly stable AAA rated CMBS were downgraded, some of them severely. The fast pay OAAA and to a lesser extent the long cash flow super senior OAAA were not affected nearly as much as the AM and AJ bonds.

Approximately 94% of all of the fast pay bonds have remained AAA by all rating agencies despite the great recession. The same cannot be said of the 10-year long pay class (typically called A-4) and certainly not about the mezzanine and junior OAAA.

Below are charts detailing rating transition by bond type and vintage.

Figure 15: OAAA Fast Pay Bonds Still AAA by all Rating Agencies

OAAA Fast Pay Bonds still AAA by all rating agencies		
Balance	Sum of Current Ending Balance (%)	Count of Current Ending Balance (%)
AAA	88.7%	94.0%
AA	1.8%	0.6%
A	2.4%	2.3%
BBB	7.1%	3.1%
BB	0.0%	0.0%
<BB	0.0%	0.0%

Sources: Credit Suisse, S&P, Fitch, Moody's, Bloomberg as of February 2012

Figure 16: OAAA Long Cash Flow Super Senior Bonds Still AAA by all Rating Agencies

Long Cash Flow Super Senior Bond

Long Cash Flow SS Still AAA by all Rating Agencies Sum of Current End by Balance				
LCF SS	2005	2006	2007/2008	Total
AAA	95%	74%	31%	63%
AA	2%	13%	9%	9%
A	3%	13%	43%	22%
BBB	0%	0%	16%	6%
BB	0%	0%	0%	0%
<BB	0%	0%	0%	0%
	100%	100%	100%	100%

Long Cash Flow SS Still AAA by all Rating Agencies Sum of Current End by Count				
LCF SS	2005	2006	2007/2008	Total
AAA	94%	81%	24%	64%
AA	3%	10%	9%	8%
A	3%	9%	44%	20%
BBB	0%	0%	23%	9%
BB	0%	0%	0%	0%
<BB	0%	0%	0%	0%
	100%	100%	100%	100%

Although the super senior bond type has performed well, it has still been subject to rating volatility. As of February 2012, 63% of super senior bonds issued between 2005 and 2008 are still rated AAA by all rating agencies on the deal. There are no bonds rated below investment grade in this category.

Figure 17: OAAA Long Cash Flow AM Bonds Still AAA by all Rating Agencies

AM Bond

Long Cash Flow AM Still AAA by all Rating Agencies Sum of Current End by Balance				
AM	2005	2006	2007/2008	Total
AAA	35%	8%	4%	11%
AA	27%	15%	4%	13%
A	31%	45%	16%	29%
BBB	7%	27%	34%	26%
BB	0%	4%	40%	19%
<BB	0%	0%	2%	1%
	100%	100%	100%	100%

Long Cash Flow AM Still AAA by all Rating Agencies Sum of Current End by Count				
AM	2005	2006	2007/2008	Total
AAA	42%	8%	3%	11%
AA	25%	16%	5%	12%
A	25%	39%	14%	24%
BBB	3%	31%	40%	31%
BB	6%	6%	32%	19%
<BB	0%	0%	7%	3%
	100%	100%	100%	100%

Sources: Credit Suisse, S&P, Fitch, Moody's, Bloomberg as of February 2012

Although the AM bond type has performed well, only 11% of AM bonds issued between 2005 and 2008 are still rated AAA by all rating agencies originally involved with the transaction. Moreover, 20% of bonds are now below investment grade.

Figure 18: OAAA Long Cash Flow AJ Bonds Still AAA by all Rating Agencies

AJ Bond

Long Cash Flow AJ Still AAA by all Rating Agencies Sum of Current End by Balance				
AJ	2005	2006	2007/2008	Total
AAA	6%	0%	0%	2%
AA	21%	1%	0%	6%
A	26%	5%	0%	8%
BBB	35%	28%	4%	20%
BB	6%	38%	19%	22%
<BB	6%	28%	76%	42%
	100%	100%	100%	100%

Long Cash Flow AJ Still AAA by all Rating Agencies Sum of Current End by Count				
AJ	2005	2006	2007/2008	Total
AAA	8%	0%	0%	2%
AA	22%	2%	0%	7%
A	28%	5%	3%	11%
BBB	30%	23%	3%	17%
BB	6%	38%	19%	21%
<BB	6%	33%	74%	43%
	100%	100%	100%	100%

Sources: Credit Suisse, S&P, Fitch, Moody's, Bloomberg as of February 2012

Only 2% of AJ bonds issued between 2005 and 2008 are still rated AAA by all rating agencies on the deal with 64% of bonds are now rated below investment grade. Nevertheless, originally rated AAA traditional CMBS¹⁴ bonds have never realized a loss of principal. However, OAAA investors have to be aware that in addition to credit risk, they are subject to interest rate risk. CMBS bonds often trade on perception of quality and stability, and not always on the current and expected future credit performance of the collateral.

¹⁴ There have been five non-traditional transactions in which the OAAA experienced a loss. However, they generally involved poor quality small balance deals such as the LaSalle series and Impac.

CMBS Reporting

Requirements

Collateral performance affects the whole capital structure. Timely monitoring of the collateral pool is beneficial to OAAA bondholders to gauge any changes to the pool's cash flows. OAAA CMBS securities make compelling investments due to the strong informational flows that come from new issue disclosures and continued monthly collateral reporting by the mortgage servicers.

CMBS reporting requirements have historically been good in terms of detail and quality compared to other structured finance products. The many participants, such as master servicers, special servicers, trustees, and third party services, provide timely data which gives investors the ability to analyze future cashflows by monitoring collateral performance. This allows investors to make relative value decisions between CMBS transactions, in both the primary and secondary markets.

Nevertheless there are problems with the Investor Reporting Package (IRP)¹⁵ for extended, otherwise modified, and liquidated loans. They often lack the description, analysis, computations, and decision tree that went in to the conclusion for the above. Some investors remain concerned that special servicers may resolve loans in a way that maximizes their fees, or otherwise serves their interests or the interests of junior bond holders that control special servicing, at the expense of the senior bond holders. Detailed justification and transparency is necessary to maintain investor confidence.

Technology

The CMBS industry is strongly supported by a variety of participants that use different technologies to promote and support the CMBS market. Web-based reporting has eased the flow of information from the servicers, trustees and other third-party providers to the investors. Investors can dig deep into the collateral, drilling down to the individual loan, property, tenant, and market detail.

Investors also benefit from the many analytical tools designed specifically for CMBS participants. A good example is the cash flow models in which investors can easily analyze the collateral effects and the bond's structural effects on yield, total return and credit support. Investors also benefit from standardized reporting on the bonds and the collateral, both at issuance and ongoing, which is typically monthly. The extensive and timely information helps investors monitor CMBS performance and relative value over time. Other resources available include property level models, portfolio and trading analytics, fundamental real estate analytics, property valuations, NOI growth vectors, and detailed surveillance tools.

Investors in OAAA CMBS

The investor base for OAAA CMBS is fairly large and diverse. The attractiveness to investors is primarily in the OAAA CMBS's superior liquidity and credit worthiness, as well as strong call protection and the ability to access longer duration cashflows. OAAA CMBS is also relatively easy to hedge due to that call protection.

¹⁵ The CRE Finance Council Investor Reporting Package (CREFC IRP) is a transparent, standardized set of bond, loan and property level information provided for all CMBS securitizations. It was initially rolled out in 1997 (Version 1.0 contained 100 of the most important bond/loan property level fields), and the latest Version, 5.1, was implemented on December 1, 2010.

Investors in OAAAs range from players having commercial real estate backgrounds to more traditional bond buyers looking for yield and total returns. The main investor base includes banks, financial institutions, insurance companies, money managers, and pension funds, hedge funds and foreign investors.

Conclusion

OAAA CMBS securities have historically been considered low-risk investments. Investors benefit from the diversity of the collateral pool and the protections in the CMBS structures. Although traditional OAAA super senior, mezzanine (AM) and junior (AJ) OAAA bonds have suffered no losses, they have been subject to rating agency downgrades to the point that few 2005-2008 vintage AMs and almost no AJs are still rated AAA by all the agencies that originally rated them. These bonds and particularly the AJs warrant good credit analysis to determine their rating stability and their loss protection resiliency. In addition, the securities warrant unique attention due to their sensitivity to voluntary prepayment, default generated prepayment, and extension risks. Variability in payment timing can materially affect bondholders of premium or discount bonds. The basic modeling conclusion for an investor is how much spread compensation is needed given the effects of the projected defaults, prepayments and extensions on the underlying collateral, taking into consideration the bond's price, structure and the yield curve. Approaching OAAA securities with the above considerations will assist investors in the bond selection and retention decision making process. ♦



CRE Finance Council CMBS E-Primer

A comprehensive overview of commercial mortgage backed securities

Chapter 5.2 *Investing in Mezzanine CMBS*

a publication of



CRE Finance Council®

The Voice of Commercial Real Estate Finance

Chapter 5.2: Investing in Mezzanine CMBS

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Introduction

CMBS mezzanine tranches allow an investor to move down the capital structure to achieve higher yields with greater risk. Mezzanine tranche investing is similar to most other products: an investor must understand the risks and rewards to determine if an appropriate investment opportunity exists given their constraints. In the years leading up to the credit crisis, relative to alternative investments, the risk-adjusted yield profile of these tranches was quite attractive, eventually luring non real estate-dedicated, opportunistic and arbitrage investors to the sector. The 2005-2007 credit bubble allowed for a mispricing of CMBS mezzanine risk and many of those legacy tranches have begun taking principal write downs.

The re-emergence of new issue CMBS – commonly referred to as “2.0” or “3.0” brought many changes to deal composition and structure, however the fundamental basics of underwriting CMBS mezzanine investments have not changed.

While a volatile asset for mark-to-market investors, new issue CMBS mezzanine tranches can offer attractive risk-adjusted yields, particularly in low yield environments. Fundamental to mezzanine tranche investing is identifying differentiation in pricing based on deal quality, and investors with strong commercial real estate underwriting skills can identify attractive investment opportunities.

Mezzanine CMBS—Definition

The middle tranches of a typical conduit or fusion CMBS structure are generally referred to interchangeably as “mezzanine” or “mezz” tranches, classes, securities, or bonds, because they comprise the middle portion of the capital structure. Mezzanine tranche ratings span from AA+ through BBB-, representing all of the investment-grade tranches between AAAs and non-investment grade tranches. CMBS generally employs a senior/sequential pay structure and because mezzanine tranches are located in the mezzanine or “belly” of the credit curve (see Figure 1) are generally not sensitive to early prepayments (recoveries from defaulted loans) off the front end (AAAs) but are exposed to interest shortfalls and losses once the “B piece” (below I.G. bonds) are written off.

General Risk Profile

The CMBS risk profile changes quickly as one moves from AAA down through BBB- (Figure 1). BBB- bonds are effectively leveraged to the worst loans in the collateral pool, and require low levels of losses for full principal payment. Investors in mezzanine CMBS must also be prepared for interest shortfalls if defaults occur. Legacy (i.e. “1.0”) mezzanine investors took comfort in knowing that they could become the “directing certificate holder” if and when losses eroded bonds subordinate to them and thus control workouts. Bowing to demands from AAA investors (which drive deal economics given that AAA’s represent 80+% of the deal), 2.0/3.0 deals now grant outside parties (Operating Advisors) and senior AAA investors these control rights, effectively limiting the role that mezzanine

investors will direct in future workouts. Changes in deal structures from legacy “1.0” to “2.0”/”3.0” are important to consider (please see Table 1 under Special Servicers, below).

From its early 1990s infancy to around 1999, virtually the entire mezzanine portion of the structure would have been classified as low risk. At that time, mezzanine tranches were characterized by higher subordination (i.e., “credit support”) and were reflective of the extremely poor performance of commercial real estate in the late 1980s and early 1990s, as both rating agencies and investors demanded substantial protection from underlying loan defaults. However, in the time leading up to the most recent financial crisis, subordination levels declined considerably, and, concurrently, leverage was increasing and underwriting trends were weakening. This counterintuitive trend greatly reduced the margin for error in bubble year (2005-2008) CMBS deals. Falling subordination levels were also accompanied by small (or “thin”) classes that raised the sensitivity to any losses on such class.

Prior to the recent financial crisis, investors took solace from research detailing commercial mortgage default rates of life insurance company originated loans over a 30-year period from 1972-2002. This was an update of a landmark study first published in 1999 by Esaki, L’Heureax and Snydeman, often cited as the ELS study. The study concluded that most investment-grade CMBS were well protected against the most severe real estate downturn of the last 30 years and served to frame many investors loss expectations.¹ However, with continued reductions in subordination levels, the average loan principal loss of the worst cohort year in the study (1986) of 8.1% eventually exceeded the average subordination levels of 2006 vintage BBBs (4.2%) and reached up to the A class (7.4%). Worse still, 2005-2008 vintage CMBS were based on aggressive, often “pro-forma” underwriting, that created highly over-leveraged capital structures. Simply stated, the risk in ’06/’07 loans was much greater than the risk in the insurance company loans that were the basis for most loss estimates prior to the financial crisis. While actual losses on ‘05/’06/’07 will take years to realize and will be highly variable from deal to deal, the range is often low single digits to high teens, with some deals possibly exceeding 20%+ losses. This has started to erode many legacy mezzanine bonds and may generate losses on some original ‘AAA’ rated “AJ” and possibly even “AM” bonds.

CMBS 2.0/3.0 loans, with lower leverage, trough cycle valuations, and better structure will likely provide greater protection from losses and ultimately result in fewer defaults and losses. Along with thicker classes and simpler structures, new issues today look much different from later vintage (2006-2007) legacy deals (See Figure 1). Though CMBS 2.0/3.0 transactions may be better protected and less levered, mezzanine investors should continue to conduct fundamental real estate, structural and relative value analysis while evaluating mezzanine CMBS tranches.

Figure 1: Comparison of 2007 and 2012 vintage structures

	Class	Balance Original	Original C/E	Thickness	Original Rating			Current Rating			Senior	COMM 2012-LC4						
					MDY	S&P	FII	MDY	S&P	FII		Class	Balance Original	Original C/E	Thickness	Original Rating MDY FII	Current Rating MDY FII	
Senior	A-1	\$75,000,000	30.0	70.00%	Aaa	AAA	AAA	WR	NR	PIF	A-1	\$48,958,000.00	30.0	70.00%	Aaa	AAA	Aaa	AAA
	A-2	\$725,300,000	30.0	70.00%	Aaa	AAA	AAA	Aaa	AAA	AAA		\$77,841,000.00	30.0	70.00%	Aaa	AAA	Aaa	AAA
	A-3	\$246,609,000	30.0	70.00%	Aaa	AAA	AAA	Aaa	AAA	AAA		\$115,586,000.00	30.0	70.00%	Aaa	AAA	Aaa	AAA
	A-AB	\$72,000,000	30.0	70.00%	Aaa	AAA	AAA	Aaa	AAA	AAA		\$416,502,000.00	30.0	70.00%	Aaa	AAA	Aaa	AAA
	A-4	\$3,661,032,000	30.0	70.00%	Aaa	AAA	AAA	A1	BBB-	AAA		\$92,950,000.00	20.1	9.90%	Aaa	AAA	Aaa	AAA
	A-1A	\$514,000,000	30.0	70.00%	Aaa	AAA	AAA	A1	BBB-	AAA	B	\$44,711,000.00	15.4	4.70%	Aa2	AA	Aa2	AA
	A-M	\$756,277,000	20.0	10.00%	Aaa	AAA	AAA	Ba1	B+	B		\$32,944,000.00	11.9	3.50%	A2	A	A2	A
	A-J	\$519,941,000	13.1	6.90%	Aaa	AAA	AAA	Caa1	CCC-	CCC		\$52,946,000.00	6.3	5.60%	Baa3	BBB-	Baa3	BBB-
	B	\$75,628,000	12.1	1.00%	Aa1	AA+	AA+	Caa2	D	CCC		\$15,296,000	4.6	1.70%	Ba2	BB	Ba2	BB
	C	\$94,535,000	10.9	1.25%	Aa2	AA+	AA+	Caa3	D	CC		\$11,766,000	3.4	1.20%	B2	B	B2	B
Mezzanine	D	\$56,720,000	10.1	0.75%	Aa3	AA-	AA-	Ca	D	CC	Subs	\$31,768,016	-	3.40%	NR	NR	-	NR
	E	\$56,721,000	9.4	0.75%	A1	A+	A+	C	D	C								
	F	\$75,628,000	8.4	1.00%	A2	A	A	C	D	C								
	G	\$75,628,000	7.4	1.00%	A3	A-	A-	C	D	C								
	H	\$103,988,000	6.0	1.38%	Baa1	BBB+	BBB+	C	D	C								
	J	\$94,534,000	4.8	1.25%	Baa2	BBB+	BBB+	C	D	C								
	K	\$75,628,000	3.8	1.00%	Baa3	BBB-	BBB-	C	D	C								
	L	\$37,814,000	3.3	0.50%	Ba1	BB+	BB+	C	D	C	Subs							
	M	\$18,907,000	3.0	0.25%	Ba2	BB+	BB+	C	D	C								
	N	\$28,360,000	2.6	0.38%	Ba3	BB-	BB-	C	D	C								
	O	\$18,907,000	2.4	0.25%	B1	B+	B+	C	D	C								
	P	\$18,907,000	2.1	0.25%	B2	B	B	C	D	C								
Subordinate	Q	\$18,907,000	1.9	0.25%	B3	B-	B-	C	D	C								
	S	\$141,802,702	0.0	1.88%	-	-	-	NR	NR	NR								

Source: Trepp

Investors

Prior to the global financial crisis, the investor base for mezzanine tranches was dominated by domestic life companies, commercial banks and pension funds. These investors often had a complementary in-house real estate professionals who originated whole loans and acquired directly-owned real estate. Leading up to the last crisis, money managers, mutual funds, and even foreign investors entered the market. Ultimately, CDOs and opportunity vehicles became large buyers and drove in spreads at precisely the same time the weakest deals were being sold. CDO and SPV CMBS buyers are often referred to as part of the shadow banking system, as these investors were often the “behind the scenes” capital providers, increasing liquidity in the market and purchasing the most credit sensitive CMBS tranches. These events resulted in a cause-effect feedback loop that compressed CMBS credit spreads to irrational and unsustainable levels.

Figure 2: Composition of Mezzanine Investors

Investor Type	2005	2007 H1	2007 H2	Today
Insurance	20%	20%	25%	30%
Asset Management	0%	0%	25%	40%
CDO / SIVs	80%	80%	25%	0%
Credit/HF	0%	0%	25%	30%

Credit Overview

An acute knowledge of real estate credit is paramount to properly evaluate the future performance of mezzanine tranche investments, especially lower down the capital structure. While certain short dated AAA cash flow bonds can be a surrogate for money market securities – with liquidity being the dominant

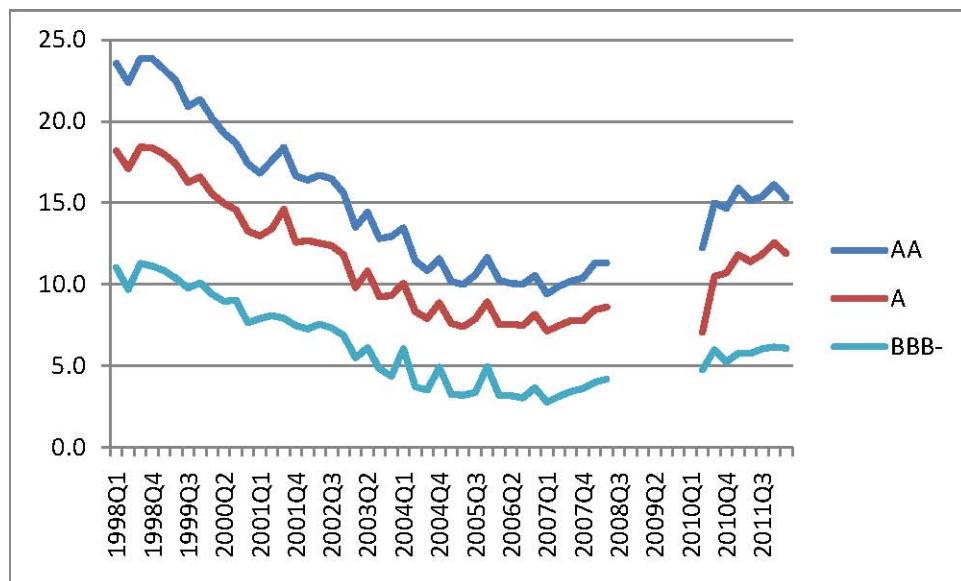
pricing driver – and B-piece investing is a niche real estate focused high-yield market, mezzanine investing essentially bridges both ends of the spectrum, requiring both capital markets and real estate credit expertise. It would be challenging for a fixed income analyst with no prior real estate experience to enter this field and assume they would be able to perform adequate due diligence needed to make a prudent investment decision. Conversely, a lack of understanding of relative value and fixed income pricing conventions would hinder a real estate analyst with no capital markets experience.

Subordination Levels/Credit Support

Subordination levels (and corresponding mezzanine class sizes) declined steadily from the late 1990s before finally leveling off in 2005, as the underlying pool collateral performed well, thereby requiring less credit support²(see Figure 3). While rating agencies were clearly conservative in their assignment of subordination levels for most of the 1990s, by 2005 many investors began to question whether they overshot in the other direction and became too aggressive, especially in view of the eroding loan underwriting standards that were prevalent during the '05-'08 period. Those concerns were later proven accurate considering current ratings and dollar prices of legacy credit tranches.

For most of the 1990s, the more conservative (i.e., higher) subordination levels provided extra protection above the underlying collateral recovery value. If one predicted an underlying loan to perform and it instead defaulted, there was room for error and the likelihood that the mezzanine security would be impacted was minimal. But by 2006, deals were comprised of both 1) very large loans based on pro-forma underwriting that were larger than the entire mezz credit support; and 2) Hundreds of small loans that were over leveraged which when combined represented more than the entire mezz credit support. Either way, the CMBS investor's margin for error was greatly diminished. Today's 2.0/3.0 deals, with reduced leverage, improved loan structures, and greater subordination appear to represent more conservative risks than legacy '05-'08 mezz credit, in hindsight.

Figure 3: Average CMBS Mezzanine Subordination Levels, 1998-2012



Conduit versus Fusion

“Conduit” transactions were named as such because the pools were populated with smaller loans originated by bank conduit commercial lending programs. Loan sizes averaged \$5 million to \$7 million and pure conduit issuance was the norm in the 1990s. The smaller average loan sizes of the conduit transactions, coupled with the larger subordination levels of the era, made the scope of analysis appear less demanding because any single default of an underlying loan was fairly immaterial to the mezzanine tranches. “Large loan,” “single asset” and “single borrower” transactions were separate types of deals that consisted entirely of pools of either a single large loan or a group of larger loans, typically more than \$50 million per loan. But the risk perceived by investors due to the lack of diversity of such large loan concentrations (especially after the events of 9/11) essentially eliminated this type of transaction. To preserve their ability to make and then securitize large mortgage loans, originators began to combine these large loans with smaller loans and the “fusion” transaction (fusing conduit and large loans) was born. The manifestation of this market required an acute knowledge of real estate fundamentals. The reason for this is clear: the combination of larger loan concentrations and smaller subordination levels made the accuracy in predicting whether underlying loans will perform extremely important given concentrations in large loans and the number of smaller loans. To complicate matters, originators often carve up pieces of large loans vertically and place them in separate fusion transactions. These are known as *pari passu* notes. Therefore, an investor who purchases bonds from four different fusion transactions, each with a different *pari passu* note secured by the same property is exposed to the same property in four investments, thus hindering a possible diversification objective.

On the other hand, many real estate-dedicated investors actually prefer fusion transactions to conduit transactions because they can more easily assess a greater portion of the underlying collateral.

The largest risk to the fusion transaction investor is exposure to large loans. Whereas the ten largest loans in a pure conduit transaction might represent 30%-40% of the overall pool, suggesting good loan diversity, an equivalent sample of a fusion transaction may represent 50% or more of the pool, suggesting deal “lumpiness”. If any one of the large loans in a fusion transaction defaults, mezzanine investors are highly susceptible to losing principal in their investment. So the level of scrutiny required in judging the creditworthiness of a pool, especially the larger loans, is magnified. At the same time investors can’t lose sight of the smaller loans which add up to just as a material a risk. Smaller assets tend to be more volatile and have higher loss severities. The combined impact of many small loans can be just as significant as a large loan default.

Delinquency studies have shown that smaller loans (less than \$5 million) are usually the poorest performers, which is logical when considering they are often securitized by older properties in secondary or tertiary geographic markets, have few investment-grade tenants and/or are made to borrowers with marginal net worth. This is the type of “deep digging” that is required to separate the good credit deals from the bad. At one time, the lumpiness of fusion transactions vis-à-vis conduit transactions was enumerated in pricing. The lumpiness of fusion transactions was perceived as a liquidity impediment by traders because the assumption was made that (1) pools were less diversified, therefore inherently riskier and (2) non real estate-dedicated investors would be less inclined to purchase securities from such pools because more real estate credit analysis was required relative to conduit transactions. Therefore, pricing on fusion deals reflected wider spreads than conduit deals. Leading up to the financial crisis the spread differential eventually compressed to virtually nothing, as many of the larger loans were perceived to be of high quality (some even with investment-grade “shadow” ratings) At the time investor confidence was reinforced by the exceptional performance of the collateral. Today legacy deals trade on projected levels of losses rather than a “conduit” or “fusion” label, and most new issue deals would be classified as “fusion” given their lumpiness.

Special Servicers

Another item to consider when investing in mezzanine classes is the identity of the special servicer on the transaction. The special servicer usually owns the below investment grade rated tranches (BB+ to unrated) of the pool and receives fees for workouts of non-performing loans. Special servicers are rated by the rating agencies and have track records as to principal realization following a worked-out or foreclosed loan. One of the contributing factors to overleveraged CMBS deals from '05-'08 was the use of CDOs for special servicers to transfer the bulk of their risk.

Over the past few years, ownership of the prominent special servicers has changed hands, resulting in this role coming under significant scrutiny. Legacy deal documents did not anticipate the level of stress that would occur, and the sometimes controversial tactics that special servicers would utilize, and relevant language left too much room for interpretation. Investors have also been frustrated by a lack of consistency in reporting. While existing data may be limited and every situation is unique, research is showing that different special servicers have different propensities to modify or liquidate and may be more prone to a single dominant disposition method such as mass note sales, which can materially affect liquidation timelines and recoveries.

Special servicers now face increased inquiries and investor anger for perceived fee gouging (double-dipping of fees), unfair modifications (mostly perceived by AAA investors) to prolong and increase their fee/coupon income and real and perceived conflicts of interest. While we are still in the early throes of resolving legacy credits, studies have shown very different approaches to working out assets and resulting loss severities. These factors should be incorporated into the credit decision, something that was likely lacking in “1.0” new deal analysis.

As 2.0 deal structures evolve, the language controlling the role of the special servicer has been subject to great debate. While early deals differ, today a standard is emerging. Table 1 shows some comparisons between legacy deals and the “new normal” in “3.0” deals.

Table 1: Changes from “Legacy” to “3.0” Deals

Issue	“Legacy” deals	“3.0” deals
Control of B-piece buyer and Special Servicer	Usually the same equity ownership	Usually separate entities
Fees	Not subject to a cap	Generally subject to a cap
Change of control	Generally once notional is eliminated by 75% due to realized losses.	Once notional is reduced by 75% when taking into account appraisal reductions.
Oversight	None	Subject to oversight by a Trust Operating Advisor whose consultation role is generally non-bidding until actual losses reach 75% of the most senior B.I.G. class when it becomes joint input into decision making.
Control eligibility	All classes were eligible for control (ie., the option to name a new special servicer) once losses shifted to the then current most junior class.	Only certain classes (generally B.I.G.) are eligible to have control of naming the special servicer
Replacement of Special Servicer	Only once control shifts given losses.	1. Can be recommended by the Trust Operating Advisor, and 2. can be called to vote by 25% of the total deal voting rights, and replaced with 75% of the voting rights.
Net Present Value determination	Often room for interpretation in Pooling and Servicing standard.	More clearly specified
Interest shortfalls from servicer advances	Paid back on outstanding classes prior to principal on senior bonds.	Recoveries pay principal on senior bonds prior to interest shortfalls
Fair Value Option	Special Servicers typically could purchase defaulted notes at either par or “fair value” as verified by the trustee.	No longer exists.

Pricing Conventions

Prior to mid-1998, mezzanine classes were priced off comparable average life Treasury benchmarks. After the Russian/Asian debt and Long Term Capital liquidity crises of 1998, CMBS AAAs began pricing off the swaps curve due to the use of hedging by originators during the collateral accumulation process. Mezzanine classes later followed suit.

During the mid-1990s, spreads on mezz bonds represented a very tight band all through the credit spectrum. The 1998 crises changed this quickly, as it did in most fixed income markets. Eventually, AA and A mezz spreads slowly but steadily crept back to pre-1998 levels. BBB classes took longer to snap back because, in addition to being more real estate credit intensive, they were considered less liquid than the higher rated mezz classes, with liquidity acting as the chief pricing driver during the immediate post-crisis period. However, as the 2001 recession faded, spreads began to tighten (see Figure 4). But the most profound driver of spread tightening in these classes was the “CDO Effect” of 2000 and beyond, discussed below. This was the primary driver of a mostly tightening cycle from late 2001 to early 2005 and the strong rally from late 2005 to late 2006 despite worsening underwriting. Today, depending on vintage and deal, legacy mezzanine credit bonds are now traded on dollar price as an IO bond, or, for higher quality, seasoned bonds, based on a spread to swaps. All new issue investment-grade tranches except IOs are priced versus comparable average life swaps.

Given the extreme volatility in pricing that both legacy and 2.0/3.0 new issue credit have experienced, many investors have been deterred given long duration and mark-to-market risks. Liquidity in this sector is marginal and expected to get worse given pending regulatory changes and shrinking dealer balance sheets. Tranche sizes that are significantly smaller than AAA further abet the lack of liquidity. Mezzanine CMBS suffers from wide bid ask spreads, can quickly become “no bid” in falling markets, and buyers must often rely on the lead underwriter to be a sole liquidity provider liquidity as other dealers may not be interested in supporting another dealer’s shelf. All of the above has led to this deeper credit space becoming more populated by “fast money” type investors, further playing into and exacerbating the space’s volatility.

Figure 4: CMBS Mezzanine Spreads 1997-mid 2007

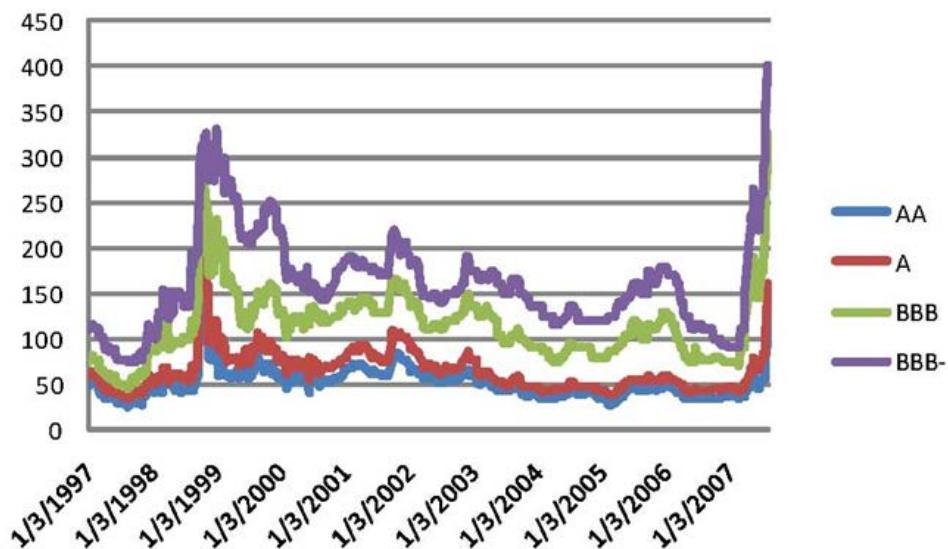


Figure 5: Legacy CMBS Mezzanine Spreads

Bonds go from Trading on Spread to Dollar Price

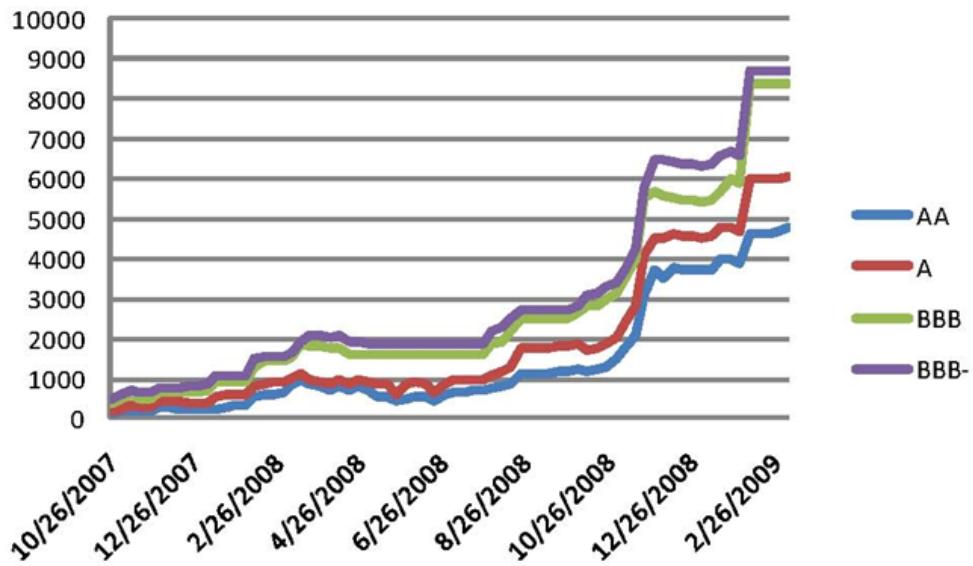
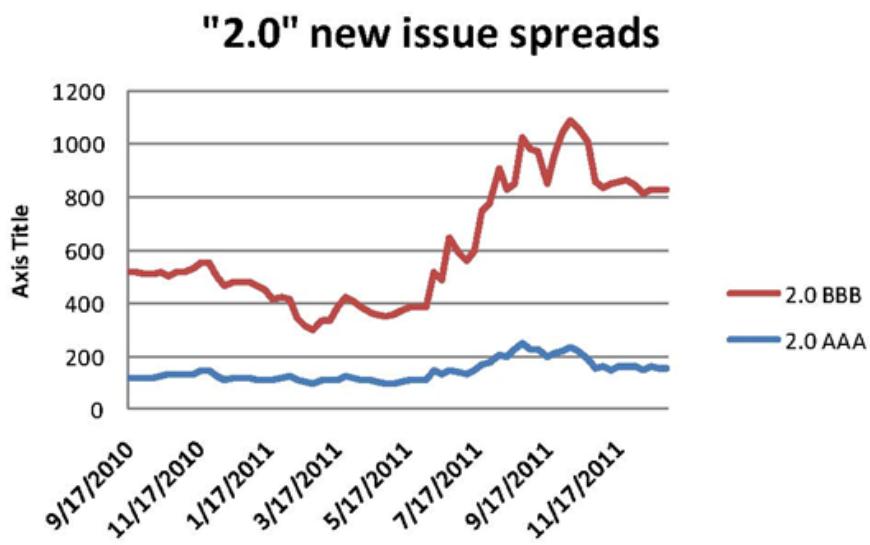


Figure 6: The CDO Effect



Source: Citigroup

Starting around 2000, collateralized debt obligations (CDOs), financing vehicles that arbitrated credit and yields, became an important investment vehicle for mezzanine classes of CMBS transactions, particularly BBB+, BBB and BBB- rated securities. Some of the CDOs were real-estate focused (CMBS, REIT debt, commercial whole loans, B-notes, mezzanine loans) and others mixed a variety of asset classes, such as MBS, ABS and CMBS.

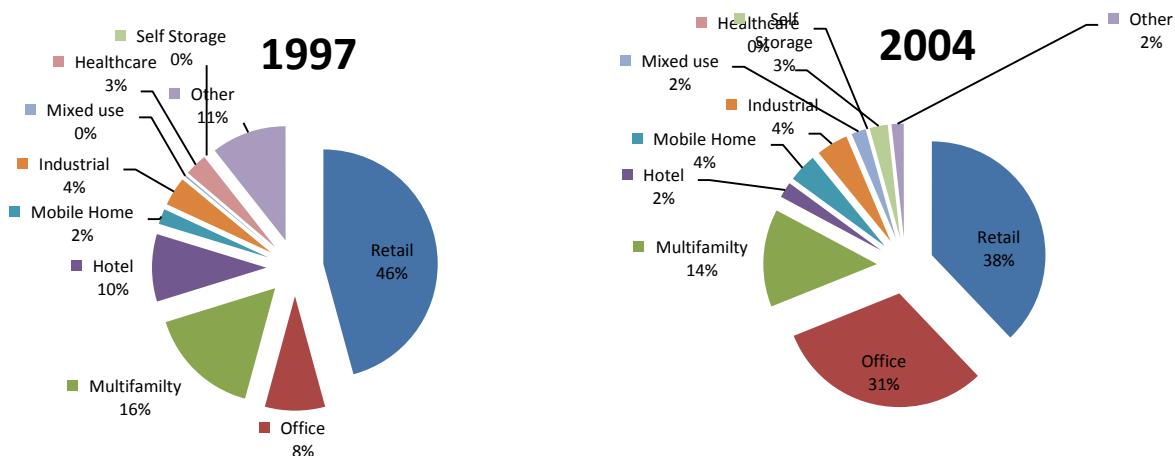
CMBS – because of its structure, diversification and credit performance – proved to be a natural fit for CDOs. Suddenly a new group of investors, many without prior involvement in CMBS or real estate, had strong bids for mezzanine classes. Eventually hedge funds, long/short funds and other “fast money” type investors with investment profiles quite contrary to the traditional “buy-and-hold” real estate investors began to dominate the mezzanine part of the CMBS credit curve.

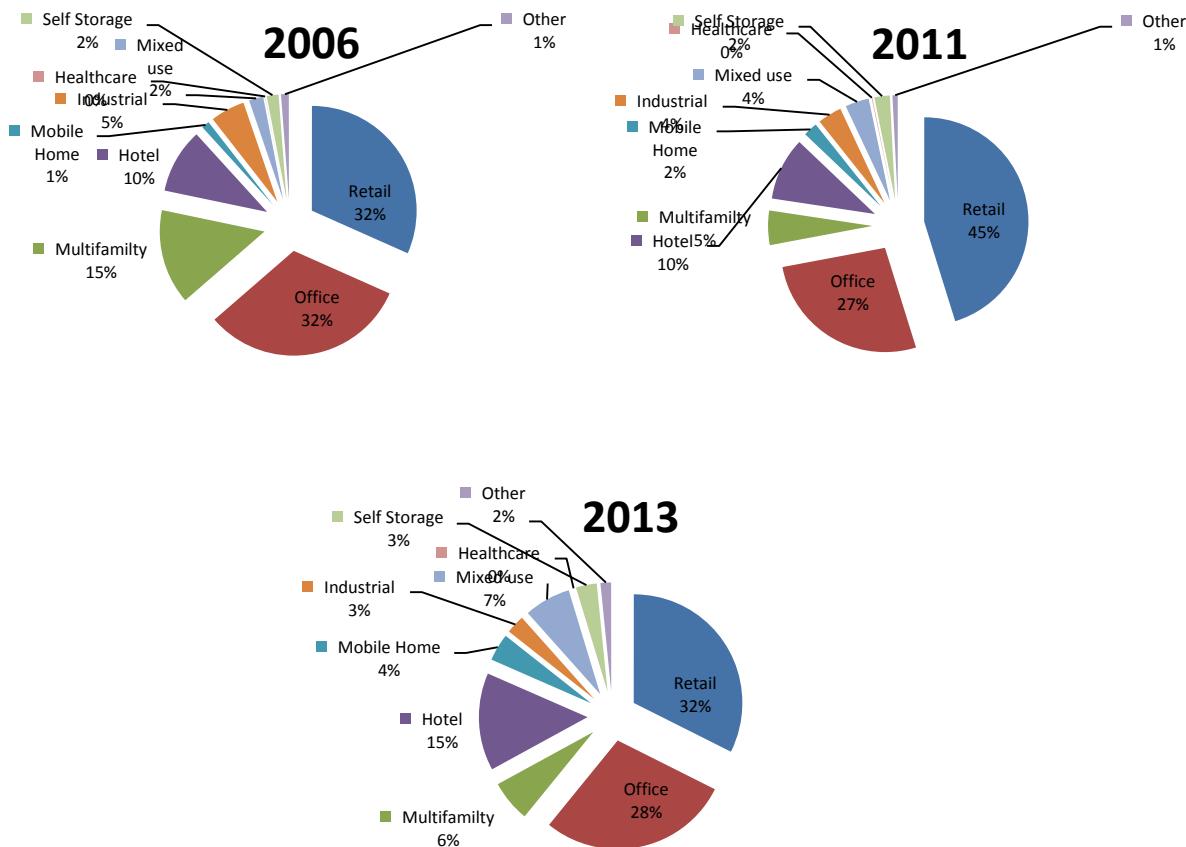
The increase in liquidity and demand from CDO buyers was the driving force behind the sharp rally that began in the fall of 2005. It became a significant enabling factor for the surge in issuance and the volume of weak loans that began to be included in deals. And as the market began to widen, CDO investors left the sector (or closed all together) rapidly decreasing liquidity in the CMBS market and increasing the stress of the sector as a whole. Today, a lack of CDO buyers, along with other investors scared off by ratings volatility and/or mark to market volatility has greatly reduced the number of active participants but has led to greater discipline by underwriters.

Vintages

CMBS transactions take on different credit characteristics based on the year they were issued, depending on which property types and underwriting terms were fashionable at the time. This is known as the “vintage” effect. While “core” property types of office, multi-family, retail, hotel and industrial tend to dominate, their relative weightings have changed significantly over time. Likewise, the presence of “non-core” assets such as senior housing, credit tenant leases, car washes, casinos, cold storage, and golf courses. As can be seen from Figure 7, only 5% of a typical 2006 vintage pool was comprised of non-core property types whereby 16% of a typical 1997 vintage was non-core. Today’s deals continue to have low levels of non-core property types.

Figure 7

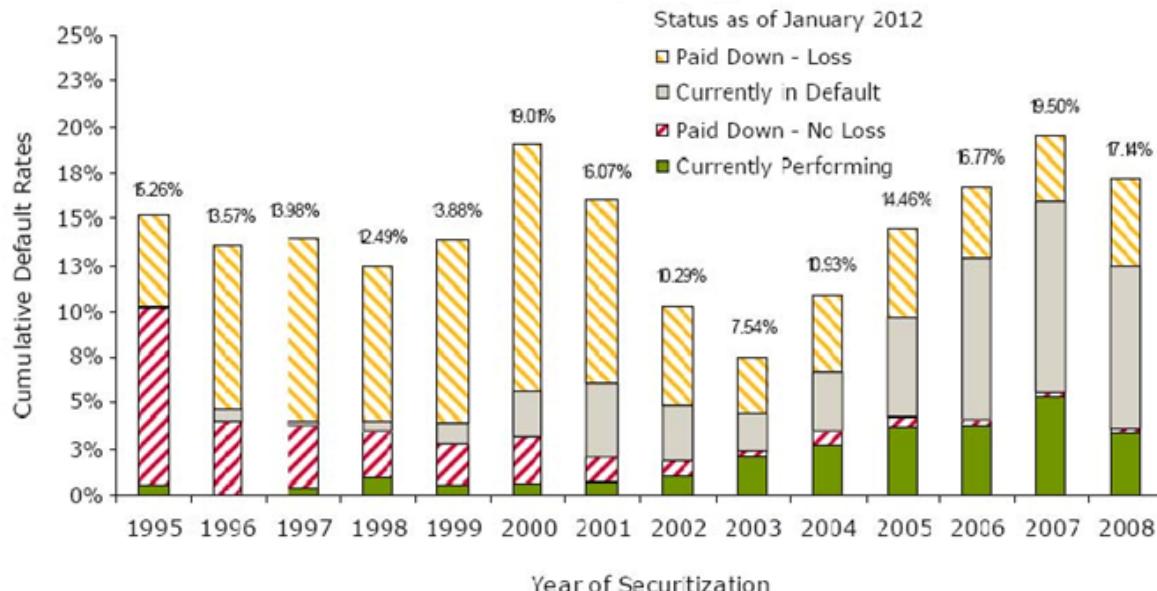




Source: Citigroup

Additional consideration in vintage quality must be given to the point in the credit cycle when the underlying loans were originated. Emerging from the real estate recession of the early 1990s, capital availability was sparse and lending standards were conservative. The 1999-2001 vintages are closely watched because much of the collateral was underwritten at a peak time in the economic cycle and defaults during those years have exceeded the average anticipated default rates. Vintages immediately after the 2001 recession, with lower valuations and conservative underwriting have performed quite well. However, as the prolonged real estate bull market progressed through the new millennium and a flurry of new lenders entered an already competitive marketplace, borrowers were being offered increasingly more favorable loan terms. Underwriting standards weakened due to the large demand for commercial mortgage loans, leading to diminished loan quality in peak year vintages (2005 - 2008). While ultimate losses are still unknown and expectations are in a wide range, '05 –'08 vintages, with significantly less seasoning, have performed rather poorly. Similar to the post-2001 recession vintages, expectations for "2.0" and "3.0" vintage losses are very low and could mirror those of a decade ago.

CMBS Cumulative Default Rates by Vintage



Source: Wells Fargo Securities, LLC, and Intex Solutions, Inc.

Prepayments

Prepayments, both voluntary and involuntary, rarely impact mezzanine CMBS because of their position within the capital structure. Mezzanine classes are insulated from early prepayments (primarily default driven) by the large AAA classes, which typically represent approximately 85%-90% of the pool. Additionally, most of the underlying commercial mortgages have strong call protection and/or financial disincentives to the borrower to prepay the loan. These disincentives are in the form of prepayment penalty points, yield maintenance and defeasance.

Technology

The analytical tools available for mezzanine investors have improved dramatically. Circa 1997, unless an investor had developed their own elaborate proprietary modeling software, default analysis could only be performed at the macro level, typically done by the issuing investment bank at the request of the investor. For instance, a common method for stressing a pool would be to apply a CDR (constant default rate) of 2%, 3% or 4% evenly across an entire pool, assume a loan loss severity of 30%-40% of principal, and determine whether bond principal losses crept into the mezzanine classes. This technique was rudimentary and unscientific, at best, as it treated all underlying loans in a pool with an equal probability of default regardless of their specific credit characteristics. The analyst had no ability to “drill down” to the underlying property level.

Since 1998, the emergence of software such as Trepp and Intex has equipped the real estate investor with new resources to analyze a transaction. Scenarios can now be created at points in time – where loans are term defaulted, extended at their maturity or prepaid early – with varying loss severities. “Canned” scenarios can be consistently applied to different pools for side-by-side comparative purposes. Scenarios can be developed to group loans with certain attributes and apply uniquely different assumptions. For instance geographic markets with weak fundamentals can be singled out for higher stress. Unfavorable

property types can be isolated and defaulted; and individual loans can be over ridden when an analyst has more specific assumptions. The flexibility and simplicity of use of these tools has revolutionized the way deal analysis is performed.

These products have allowed investors to manage risk both on the investment side as well as the surveillance side. The CMSA Investor Reporting PackageTM also helps command better and more consistent reporting across the board. All of these industry improvements have greatly enhanced collateral transparency, which has assisted the asset class in attaining acceptance and maturity.

Credit Analysis

The three most important factors to consider when contemplating investment in mezzanine CMBS classes are principal losses, downgrades, and interest shortfalls. The goal of a mezzanine investor - especially one that has a long term buy-and-hold strategy - is to find bonds that will minimize the risk that principal will not be returned. Invariably, due to real estate risk, defaults in underlying collateral will occur in a pool, but can the credit support withstand them? Even if there is adequate credit support to absorb collateral losses, is there risk of a bond being downgraded by the rating agencies? A typical analysis by a mezzanine investor concentrates on the underlying collateral.

Overall Pool Assessment

A beginning point might be to assess the overall pool statistics. An initial focus would be on the weighted average loan to value ratios (LTVs) and debt service coverage ratios (DSCRs), but, perhaps more importantly, what is the skewness of those figures? Are there a few very large loans with high DSCRs that are effectively pulling up the average of many smaller loans with very low DSCRs? Analyzing the *median* LTV and DSCR of a pool would likely be a better measure. A top-level approach might be to default loans with greater leverage ($LTV > 75\%$) and lower coverage ($DSCR < 1.20x$), or default loans with interest only (IO) periods greater than two years. Further analysis might inquire about the pool's property type and MSA distribution. Are there many volatile property types? Are there large concentrations in MSAs with soft economies, lack of industry diversification, large construction pipelines, or low barriers to entry?

Credit analysis begins with the analyst's overall knowledge of real estate fundamentals. Understanding different property types and markets and the unique risks each carries are the building blocks to prudently evaluating underlying pool collateral. Memphis apartments will perform differently than Memphis industrial, which will perform different from Austin apartments and Seattle retail. Furthermore, an anchored mall in Seattle will perform differently than an unanchored strip center in Tacoma.

**Table 2: CMBS Delinquencies by Property Type
 (in %, as of February, 2012 Remittance Reports)**

Property Type	Original Balance (\$ billions)	Current Balance (\$ billions)	30/60/90+ Days	Past Maturity, Non performing	Foreclosure & REO	Total
Retail	271.5	182.3	2.51	0.96	4.63	8.1
Office	258.0	173.6	2.94	1.24	5.29	9.5
Multi Family	200.5	129.6	2.15	0.68	6.99	9.8
Lodging	95.0	60.7	2.73	3.7	6.3	12.7
Mixed Use	50.3	37.0	2.17	0.54	3.45	6.2
Industrial	45.0	27.6	2.43	1.68	8.66	12.8
Self Storage	17.2	11.2	1.3	0.17	2.33	3.8
Mobile Home	16.3	9.5	1.41	1.51	2.71	5.6
Other	20.1	11.0	0.95	0.06	0.53	1.5
Total	973.9	642.5	2.48	1.22	5.41	9.1

Source: Trepp

Historically, retail and office properties have been amongst the most stable, while operating-intensive properties like hotels have been the most volatile (Figure 6). Pools which are heavily concentrated in volatile property types should merit more rigorous diligence. Current “3.0” new issue are dominated by retail assets. For some this is cause for concern given soft consumer spending habits as households deliver. But “retail” does not have to be a dirty word; it can be a stable product and if underwritten property can be a safe investment. An analyst must look past the property type, LTV, and DSCR to form an opinion on the underlying collateral and develop loss expectations. With retail, this is especially important for the exit strategy at loan maturity.

Consider this example. Which of these loans would be considered riskier:

Property Term to Remaining Loan # Type LTV DSCR Maturity I/O

Loan 1 Office 60 1.35 120 0
 Loan 2 Retail 70 1.25 120 120

Most would say the retail asset is “riskier” But with more information, now consider which loan is riskier:

Loan #	Property Type	LT V	DSC R	Term to Maturity	Remaining I/O	Property Vacancy	Lease Expirations in next two years	% Sq Ft.	% of Rent	Location	Unemployment Rate	Market Vacancy Rate
Loan 1	Office	60	1.35	120	0	8%	10%	92%	100%	Las Vegas	12.7	19.30
Loan 2	Retail	70	1.25	120	120	9%	10%	10%	1%	Boston	5.8	4.30

Re-Underwriting Loans

Historically, assessing, or “re-underwriting,” the ten or 20 largest loans in a pool was an approach many analysts utilized to gain a degree of comfort in pool coverage. With certain legacy deals having hundreds of loans, this was a common way to gain comfort with 30-60% of a deal; it was not practical to re-underwrite every loan and generate a complete and accurate picture of expected losses. With “3.0” deals, however, it may be practical to re-underwrite nearly all the loans in a deal given typical loan counts of 20-80 loans. This involves doing a full-blown detailed evaluation of the underlying property and whether its cashflows can support the loan. This requires comprehensive critiques of the following:

- LTV
- DSCR
- Loan amount per unit
- Amortization term
- Property type
- Market and submarket
- Historical performance (if seasoned)
- Rent roll (quality and diversity of tenants)
- Lease rollover (above or below market rents)
- Occupancy
- Property age
- Borrower/sponsor net worth and credit history
- Borrower/sponsor equity in the property
- Escrows (capex, tenant improvements, etc.)
- Credit enhancements (lockboxes, letters of credit, cross-collateralization, etc.)
- Additional subordinated debt
- Track record of originator

There are both quantitative and qualitative aspects to assessing a loan, and it can be as much an art as it is a science. The quantitative characteristics, such as LTV, DSCR, loan amount per unit, and amortization term can be measured versus current industry underwriting standards. General property type risk and track record of originators can be gauged against published delinquency rates. That's the science part. Artistry comes into play when judging the quality of a rent roll, knowing a borrower's/sponsor's reputation, assessing the strategic advantage of the property's location, and understanding the supply/demand dynamics of the market and submarket.

Each property type contains risks that are specific and unique to the sector. For example, retail properties may contain tenants with "go-dark" provisions allowing them to break their leases should an anchor tenant vacate the property. Office buildings require large amounts of capital expenditures and tenant improvements for space buildout. Industrial properties are particularly susceptible to obsolescence. And multi-family properties not only have short term income visibility because tenant leases typically only last a year, but are also highly sensitive to demographic trends and shifts.

Although there is no universal method to re-underwriting a loan, the "back of the envelope" approach might be to apply a % haircut of the bankers' underwritten NOI or cashflow and divide that result by a more realistic long-term market cap rate than has been underwritten by the bankers. If an analyst has a view on market rents and vacancy, or lease renewal probability, these can be used to more realistically adjust the NOI +/- . Revenue, NOI, and cap rate projections can be incorporated from econometric forecasting firms such as PPR, CoStar, or Torto Wheaton, among others. If the resulting valuation is substantially less than the loan amount (after adjusting for some amortization which may occur during the loan term), or if the adjusted NOI can not support the debt service, there is a material probability of default. The loan loss severity can be estimated using the differential between the loan amount and adjusted value, plus factoring in property disposition costs. Loss severities can also vary by state depending on whether the loan is located in a power-of-sale foreclosure state versus a judicial state. A simpler, more generic technique would be to use historical loss severities by property type, which are frequently updated via published research.

Additionally, the timing of the loss – whether it be a term or balloon default – must be predicted. There may be characteristics of the loan which would cause the loan to default at a specific time during the term,

such as a large tenant lease expiration, a newly constructed competing property coming online, or the expiration of a “teaser” interest-only term. Research on the historical default timeline curve shows the occurrence of defaulted loans tends to peak around the fourth year of the loan term and decline thereafter until maturity.

Some loans may be fine credits for the entire loan term but are a substantial refinance risk at maturity. Because loans are being underwritten in a historically low interest rate environment, the all-in coupons and corresponding constants are extremely low. Should rates increase considerably by the time of loan maturity, a borrower may have a difficult time refinancing their balloon payment. This is especially true of IO loans, which have no amortization over their life spans. Other loans which carry extension risk are those with large lease rollovers at or near the end of their loan terms that don’t have sufficient credit enhancements such as escrow reserves or letters of credit to support the property.

Here are some possible outcomes after an analyst has re-underwritten several larger loans from a typical 2006 vintage pool:

Table 3:

Name	Property Type	Location	Predicted Outcome	Analyst Notes
1000 Avenue of the Americas	CBD Office	New York, NY	Perform	Low LTV, high DSCR, many investment-grade tenants with long leases, borrower has substantial equity in the property, short 20-year amortization schedule, strong sponsor.
Ryan Grove Apartments	Multi-family	Atlanta, GA	Default in year 4, 35% loss	Soft market with large construction pipeline, older worn-out property, borrower previously filed for Chapter 11 protection and has refinanced all equity out of the property.
Heidi's Comfort Lodge	Limited Service Hotel	Brownsville, TX	Default in year 3, 50% loss	RevPAR and occupancy trending down four straight years, low market penetration, high loan per room, large amount of additional subordinate debt on property, IO first five years.
Arboretum Commons	Shopping Center	San Diego, CA	Perform	Fairly new construction so no operating history, but excellent market, good surrounding demographics, in-place rents below market, grocery anchor is AA/Aa3 rated with 20-year lease.
505 E. Uhlin Street	Suburban Office	Charlotte, NC	Extension at maturity, 20% loss	100% occupied with government tenant (AAA/Aaa rated), but single tenant in building and lease expiration is concurrent with loan maturity. Very low coupon, interest-only loan. No re-tenanting reserve escrow or LC in place.
Music City Mall	Regional Mall	Nashville, TN	Perform	98% occupancy, high sales per square foot, low LTV, no comparable competing mall within 30 miles, loan is cross-collateralized with two other loans in pool.

The predicted defaults and extensions can then be incorporated into the stress analysis described in the next section.

Stress Analysis

Stress analysis is a key component to evaluating a pool. This employs more onerous forecasts on specific loans and the timing of default and the potential range of principal loss. Given the lumpiness of CMBS with single loans 10-20% of a collateral pool, using increasingly stressful CDR or extension scenarios which treat all loans in a similar fashion is not sufficient when considering mezz CMBS risk with less credit support. As mentioned above, after studying various components of a loan, an analyst may “re-underwrite” a loan by changing income, expense, or cap rate expectations for the property and observing what impact these changes have on the ability of the property’s cashflows to support debt service payments. Once a base case level of expected losses is achieved, the analyst must challenge the inputs and see where downside exists. Each deal will react differently given its unique collateral set. Potential questions to answer for each loan, which may change the outcome of a given loan from month to month over its term may include:

- What happens if the NOI growth rate is lower, or an expected increase does not materialize?
- What happens if a large lease is not renewed or terminated early?
- What happens if the major employer pulls out of a small market?
- What happens if cap rates rise 200bp? 400bp? 500bp?
- What happens if lenders only provide 60% or 50% loan to values at maturity?
- What happens if GSE’s stop subsidizing multifamily lending?
- What happens if foreclosure time lines extend?
- What if property valuations fall 40%?
- What if servicers extend loans for 4-7 years rather than liquidate?
- What if servicers extend I/O periods and amortization does not occur?

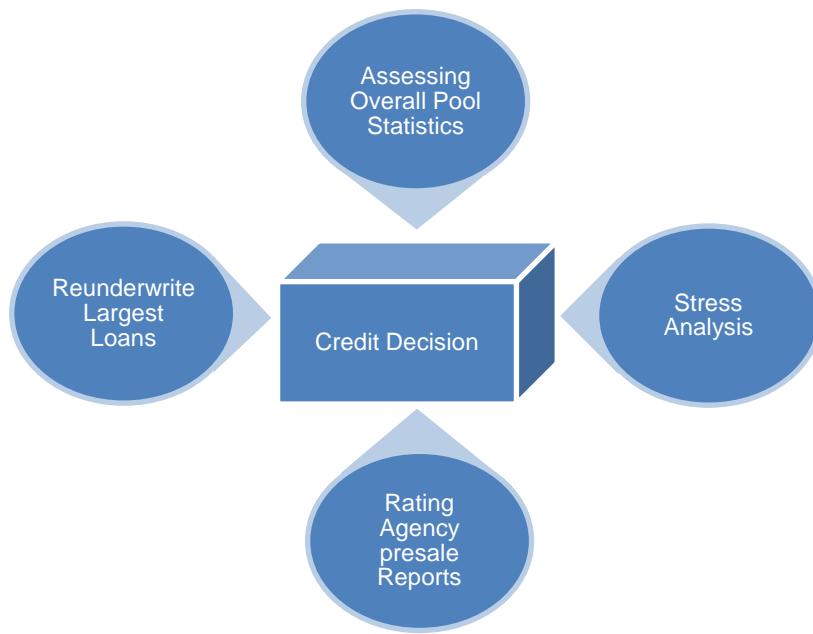
This is an iterative process that should be used on as many loans as possible, ideally generating a monthly expectation for each loan in a base and stress scenario.

This is not to say that all loans in a given market will perform the same in each scenario. Two retail loans in Seattle may perform differently given location, leverage, lease terms, and sponsor. Here again is where the art and science overlap to come up with overrides. These scenarios can be run in Excel, or built into rules based groups in software such as Trepp and Intex.

Rating Agencies

Investors in legacy mezzanine CMBS have seen tremendous volatility in ratings. Several vintages were entirely mis-rated to begin with, then many bonds were downgraded prematurely while other bonds were downgraded too late. Many investors have been frustrated by changes in rating agency methodology, inconsistency, and lack of transparency. Along with evolving changes to risk based capital requirements, investors need to consider rating agency risk when buying these bonds. There is no question that this risk, which is difficult, if not impossible to quantify, has further exacerbated volatility in CMBS pricing. It goes without saying that given all of the other considerations above, that mezzanine CMBS investments should not be based on a ratings guideline. Investors should determine their own scale for re-rating a security using their expected losses, and use agency ratings as a point of comparison.

The Mezz Credit Decision



Credit Decision

After manipulating various stress scenarios such as those described above, an analyst should conclude a “most likely” outcome of a pool. If this “most likely” outcome realizes losses in the mezz class being considered, the class should generally be rejected for investment. Given the thinness of mezz cmbs tranches, it may not be prudent to simply move one class up from the most senior class expected to take losses. The analysts should also determine how far removed from potential interest shortfalls the class being considered is and gain comfort with that potential. Using their expected losses and internal re-rating, the analyst can establish which bonds may be misrated and have a greater probability of upgrade or downgrade over time. Even if no losses are realized in the class but a rating downgrade is possible based on the projected erosion of the subordination level to that class, the class may still be turned down or, alternatively, a higher rated class will be considered.

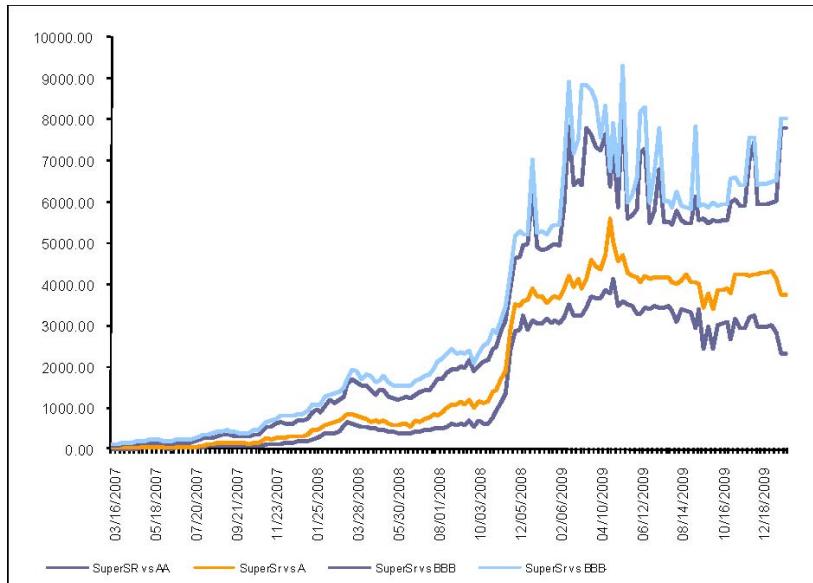
Pricing and Relative Value

Once a decision has been made on credit, the overall investment decision must be considered within the context of pricing and relative value, not only between different CMBS classes in new issues but also to secondary and alternative fixed income sectors such as corporate bonds, ABS, and MBS. A real estate dedicated investor may also compare CMBS spreads to REIT unsecured debt and commercial mortgage whole loan spreads. Gauging relative value can be complex because of all the possible comparison permutations between asset classes.

Focusing on the relative value (spread convergence or divergence) between CMBS classes over time is essential in determining which rating classes are “rich” (priced tight) or “cheap” (priced wide). The overall relative value of all mezz classes is often measured by their spreads to 10-year (long pay) AAA

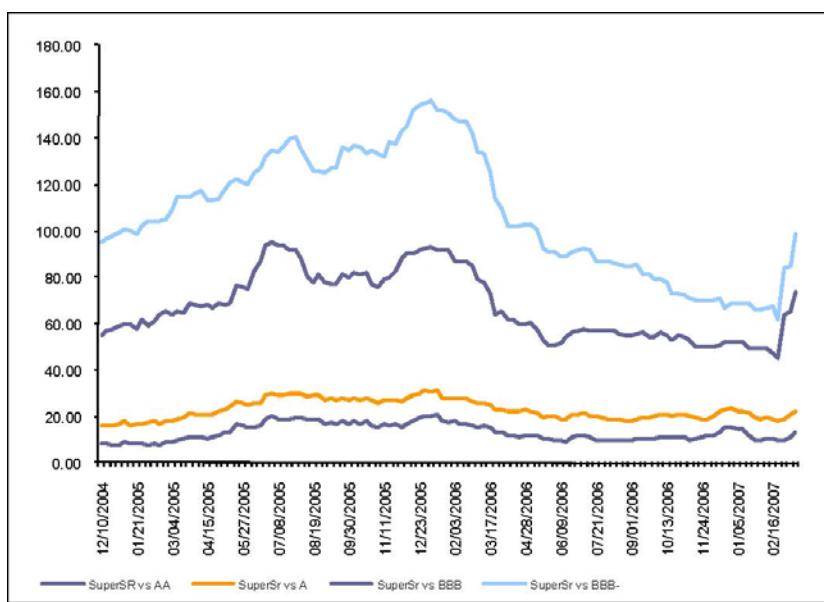
CMBS (see Figure 7). The credit curve is a relative value measuring stick which compares spread differentials between varying class ratings. When the spread gap widens between ratings (the credit curve steepens), more value *may* be realized by moving down in credit. Conversely, when spreads narrow between ratings (the credit curve flattens), better value *may* be achieved by investing in higher rated CMBS. Curve steepening/flattening has is an indication “risk on”/“risk off” sentiment that has driven markets for the past few years. The graphs in Figures 8 and 9 prominently show how the credit curve dramatically compressed in 2006 and 2007 – particularly the BBB and BBB- classes –signaling that incremental risk was not being sufficiently incrementally compensated.

Figure 8: CMBS Mezzanine Credit Curve vs. AAA's pre-crisis



Source: RBS Securities

Figure 9: CMBS Mezzanine Credit Curve vs. AAA's crisis widens – bonds go to trading on \$ price



Source: RBS Securities

Putting It All Together – The Investment Decision

The final investment decision is made by combining credit, pricing and relative value analysis. Based on the above scenario, we explained that if a principal loss or ratings downgrade was predicted in our “most likely” scenario, the class would be rejected. However, there is a caveat. If the pricing on that class was adjusted accordingly to reflect the impairment forecast, we may still be able to uncover value in the security. For example, let’s say an analyst scrutinizing an ‘A’ rated mezz class that has a 11% subordination level runs their “most likely” scenario. Although no principal losses are realized in the class in the scenario, the class’s subordination level shrinks to 6%, which approximates the subordination of a new issue BBB- class. Even though the analyst feels there is no risk for principal loss to the BBB class, he decides he’ll only invest in the class if it’s priced at a BBB- level because of the potential downgrade risk to BBB-based on his stress analysis. This approach supports the Wall Street adage that “there are no bad bonds, only bad prices.”

Conclusion

For many years after the dawn of the CMBS industry, mezzanine tranches were a bastion of value for real estate investors. However, leading up to the recent global financial crisis, the value once seen was eliminated due to declining and, in hindsight, inadequate subordination levels and perceived low levels of losses on increasingly risky loans. At the same time, the growing shadow banking system led to more participants entering the sector, leading to a further compression of spreads and increasingly liquid bonds. While many legacy deals will have losses that will likely eliminate the original mezzanine tranches, changes to loan underwriting and deal structure have come about to create deals that should have low levels of losses similar to other post-recession vintages. But in a slow growth environment with multiple tail risks (Oil, Iran, European/domestic banking sector, regulatory changes), still high levels of commercial real estate vacancies and still declining rents in many markets, the precision needed in forecasting performance of the underlying collateral in a transaction is as significant as ever. Default analysis, stress testing and relative value assessment are essential tools used in evaluating the risks associated with these classes. ♦



CRE Finance Council CMBS E-Primer

A comprehensive overview of commercial mortgage backed securities

Chapter 5.3 Investing in IO

a publication of



CRE Finance Council®

The Voice of Commercial Real Estate Finance

Chapter 5.3: Investing in CMBS IO

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Interest-only (IO) securities are one of the more complex security types in CMBS transactions. Many investors consider the risks inherent in IOs difficult to evaluate. Considering that virtually all CMBS transactions have an IO component, there are lucrative opportunities available for market participants who better understand the different facets of IO risk. The "interest-only" segment of the CMBS market conjures up misplaced negative convexity issues, which are better associated with the residential mortgage markets. The stringent call protection typically present in CMBS commercial mortgage collateral and the conservative pricing conventions applied to CMBS IOs considerably decrease such prepayment concerns. Therefore, the central driver of value in CMBS IOs is the credit performance of the underlying mortgage collateral, not the prepayment behavior of the pool. As such, a wide range of opportunities exists in the CMBS IO market, particularly for those investors that are able to assess the creditworthiness of a commercial mortgage pool. This paper will characterize various CMBS IOs and offer an analytical framework for identifying relative value opportunities in the sector.

CMBS IOs — Definition and General Risk Profile

A CMBS IO is a security holding a claim to the excess interest in a CMBS conduit deal. The amount of cashflow that is allocated to the IO is a function of the IO's calculated coupon rate and notional balance. CMBS IOs are created by stripping the coupon from either the entire underlying collateral pool or from individual CMBS classes. The coupon on the IO is derived from the excess interest between the weighted average net coupon on the underlying commercial mortgage collateral and the weighted average coupon on the principal pay classes comprising the transaction. The IO notional balance is the sum of the outstanding principal balances of the principal pay classes off which the IO is stripped.

The Role of CMBS IOs in Fixed-Rate Conduit CMBS Executions

CMBS IOs allow excess interest to be sold efficiently, thereby enabling the issuance of investment-grade, principal pay bonds at or slightly above par prices. The excess interest is simply the difference in the coupon on the underlying commercial mortgage collateral and the coupons on the principal pay bonds in the CMBS transaction. The coupons on the bonds are typically much lower than the interest rates on the underlying commercial mortgage loans. In a typical interest rate environment, the excess interest is approximately [75 to 100] basis points (bp), but that will vary. For example, the weighted average bond spread on fixed-rate conduit CMBS in [2005] was [103] bps over Treasuries. In contrast, most commercial mortgage loans originated in [2005] had coupons in the neighborhood of [175] bps over Treasuries. The significant differential between the collateral and bond coupons would suggest that new issue principal pay CMBS would have to be priced at substantial price premiums. However, because a portion of this excess interest is allocated to the CMBS IO, the coupons on the investment-grade bonds can be set at rates that imply a price close to par for these securities. Thus, the CMBS IO market provides a home for excess interest, and hence is a key factor contributing to the efficiency of conduit deals as a financing vehicle for commercial loan origination.

AAA-Rated CMBS IO

Previously, most CMBS IOs were rated AAA, as they received a priority in the waterfall commensurate with the priority on the principal paying AAA classes. An IO's AAA rating implies that it will receive its legally defined coupon in almost any circumstance. However, while an IO's AAA rating is indicative of its senior priority in receiving cashflow, it does not reflect the potential impact of voluntary prepayments and defaults over time on the security's yield and average life. While a voluntary prepayment is often accompanied by either yield maintenance or prepayment penalties and therefore can be neutral to positive to returns, an involuntary prepayment or default reduces the notional balance of the IO and thus its yield, without the benefit of an offsetting prepayment penalty. This resulted in the creation of the new XA/XB IO structure and in rating agencies revising their methodology and rating IO classes at the same rating category as the lowest principal bond rating from which the IO is stripped.

CMBS IO Structures

CMBS WAC IO

Prior to 1998, one CMBS IO was produced per conduit transaction. The CMBS IO's notional amount in any given period is equal to the aggregate balance of the principal paying bonds off which the IO is stripped. The coupon due the IO is equal to the difference between the weighted average net coupon of the underlying collateral and the weighted average coupon on the bonds. Hence, the notional amount of the IO will be reduced both by payments of principal to the first-pay bonds and write-downs attributed to the first-IOs bonds. Due to the nature of the calculation of the coupon and notional balance of these securities, they are often referred to as WAC (weighted average coupon) IOs.

A WAC IO's cashflow profile in response to prepayments and defaults will vary depending not only on the overall size of the IO strip, but also on the characteristics of the individual principal paying bonds off which the IO is stripped. For instance, the size of the overall coupon strip matters as the coupon strip, aka differential can expand or contract depending on changes in the interest rate environment during the loan aggregation period. Bonds created in a low interest environment backed by loans originated in a higher interest rate environment leads to a significant differential between the weighted average loan rate and the bond WACs. The result is a "thicker" IO strip than would have been the case had rates remained unchanged over the aggregation period. Conversely, a broad rise in interest rates at the end of the aggregation period would significantly shrink the robustness of the WAC IO.

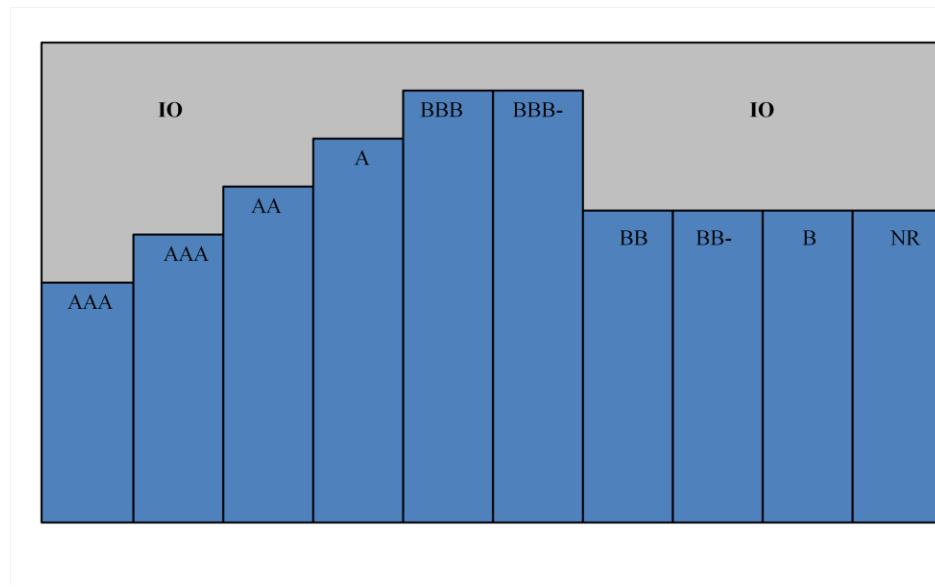
Investors must also determine the origins of the IO's cashflows in order to gauge its credit quality. For example, a WAC IO stripped primarily off mezzanine classes that are better insulated from voluntary prepayments by more senior classes and from defaults by more junior classes will tend to have a more stable cashflow profile. In contrast, an IO stripped mainly off the senior-most classes, which are subject to scheduled and unscheduled principal repayments, and the junior-most classes, which are subject to losses on liquidated loans, will tend to display a more volatile cashflow profile and are therefore considered to be more credit levered.

The steepness of the CMBS credit curve impacts which investment-grade bonds contribute the most excess interest to the WAC IO. A steep credit-curve environment tends to yield a more credit-levered WAC IO, as less excess interest is available from the mezzanine investment-grade bonds and more is available from the higher rated bonds and the non-investment-grade bonds. IOs can have a substantial

impact in this case since AAA classes are first in line to receive involuntary prepayment principal, and junior classes are the first to absorb write-downs. One example of a more credit-levered IO is depicted in Figure 1. Note that the majority of WAC IO cashflow is derived from the AAA and non-investment-grade classes.

This is caused by the higher coupons required on the non-AAA investment-grade bonds, which reduce the amount of interest cashflow available to be stripped, leaving less for the IO. The credit-levered nature of this type of CMBS IO suggests that it should trade at wider spreads than an IO that is stripped more evenly.

Figure 1



PAC/Support IO

WAC IOs were undesirable for both sophisticated commercial real estate investors who were capable of conducting the appropriate analyses of the underlying credits, but found the yield to be insufficient and investors who wanted to purchase excess interest from conduit transactions, but were uncomfortable with the average-life variability and credit risk of WAC IOs. To address these concerns, issuers introduced a refinement to the CMBS IO structure in early 2001. Since then, CMBS conduit transactions have sold excess interest via two IO securities referred to as a PAC IO and a Support IO. CMBS issuers create PAC and Support IOs simply by carving out the PAC IO class from the overall WAC IO. The cashflows due the PAC and Support IO in aggregate are equivalent to those that would be due a WAC IO created off the same collateral pool. The structure of the two IOs is designed such that the Support IO absorbs the brunt of the effects of involuntary and voluntary prepayments, while the PAC cashflow tends to be very stable even under default rates as high as [6% to 8%].

PAC IO Specifics

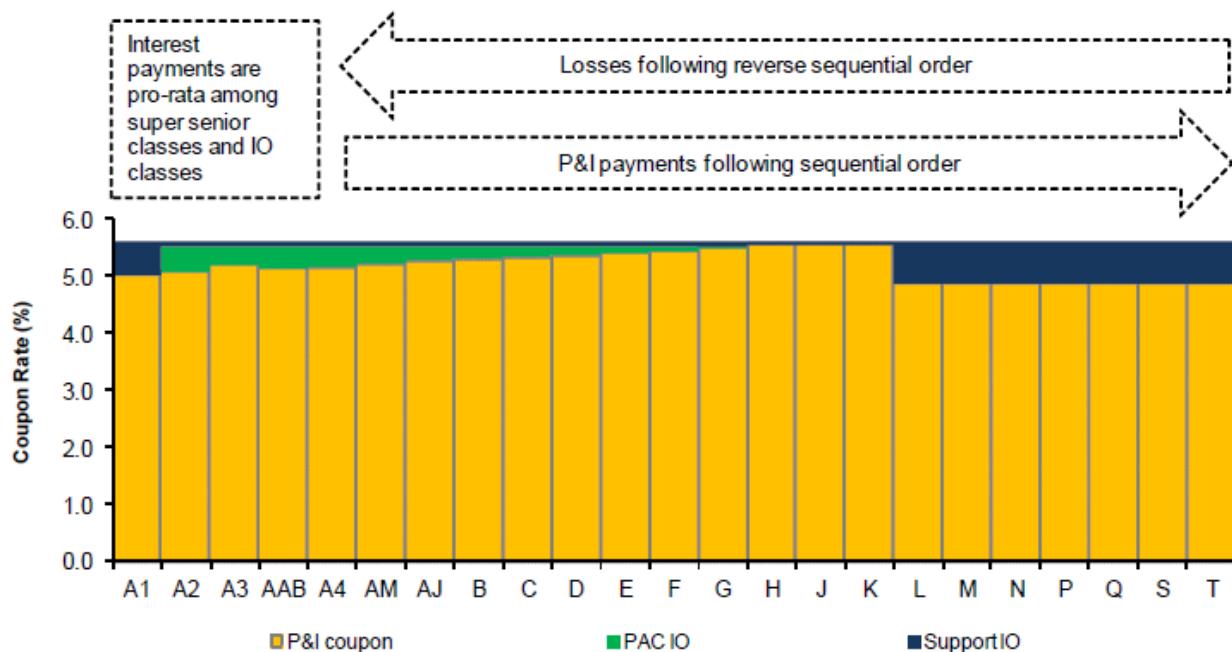
In general terms, the PAC IO is stripped off the more stable classes in the middle of a traditional conduit fixed-rate transaction (usually the locked-out AAAs through the mezzanine classes), leaving the Support IO to absorb the less stable cashflows coming off front-pay AAA classes and non-investment-grade classes. The structural specifics of PAC IOs have varied since their creation, yet the key structural features have remained constant. Most PAC IOs stop receiving cashflow after 84 months, and most can

withstand default scenarios of 6% CDR (constant default rate) beginning immediately. In general, the first-IO bonds in a conduit deal provide zero notional balance to the PAC IO, and the first-pay bonds provide limited notional balance. A principal schedule governs the amount of notional balance contributed by the bonds in any given period. This schedule is structured specifically to stay ahead of scheduled amortization payments, voluntary prepayments and involuntary prepayments at a default rate of 6% CDR or less.

The concept of carving out excess interest according to principal cashflow timing is referred to as "time tranching" and it ensures that PAC IOs are completely immune to the effects of voluntary prepayments despite having a notional balance that is derived in small part from first-pay bonds.

Support IO Specifics

In contrast to the PAC IO, the Support IO is decidedly more levered to both prepayments and defaults, and offers CMBS investors an opportunity to obtain higher yields by targeting conduit transactions perceived to have superior collateral. Support IOs tend to be more levered because most excess interest is directed to the PAC IO until month 85. As described earlier, the mezzanine classes (AA to BBB) are the safest contributors to IO notional balance. The PAC IO absorbs almost all of the notional balance from these classes during its term, whereas the Support IO receives excess interest stripped mostly from the less stable classes as long as the PAC IO is still outstanding. After the PAC IO is retired, all excess interest cashflows become available to the Support IO. However, at that time, the open periods on the underlying loans are not far off, making those cashflows less stable than in earlier periods.



Source: Goldman Sachs

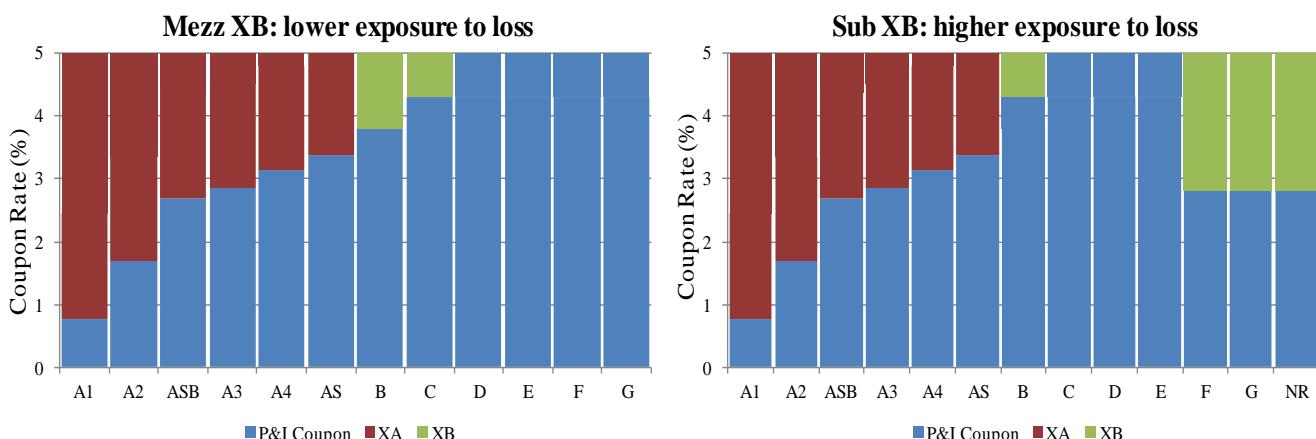
XA/XB IO

The treatment of IO structures has long been a difficult topic for the rating agencies. Since most IOs are structured to be pari passu with the most senior triple-A classes, they were very likely to receive all their due interest as defined and calculated in the offering documents. As a result most IOs were rated AAA. The concern was that this approach did not reflect bondholders' actual exposure. In particular, loan defaults would typically reduce the balance of the principal and interest classes, either through write-down or early repayments. Consequently, such reductions would diminish the notional balance and entitlements of the IO holders. This means that while the IO class would not incur any shortfall, its payout and market value could drop substantially because of credit events in the collateral pool.

Rating agencies revised their methodology in 2010 and opted to rate IO classes at the same rating category as the lowest principal bond rating from which the IO is stripped. Fitch changed its IO rating methodology on new issue bonds and withdrew ratings on those legacy IOs as Fitch viewed the previous ratings as inconsistent with the revised approach. S&P decided to maintain its current rating on IOs until all classes that pay principal and interest rated AA- or higher have been retired or downgraded below that rating. When this happens, S&P will then withdraw the ratings. In turn, the change in rating methodology led to the creation of the XA/XB split WAC IO structures in new issue CMBS, where only the XA class would be stripped off the AAA classes and would maintain a AAA rating.

Most 2.0/3.0 deals have two IO classes: XA references AAA rated classes and XB references those classes below or some subset thereof the AAA rated classes. The notional amount for XA or XB is the sum of the outstanding referenced P&I classes and the coupons are calculated in the fashion previously discussed. There are two main types of XBs that can be differentiated by coupons on subordinate classes. The "Mezz" XB references classes with lower exposure and has more stable cash flow due to more middle referenced P&I classes whereas "Sub" XB references more subordinate classes that have higher exposure to loss.

XA is generally sensitive to prepayments, both voluntary and involuntary as its referenced P&I classes are more exposed to paydowns. The XB on the other hand is more sensitive to deal-level losses than to voluntary prepayments.



The Impact of Prepayments on CMBS IOs

When evaluating CMBS IOs, the market examines what is known as the "prepay slope," which is simply the difference in spread/yield between the 0% CPY and 100% CPY scenarios. The slope of a CMBS IO captures the degree of call protection on the underlying commercial loans that comprise a conduit transaction's collateral pool. Specifically, it reflects the proximity and duration of the open period across the collateral pool. For example, a WAC, Support or XA IO with a slope of 200 bp will tend to have less stringent prepayment protection in force than an IO with a slope of 40 bp. In general, older-vintage IOs have higher slopes than more recent vintage deals. In mid-1990 vintage deals, it is not uncommon to see open periods as long as 24 months, whereas current origination practices enforce a significantly shorter open period not exceeding 6 months.

Generally, a more exaggerated slope on a more seasoned IO is due not only to its seasoning, but also to the less stringent and less consistent prepayment lockout periods in older vintage IOs versus today's. Clearly, investors wishing to take advantage of what is viewed as an overly conservative pricing assumption for IO would focus on more seasoned IOs given their upside potential should prepayments during the open period come in slower than the pricing assumption of 100% CPY. Of course, the prepay slope is only one metric useful for CMBS IO analysis. Investors also need to examine the prepayment protection in individual loans, particularly the larger ones, and the economic viability of the underlying collateral being refinanced, considering such issues as the current interest rate environment and the potential cash takeout available to the borrower via refinancing.

Call-Protection Trends

In addition to the decrease in the open period, the type of prepayment protection present in conduit transactions has shifted over the years. From 1995 through late-1997, a vast majority of CMBS transactions had hard prepayment lockout periods, followed by yield maintenance and fixed penalties. Lockout legally prohibits borrowers from prepaying during the lockout period, which generally lasts two to three years. Yield maintenance usually follows the lockout period and is designed to create a strong economic disincentive for the borrower to prepay. The yield maintenance penalty is designed to ensure that the same yield is received as would be the case if all scheduled mortgage payments until the loan's maturity were paid.

In response to investors' stated desires for more stable cashflows, most recent CMBS transactions are collateralized by commercial mortgage loans that provide for lockout and defeasance, with yield maintenance become much less common. Defeasance allows a borrower to prepay a loan without altering CMBS cashflows to investors. Defeasance requires that a borrower replace the prepaid loan with a series of U. S. Treasury strips that mimics the cashflow stream of the mortgage loan, eliminating the cashflow volatility normally caused by prepayments. Note that an event of defeasance is transparent from a deal cashflow perspective. For this reason, a loan that is prepay-protected via lockout and defeasance generally is presented to investors as a "locked-out" loan. When a loan in a CMBS pool is defeased, it tends to enhance the overall credit quality of the pool as it replaces commercial mortgage assets with U.S. government guaranteed Treasury strips. However, such stability does come at a cost, as it eliminates the potential positive impact on yield via prepayment penalties.

Allocation of Prepayment Penalties to CMBS Classes

The methodology for allocating prepayment penalties has shifted over the years as well. Prior to 1997, 75% to 100% of the prepayment penalty was allocated to the IO with 0% to 25% allocated to the class currently receiving principal (the current-pay bond). More recently, prepayment penalties are allocated such that the current-pay bond is approximately made whole and the remaining penalties distributed to the IO. This is known as "base interest fraction" allocation. Under this methodology, the current-pay bond is compensated for the early return of principal in an environment where rates are lower than at origination. The base interest fraction allocation attempts to establish a proxy for bond-level yield maintenance, whereby the investor's realized yield is in line with the yield that would have been attained had the prepayment not occurred. Generally speaking, the base interest fraction methodology leaves a significant portion of the yield maintenance penalty available for the IO classes.

Analysis of CMBS IO's Upside Potential, Given Embedded Prepayment Penalties

While the payment of yield maintenance penalties does create cashflow volatility, this method of prepayment protection can represent a windfall to IO investors. Should prepayments occur during yield maintenance period, the present value of the yield maintenance penalty paid to the IO is oftentimes greater than the present value of the excess interest that would have been received from the loan had it not prepaid. Although, in a rising interest rate environment a lesser yield maintenance penalty would be paid, however the offset is that prepayments should be slower given the higher rates available at refinancing. In this case, the IO is negatively impacted as the prepayment reduces the income stream due to the IO. However, most loans originated with yield maintenance provisions require a minimum prepayment penalty of 1%, and this tends to soften the detrimental effects of prepayments in high interest rate environments. Furthermore, while a formal OAS (option-adjusted spread) model for CMBS collateral is nonexistent at this time, in theory, a high interest rate environment would dissuade refinancing, suggesting that the upside benefit of yield maintenance to a CMBS IO may exceed the downside.

The Impact of Defaults on CMBS IO

Even though CMBS IOs hold a senior position in a deal's cashflow waterfall, any reduction in their notional balances from involuntary principal payments or write-downs represents a risk. Involuntary prepayments and write-downs are particularly damaging because the concomitant loss of notional principal is not offset by prepayment penalties. The current market convention for analyzing CMBS IOs is to assume no defaults until month 25 and then a 3% CDR thereafter. The convention also assumes a 12-month recovery period after default and a 35% loss severity.

The Impact of Loan Extensions on CMBS IOs

Another condition to consider when evaluating CMBS IOs is the potential for loan extension. If a default occurs at a loan's balloon date, the repayment of the loan may be extended beyond its original term. This creates a counterintuitive situation in which the delinquency of the balloon payment and the subsequent extension of the loan actually improve the returns to the IO security, as the extension allows the IO to remain outstanding longer. Thus, the fewer the number of defaults in a given pool and the later they occur in a CMBS's life, the better the performance of the transaction's IO classes. RBS Greenwich Capital calculates that 9.4% of the loans with scheduled maturity dates of December 2003 or earlier have extended. We would advise investors wishing to analyze the impact of loan extensions on CMBS IO to

begin their analysis with this base-case extension rate. Loan extensions can have a very beneficial impact on CMBS WAC, Support, XA and subordinate XB IO.

Pricing Conventions

In the early to mid 1990s, CMBS IO spreads and yields were quoted assuming zero prepayments (0% CPY). However, increased spread volatility and a sharp drop in Treasury rates in late-1998 caused investors to seek a more conservative pricing methodology. Eventually market practitioners began to price CMBS IO under the assumption that all loans prepay immediately after their call-protection period ends, thereby reducing the notional balance of the IO without providing any prepayment penalties to compensate for the economic loss. Additionally, the underlying collateral is assumed to default at a rate significantly faster than the worst default rate observed in the commercial real estate market in recent times (typically 3% annually beginning in month 25, with a IOs severity of 35% and a 12-month lag to principal recovery). The default and prepay pricing assumptions in tandem have created a conservative market ripe with opportunity for investors who can appropriately determine the default risks in the underlying collateral.

Since their inception, CMBS IOs have been priced at a nominal spread to the interpolated Treasury curve based on their weighted average lives at the call date. For normal principal pay bonds, weighted average life is calculated as the weighted average time to the receipt of principal. However, since IOs receive no principal payments, the monthly decline in notional balance is used as a proxy for principal cashflows. Yet, because the IO does not actually receive principal payments, the average life calculated under this methodology tends to differ substantially from the weighted average timing of the CMBS IO's interest cashflows. The result is that the average lives quoted on CMBS IOs tend to be overstated, causing CMBS IOs to be priced off a longer maturity Treasury point than would be the case if their average lives more closely matched the average timing of interest cashflows.

With this in mind, the market has begun to embrace the use of zero-volatility spreads or "Z-spreads." A Z-spread is a measure of the spread realized over the entire Treasury spot rate curve. The main difference between nominal spreads and Z-spreads is that Z-spreads incorporate the shape of the yield curve into the analysis, whereas nominal spreads assume that the term structure is constant. For example, when the yield curve is very steep, Z-spreads on CMBS IOs tend to be significantly higher than their nominal spreads due to the wide window nature of these securities.

Conclusion

Prices of commercial IOs are sensitive to changes in prepayments and defaults and investors must factor this in when evaluating the relative value of CMBS IOs and also do so within the context of individual IO's vintages and structures. Default analysis is also a critical part of the process to understand the different facets of risk. The IO investor must consider the robustness of the excess interest strip, the steepness of the credit curve, and the performance of the underlying collateral when comparing IOs from various CMBS transactions. The combination of all of these factors has long created a mispriced optionality embedded in CMBS IO that has and can provide those investors who understand the IO risk with tremendous upside. ♦



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The Voice of Commercial Real Estate Finance

Chapter 5, Part 4: Investing in B-Piece CMBS

Original Author: Larry Duggins
Updated By: Nelson Hioe, Raith Capital Partners

B-piece" or "high yield" investing refers to the purchase of non-investment grade CMBS bonds rated BB+ and lower. The priority of payments in typical CMBS transactions places these bonds last in the cash flow waterfall, and therefore at the greatest risk of significant loss of principal and non-payment of interest. As the investor most at risk, the B-piece investor starts as the "controlling class" under the terms of the pooling and servicing agreements (PSAs) that govern CMBS transactions. The B-piece investor, as the owner of the controlling class, will have greater control over troubled assets, and access to more information, than other classes of investors. To manage their risk, B-piece investors tend to focus heavily on the real estate supporting a CMBS transaction.

Background

The first CMBS issues grew out of the S&L collapse and the RTC generally absorbed the risk of non-performing assets. As CMBS expanded beyond the sale of seized assets, new investors were needed to absorb the risk of non-performing assets. The first B-piece investors tended to be experienced real estate investors, often affiliated with large financial institutions. They typically purchased the most subordinate tranches, and were often motivated by factors in addition to the yield of the investment alone. Servicers purchased B-pieces to secure master and special servicing assignments (during periods of high interest rate, the float on mortgage payments could be a significant source of income).

The early B-piece investors were critical to the market, because there were so few of them and because CMBS issuers had to sell the risk position in a securitization in order to account for the transaction as a sale and remove the commercial loans from their balance sheet. Yields for the non-rated class often exceeded 30%. B-piece investors routinely removed, or "kicked out," loans, which they did not deem creditworthy. Subordination levels averaged in the middle twenties for AAA bonds, and NR bonds routinely sized around 3% of the issue.

As it became clear that CMBS would emerge as a primary funding vehicle for performing commercial mortgages, newly formed mortgage REITS entered the B-piece marketplace, looking to capitalize on the significant arbitrage between the high yields available on subordinate CMBS and the low costs of debt and equity capital available to public REITS at the time. In addition, commercial and investment banks were willing to lend money to purchasers of B-pieces on favorable terms.

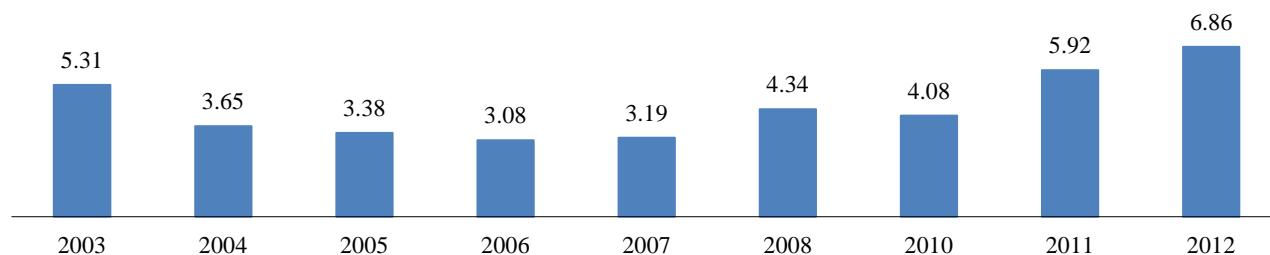
The result was a huge influx of available capital into the B-piece market in late 1997 and early 1998, with the attendant downward pressure on yields and underwriting standards. Fierce competition among B-piece investors reduced their ability to enforce credit criteria and NR yields dropped to as low as 16%. As a result, real estate-oriented B-piece buyers were replaced largely by financial investors.

During the second half of 1998, the Russian debt crisis disrupted the international high yield markets dramatically and changed the dynamics of the B-piece market. Investors sold out of perceived risk positions into U.S. treasury securities in a "flight to quality." The flight to quality destroyed a number of leveraged investment pools, most notably Long Term Capital Management. The resulting liquidity shortage for funding fixed income investments, combined with plummeting prices for CMBS, shrank the number of institutions willing to invest in B-pieces.

The resulting void in B-piece capital was ultimately filled during 1999 by the re-entry of real estate focused investors, many of whom had ties to the more active B-piece investors of the middle 1990s. These buyers, including ARCap, First Chicago, GMAC, Lennar, and ORIX, focused on B-piece investment for the next several years. In 2003, the B-piece market began to change again. Yields on other CMBS declined on both an absolute and relative basis. In addition, collateralized debt obligations (CDOs) backed by B-pieces emerged as a stable source of long-term capital. Attracted by the high yields and meaningful input of the existing participants, and aided by the advent of CDOs based on high yield investments, several well capitalized new investors entered the B-piece market. These investors, supported by large corporate balance sheets or large international investors added a new tier of competition. Demand for B-pieces increased, driving down yields and reducing the ability of B-piece investors to demand credit quality.

Coincident with new participants entering the market, the ratings agencies began to reduce CMBS subordination levels during this time frame. Early CMBS issues had performed extremely well, with very low default rates and even fewer losses. The agencies concluded (based on historical performance), that they had been requiring too much subordination on CMBS transactions, causing CMBS to outperform similarly rated corporate bonds. In an effort to bring the risk of default on CMBS bonds into parity with other fixed income securities, the agencies pushed AAA subordination levels down significantly from early 2002 to mid 2007. B-pieces shrank accordingly, reducing the CMBS demand for risk capital, just as the supply of capital increased.

Figure 1: Average B-Piece Size by Year



Source: Wells Fargo Capital Markets, LLC, Intex Solutions, Inc., and Trepp,

During the ‘boom years’ of 2005-2007, CMBS issuance rocketed upward, peaking at over \$225 billion of conduit issuance in 2007. Underwriting during this time was marked by the proliferation of interest-only loans, weaker loan structures, and pro forma income. This time was also marked by the growing influence of collateralized debt obligation (CDO) vehicles, which packaged various tranches of securitized debt instruments. As a result, many B-piece buyers sold some or all of their positions shortly after acquiring them, which effectively reduced their financial risk and ‘skin in the game.’

The financial crisis that began in 2008 drove CMBS issuance to near-zero levels for almost three years. The first multi-borrower CMBS ‘2.0’ deals began to emerge again in mid-2010 as the lending markets in general were beginning to recover. These transactions were originated at significantly more conservative leverage and valuation levels vis a vis peak underwriting. In addition, the overall credit profile of these 2010 vintage loans was significantly stronger – all income was based on in-place income (with issuers’ underwriting oftentimes more conservative), structural enhancements were prevalent, and almost all loans

were amortizing. In addition, rating agencies rewarded investors with subordination levels that had not been seen since 2003 and earlier. The average B-piece size in 2011 was almost double the levels seen in 2007.

In the following period up until the time of this writing (mid-2013), valuation levels have increased significantly, a trend that mirrors the overall real estate recovery and an ultralow interest rate environment. In addition, a combination of looser credit standards and investor demand for bonds have led to increased average loan-to-value ratios, higher proportions of pools with partial or fully-amortizing loans, lower debt yields, and weaker reserve structures. While the CMBS 2.0 period has been marked by periods of significant spread volatility (notably in mid- to late 2011 during the European credit crisis in which sovereign concerns were dominant themes), the current environment is one in which the demand for yield seems to be trumping concerns about the speed and breadth of the overall macroeconomic recovery. It remains to be seen how this story will play out.

Buying B-Pieces

Appropriate analysis of a B-piece requires the investor to consider factors from three related but distinct disciplines: real estate analysis, mortgage analysis and fixed income analysis. A poor investment decision can occur if the investor neglects one of these three aspects or fails to recognize the relationships between them. B-piece investors typically have access to all of the information that the mortgage originator used during the loan underwriting process. This is especially true for newly issued CMBS.

The real estate analysis focuses on the analysis and verification of the cash flow and valuation characteristics of the collateral properties. The investor considers rent rolls, occupancy rates, operating expenses, and property management to identify factors, which might cause cash flow to change. Market supply and demand are reviewed together with economic factors, which might cause them to vary over time. The investor usually focuses on estimating the underlying properties' stabilized net cash flow in order to generate an independent assessment of a property's residual value. The analysis of the real estate also includes a review of the third-party reports prepared in the origination process, including the appraisal, the property condition report and an environmental survey. The property analysis probes the assumptions used in the underwriting of the loan, to validate that the property level risks of operation were appropriately addressed during the loan origination process.

The mortgage analysis concentrates on confirming that the loan itself was properly structured. Basic benchmarks like loan to value and the debt service coverage ratio are calculated, using the results of the real estate analysis to assess the risk that the mortgage presents to the CMBS trust. Structural features like interest only periods or stepped amortization schedules are identified. The presence and adequacy of the mortgage's reserve structure are considered, testing their ability to cover tenant rollover or extraordinary risks. The ability of a property to refinance at its balloon maturity is often tested, using sensitivity analysis to examine the impact of changes in interest rates and mortgage spreads. The mortgage analysis focuses on determining whether the cash flow generated by the underlying real estate will be sufficient to adequately service the related debt over time, whether the properties' terminal value will be sufficient to repay the debt at the loan maturity, and whether the loan structure is sufficient to either avoid or mitigate losses in the event of a default.

The fixed income analysis takes the results of the mortgage analysis to generate estimates of the performance of the CMBS bonds themselves. Streams of principal and interest from the mortgage pool are input into bond models, to derive yield and loss estimates at the individual bond level. Various outcomes are usually modeled through sensitivity analysis that test the impact of changes in interest

rates, credit default assumptions and loss severities on overall bond returns. The bond model must be adjusted to account for the specific payment characteristics of the mortgage pool and for the cash flow allocation or "waterfall" characteristics of the specific transaction. The rights of the B-piece investor to receive supplemental payments, such as default interest and prepayment premiums, should be addressed, as should the advancing and appraisal-related cash flow reduction features of a specific transaction. The fixed income analysis should provide the investor with an estimate of potential payment streams and yields over a variety of scenarios, to allow the final investment decision to be made.

The acquisition of a B-piece, then, requires the synthesis of multidisciplinary analysis. The understanding of the cash flow and valuation characteristics and risks of the collateral real estate flows into an estimation of mortgage payments and risks, which gives rise to an estimate of bond level cash flows and yields. In this regard, investments in B-pieces are highly 'leveraged' investments insofar as small changes in the overall performance of the pool can result in significant changes in the cash flows to the B-piece bonds.

Owning a B-Piece

Unlike a majority of fixed income investments, owning B-piece investments entails the assumption of certain rights and responsibilities to the CMBS trust. The holder of the most subordinate tranche usually acts as the directing certificateholder, and as such, appoints and directs the activities of the special servicer. The right to act as directing certificateholder is related to the most subordinate certificateholder's risk of loss, tying workout decisions to their economic consequences.

The directing certificateholder acts as the decision maker for the trust in issues involving changes in loans or their collateral. The directing certificateholder reviews and approves or rejects proposals made by the special servicer, in collection of defaulted loans and the structuring and acceptance of loan modifications and assumptions. Through this process, the most subordinate bondholder typically acts in such a manner as to maximize the present value of the collateral supporting its investment, which, because of the hierarchy of payments in a CMBS trust, also protects the investment of the more senior classes. If the most subordinate tranche is written off due to mortgage losses, the directing certificateholder's rights transfer to the Operating Advisor, ensuring an alignment between decision making and risk of loss.

In CMBS '1.0' (e.g. pre-2010 transactions), it was not uncommon for the directing certificateholder and the special servicer to be affiliates of the same company, which sometimes gave rise to concerns about conflicts of interest. Understanding the potential conflicts requires a basic recognition of (A) the underlying roles of each party and (B) the economic incentives of different bondholders. The special servicer is charged by the trust's PSA to act in accordance with the servicing standard. This is generally expressed as the obligation to service and administer loans on behalf of the trust and in the best interests of and for the benefit of the certificate holders, in accordance with applicable law, the PSA, and the loan documents. The servicing standard further requires the use of the same care, skill and diligence as is normal and usual in its servicing for others or itself, whichever is higher; and with respect to defaulted loans, with a view to the maximization of the recovery of principal and interest on such loan to the certificate holders on a net present value basis. The directing certificate holder, on the other hand, is expected to act in its own self interest, under the theory that economic decisions that positively affect the most subordinate bond also positively affect the trust as a whole.

When the actions of a special servicer are perceived by investors to be a departure from the servicing standard and more geared toward the maximization of fees or opportunities for the special servicer,

the PSA anticipates that the directing certificate holder will take action by rejecting the special servicer's proposed business plans or by removing the special servicer from the trust. This control breaks down when the directing certificate holder and the special servicer are affiliates acting in concert.

In CMBS 2.0 transactions, these concerns have been addressed with several mechanisms that are aimed at alleviating or creating disincentives for conflicts of interest to occur. These include:

- 1) Appraisal-based tests that can force a change of control. In CMBS 1.0 transactions, control would shift to the next most senior class of bonds, but only based upon when losses were actually realized, i.e. when loans were liquidated or resolved. In 2.0 transactions, control can shift when bond principal is reduced beyond a certain level, based upon either realized losses or reductions due to updated appraised values. This reduces conflicts of interest that may arise in which a controlling certificateholder prevents the liquidation or resolution of a distressed loan in order to remain in control of a transaction.
- 2) Implementation of removal mechanisms that can vary deal to deal but, in general, provide bond investors with the ability to appoint a new special servicer with a supermajority vote (generally 75% of bondholders);
- 3) Having control shift from the controlling certificateholder to the Operating Advisor (OA). The Operating Advisor, which is a new construct to 2.0 deals, is appointed to work on behalf of senior (e.g. investment grade) investors. In addition to directing the special servicer once the original controlling class/B-piece holder is moved out of the controlling position by virtue of appraisal reductions or realized losses, the OA provides feedback regarding the special servicer's performance with regard to specially serviced loans, and helps to facilitate the flow of information from the servicers to bondholders. The OA's role, as currently contemplated, begins only once the original controlling class bondholder is no longer in control of the transaction.
- 4) Greater transparency with respect to transactions with affiliates or related parties. CMBS 2.0 PSAs generally provide for increased disclosure of any affiliations or arrangements that special servicers may have with related entities, e.g. brokers. In addition, there have been efforts made to increase the degree to which workout fee arrangements are documented and, in some cases, regulated via fee caps in the PSA.

Because of the directing certificate holder role, CMBS B-piece investments require an active, knowledgeable investor. Rather than simply receiving a return on investment, the B-piece investor assumes a long-term active role in the ongoing management of the mortgage pool underlying each CMBS trust.

Some B-piece investors take that ongoing role a step further by implementing a surveillance function. B-piece investors are usually entitled to receive property-level reporting from the master servicers, making it possible for the B-piece investor to identify trends and property performance issues within the trust, even prior to a loan default. The B-piece investor can engage the master servicer in dialogue about the mortgage pool, and can help the master servicer focus their interdiction efforts on weakening credits. Working cooperatively, a B-piece investor and a diligent master servicer can often identify potential weaknesses in a mortgage while they are still correctable, improving the performance of the mortgage pool for all bondholders.

The B-piece investors' surveillance function can also interact with the master servicer and the trustee regarding bond payments. Especially in the case of defaulted loans, the application of collections can be extremely complicated, and can vary substantially depending on the PSA and the underlying loan documents. The most subordinate tranche is usually affected by payment

application decisions, so the B-piece investor can act as the party at interest, to assure that payments are applied exactly as anticipated in the applicable documents.

Risk Retention

Ownership of B-pieces may be impacted significantly by passage of the Dodd–Frank Wall Street Reform and Consumer Protection Act, which was signed into law in July 2010. As it relates to CMBS transactions, the law mandates that at least five percent of the proceeds of a given CMBS transaction must be ‘retained’. For CMBS, this retention requirement can be satisfied by an investor, the issuer, or a combination of the two. In addition, the law requires that the bonds be held for a particular period of time – in other words, no portion of the five percent of proceeds would be tradable. At the time of this writing, the final regulations as they relate to CMBS have not been written into law – but the ultimate rules could significantly impact not only the amount of bonds that a B-piece investor would be required to purchase, but also the return profile of those bonds (since the retention requirement is larger than the actual size of the non-investment grade bonds as they are currently determined by rating agencies) and what types of investors would be ideally suited to acquire the bonds.

Accounting for B-Pieces

High yield CMBS bonds are typically purchased at a discount to their par value, which gives rise to several significant accounting issues. Investors considering the purchase of B-pieces should carefully consider the impact of original issue discount and the attendant phantom income on their financial reporting before investing.

Original issue discount (OID) is the difference between what an investor paid (Cost) for a CMBS security and its "face value," which is the amount the investor is to receive at maturity (Face), assuming each of the underlying loans pays as agreed and no write-downs occur as a result of underlying real estate credit quality issues. For example, a bond with a Face value of \$10 million that is acquired for a purchase price of \$6 million would have an initial corresponding OID of \$4 million.

The OID (which is calculated annually based on the bond's yield to maturity) is treated as income for both GAAP and tax purposes. While the methodologies under GAAP and tax accounting principles for recognizing the accretion resulting from OID may vary, the \$4 million OID in the example must be recognized as income over the life of the security. Thus, if the expected elapsed time from the \$6 million purchase to final realization of the \$10 million Face is 10 years, income of \$400,000 per year (on average) would be recognized for both GAAP and tax purposes. Note that this recognition of \$400,000 in income is in addition to the \$600,000 of cash income from the coupon on the bond. The recognition of accretion income for tax purposes requires that the taxable recipient of the OID allocation pay taxes each year on income that has been earned but has not yet been received.

To fully understand the tax and GAAP related issues that relate to OID, a prospective CMBS owner should consult tax counsel and external accountants that are familiar with this concept. ♦



CRE Finance Council CMBS E-Primer

A comprehensive overview of commercial mortgage backed securities

Chapter 6 *Closing CMBS Transactions,* *Parties, Key Documents and* *Servicing*

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Chapter 6: Closing CMBS Transactions, Parties, Key Documents and Servicing

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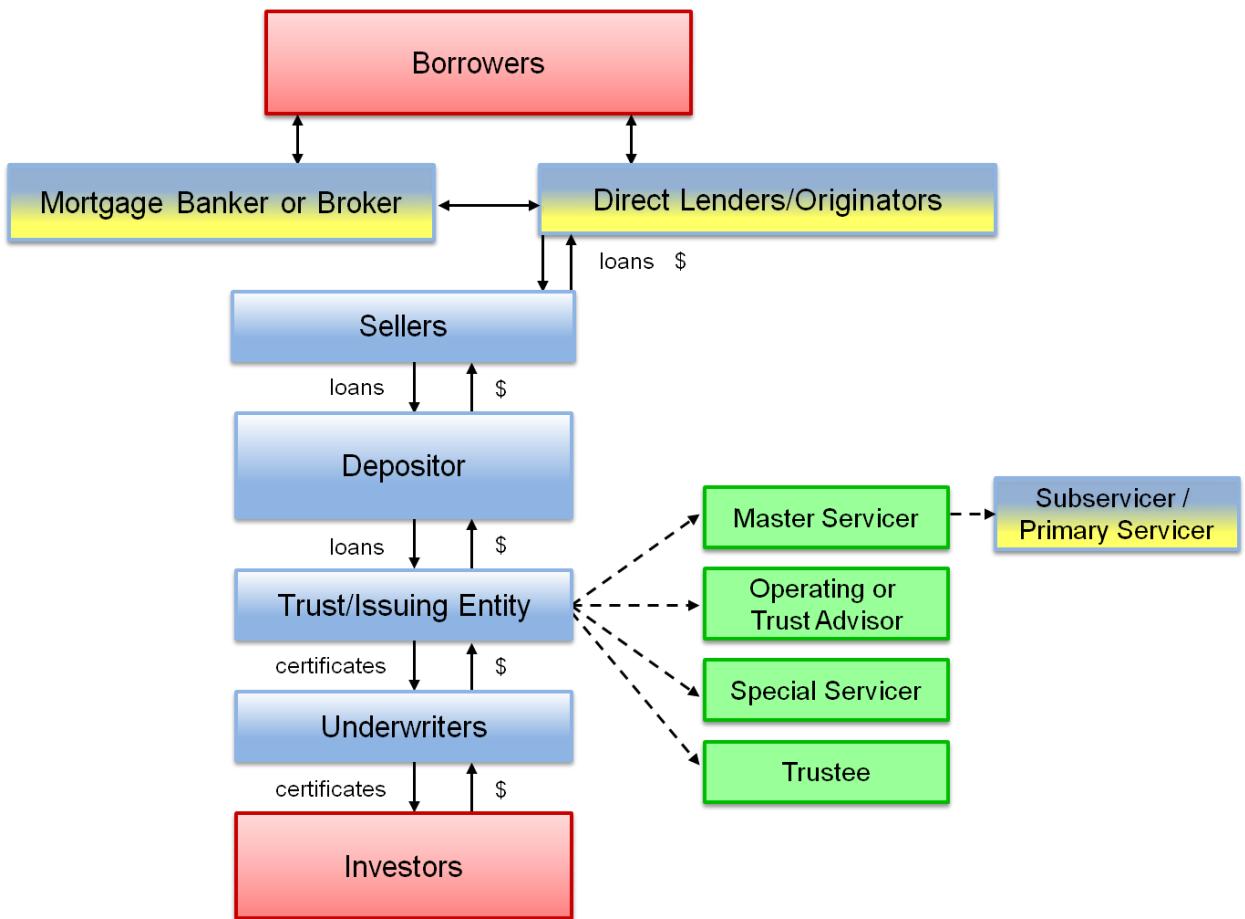
Introduction

Commercial mortgage backed securities (CMBS) transactions are very dynamic investments and sophisticated transactions among multiple parties, including loan originators or mortgage banks and brokers, mortgage loan sellers, CMBS sponsors, a depositor, a CMBS trust, investors (from investment grade through non-investment grade), at least two retained rating agencies, a trustee, a certificate administrator (includes 17g-5 Information Provider), a paying agent, a custodian, a master servicer, and, in certain cases, primary servicers, a special servicer, and an operating or trust advisor.

In connection with CMBS transactions, sellers acquire commercial mortgage loans from originators, mortgage banks or brokers or originate these types of loans directly or through an affiliate. Once sellers have a sufficient pool of loans, the affiliated depositors purchase the loans from the sellers. Depositors then contribute the loans to newly created trusts, which are often Real Estate Mortgage Investment Conduit ("REMIC") qualified trusts (each a "CMBS Trust"). The depositor sells interests in the CMBS Trust to investors (through underwriters, initial purchasers or placement agents). Such interests are referred to as bonds or certificates.

The bonds or certificates are sold in classes with varying levels of risk of loss and return. The most subordinate bonds are called "below investment grade" or "non-investment grade" bonds and are the most risky. They are sold to what is commonly referred to as the "B-piece buyer." The senior bonds, which are considered less risky, are referred to as "investment grade bonds." Depositors retain two or more rating agencies to evaluate and rate the bonds, determine the ratings for each class of bonds and determine which classes of bonds are investment grade and which are not.

On the next page is a chart demonstrating the CMBS transaction flow of investments and securities among the various participants in such transactions.



Generally, the lead underwriter, the lead seller, the deposit and the CMBS Trust are closely related affiliates. Accordingly, the lead underwriter and the lead seller control the structure of the CMBS transaction subject to market and regulatory conditions.

Chapter Focus

This chapter will focus on the CMBS transaction after the bonds are marketed and sold and the provisions of the pooling and servicing agreement become applicable. At this point, the CMBS Trust is the owner of the commercial mortgage loans and the various third party service providers begin performing their obligations under the pooling and servicing agreement.

The performance of the CMBS investment is dependent not only on the commercial mortgage loan borrower's performance under their loan documents, but also the performance of the underlying collateral, general economic conditions, and the ability of the third party service providers. These third party service providers typically include a trustee, a certificate administrator, a master servicer, a special servicer and a trust advisor. Note the trust advisor may also be called a senior trust advisor or an operating advisor.

Not all of the participants in CMBS transactions are, however, parties to the pooling and servicing agreement; nevertheless, the role of each participant is important to the transaction. A

listing of the participants in a CMBS transaction and the parties to the pooling and servicing agreement, along with a description of each party's role, compensation and qualification requirements are detailed below in Section II of this Chapter 6. Section III discusses the legal documentation related to CMBS transactions. Section IV discusses interface with the rating agencies. Finally, Section V addresses the CMBS transaction life cycle and important events.

Important Participants in CMBS Transaction

Borrowers

Borrowers in CMBS transactions are owners of commercial real estate properties who choose a CMBS loan for a number of reasons. These could include more proceeds, lower interest rate or more favorable structure. These borrowers are entities looking for financing of income producing commercial projects, such as office buildings, multi-family projects, hotels, retail facilities (such as malls), hospitals, nursing homes and other commercial ventures. These loans generally range from \$2 to \$500 million or larger in size. Borrowers are customers of loan originators, mortgage bankers or brokers, and are a critical part of all CMBS transactions. Without borrowers, there would be no commercial mortgage loans to securitize.

The borrower enters into a loan agreement with a lender, borrowing funds for the purchase or refinancing of a commercial real estate property. The loan is secured by the real property. In return for signing a promissory note, a mortgage or deed of trust, and other loan documents, the borrower receives funds under a loan with the obligation of repaying the loan in full, with interest. In most CMBS deals, there is no recourse to the borrower or any guarantor (except for "non-recourse carve-outs" such as fraud, misrepresentation, environmental law violations and, more recently, voluntary bankruptcy or the violation of transfer and additional debt restrictions).

Sellers

Sellers originate (directly or through an affiliate) many of the commercial mortgage loans that will be contributed to the CMBS Trust. In addition, sellers are not always the initial direct lender for the commercial mortgage loans, but often purchase such loans from lenders, mortgage bankers or brokers. Sellers then aggregate the loans that they originate and purchase into a pool of assets for sale to the depositor and ultimately to the CMBS Trust. The seller coordinates the transaction, taking the lead in discussions with rating agencies and other parties to the transaction and negotiating the terms of the transaction documents. Sellers, through affiliated underwriters, also market the securitizations and bonds to the investors.

Loan Originators, Mortgage Bankers and Brokers

Many times, sellers acquire the commercial mortgage loans for contribution to a depositor from affiliated and unaffiliated loan originators, mortgage bankers or brokers. These lenders, mortgage bankers or brokers have developed relationships with borrowers. Sellers value these sources as they provide sellers with access to commercial real estate loans from vetted borrowers. As will be discussed below, often these loan originators, mortgage bankers or brokers desire to maintain their close relationships with their borrowers. Thus, they negotiate the right to maintain full primary servicing of the loan originated. Because sellers value these loan

sources so deeply, the sellers often require the master servicer to enter into a primary servicing or subservicing agreement with such loan originators, mortgage bankers or brokers (or their respective affiliates) pursuant to which the loan originator will provide some or all of the primary servicing of the loan.

Depositors

Depositors are created by the lead seller, who organizes the CMBS transaction, to purchase loans pooled by the lead seller and other sellers. The depositor is a special purpose entity established by a seller to facilitate issuance of the bonds. The depositor establishes the CMBS Trust, which is documented in the related pooling and servicing agreement, and contributes the loans acquired from the various sellers to the CMBS Trust. Under the pooling and servicing agreement, the depositor contracts with the trustee, certificate administrator, master servicer, special servicer, the trust advisor and any other party to the agreement for the CMBS transaction.

Although the depositor is a party to the pooling and servicing agreement, it typically has limited responsibilities. The role of the depositor in CMBS transactions has grown since 2008. In a public transaction, the depositor is responsible for all monthly and annual filings with the Securities and Exchange Commission ("SEC") and compliance with Regulation AB, which sets disclosure rules for offering asset-backed securities. Since the reemergence of the CMBS market, sellers and depositors have committed to continue to file periodic reports with the SEC, regardless of the number of investors in a transaction, to give more transparency to the marketplace regarding publicly-offered CMBS bonds and certificates.

As noted, the depositor also has the responsibility in all CMBS transactions (whether the bonds are offered in a private or public transaction) to comply with applicable law when marketing and selling the bonds, including complying with all securities laws. The depositor must also comply with new Rule 15Ga-1 (requiring disclosure of demands that the depositor and the applicable seller repurchase a loan from a CMBS Trust) and amended Rule 17g-5 (regarding potential conflicts of interest with compensated rating agencies). Some depositors delegate these duties to the trustee or a certificate administrator. Others retain the obligation to perform these duties. However, every depositor has the ultimate responsibility for these duties.

The depositor assigns all of the rights under each mortgage loan purchase agreement to the CMBS Trust, including recourse to the sellers for any loans that are found to have been contributed to the CMBS Trust with a document defect or breach of a representation or warranty to the depositor.

In most CMBS transactions, the trust created by the pooling and servicing agreement is technically the issuer of the securities and the securities are "pass-through" certificates of beneficial interest in the CMBS Trust. The majority of CMBS transactions are structured as REMIC pass-through deals for federal income tax purposes to avoid entity-level taxation. A small number of CMBS transactions are structured using an Indenture under which the issuer is the entity issuing the debt when parties cannot or do not want to comply with the REMIC requirements.

Rating Agencies

Usually multiple rating agencies, technically qualified and often referred to in the transaction documents as nationally registered statistical rating organizations are engaged by the depositor to issue an initial rating on a transaction and to perform ongoing surveillance on each transaction. The rating agencies engaged on each transaction are indicated in the definition of the term "Rating Agency" in each pooling and servicing agreement and are also identified in the related offering documents, such as the free writing prospectus and prospectus supplement for a public deal or the information circular, offering circular or private placement memorandum and other disclosure documents for a private or non-registered deal. Each pooling and servicing agreement indicates that various notices and reports should be delivered to the rating agencies throughout the life of the transaction, thus allowing the rating agencies to provide ongoing surveillance and updated ratings on the transaction. Various actions contemplated in the pooling and servicing agreement require approval from the rating agencies in the form of a "no-downgrade" letter or rating agency confirmation. Rating agencies also rate or approve the servicing capability of primary, master and special servicers. The pooling and servicing agreement also requires that each master servicer and special servicer obtain and maintain adequate servicing ratings or approval throughout the life of each transaction.

To reduce potential conflicts of interest created by receiving compensation for rating the bonds, the SEC amended Rule 17g-5. This rule now requires all information about the CMBS transaction (before and after closing) necessary for rating agency surveillance to be posted on a secure website ("17g-5 website") which is accessible to all rating agencies, whether they are rating the deal or not. This allows uncompensated rating agencies the option to weigh-in on the strength of the investment. Depositors must represent to all rating agencies that:

- the 17g-5 website is secure, password-protected and presents the information in a manner indicating which information currently should be relied on to determine or monitor the credit rating;
- the depositor has posted (at the same time such information is provided to any compensated rating agency) all information which the seller, any underwriter or the depositor provides to compensated rating agencies for the purpose of:
 - determining the initial credit rating, including information about the characteristics of the assets underlying or referenced by the security and the legal structure of the security; and
 - undertaking credit rating surveillance, including information about the characteristics and performance of the underlying assets.

If the compensated rating agencies do not feel confident that they can reasonably rely on the representations of the depositor or that the information on the 17g-5 website does not contain all documentation required for initial rating and ongoing surveillance, such compensated rating agencies will be deemed to have a conflict of interest when they receive compensation for initially rating certificates to be issued in a CMBS transaction or providing surveillance. In such case, the depositor will likely be required to disclose, in the initial offering documents or in the

periodic reports provided by the depositor to the SEC, such conflict of interest, as it is material to investors. Such disclosure may jeopardize the depositor's ability to issue the CMBS Trust certificates (bonds) to investors, which jeopardizes the depositor's overall business. As a result, the depositor takes this rule very seriously, as it impacts the depositor's ability to do business. Many have set up their own 17g-5 websites, and others have assigned the duties of maintaining the 17g-5 website to the trustee or certificate administrator ("17g-5 Information Provider"). Regardless, except in limited situations, recent pooling and servicing agreements prohibit parties from communicating with compensated rating agencies without first providing such information to the depositor or 17g-5 Information Provider for posting on the 17g-5 website. Through the applicable pooling and servicing agreement, third party service providers are liable to depositors for all losses if the service provider does not comply with these rules.

Subordinate Bond Holder–Controlling Class Holder

The subordinate bond holder or its representative (often designated as the "Controlling Class Holder") is bound by the terms of the pooling and servicing agreement by virtue of the receipt of the certificate evidencing its investment in the CMBS Trust. As discussed in more detail in Section G below, the pooling and servicing agreement is written for the benefit of all investors. The Controlling Class Holder purchases the most subordinate (below investment grade) bonds in the transaction (often called the B-Piece) and thus is the owner of the "first loss" bonds. Unlike the other certificate holders, the subordinate bond holder or Controlling Class Holder participates in negotiation of the terms of the pooling and servicing agreement and performs due diligence with respect to the underlying loans contributed to the CMBS transaction.

Because the Controlling Class Holder has the first risk of loss, it typically has the right to appoint the special servicer and has certain consent or consultation rights. (See Chapter Five, Part Four, "Investing in B-piece CMBS," for a more detailed explanation of B-pieces). Historically, the Controlling Class Holder was often affiliated with the special servicer. Generally, since the market's reemergence in 2010, many Controlling Class Holders are not affiliated with the special servicer other than by virtue of its role as Controlling Class Holder. However, in some cases Controlling Class Holders are again alienating themselves with affiliated special services.

As Controlling Class Holder, the buyer of the B-piece has the ability under the pooling and servicing agreement to approve the special servicer's proposed strategy with respect to specially serviced mortgage loan resolutions and disposition of mortgage properties acquired for the CMBS Trust through foreclosure ("REO Properties"). However, the special servicer is obligated to override any decision or recommendation of the Controlling Class Holder if such decision or recommendation is not consistent with the servicing standard set forth in the pooling and servicing agreement. Further, the Controlling Class Holder carries no responsibility to other certificate holders for its decisions or recommendations. For a discussion of the special servicer, refer to Section II.H.3.

Investment Grade Certificate holders or Investors

The investment grade certificate holders or investors in CMBS transactions are also bound by the terms of the pooling and servicing agreement by virtue of the receipt and signing of the certificate evidencing their investment in the CMBS Trust. As mentioned above, the pooling and

servicing agreement is written for the benefit of all investors and, investors have many rights under its terms. For example, individual certificate holders have certain

- voting rights,
- rights to pool-wide and loan-specific reports and information,
- rights to declare a servicer termination event or servicer's event of default and demand termination of the master servicer, the special servicer or the trust advisor.

Investment grade bonds are sold by the underwriters to investors who generally rely on the disclosure materials and do not typically perform separate due diligence with respect to the mortgage loans owned by the CMBS Trust. Investment grade investors in CMBS transactions may include mutual funds, pension funds, money managers, life insurance companies, commercial banks, opportunity funds or specialized real estate investment companies. The type of investor varies depending on the tranche of certificates and the risk related to each tranche.

Third Party Service Providers

The administration of the CMBS Trust is handled by several third party service providers who are responsible for monitoring and enforcing the interests of the certificate holders to be monitored and enforced. As discussed above, these parties include the trustee, the master servicer, the special servicer and the trust advisor. These parties are appointed to their role by the various participants to the CMBS transaction as described in more detail below.

1. Trustee

General Obligations. The trustee in CMBS transactions is responsible for those functions specified in the pooling and servicing agreement. These functions include acting as document custodian, certificate paying agent, certificate registrar, or performing tax reporting and, in certain cases, acting as the 17g-5 Information Provider. For greater detail regarding these functions, see the Specific Obligations section below. From the closing date forward, the trustee, on behalf of the CMBS Trust, is considered the "owner" of the record loans and all other trust assets. Accordingly, the trustee has record title to the loans. The certificate holders are the beneficial holders and have equitable title to the loans.

The trustee is appointed by the depositor as the entity to hold legal title to the CMBS Trust assets for the exclusive benefit of all certificate holders. In accepting its appointment, the trustee agrees to act in accordance with the terms of the pooling and servicing agreement. In addition to holding legal title to the CMBS Trust assets, the trustee may also be responsible for performing several administrative functions relating to the interests of certificate holders.

In certain cases, the trustee entity is prohibited from acting as record holder of the CMBS Trust assets because of an affiliation with another party to the CMBS transaction. In such cases, the record title ownership, the backup advancing and the oversight functions (the fiduciary roles) may be separated from the administrative functions. Depositors reflect this bifurcation of duties

by giving specific names to the various functions in the pooling and servicing agreement and by separating the fiduciary roles to a separately appointed trustee, while putting all the administrative functions under the auspices of a certificate administrator.

Specific Obligations. The various functions of the trustee are described in more detail below.

A. Oversight of Servicer Defaults

Neither the master servicer nor the special servicer is an agent of the trustee. Further, the trustee does not audit, monitor, or actively oversee the actions of the master servicer or special servicer. The trustee is not responsible for evaluating whether the master servicer or the special servicer has complied with the servicing standard. However, if the trustee is aware of a servicer termination event with respect to the master servicer or the special servicer, the trustee is obligated to enforce the termination rights of the certificate holders and CMBS Trust. For example, subject to applicable cure periods, servicer termination events include items like the following:

- failure to remit payments to the appropriate person in a timely manner,
- failure to make appropriate advances of funds unless the advance is determined to be non-recoverable,
- failure to provide required reports and notices,
- failure to meet qualifications of the rating agencies,
- materially or solely causing a downgrade of the rating assigned to the certificates by servicer action or inaction,
- insolvency or filing or being subject to a receivership, bankruptcy or insolvency proceeding, or
- failure to materially perform its obligations under the pooling and servicing agreement.

If any master servicer or special servicer, as applicable, commits a servicer termination event as defined in the pooling and servicing agreement, the trustee may terminate such party or will be required to terminate such party if directed to do so by the certificate holders in accordance with the requirements of the pooling and servicing agreement.

If the trustee terminates the master servicer or the special servicer, it must step into the shoes of such party. Generally, however, trustees do not have the expertise to fulfill the servicing responsibilities of the master servicer or the special servicer, and, while rated as trustees, generally do not have the required master servicer or special servicer ratings mandated by the rating agencies. Accordingly, trustees usually require pooling and servicing agreements to provide that the trustee may seek to appoint a qualified successor master servicer or special servicer, as applicable.

To date, within the CMBS industry, few master servicer termination events have occurred. One such termination event was resolved by the trustee appointing a third party successor master servicer. In another situation, the master servicer was aware that a servicing termination event was imminent and proactively sold its servicing rights to another qualified master servicer, thereby avoiding being terminated. Other changes in master servicer have occurred throughout the years as master servicers have gotten out of the business or consolidated. In such cases, the outgoing master servicer has sold or transferred its position as master servicer to another qualified servicer.

With respect to replacement of special servicers, the Controlling Class Holder has the right before a change of control to direct the trustee in appointing a replacement special servicer. Many changes of special servicers have occurred and continue to occur both through the sale of the most subordinate bonds or, in legacy deals, subsequent to a change of control and replacement by the new controlling class holder.

In any case, if an acceptable master servicer or special servicer cannot be found, the trustee may have to step in until one can be found.

A. Back-Up Advancing

The master servicer has the primary obligation to make advances (i) when a borrower misses a monthly payment of principal or interest, (ii) when tax or insurance payments are due and the escrow funds are not sufficient to cover these costs, or (iii) to cover other protective or enforcement expenses. The trustee is required to "back-up" the master servicer's obligation to make advances for delinquent principal and interest payments ("P&I advances") and required escrow, reserve and other property protection payments ("property protection advances"). This means that if the master servicer fails to make a P&I advance or property protection advance, then the trustee must make such advance unless the master servicer or the special servicer determined that the advance would be non-recoverable if made or the trustee determines such an advance would be non-recoverable. As mentioned above, the master servicer's failure to make a required advance would constitute a servicer termination event on the part of the master servicer, requiring termination of the master servicer.

B. Record Title Holder

As already discussed in detail, the trustee is the holder of legal title to the CMBS Trust assets for the exclusive benefit of all certificate holders. CMBS Trust assets include the underlying commercial mortgage loans, any pledges of leases, rents, personal property or other assets, any rights set forth in the mortgage loan documents, the documents and information contained in the mortgage loan file and the depositor's rights and interests under the mortgage loan purchase agreement.

C. Custodial Function

Each CMBS transaction requires a custodian to hold the related original mortgage file documents in safe keeping. This function is often performed by the trustee. The custodian of the mortgage loan file has an important duty to review the files, certify periodically to the parties to the

Pooling and Servicing and likely any seller that key documents such as the note, allonges and the mortgage are in its possession, appear regular on their face and appear to be executed and relate to such mortgage loan. If, in the process of reviewing the mortgage files or at any time thereafter, the Custodian finds any document or documents constituting a part of a mortgage file (a) have not been properly executed, (b) subject to limited timing issues or circumstances (*i.e.* letters of credit are sometimes held by the master servicer), have not been delivered, (c) contain information that does not conform in any material respect with the corresponding information set forth in the mortgage loan schedule, or (d) are defective on the face, the custodian is required to notify quarterly the other parties to the pooling and servicing agreement and the applicable seller by providing a custodial exception report until the issues are resolved.

D. Administrator Functions

Under ERISA regulations, if an affiliate of any potential trustee acts as depositor, seller, loan originator, master servicer or special servicer in a transaction, that potential trustee entity cannot serve as the trustee for that CMBS transaction. In cases where it is desirable to have such potential trustee perform the administrative duties typically performed by the trustee, the duties of the trustee will be segregated. A separate trustee called the "nominal trustee" will be appointed to merely hold title to the loans, act as custodian and perform the fiduciary roles. Another party, often referred to as the "certificate administrator," will be appointed to fulfill the administrative responsibilities. This bifurcation of duties is occurring in more and more transactions. For purposes of this chapter, however, it is assumed that the trustee is performing all the functions of such role.

The certificate administrator duties include:

- holding funds delivered by the master servicer for the benefit of certificate holders,
- acting as paying agent by making payment distributions to certificate holders in accordance with the waterfall set forth in the pooling and servicing agreement, compiling servicer reports,
- creating investor level reports, delivering investor reporting package to certificate holders and/or posting such package on the trustee's website,
- acting as certificate registrar, maintaining certificate holder information and funds, acting as a tax agent, acting as a bond administrator, and
- if the depositor does not retain this duty, the certificate administrator is also generally responsible for maintaining the secure rating agency website (commonly called the Rule 17g-5 website).

Qualifications. The trustee must carry a minimum credit rating from the rating agencies set forth in each pooling and servicing agreement. Such credit rating requirement may stipulate long term and short term rating requirements. Additionally, trustees must be financial institutions with the mandated amount of capital and must have the required errors and omissions insurance coverage.

Some trustees may have obtained a trustee rating from certain rating agencies, which evaluates the trustee's capabilities; however it is not a requirement to have such rating.

Compensation. Compensation to the trustee comes in the form of a fee from the cash flows of the transaction that is calculated as a fraction of a basis point on the outstanding principal balance ("OPB") of the loans in the mortgage pool. The trustee also earns revenue "float" from the funds held in accounts awaiting distribution to certificate holders.

Appointment; Removal. The trustee is appointed by the depositor and, under the CMBS Trust structure governed by the pooling and servicing agreement, is the entity to which the depositor assigns all the CMBS Trust assets for the benefit of the certificate holders. Certificate holders or the depositor may remove the trustee upon at least a majority vote.

2. Master Servicer

General Obligations. The master servicer has the primary responsibility for the servicing of the commercial mortgage loans owned by the CMBS Trust, performing asset management functions on trust assets prior to default and preparing pool-wide reporting regarding the assets of the CMBS Trust. The master servicer also maintains and records monthly payments received from borrowers or primary servicers in a CMBS transaction collection account and after payment of fees and expenses of the trust, and forwards such funds to the trustee for distribution to certificate holders.

As part of its duties, the master servicer (directly or through a subservicer in certain cases) is responsible for collection of the mortgage payments, record keeping related to each commercial mortgage loan, securitization accounting, escrow administration, paying service providers and trust expenses, remitting principal and interest payments to the trustee for payment to the certificate holders, monitoring and maintaining the CMBS Trust's lien on the mortgage property, monitoring and causing payment of real estate taxes and insurance premiums if the borrower fails to pay such amounts, preparing pool-wide reporting regarding the assets of the CMBS Trust and forwarding such reports to the trustee for reporting to the certificate holders in the investor reporting packet. The master servicer must evaluate and respond to borrower requests to release collateral, transfer the loan to another borrower and other borrower initiated asset management requests. The master servicer also is responsible for monitoring borrower loan payments and, if not timely received, advancing (unless determined non-recoverable) delinquent principal and interest payments and delinquent property protection payments (such as real estate taxes or insurance premiums) to avoid shortfalls to the certificate holders and to protect the value of the property securing the loan.

The master servicer is also responsible for the oversight and administration of all sub-servicers or primary servicers, as discussed below. Servicing administration of the primary servicing functions requires the master servicer to have a solid understanding of the loan documents and the pooling and servicing agreement.

Servicing Standard. The Master Servicer must perform many duties under the applicable pooling and servicing agreement. Each of these duties must be performed in accordance with the applicable servicing standard. This standard will also apply to the duties and obligations of the

special servicer and each primary servicer or subservicer. Generally, the servicing standard will require the master servicer and other servicers to diligently service and administer the loans and REO Property owned by the CMBS Trust acting in the best interests of the CMBS Trust, the investors and the holders of the companion *pari passu* loans or B Notes held outside the CMBS Trust taking into account the subordinate or *pari passu* nature of such companion split loans. These actions must be in accordance with:

- the terms of the pooling and servicing agreement,
- applicable law, including REMIC rules, securities laws, confidentiality laws, foreclosure laws, receivership provisions, lender liability laws, creditors rights laws, employment laws, and other mortgage or deed in-lieu enforcement laws,
- the terms of the loans documents, and
- if applicable, with respect to any related:
 - mezzanine debt, the related intercreditor agreement,
 - B notes, the related co-lender agreement, and
 - *pari passu* loans, the related participation agreement.

As part of the servicing standard but only if consistent with the above, the servicers shall service the loan, companion pieces and the REO Property in accordance with the higher of the following standards of care: (a) in the same manner and with the same care, skill, prudence and diligence with which it services and administers similar loans for other third party portfolios, and (b) the same care, skill, prudence and diligence with which it services and administers similar loans owned by it with a view to the maximization of timely recovery of principal and interest on a net present value basis. In each case, the servicing standard requires consideration of customary and usual standards of practice of prudent institutional, multifamily and commercial mortgage loan servicers. However, servicers are not entitled to lower their standard of care because of any conflict of interest arising from:

- (i) relationships of the servicer or an affiliate with any borrower or affiliate, any mortgage loan seller, any sponsor, or any other party to the pooling and servicing agreement,
- (ii) its ownership of any certificate, companion loan, or mezzanine loan,
- (iii) its advancing obligations,
- (iv) its compensation levels,
- (v) its level of entitlement to expense reimbursement,
- (vi) its other ownership or business interests,

- (vii) its options to purchase any asset of the CMBS Trust, or
- (viii) any other debt it or an affiliate has extended to any borrower or borrower affiliate.

The servicing standard is designed to provide consistency in the industry among servicers and to give both borrowers and investors comfort that their interests are being handled fairly.

Specific Duties:

A. Servicing Transfers

The master servicer is responsible for working with previous loan servicers, administrators or originators to obtain required documentation for each loan held in a CMBS Trust. Prior servicers can provide current servicing data in either electronic or hard copy format, and this data is entered into the new servicer's conversion management system for review and eventual import into the servicing system. All information obtained from previous servicers or originators must be accurately boarded on the new servicing system. Because a comprehensive review of loan data should be performed prior to boarding the loan to the servicer's system, a loan status summary is completed and used to track and post conversion system maintenance requirements. Departmental file review specialists review each loan document and perform a final quality control check. The loan is reviewed for data entry accuracy through the new loan setup reports and, once completed and approved, a system-generated scrub sheet is produced and the loan is passed into production.

A conversion file review group is responsible for passing loans into production and performing a full file review of all loan documentation to ensure that each loan is being serviced according to the terms of each loan document. Once the loan is passed into production, critical financial data fields such as loan balance, interest basis code, interest rate, payment amounts, next payment due dates, receivables and interest accruals are independently reviewed. The tax department reviews the documents to ensure that the proper escrows have been established and that all parcels have been identified and added to the records of the tax service, and the insurance department reviews the loan documents to ensure that proper escrows have been established and all required coverage has been obtained.

Anytime during the life of the CMBS Trust, when a loan is paid off, liquidated or sold from the CMBS Trust, the master servicer must remove the loan from its servicing system. The removal process includes generating goodbye letters, vendor notification letters, transferring escrow, and reserve account balances.

B. Advancing

As mentioned earlier, the master servicer is primarily responsible for covering (advancing) principal and interest payments due under mortgage loan documents if the borrower is late in making the payment. The master servicer is also responsible for making property protection advances, such as real estate taxes or insurance premiums when escrow funds are not sufficient to satisfy the payment amount or the borrower has not paid such taxes or insurance. This

obligation is not unlimited. The master servicer is not required to make such advances if the master servicer determines that the advance would not be repaid in a timely manner, or ever, and thus "non-recoverable." But, subject to a determination of non-recoverability, the master servicer will be required to continue to make principal and interest advances and property protection advances until the borrower pays the trust regularly and timely, or the loan is sold from the trust or the special servicer forecloses on the loan and takes the mortgage property as REO property.

The CMBS Trust compensates the master servicer for making these advances by paying interest at a specified rate which accrues while the advance is outstanding, and is paid when the advance is repaid. Generally, these advances and accrued interest are repaid to the master servicer from related loan proceeds, such as late fees and default interest. However, when the advance is determined to be non-recoverable, these advances with accrued interest are repaid from the general collections of the CMBS Trust.

An important note is that the advancing mechanism in CMBS transactions is a liquidity facility and not a credit support mechanism. The purpose of the advancing is simply to smooth the cash flow to the certificate holders, which makes the CMBS securities more appealing as a fixed income investment. Because delinquent principal and interest payments are advanced, investors are not subject to unpredictable fluctuations in cash flow impacting the interest payments on their investments.

In today's market, most master servicers are also national banks. Accordingly, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2011, the Basel Accords, governmental regulations and accounting rules impact how these advances are reflected on the books and records of the master servicer. If the advance is not fully reimbursable and discretionary when made, or the reimbursement is not senior to certificate holders, the advancing party will have additional capital requirements for the amount of the advances on a sliding scale up to 100%".

C. Borrower Collections

The primary servicer is responsible for collecting the monthly loan payments while the loan is not a specially serviced mortgage loan. These efforts involve continuous tracking of the status of outstanding payments due, grace periods, and due dates, as well as the monitoring of late fees and partial payments. The servicer's responsibility includes collection calls, notices/letters, and preparing delinquency reports. The use of direct billing encourages regular communication between servicer and borrower, which can significantly reduce the number of delinquent accounts.

D. Loan Accounting

Loan accounting consists of maintaining records to track the current outstanding principal balance of the loan, the applicable interest rate, the escrow and reserve balances, the current amount due for taxes, insurance and other escrow/reserve payments, and the monthly payments due from the borrower. Monthly, the servicer will track daily receipts with respect to the loan, reduce the principal due under the loan, pay (as they come due) taxes, insurance and other amounts from escrowed or reserved funds, and pay fees due from interest payments. Once the

receipts are accounted for and expenses are paid, the servicer will distribute the remaining funds to the trustees for distribution to the certificate holders in accordance with the waterfall set forth in the pooling and servicing agreement.

E. Escrow Administration

The servicer is responsible for monitoring the borrowers' payment of such items as real estate taxes, insurance premiums, ground rents, special assessments, and tenant improvements. Under the loan documents, Borrowers may pay these costs directly or they may pay such amounts monthly to the servicer to be escrowed until due. If the borrower does not pay these amounts or if they are not properly escrowed, the servicer shall be responsible for paying these amounts on behalf of the CMBS Trust as they become due and payable.

Escrow administration involves the handling of escrow payments and reserves, whether funded or unfunded accounts are set up at either the property or portfolio level in anticipation of periodic expenditures or cash needs. From monthly payments, servicers deposit enough money into the specific escrow or reserve account each month. The amount of insurance premiums, taxes, ground rents, special assessments, and other charges may change from time to time as taxes and premiums increase or special assessments are satisfied and new ones arise. Consequently, escrow accounts should be analyzed each time funds are disbursed (and on an annual basis at the very least).

F. UCC Administration

The Uniform Commercial Code (UCC) is a comprehensive code of laws adopted with minimal variation by each State, addressing the creation and perfection of security interests in personal property for use in commercial and standard financial transactions. Servicers are responsible for monitoring UCC filings for expiration and for preparing continuation filings as needed.

G. Loan Payoffs

Generally, commercial mortgage loans contain restrictions on prepayment of loans. The servicer is responsible for ensuring that borrowers do not prepay the loan in violation of the mortgage loan documents. If the loan documents do permit prepayment, or if the loan is maturing, the servicer will provide the borrower with a payoff quote and process the payoff. The payoff quote will include the amount of principal due, any interest due through the payoff date, the amount of insurance premiums, taxes, ground rents, special assessments or other charges required to be funded by the borrower at the time of payoff, and amounts due to reimburse any outstanding advances or other amounts for which the borrower is responsible, including any prepayment penalty or premium. Once the payoff funds are received, the servicer will apply payoff funds to the servicing system reflecting that the loan has been paid in full and direct the custodian to release the note and mortgage loan file to the borrower.

H. Loan Administration

Most servicers establish a department for the management of loans involving specialized servicing requirements. This includes the administration of cash flow loans, split loans, single

tenant loans, loans requiring ground lease payments, loans requiring property performance covenants monitoring, and complex lockbox collection mechanisms and cash distribution programs. This process is also referred to as "waterfall" administration. Hard and soft lockboxes are frequently established to collect funds from the tenants of collateral properties. The key point is servicer control or borrower control over collections from tenants. Under a "hard" lockbox arrangement, a property's tenants send monthly rent checks directly to a lockbox controlled by the servicer for application to the loan and various reserves. The checks are deposited into a primary collection bank. Alternately, under a "soft" lockbox arrangement, the property manager collects the tenant's rent checks and sends the payments directly to a servicer-controlled lockbox.

I. Lockboxes

The cash collected under lockbox arrangements must be distributed according to an allocation mechanism defined within the terms of the loan documents and servicing agreement. Under a simple distribution mechanism, the collected funds are allocated to fees, principal, interest, taxes and insurance, and reserves. A more complex distribution mechanism may include additional allocations to property operating expenses, capital improvements, multiple reserves, equity participation, and committed investments.

J. Borrower Customer Service

In any servicing organization, a dedicated team of specially trained personnel must be employed to provide the level of service necessary to handle the specialized needs of commercial mortgage programs and a widely diverse base of borrowers. Duties may include addressing borrower inquiries and formal customer complaints, maintaining borrower information files, and responding to inquiries from third party creditors and auditors. Technology-enabled servicers can also offer borrowers on-line access to account information such as balances, payment histories, billing information, and much more.

K. Investor Reporting Package

As the CMBS industry has developed, the CRE Finance Council ("CREFC") (formerly known as the Commercial Mortgage Securities Association) has promoted streamlined and standardized reporting for CMBS transactions, to provide increased levels of transparency. The CREFC has developed template guidelines called the Investor Reporting Package ("IRP") to enable investors to review CMBS transaction components at various levels of detail, down to the individual property and loan. The IRP allows issuers, master servicers, special servicers, trust advisors, rating agencies, investors and potential investors to analyze and compare individual loans and underlying collateral in order to monitor ongoing performance.

The IRP consists of seven electronic files, nine surveillance reports and two supplemental reports. Through these files and reports, the master servicer, special servicers and trustee release both operating statements and statements of financial position. They also disclose details about collateral, property watch lists, loan workouts, loan modifications, loan recoveries, appraisal reductions, and significant insurance events, among other data.

The seven data files include the (1) Loan Setup File, (2) Loan Periodic Update File, (3) Property File, (4) CREFC Bond Level File, (5) Collateral Summary File, (6) Financial File and (7) Special Servicer Loan File).

The nine surveillance reports include the (1) Servicer Watch List, (2) Delinquent Loan Status Report, (3) REO Status Report, (4) Comparative Financial Status Report, (5) Historical Loan Modification and Corrected Mortgage Loan Report, (6) Operating Statement Analysis Report, (7) NOI Adjustment Worksheet, (8) Loan Level Reserve/LOC Report and (9) Reconciliation of Funds Report).

The two supplemental reports include the Advance Recovery Report and the Total Loan Report.

L. Credit Surveillance

The credit surveillance function is intended to provide information to investors and rating agencies by monitoring and evaluating credit risk derived from collateral performance and real estate markets. The services provided in connection with credit surveillance include performing annual site inspections, annual mortgage reviews, and valuations for each property.

Additionally, the collection, review and analysis of property operating statements, borrower financial statements, rent rolls, and leasing reports are performed in strict accordance with the mortgage loan documents.

A key tool used by credit surveillance professionals is the borrower-financial statement, which in its simplest form is a detailed report that includes a balance sheet and income statement. These statements help provide a solid understanding of the security property's performance, as well as the overall financial condition of the borrower. Most loan documents require the borrower to submit certified financial statements for the property and/or borrowing entity after the close of the fiscal or calendar year. Rent rolls, which are listings of all property leases, are a sound management tool used by developers and a helpful underwriting tool used by lenders. The rent roll uncovers potential risk from lease rollover, as well as the concentration of such risk. Site inspections, or visual inspections of the security property, reveal information that facilitates determining the property's true current physical condition and occupancy status.

M. Asset Management

Asset management is required to address borrower-initiated requests and real estate issues, and to monitor collateral performance. Real estate issues might include assignments (transfers of ownership, rights, or interest in a property), assumptions (the act of taking over the previous borrower's obligation of a mortgage note), secondary financing, partial releases, lease approvals and terminations, easements, condemnations, defeasance (a provision in a mortgage allowing the debtor to replace a loan with U.S. government obligations if certain conditions are met), reserve issues, construction draw requests, and collection activities.

Additionally, asset managers review and process borrower requests related to the servicing of performing loan assets and reserve account disbursements, collect delinquent payments, monitor watch list loans, and transfer loans to special servicers for default management. A stringent internal approval process involving advance credit committees and external approvals from

special servicers, controlling class holders and/or rating agencies must also be taken into account.

N. Risk Management

Risk management activities are specifically geared and designed to identify and monitor problem loans before they become delinquent. Servicers employ a sophisticated collateral surveillance and loan-grading system to manage the default risk associated with commercial mortgage assets. One way to accomplish this is to develop a formalized risk rating system that establishes criteria, based on the latest CREFC standards, for placing loans on a watch list. This system should identify loans for the watch list based on various performance triggers, including delinquency, low debt service coverage ratios or occupancy rates, major tenant financial issues, high loan to value ("LTV"), and pending maturity, among others. The primary purpose of maintaining a watch list is to provide a mechanism to proactively manage problem loans and ensure that the status of these loans is communicated to all appropriate parties. In the event of a delinquency, these practices and procedures improve the efficiency with which delinquent loans will be brought current or transferred to the appropriate special servicer for resolution.

By diligently monitoring property operations, physical conditions, market conditions, and borrower financial status, problems can be detected in their nascent stages, thereby providing significantly more options and greater flexibility to solve problems before defaults occur. In foreclosure situations, early intervention can provide expedited collateral recovery by reducing bankruptcies and litigation costs.

O. Transfer to Special Servicing

As discussed below in more detail, the master servicer makes the determination of when a loan should be transferred to the special servicer, a "servicing transfer event." Once the loan becomes a specially serviced loan, the special servicer takes over the servicing of the loan. However, the master servicer will continue to be required to (a) receive payments on the mortgage loans (including amounts collected by the special servicer and paid to master servicer), (b) make certain calculations with respect to the mortgage loan, (c) maintain insurance on specially serviced mortgage loans, and (d) make remittances and prepare certain reports to the trustee with respect to the mortgage loans. The master servicer also continues to be entitled to receive the master servicing fee in respect to the mortgage loans.

P. Servicing Operations and Technology

While technology has always played an important role in commercial loan-servicing operations, it is critical for CMBS primary and master servicing. Investors are increasingly demanding constant access to more detailed information regarding their investments, and it has become mandatory for servicers to stay competitive by developing systems to adequately handle the compilation and dissemination of loan and portfolio data. At a minimum, master servicers should maintain a website that provides current reports and portfolio statistics that can be easily downloaded. Ideally, the site will also allow user-customized reporting and direct email distribution of monthly reporting packages.

Q. REMIC Limitations.

REMICs are tax-advantaged vehicles used to hold mortgage loans, against which bonds are issued in order to provide new capital for lending sources (see Chapter Seven for more detail). Congress included the REMIC provisions in the Tax Reform Act of 1986. These provisions define the taxation of interests in pools of real property mortgages that meet certain requirements and elect to be treated as a REMIC.

While the rules permit the issuance of multiple-class pass-through certificates, they also restrict the activities of entities electing REMIC status by essentially making them static investment vehicles that are unable to originate mortgage loans or engage in other lending activities. Servicers must review proposed transactions not only from a commercial perspective (i.e., what makes the most commercial sense), but also from a tax perspective. The servicer's hands may be tied by REMIC tax restrictions even though a particular solution seems to make economic sense to both the borrower and the servicer. Any request for an alteration that is not covered in the mortgage loan documents could cause an issue with REMIC compliance.

Special servicers have a little more flexibility in modifying or extending existing loans or entering into new debt structures when the existing loan is in default. However, care must be taken to confirm that any transaction complies with the REMIC limitations. For example, modifications coupled with release of collateral may result in a REMIC violation if the servicer does not confirm that the loan continues to meet the definition of qualified mortgage and thus satisfy the 80-20 rule timing and other limits exist with respect to management and selling of REO property. In no case may the special servicer extend additional credit to a borrower or party to the pooling and servicing agreement in connection with purchasing a loan from the CMBS Trust.

R. Defeasance

Defeasance is a mechanism created to address a conflict between commercial real estate borrowers who wish to have flexibility to prepay their loan and CMBS investors who want certainty regarding the duration of their investment.

To facilitate securitization and particularly to preserve the cash flow to the interest-only securities, CMBS loans are originated with prepayment lock-out periods during which the borrower may not prepay the loan. However, loans with lock-out periods are not always attractive to borrowers. So, in order to make CMBS loans more appealing to borrowers, the lenders instituted defeasance provisions. In a defeasance, the borrower's note remains in the CMBS Trust along with the obligation to pay the monthly payments on the note. However, the mortgage on the property which originally secured the note is released and replaced by U.S. Treasury securities that are scheduled to mature and pay each month for the remainder of the term of the note in an amount equivalent to the monthly principal and interest payments due under the note. Through a defeasance, the borrower is able to remove the collateral property from the CMBS Trust, thereby freeing it to be refinanced or sold as desired. The borrower is also able to remove its obligation under the note by transferring it to a "successor borrower," which is appointed in the defeasance agreement.

Defeasance is accomplished through the assistance of the master servicer, REMIC tax counsel and certain third party firms that specialize in defeasance issues. Each of these firms assists the borrower by arranging for the purchase and delivery of the securities to the trustee and facilitating the creation of the defeasance agreement. One of these third-party firms also typically becomes the "successor borrower" thus releasing the borrower from its obligation under the note. The trustee takes delivery and possession of the U.S. Treasury securities, posts them to an account for the CMBS Trust and begins collecting the monthly security payments.

Allowing for a loan to be defeased thus accommodates the borrower's desire for flexibility to prepay an existing loan if a better financing solution is available or to facilitate a sale of the property and yet protects those classes of certificates in a CMBS Trust that may be affected negatively by prepayments such as the interest only certificates and the senior certificates.

Qualifications. The master servicer must carry a minimum master servicer and primary servicer rating issued by the compensated rating agencies evaluating the particular CMBS transaction and must have experience as a primary and master servicer of other commercial mortgage loans.

Compensation. For its monthly duties, the master servicer earns a master servicing fee, which is calculated as a fixed number of basis points on the OPB of all the mortgage loans. The master servicer pays itself and the other service providers the related fee from amounts held in the collection account. The master servicer is also entitled to certain asset management fees on borrower-initiated transactions, as well as interest on any funds it advances until such advances are reimbursed. Finally, the master servicer derives revenue from the amounts held in the collection account and, if such revenue is not due the borrower, amounts held as reserve and escrow payments.

Appointment; Removal. In CMBS securitizations, the master servicer is appointed by the sponsors as the master servicer and generally purchases the related servicing rights through a bidding process performed by the sponsors. The master servicer performs its duties in the capacity of an independent third party service provider with responsibility directly to the CMBS Trust and certificate holders. Accordingly, the master servicer is not an agent of the trustee.

By way of background, profits are generated in fixed-rate securitization transactions primarily through the sale of a class of certificates entitled to an interest only strip and the servicing rights. The larger the servicing strip, the less excess interest the issuer has available to sell as an interest-only strip. Accordingly, the sale of CMBS servicing rights represents a major component of the profit generated by the sponsors from the origination and securitization of commercial mortgages. Even in a very low interest rate environment, CMBS sponsors offer these servicing rights to the rated master servicer community which consists of a limited group. The highest bidder acquires the servicing rights and then is responsible for servicing the loans and, as compensation, receives the associated servicing fees, float and ancillary income for the life of the loan. The largest CMBS servicers have hundreds of millions of dollars invested in servicing rights. In connection with the master servicer purchasing these servicing rights, usually it may only be terminated when it commits a servicer termination event related to the master servicer.

3. Special Servicer

General Obligations. During the life of virtually every portfolio of loans, there will be loans that have credit issues or become delinquent and default. In some cases, the master servicer's collection department may be able to restore the loan to performing status by rendering assistance to a borrower experiencing temporary adverse circumstances. If the loan delinquency cannot be resolved by the master servicer, the loan will likely become a specially serviced mortgage loan. Specific circumstances, the occurrence of which will be considered as the triggering element for moving a performing loan to non-performing or special servicing status for the more intense functions of special servicing, are defined within a particular pooling and servicing agreement. Once a loan is transferred, the special servicer is responsible for the reinstatement, the resolution or liquidation of the loan. The special servicer is an expert in default resolution and asset management. The special servicer is responsible for servicing the commercial mortgage loans after a servicing transfer event, when the loan becomes a specially serviced mortgage loan until the loan becomes fully performing again or is sold or otherwise liquidated.

Each pooling and servicing agreement sets forth the criteria for transferring a loan from master servicing into special servicing. A loan is typically determined to be a specially serviced loan when:

- The loan is 60 days past due or the balloon payment is delinquent and the related borrower has not provided to the master servicer a refinancing commitment within 60 days of the related maturity date;
- The borrower admits it is insolvent; files or consents to bankruptcy filing, appointment of a receiver or conservator or a similar insolvency proceeding; or is the subject of a decree or order related to such proceeding;
- The master servicer or the special servicer receives notice of the foreclosure or proposed foreclosure of any lien other than the mortgage on the underlying mortgaged property;
- The master servicer or the special servicer determines a payment default is imminent or reasonably foreseeable and is not likely to be cured within 60 days;
- The borrower has failed (or is imminently likely to fail) to maintain or cause to be maintained insurance coverage against damages or losses; or
- Other material non-monetary defaults occur and remain unremediated for the applicable grace period.

A special servicer's primary objective is to realize the maximum net recovery or present value return for problem loans and REO properties. Net recoveries on a present value basis are maximized through expedited resolutions based on a detailed evaluation of the property and its value, the borrower and his motivations, the asset status and the legal remedies available. Each non-performing asset is unique, and a resolution strategy is developed based on the specific circumstances and the underlying value of the collateral. Each potential resolution alternative is

then evaluated to determine which alternative presents the highest recovery amount on a net present value basis based on the risk-adjusted discount rate appropriate for each strategy.

With respect to specially serviced mortgage loans, the special servicer develops a plan for resolution of the loan, handles collections from borrowers, maintains the CMBS Trust's lien on the loan, handles payment of real estate taxes and insurance on REO property and attempts to resolve the defaulted loans in the best interest of certificate holders.

Servicing Standard. As discussed with respect to the master servicer, the special servicer must also perform its duties and obligations in accordance with the servicing standard described in the pooling and servicing agreement. For more information on what this standard provides see the discussion under Section II.H.2 above.

Specific Duties.

A. Development of Plan

When a loan becomes a specially serviced loan, the special servicer will be required to evaluate the loan order and inspections of the property, order an appraisal and prepare a plan for resolution of the default. This plan may recommend simultaneous pursuit or dual tracking two or more possible resolutions alternative. These options include: (i) asserting a claim against the seller if it materially breaches any representations regarding the loan or if any material loan documents are missing or defective; (ii) selling the note to a third party or the controlling class holder, (iii) modifying or extending the terms of the loan, or (iv) foreclosing on the note or deed in lieu of foreclosure. Each of these alternatives is evaluated in a plan, and a plan of action is recommended. In analyzing the recommended resolutions, they will provide detail regarding the asset, the borrower and the related parties, provide a financial analysis and a valuation of the real estate, and set forth resolution alternatives.

While the controlling class holder is in place, the plan will be developed with the input of the controlling class holder to maximize the net recovery and minimize the cost and risk of litigation or bankruptcy. Of course, the special servicer does not foreclose the option of litigation as litigation is used as a tool to force the borrower to perform its obligations or take the lender's concerns seriously. If litigation is necessary, the special servicer's asset managers maintain control of the process. This assists with minimizing costs and ensuring that good business judgment is exercised throughout the proceeding.

B. Loan Modification

One of the options for a specially serviced loan is to attempt to work the loan out with the current borrower and an affiliate of the borrower and new investor. Many factors come into play when deciding to modify a loan. If the special servicer determines that it is in the best interests of the certificate holders to permanently amend the terms of the loan to work it out, it will make a recommendation to the Controlling Class Holder. The Controlling Class Holder will evaluate such modification and other borrower requests to determine whether the transaction will likely produce the best result, i.e. does a foreclosure produce a better result or does a loan sale or some other resolution produce better results. Loan modifications may result in extension of term,

change of interest rate, change in payment amounts, write down of principal balance, splitting the loan into multiple pieces and/or creating a receivable for outstanding advances and advance interest if they cannot be repaid at the time of modification. In certain cases, the borrower will be in a position to contribute additional cash to reduce the loan balance and/or set up additional reserves at the time of the modification, but as CMBS loans are typically non-recourse borrowers may not be willing to do this unless the value of the property has increased or is likely to increase.

C. Loan Sale or DPO

The special servicer also has the option to sell the loan to a third party. In this case, the special servicer will market the loan, and is required to take the highest case offer. In some cases, the purchase price will need to be sufficient to make the trust whole. The special servicer may not be able to find a buyer willing to pay buy the loan at face value along with all expenses; especially in a down economy. However, the current borrower or another party may be willing to purchase the loan back from the trust at a discount through a discounted payoff or short sale ("DPO") transaction. In a DPO transaction, the special servicer agrees to accept less than the outstanding principal balance of the note from the borrower who likely then sells the property to a third party to repay the loan. While the trust is not made whole, the special servicer has determined that this alternative represents the highest net present value as a resolution alternative.

D. Seller Repurchase Obligations

Under the applicable mortgage loan purchase agreement, mortgage loan seller has an obligation to repurchase a loan if the representation or warranty given when the loan is sold to the depositor was not correct in a material manner or if the loan documents have a material defect. These issues are often first discovered when the loan becomes a defaulted loan. If the defect or breach is material, the special servicer is responsible for enforcing the trust's rights against the seller. Many factors go into whether the special servicer will pursue claims against sellers, including strength of claim and cost and potential benefit to the certificate holders. The special servicer will evaluate the trust's claim and pursue such claims concurrently with pursuing other alternatives as it determines, in accordance with the servicing standard, are in the best interest of the certificate holders. If the seller refuses to honor such claims in a timely manner, the special servicer may determine to file a law suit against the seller. Very few sellers have repurchased loans or have been required to repurchase loans by the courts.

E. REO Management and Disposition

Another option considered concurrently with loan modifications, loan sales and DPOs is foreclosing on the loan and taking possession of the underlying mortgage property. Again, many factors are considered before doing this, including the condition and value of the property. If significant environmental issues are apparent, the special servicer will need to consider whether clean up is possible, and, if so, what is the cost and whether expending such funds is beneficial to the certificate holders overall position. Further, real estate value is dependent on location; therefore, the value must be analyzed and evaluated in that context. Such analysis enables servicers to quantify the significant attribute assets as they relate to the property, market and

potential buyer motivations. Competitively selected subcontractors such as brokers, leasing agents, property managers, and so forth can help implement the servicer's approved strategy, thereby enhancing the value and marketability of each real estate owned asset.

Qualifications. The special servicer must carry a minimum special servicer rating or approval issued by the compensated rating agencies evaluating the particular CMBS transaction and must have experience as a special servicer of other commercial mortgage loans.

Compensation. The special servicer earns revenue from various sources, including a monthly special servicing fee calculated as a fixed number of basis points on the OPB of all of the specially serviced mortgage loans or deemed loans related to the REO property. The special servicer is also entitled to a fee on the proceeds related to a worked-out loan or a liquidated loan which is calculated on a fixed percentage multiplied by the proceeds of such transaction. Sellers have the obligation to repurchase loans in certain situations, and if such loans are not repurchased as required by the related mortgage loan purchase agreement, the special servicer may also be entitled to a fee for enforcing such repurchase obligation. The master servicer will pay the special servicer its fees on a monthly basis. The special servicer is also entitled to certain asset management fees on borrower-initiated transactions, including modifications or assumption transactions. Since 2008, new industry-wide norms are being adopted that place limitations on special servicer compensation.

Appointment; Removal. The special servicer is typically appointed by the Controlling Class Holder. The special servicer is not an agent of the trustee or the master servicer. As with the master servicer, the special servicer may be terminated upon the occurrence of a servicer termination event related to the special servicer. However, because the special servicer does not purchase its rights to be part of the CMBS transaction, it may also be terminated for any reason, or no reason, by the Controlling Class Holder under the conditions of the pooling and servicing agreement.

In legacy CMBS transactions prior to 2008, the Controlling Class Holder could terminate the special servicer for any reason until the value of the controlling class certificates was reduced significantly by realized losses. Once the most subordinate class of bonds was gone, the power to select the special servicer shifted to the next most junior class of bonds. This often resulted in many changes in the special servicer as subordinate bonds lost value as a result of realized losses. In addition, concern was raised that special servicers would attempt to avoid appraisal reductions or realization of loss to avoid control shifts. As a result of these concerns, changes were made to the termination provisions as the CMBS new issue market reemerged in 2010 to bring more transparency to the market and reduce conflicts of interest which ultimately results in market integrity, investor protection and curbing systemic risk.

Since 2010, new change of control provisions have been adopted. Most CMBS transactions provide that a control termination event will occur when the subordinate bonds are appraised out or realized losses. Prior to such control termination event, the Controlling Class Holder will have the right to consent to all major decisions regarding a mortgage loan, approve the special servicer's plan for any specially serviced mortgage loan or REO property and decide whether to approve the sale, liquidation, modification or restructure of any specially serviced mortgage loan

or REO property. In addition, prior to such control termination event, the Controlling Class Holder will have the unfettered right to change special servicers. After a control termination event (bond values are significantly reduced by appraisal reduction and/or realized losses), the Controlling Class Holder will no longer have such consent rights or the right to remove and replace the special servicer. The Controlling Class Holder will merely have consultation rights and the special servicer will also be required to consult with the trust advisor on major decisions and plans for specially serviced mortgage loans or REO Properties. During this consultation period, and after the Controlling Class Holder's bonds suffer significant realized losses, if the trust advisor determines the special servicer is not performing its duties in accordance with the servicing standard and a super majority of certificate holders vote in favor of removing the special servicer within 180 days of the trust advisor's recommendation to certificate holders, the trustee must terminate the special servicer. If the subordinate bonds regain their value, the consultation period would cease and the Controlling Class Holder would again have all its consent rights and unfettered rights regarding the replacement of the special servicer.

With respect to these new control provisions, once the B-piece bonds are significantly reduced in value and have suffered realized losses resulting from actual losses, the Controlling Class Holder will lose its consolation rights and only the trust advisor will have the right to review major decisions or plans for the specially serviced mortgage loans or REO Properties. However, a group of certificate holders may also recommend the removal of the special servicer and if such recommendation is supported by a super majority of certificate holders, the trustee must replace the special servicer. During this time, the trust advisor continues to have its right to recommend the replacement of the special servicer.

Additionally, in both new and legacy CMBS transactions, the controlling class of certificates are sometimes sold to another party. In such cases, and assuming no control event, the new investor/Controlling Class Holder has the option to require a transfer of the special servicing to itself or to an entity of its choosing. The new owner will need to provide verification of its ownership of the controlling class of certificates to the trustee accompanied by the documentation required under the pooling and servicing agreement to confirm authority and its approval or selection of the replacement special servicer.

4. Senior Trust Advisor/Trust Advisor/Operating Advisor

General Obligations. The operating advisor, senior trust advisor or trust advisor (in any case referred to in this Chapter, as a "Trust Advisor") is a new position developed for the reemerging market to provide investment grade bond holders with an advocate to oversee the activities of the special servicer separate and apart from the oversight of the Controlling Class Holder especially after the appraised or realized value of the Controlling Class Holder's interest drops significantly.

The trust advisor is responsible for monitoring and evaluating the special servicer's performance under the pooling and servicing agreement. Annually, the CMBS Trust advisor must opine as to whether the special servicer is performing its obligations in accordance with the standards set forth in the pooling and servicing agreement. The trust advisor will review the special servicer's operational practices with respect to specially serviced mortgage loans to formulate an opinion as to whether or not those operational practices satisfy the servicing standard with respect to the

resolution and/or liquidation of the specially serviced mortgage loans. In addition, the special servicer must consult with the trust advisor with regard to certain matters and major decisions with respect to its servicing of the specially serviced mortgage loans to the extent set forth in the pooling and servicing agreement. Finally, the trust advisor also evaluates any appraisal reduction or net present value calculation prepared by the special servicer.

Qualifications. The trust advisor acts solely as a contracting party and has no fiduciary duty to any party. The trust advisor may not make an investment in any certificates. The trust advisor also must be independent from any special servicer and cannot receive compensation from or pay the special servicer in connection with recommending a successor special servicer to replace the current special servicer or in recommending the replacement of the current special servicer. Trust advisors must be regularly engaged in the business of analyzing and advising clients in commercial mortgage-backed securities and have experience in commercial real estate asset management and the working-out and management of distressed commercial real estate assets.

Compensation. As compensation for its activities, the trust advisor is entitled to a monthly fee with respect to each mortgage loan and each REO loan (excluding a fee on any split loans) computed on the basis of the OPB of such mortgage loans or REO loans.

Appointment; Removal. The trust advisor is appointed by the depositor. Normally, the trust advisor may be removed under the following conditions:

- The trust advisor may be removed upon the written direction of a group of certificate holders and a vote by a majority of certificate holders in favor of such removal and replacement.
- If, at any time, the trust advisor fails to perform its duties under the pooling and servicing agreement, then the trustee may replace the trust advisor. The trustee must replace the trust advisor upon the written direction of a majority of certificate holders if the trust advisor is failing to perform its duties under the pooling and servicing agreement.
- In the event there are no certificates outstanding other than the ones held by the controlling class holder and the residual interest certificates, the holders of a majority of the senior-most certificates still outstanding may elect to terminate the trust advisor without payment of any penalty or termination fee.

5. Mortgage Bankers; Brokers; Primary Servicers

As discussed above, the loan originators, mortgage bankers or brokers often negotiate the right to continue as the primary servicer of the commercial mortgage loans they originate, facilitate or broker in order to maintain relationships with the related borrower. In any such case, the master servicer will enter into a subservicing agreement with such person or its affiliate. The master servicer will subservice certain servicing functions for these loans which may include payment processing, loan administration, real estate tax administration, inspections, insurance, escrow and reserve administration, asset management, lockbox and cash management administration, collection activities, borrower customer service activities, UCC monitoring and monthly

remittance and reporting to the master servicer. Per the terms of the pooling and servicing agreement, the master servicer remains primarily responsible for the servicing of each loan in the transaction, regardless of whether or not the primary servicing is performed by a sub-servicer.

Therefore, the Subservicing Agreement must be substantially similar to the pooling and servicing agreement to obligate the primary (sub) servicer to service the loans with the same level of care and under the same servicing standard as dictated in the pooling and servicing agreement.

Primary servicers play a critical role in commercial CMBS transactions. The primary servicer is responsible for actively administering the mortgage loans and collateral that are the security for the bondholder's investment. After a CMBS transaction closes, the primary servicer acts as the lender on behalf of the investors and the CMBS Trust. In addition, the primary servicer is responsible for providing loan and property-level information to the trustee, rating agencies, the 17g-5 information provider and companion noteholders and others as required by the pooling and servicing agreement. If a loan has credit issues or defaults, it is the special servicer who is responsible for managing and resolving the default or liquidating the collateral to maximize net recoveries on behalf of the bondholders.

All of the participants in the CMBS industry have a vested interest in the performance of the loans. The borrower is dependent on the primary servicer for accurate and timely loan administration. During the life of the loan, the borrower also relies on the primary servicer to maintain escrows to pay taxes and insurance, release reserves, and manage such borrower activities as assignments, assumptions and payoffs. Investors rely on the primary servicers to collect debt service from the borrowers, remit and report to the trustee, advance for delinquent payments and property protection expenses, and monitor the financial performance and physical quality of the collateral property. The rating agencies rely on the primary servicers (through the master servicer and 17g-5 information provider) for the information necessary to maintain surveillance on each loan in a CMBS transaction.

Servicing organizations are often structured in one of two ways. First, function-based, where numerous individuals are responsible for specific tasks. Second, loan-based, where portfolio managers or account executives are utilized to handle most aspects of a selected group of loans. Both can work well, and each has its advantages and disadvantages. The choice largely depends on the size of the servicing portfolio and the breadth of knowledge of the individual staff members. In either scenario, sound management and oversight of the receipt, deposit and disbursement of funds by the servicing organization is essential.

III. Legal Documents

The typical CMBS transaction is composed of several distinct transactions. First, a loan transaction between a borrower and a loan originator. Second, a transaction to transfer the commercial mortgage loans from the loan originators (if not also the seller) to the seller. Third, a transaction to transfer the commercial mortgage loans from the sponsor to the depositor. Fourth, a securitization transaction whereby the depositor contributes the commercial mortgage loans to the CMBS Trust and the CMBS Trust issues securities backed by the commercial mortgage loans

(called certificates) to investors. Each level has its own specific legal documentation, and we will briefly explore most of these parts of the overall transaction below.

A. *Commercial/Multifamily Loan Documents; Assignments*

The first step of a CMBS transaction is the lending of money to the borrower or the origination portion of the transaction. This initial loan is documented by several documents included in the commercial mortgage loan file. The commercial mortgage loan file for each mortgage loan typically contains: (i) the originator's original loan documents, (ii) supporting documents such as the title policy, survey and insurance policy or certificate, and (iii) the transfer documents that assign ownership of the loan documents and security interests to the various purchasers along the way (including, in limited cases with respect to commercial mortgage loans, relevant documents regarding the registration of mortgages with the Mortgage Electronic Registration System (MERS)). At a minimum, the original loan documents typically consist of a note and a properly recorded mortgage or deed of trust, a loan agreement, a security agreement and other documents, such as assignments of leases and rents or guaranties.

When the loan is sold into the CMBS transaction, the transfer documents should effectively assign all of the seller's right, title and interest in and to these documents and instruments to the purchaser. In the case of the mortgage or deed of trust, and any other loan documents creating liens or security interests in real property which liens are perfected by filing or recording, the purchaser should require that the assignment to the purchaser also be recorded or filed.

The mortgage loan sale agreement and the pooling and servicing agreement provide procedures for addressing material document defects in the mortgage loan file and the allowable recourse against the mortgage loan seller or sponsor of the CMBS Trust.

1. Loan Agreement; Promissory Note; Mortgage or Deed of Trust.

The loan transaction is represented by a loan agreement between the lender and the property owner/borrower setting forth the terms of the loan, escrow requirements, borrower covenants, and borrower events of default. The borrower also executes a promissory note evidencing the obligation to pay the principal amount owed plus interest at the specified rate. The obligation is secured by a pledge of the borrower's interest in the owned commercial property, which is effected through a mortgage or deed of trust. The mortgage or deed of trust is a security instrument filed in the real property records where the property is located. In substance and purpose, the mortgage and deed of trust refer to the same instrument, but state law dictates which form is appropriate. This chapter will use the term "mortgage" for convenience to refer to either a mortgage or deed of trust. Some lenders incorporate all of the material terms of the loan into the mortgage and do not have a separate loan agreement.

As more and more mortgage loans default for lack of performance or an ability to refinance when the loan matures, courts are holding firm that the note and the mortgage need to be in the name of the entity attempting to enforce such instruments. Therefore, at the time the loan is sold to the CMBS Trust, sellers must ensure that the loan documents, especially the note and mortgage, are transferred into the name of the CMBS Trust holding record title to such instruments on behalf of the certificate holders.

2. Other Loan Documents

A review of a typical loan closing binder and the definition of "Mortgage File" in securitization transaction documents demonstrate that there is more to the loan transaction than just the loan agreement, note and mortgage. A typical definition of a Mortgage File from a securitization transaction is attached as Annex A. A brief discussion of some of the other loan documents follows:

- a. *Allonges.* This document separately documents all the assignments of the note to the various purchasers in the chain of title. This is very important to have when attempting to enforce the note against the borrower.
- b. *Assignment of Leases and Rents.* This document separately pledges the leases and income stream from the property as additional collateral; often it is combined with and contained in the mortgage, but may be a separate document.
- c. *Security Agreement.* Generally for commercial mortgage loans, the borrower and lender will enter into a global security agreement pursuant to which the borrower will grant a security interest in its personal property. Perfection of this pledge is done by filing a Uniform Commercial Code (UCC) Financing Statement with the Secretary of State in the jurisdiction where the borrower was formed.
- d. *Guaranty/Indemnity Agreement.* Most commercial mortgage loans to borrower, where the loan is contributed to a CMBS transaction, are non-recourse. This means that the secured lender may not look to the borrower to repay the loan, but only to the real estate if the borrower defaults. Therefore, a full guaranty of repayment by the borrower of the debt is not included. However, most lenders require that the borrower sponsors, principals or other affiliates execute certain limited guarantees or indemnities including one for environmental law liabilities and a non-recourse carve-out guaranty. The non-recourse carve-out guaranty provides that the guarantor will guaranty payment of losses, claims, and liabilities arising out of certain actions by the borrower, such as fraud, misapplication of funds, environmental liabilities, waste, breach of transfer restrictions, and other so-called "bad acts." In some cases, the carve-out guaranty may also include a "springing" guaranty of the entire debt upon the occurrence of certain actions, such as the borrower's voluntary bankruptcy filing, or transfers contrary to the loan documents. Often, guaranties will state that the borrower and lender may not amend or modify any of the loan documents without the guarantor's prior written consent. Although not customary, this consent right may extend to selling, assigning or encumbering the lender's interest in such loan. Accordingly, prior to the transfer of a mortgage loan to a CMBS Trust, the lender should obtain the guarantor's consent.
- e. *Title Insurance Policy.* The title policy insuring the lender's lien priority together with all applicable endorsements, exclusions, and schedules.
- f. *Ground Lease.* In loans where the lender's collateral is a leasehold interest under a long term ground lease to the borrower, rather than a fee ownership interest, then a

- copy of the ground lease should be included (together with the ground lessor estoppel, with the fee owner consenting to the lender's lien and addressing other issues).
- g. *Reserve or Escrow Agreement.* The terms of any required tax, insurance, capital improvement, debt service, or other escrows or reserves may be included in the mortgage or set forth in a separate escrow agreement.
 - h. *Lockbox or Cash Management Agreement.* Where the borrower's access to cash from the property is restricted, an agreement between the borrower, lender, and the depository bank where accounts are maintained will be required setting forth the conditions for the release of funds to the borrower and giving the lender control over the accounts.
 - i. *Property Management Agreement.* The borrower may have a property management agreement with an affiliate or third party covering the day-to-day management and operation of the real property. The lender will want to review and take an assignment of the property management agreement as collateral. Often times, the secured lender will also require the property manager to enter into a subordination agreement, where the property manager consents to subordinate its rights to the lender.
 - j. *Other Ancillary Documents.* May include among others:
 - 1. *Franchise agreements.* Hotels or restaurants in a chain or hospitality or similar properties may be subject to a franchise arrangement. Compliance with these agreements is often critical to the success of the property.
 - 2. *Letters of Credit.* Letters of credit may be used in lieu of cash collateral for reserves or escrows. Perfection of a security interest in a letter of credit can only be accomplished by obtaining "control" of the letter of credit. To obtain control over a letter of credit, the lender must obtain the consent of the issuer of the letter of credit to any assignment. By perfecting a security interest in letter of credit rights, the secured party does not acquire the right to draw on the letter of credit. Such a right is personal to the beneficiary and can be accomplished only by a transfer of the letter of credit. Although having possession of the letter of credit is not effective to perfect a security interest, obtaining the original letter of credit will prevent the borrower/beneficiary from being able to make a draw without the secured party's consent.

b. *Agreements among Subordinate and Pari Passu Lenders.*

Most mortgage loans contributed to a CMBS Trust are whole loans. But, in certain cases involving very large loans, the seller will divide the loan into participations or separate notes to be held by multiple holders. The pieces of the loan may have identical status and rights against the borrower and collateral and with respect to payments, and are thus considered to be pari

passu. These pari passu pieces are generally held in multiple CMBS Trusts to spread the risk on the large loans over more investors and to reduce the risk to a CMBS transaction making the bonds more marketable.

In certain cases, the split loans are divided into senior prices and subordinate prices. These are typically called AB loans and the senior loan holder selects the servicers, but the subordinate holder has the right to approve of major decisions and may remove and replace the special servicer for the entire AB loan.

When enforcing a lender's rights in a split commercial mortgage loan, it is very important to know how the loan is structured and the rights of the various members of the debt stack:

1. Mezzanine Intercreditor Agreement

This is an agreement among the senior lender and the mezzanine lender (bridge lender) who loans money to the equity owners of the borrower ("mezzanine borrower"). Unlike junior debt, this loan is to the owner of the borrower, and is not secured by the real property securing the mortgage, but is typically secured by the stock or equity of the borrower owned by the mezzanine borrower. The mezzanine lender typically acknowledges it is not a creditor of the borrower, but the lenders agree that the mezzanine lender has certain limited rights in the event of a default by the mezzanine borrowers to foreclose on and become the new equity owners of the borrower. The mezzanine lender may also have certain cure rights if the borrower defaults under the underlying mortgage loan. In such cases, the mezzanine lender may also have the right to purchase the mortgage loan from the CMBS Trust.

2. Co-Lender Agreement, Participation Agreements

Many times very large loans are split into multiple *pari passu* senior pieces to reduce the risk to one party or into senior/subordinate pieces to place the bulk of the risk with the holders of the subordinate piece.

- a. The holders of the pari passu pieces have identical rights and obligations which include payment priorities, cure rights, purchase rights, obligations to pay expenses and so on. These rights and obligations are usually documented in a participation agreement or agreement among noteholders. The *pari passu* pieces are often referred to as the A-1 piece, the A-2 piece, the A-3 piece and so on. Generally, however, the A-1 piece will control the appointment of the servicers and the servicing of the related whole loan. In many cases, the *pari passu* pieces are each contributed to separate CMBS Trusts. The servicers under the A-1 Securitizations service the entire loan and distribute payments not only to the CMBS Trust holding the A-1 piece, but also to the holders of the other *pari passu* pieces. The servicers of the CMBS Trust holding the A-1 piece must also provide reports and certifications to the holder of the other *pari passu* pieces to permit the related trust to comply with regulatory requirements and certificate holder reporting requirements.
- b. The senior/subordinate loans are often referred to as AB loans and are often documented in a co-lender agreement. Such structures may be very complicated with

the loan being split into many subordinate levels and the levels may have by multiple owners. The senior level is typically referred as the A notes, and it is usually contributed to a CMBS securitization. The subordinate levels are referred to as the B notes, C notes, D notes, and so on with each sequential higher letter being more subordinate than the last. The servicers of the A note service the entire loan and distribute payments not only to the CMBS Trust holding the A note, but to the holders of the other subordinate noteholders. Normally, the subordinate pieces are held outside CMBS Trusts, but may be contributed to other structured finance vehicles. Usually, the most subordinate piece of an AB loan will have the initial cure rights and purchase rights. The most subordinate piece holder is often referred to as the controlling holder, and such controlling holder has the right and power to remove and replace the special servicer as long as such piece still has sufficient value. The controlling holder also has consent and approval rights with respect to major decisions regarding the mortgage loan (i.e. modifications or assumption transactions). The controlling holder moves up the debt stack as the subordinate notes are reduced in value as set forth in the co-lender agreement.

3. Junior Subordination Debt and Standstill Agreement

The borrower may enter into a completely separate loan agreement with another lender, provided the loan was approved or permitted by the senior lender. In such case, the senior lender generally requires the junior lender to acknowledge that its interests are subordinate and subject to the interests of the senior lender. The junior lender will often agree not to enforce its rights under the subordinate loan agreement when the senior debt is in default or without the consent of the senior lender. As these are two completely separate loans, the servicing of the loans is governed by separate agreements and conducted by different servicers. However, the servicers of the junior subordinate debt must take into consideration the subordinate nature of the junior subordinate debt when enforcing the rights of the junior subordinate debt lender. This junior subordinate debt agreement may also require that before the loan originator or a seller transfers either the senior loan or the junior subordinate debt to a CMBS Trust, the other lender provide its consent.

a. Transfers of Mortgage Loans to Depositor

The customary procedure for transferring the commercial mortgage loans into the CMBS Trust is for the CMBS Trust to obtain possession of the notes evidencing mortgage loans, and having the notes assigned to the CMBS Trust with the other loan documents pursuant to a Mortgage Loan Purchase Agreement ("mortgage loan purchase agreement"). Under the mortgage loan purchase agreement, the mortgage loan seller ("seller") sells all its rights, title and interest in the commercial mortgage loans to the depositor for contribution to the CMBS Trust.

b. CMBS Transaction Documents

The most common CMBS securitization transaction involves one or more sellers aggregating a critical mass of loans and pooling them into a single CMBS Trust to realize economies of scale for issuance. The principal documents that govern this stage of the transaction are the pooling and servicing agreement, the primary servicing agreements and the powers of attorney from the

trustee in favor of the master servicer or the special servicer. Each of these agreements is discussed briefly below.

- i. ***Pooling and servicing agreement.*** When the depositor has acquired the pool of mortgage loans, it will simultaneously convey all its right, title, and interest in the loans, related collateral and loan documents to a CMBS Trust pursuant to the pooling and servicing agreement. The pooling and servicing agreement is a multifunctional document executed by the depositor, the trustee, the master servicer, the special servicer and the trust advisor, and which effects and provides for the following:
 - Creation of the CMBS Trust which will own the mortgage loans.
 - Conveyance of the mortgage loans by the depositor to the CMBS Trust, together with assignment of the rights and remedies of the depositor against the seller of the loans under the related mortgage loan purchase agreements.
 - Appointment of the master servicer, special servicer, trustee, trust advisor and detailed provisions governing the primary, master servicing and special servicing of the mortgage loans, the oversight of the special servicer, the rights and obligations of the parties and the rights of the certificate holders.
 - Issuance of certificates of beneficial interest in the CMBS Trust with the priorities and rights to payment for each class of investor.
 - Waterfall distribution, i.e., the order and priority of payment of trust collections on the mortgage loans to trust expenses, service providers, and investors.
 - Rights, duties, and obligations of the parties.
 - Statement of the servicing standard, as discussed in greater detail under Section II.H.2, which is the standard by which the master servicer and the special servicer provide their services under the pooling and servicing agreement.
 - Provisions relating to the election by the CMBS Trust to be treated as a Real Estate Mortgage Investment Conduit (REMIC) for purposes of federal income tax laws; this is simply a tax election commonly utilized in CMBS transactions to assure debt for tax treatment of distributions to certificate holders. The election may involve multiple REMICs within the same securitization.
 - Servicer termination events and available remedies for such events. Note that since the pooling and servicing agreement is a pass-through structure, there is no issuer "default" at the pooling and servicing agreement level for an

investor's failure to receive payments due to an underlying loan borrower's default on its mortgage.

- Providing reports and information to investors; Securities Exchange Act reporting, compliance with Rule 15Ga-1 (mortgage loan seller/sponsor reporting of repurchase demands), Rule 17g-1 (rating agency conflicts of interest) and Regulation AB compliance requirements.
- Definitions of terms and other miscellaneous provisions dealing with the transfers of certificates, indemnity of service providers, rights of directing certificate holders or control parties, and notice provisions.

ii. **Sub-Servicing Agreements.** While the pooling and servicing agreement provides for details for servicing the loans owned by the CMBS Trust, individual loans may be primarily serviced by parties other than the master servicer. Frequently, these sub-servicers are originators of the loan or an affiliate and the sellers require the master servicer subservice duties to such subservicer. In other cases, servicing entities may purchase the primary servicing on certain loans via a bidding process. In each of these instances, the master servicer will enter into a sub-servicing agreement with the primary or sub-servicer. The terms and conditions of the subservicing agreement must be consistent with the pooling and servicing agreement, and under these subservicing agreements, the master servicer may delegate all of its primary loan servicing functions to the subservicer. In each case, the master servicer is ultimately responsible to the CMBS Trust for the servicing function and actions of the subservicer.

iii. **Power of Attorney.** In connection with CMBS transactions, the pooling and servicing agreement provides that the trustee will provide the master servicer and the special servicer with a power of attorney to permit such service provider to perform and accomplish its duties under the pooling and servicing agreement. This power of attorney should permit the master servicer or special servicer to take all actions on behalf of the CMBS Trust for the benefit of the certificate holders as if such servicer were the lender. Such duties include processing and handling deposits, signing loan documents for assumptions or modifications, approving borrower requests and enforcing the rights of the lender under the loan documents. Note that use of such power of attorney should be restricted by the servicing standard and what is in the best interest of the certificate holders, but without such power of attorney, the trustee may have to actively review and approve even the most basic transactions and sign all items requiring lender signature. Considering the timing, volume and the party's role in these transactions, this would be an administrative burden for the trustee.

iv. **Trust Indenture.** Most, but not all, CMBS securitizations utilize a pooling and servicing agreement format. In some cases, typically a large single property transaction or a single borrower/multiple property transaction, a special purpose entity ("SPE") issuer will issue one or more series of notes (or bonds or debentures) pursuant to a trust indenture. This format follows the traditional corporate bond structure wherein an entity issues notes under an indenture. The issuer may be the SPE owner of the property or in some cases may be a "straw man" issuer that acquires the commercial mortgage loan and pledges it as collateral.

In contrast to the pass-through REMIC structure, an indenture may serve more like the loan agreement or mortgage in terms of setting forth the direct terms of the financing. Terms may include specific remedies against the borrower in the event of a default. In addition, depending on the structure and demands of the transaction, a separate servicing agreement may be required to address servicing of the mortgage loan.

c. Disclosure/Securities Documents

Because each CMBS transaction involves the offer and sale of securities, sellers and affiliated underwriters/placement agents/initial purchasers must utilize an appropriate disclosure document under state and federal securities laws (e.g. the Securities Act of 1933).

For public offerings of CMBS, the issuer must register the securities with the SEC. Issuers prepare a registration statement filed with the SEC and containing a prospectus (i.e., the offering or disclosure document). For issuers that regularly come to market with CMBS deals, there will be a base prospectus containing the general and required information concerning the types of securities that may be offered and sold from time to time. For each separate CMBS transaction, the issuer must file with the SEC and provide to investors a prospectus consisting of a preliminary free writing prospectus and a final prospectus supplement containing deal-specific information related to the particular securities then being offered (and underlying commercial mortgage loans owned by the CMBS Trust). In addition, the issuer in a public offering must make required filings of material documents with the prospectus, including the pooling and servicing agreement, mortgage loan purchase agreements and subservicing agreements with significant function participants.

In a non-public or private transaction exempt from SEC registration requirements, such as Rule 144A transactions sold to Qualified Institutional Buyers, the offering document is a private placement memorandum ("PPM"). The PPM contains much of the same information as a free writing prospectus or prospectus supplement; though it is not subject to the same stringent format or content restrictions prescribed by the SEC for publicly registered offerings. In addition, as only sophisticated investors may be solicited in a non-SEC registered offering, the totality of disclosure may not be contained in the PPM, but would include direct access to the material underlying documents and information by investors as they conduct their due diligence.

Generally, the publicly offered securities – which are typically rated investment-grade – may be accompanied by a private offering of the non-investment-grade securities.

Generally, periodic reports include a monthly report on Form 10D, an annual report on Form 10-K and current reports on Form 8-K. In connection with making these reports, depositors must provide certifications required by Sarbanes-Oxley and Regulation AB stating that service providers have complied with the requirements of the pooling and servicing agreement and that all material information has been reported.

Further, all sellers and depositors who have issued certificates in the three years prior to December 31, 2011, must report repurchase requests quarterly on Form ABS-15G. This applies to sellers and depositors whether the bonds were offered in a private or public transaction. Rule 15Ga-1 requires disclosure of repurchase demands received by the depositor or CMBS sponsor and reporting of whether a repurchase demand will be rejected or how the repurchase demand

was resolved. Note that depositors and sellers require under the pooling and servicing agreement, that the trustee, master servicer and the special servicer notify all parties, as well as the seller, of any repurchase requests received by such party to assist the depositor and the seller with its reporting obligations under Rule 15Ga-1.

The depositor must also comply with new Rule 17g-5 (regarding potential conflicts of interest with compensated rating agencies). Some depositors delegate these duties to the trustee or a certificate administrator. Others retain the obligation to perform these duties. However, every depositor has the ultimate responsibility for these duties.

4. Interface with Rating Agencies

As discussed earlier, multiple rating agencies are engaged by the depositor to evaluate the CMBS transaction and issue initial rating to the classes of bonds. Each rating agency rating a deal must be a nationally registered statistical rating organization. These rating agencies will also monitor the transaction over its life and respond to requests of the parties for "no-downgrade" letters or rating agency confirmations. Accordingly, the relationship among the investors, issuers, rating agencies, servicers and trustee is an ongoing one. As part of the rating agencies' on-going surveillance and monitoring of each CMBS transaction, the master servicer and special servicer will field numerous questions and provide detailed data on a daily basis to the rating agencies and various bond holders in the CMBS transaction. Most of the questions center around property performance, market "color," rental prospects, and market data. The servicer supplies operating statements, rent rolls, inspections and various other forms of data to the rating agencies through the 17g-5 website, so they are able to make an informed decision on whether to upgrade, downgrade, or affirm the various bond classes.

Likewise, trustees and certificate administrators provide monthly reports and other information to the rating agencies containing trust and bond level reporting. The trust advisors must also respond to inquiries from rating agencies and submit reports to the certificate administer which are provided to the rating agencies.

The investors utilize reports of rating agencies to make the investment decision. It is the servicer's job to know the details of how a particular property is performing in their assigned transactions so that a surveillance summary and market data report detailing any issues of concern on the properties can be supplied to the rating agencies. The rating agencies are also often involved in approvals for assumptions, defeasance, and in certain instances, release of collateral.

The rating agencies will utilize the information provided by the servicer's asset management team to the 17g-5 information provider for posting on the 17g-5 website to determine if they will issue a "no downgrade" letter. The "no downgrade" letter signifies that the rating agencies does not consider the changes taking place to harm the bonds on the transaction.

Rating agencies for CMBS transactions may include Fitch, Inc., Standard & Poor's, Moody's Investors Service, DBRS, Inc., Morningstar Credit Rating, LLC and Kroll Bond Rating Agency, Inc. Many of the rating agencies have developed formal servicer evaluation programs and ratings systems. The rating agencies, through a combination of site visits and research, perform

a comprehensive assessment of the servicer's performance based on management experience and company tenure; operating statement collection, analysis and reporting; technology; quality control procedures for operations; and CMBS market presence. The methodology and criteria used to rate commercial servicers in CMBS transactions will continue to evolve to meet the ever-changing dynamics of the market.

In many of the more recent deals, rating agencies must make inquiries of the trustee, the master servicer, the special servicer, the trust advisor and the certificate administrator through a website typically called a "Rating Agency Q&A Forum" or "Rating Agency Q&A Forum and Servicer Document Request Tool." This website assists with transparency allowing all rating agencies access to such questions and the response. Also, many of the newer deals have similar forums for investors allowing all investors to see other investor questions and responses from service providers.

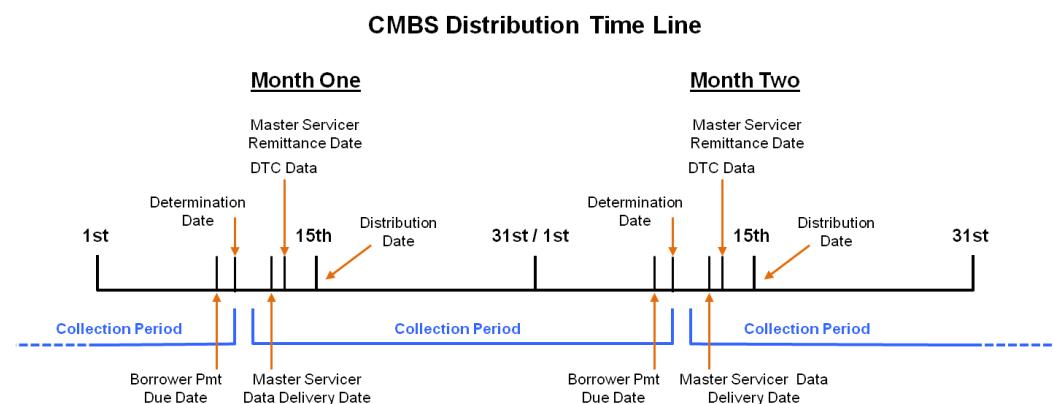
5. CMBS Transaction Life Cycle

a. The Monthly Distribution

The monthly distribution cycle is a significant factor in CMBS transactions. For the primary servicer, the master servicer, the trustee and the investors, the monthly distribution process receives a high level of attention. The master servicer and trustee are working to make certain the distribution is made accurately and on a timely basis and accordingly, the schedules of each entity revolve around the cycle dictated by the pooling and servicing agreement. The investors watch to make sure that they receive the payment in the correct amount and on time. Investors frequently rely on third-party data collection and surveillance firms to collect all the monthly data for them and consolidate it in an efficient format. The investment banks that are involved as sellers or co-underwriters also actively follow the monthly reports regarding the CMBS transaction and actively scrutinize the data as do the rating agencies who are performing surveillance on the bonds. Therefore, the monthly distribution, and the data produced along with it, receives great scrutiny from many participants of the CMBS industry.

b. CMBS Distribution Time Line

Chart 2 illustrates the CMBS monthly distribution cycle. Following the chart is an explanation of the distribution time line:



i. Borrower Due Date

The borrower due date is the date when the borrower's monthly P&I payment is due to the servicer. This date is usually on or near the first of each month, with a grace period of a variable number of days. The borrower generally seeks to have the grace period as long as possible.

ii. Balloon Payments; Payoffs

Commercial loans generally require monthly payments of principal and interest over a period in which the loan is amortized at a rate greater than the term of the mortgage. Principal and interest payments are made until maturity of the mortgage, at which time full payment of the remaining principal, the balloon payment, is due. For example, a seven-year balloon mortgage, with scheduled payments to amortize the loan in 30 years. At the end of the 7-year term the remaining principal will become payable to the CMBS Trust. These funds will be anticipated and will be distributed to the certificateholders on the distribution date in a manner similar to that of monthly debt service payments discussed above.

iii. Prepayment:

Prepayment of these loans is typically restricted as early pay down of the principal would have an adverse impact on the return to investors. A prepayment occurs when the borrower pays the loan in full or makes a prepayment in amount greater than scheduled or earlier than a scheduled. Estimating the probability or scale of prepayments in a pool of mortgages is one of the more problematic risks in assessing the ultimate yield on the security or any class in the security.

iv. Determination Date

The determination date is the monthly cutoff date when the master servicer determines which borrowers have paid their monthly debt service payment and which are delinquent. Upon making this determination, the master servicer evaluates which loans will need advances, prepares monthly reports and compiles and aggregates the loan level data regarding the performance of the loans for delivery to the trustee.

v. Collection Period

Each collection period is a period of days beginning on the day following each determination date and continuing to and including the next determination date. As the master servicer determines the funds to be passed through to the trustee for each distribution date, it includes all funds collected during the collection period preceding the distribution date.

vi. Master Servicer Data Delivery Date

The master servicer data delivery date is the date when the master servicer is required to deliver the aggregate loan level data to the trustee. Upon receipt of the loan level data, the trustee begins

its calculations to determine the amount of certificate holder payments and begins to prepare certificate holder reports.

vii. DTC Date

The DTC date is the date and time when the trustee (or paying agent) is required to deliver data to the Depository Trust Corporation (“DTC”) indicating the amount of interest and principal to be paid on each class of CMBS securities. The DTC Date is set by the DTC, and is set forth in the pooling and servicing agreement as one business day prior to the distribution date.

viii. Master Servicer Remittance Date

The master servicer remittance date is the date on which the master servicer is required to remit the funds (including P&I advances) to the trustee. This date is defined as the business day prior to the distribution date so as to accommodate holidays and weekends.

ix. Distribution Date

The distribution date is the date on which the trustee pays the certificate holders and remits funds to DTC for onward payment to certificate holders. This is also the date upon which the trustee makes investor reports available.

c. Amendments

Each pooling and servicing agreement includes provisions for amending its terms, as is occasionally necessary for various reasons. In some cases, amendments simply clear up an ambiguity in the pooling and servicing agreement or between the pooling and servicing agreement and other transaction documents. In other cases, the amendment may be to accommodate a more material change required by one of the parties to the transaction or by the investors.

In either case, effecting the amendment by following the guidance of the pooling and servicing agreement is important. Generally, all the parties to the document must agree to and approve on the amendment. However, in certain cases regarding regulatory changes, some depositors have the authority to amend the pooling and servicing agreement without the consent of other parties as long as such parties' duties are not increased materially and notice of the amendment is provided. Additionally, the party requesting the amendment must provide the necessary legal opinions as well as procure no downgrade letters from the rating agencies. In the case of a material amendment, approval of some percentage of the certificate holders is also required. While the process is straight forward in concept, execution of all the required steps is time consuming and may be difficult if certificate holder consent is required. At the very least, obtaining approval of certificate holders can be very time consuming.

d. Transfers of Servicing (Non-Default)

From time to time it is necessary to transfer the master servicing or special servicing of a CMBS transaction from one entity to another in a scenario that does not involve a default of any party. Typically, this is required to accommodate the sale of servicing rights or to accommodate a merger or acquisition of one servicer by another.

The pooling and servicing agreement sets forth the same general requirements for transferring servicing, which may include approval by the trustee, legal opinions and receipt of rating agency confirmations or no downgrade letters. For transferring of master servicing rights, completing these requirements is typically all that is required, along with a notice, upon completion, to all parties and investors that the master servicing has been transferred.

The transfer of special servicing, however, requires an additional step. With respect to CMBS transactions closed prior to 2009, the Controlling Class Holder must approve all changes of the special servicer. As the Controlling Class Holder status shifts from one class of certificates to another because the subordinate bond values are reduced through allocations of losses, this consent right shifts to the next higher class of certificates with value generally above 25% of the original value. However, with respect to new CMBS transactions, this shifting of control cannot take place. Once a control termination event (controlling class bond's value is reduced below 25% of original bond value) or consultation termination event (realized losses allocated to controlling class bond reduces the actual value of the bond below 25% of original value) occurs, the concept of the Controlling Class Holder's ability to remove and replace the special servicer terminates or is suspended until the controlling class bond regains its value, if at all. At that point, unless the special servicer is terminated because of a servicer termination event or a majority of the certificate holders remove and replace the special servicer, the special servicer will not change.

e. Terminations

Typically each CMBS Trust may be called or terminated when the assets of the trust have been reduced below a certain level or the outstanding securities have paid down to a certain percentage of their original principal balance. Each pooling and servicing agreement contains provisions with details as to the steps to follow in terminating the CMBS Trust. Termination provisions vary from agreement to agreement, but these provisions involve several steps.

Initially, the master servicer, the special servicer or the Controlling Class Holder will determine that the transaction has reached the appropriate balance to issue the "clean-up call." If the trustee confirms such status, one of these parties may elect to purchase all the CMBS Trust assets and terminate the trust ("termination election"). The entity that makes the election to terminate the transaction must also send a notice to the trustee and other parties to the pooling and servicing agreement indicating the termination election, along with the distribution date on which the termination will take place. Upon receipt of the termination notice, the trustee delivers a corresponding termination notice to the investors informing them of the termination and instructing them to surrender their certificates for final payment. In the case of book entry certificates, it is not necessary to surrender the certificates.

The entity that has made the termination election, or an assignee, is also usually the entity that purchases the remaining loans from the CMBS Trust. Accordingly, the purchasing entity remits the purchase amount mandated by the pooling and servicing agreement to the trustee prior to the termination date. On the termination date, the trustee makes the final distribution to certificates and delivers the final statement to certificate holders. The trustee/custodian also delivers the original loan documents for the loans to the purchasing entity and facilitates the necessary assignments of the loans from the CMBS Trust to the buyer. The final action is the filing of the plan of liquidation by the trustee.

f. Conflicts That Can Arise in CMBS Transactions

CMBS transactions are structured with the intent to align the interests and duties of each party to the transaction among themselves as well as to provide clear direction regarding their duty to act in the what is best interests of the investors. Nevertheless, conflicts occasionally arise among the interests of the various classes of certificateholders. Throughout the pooling and servicing agreement there are various references to duties of the parties to the transaction, along with a general instruction indicating that each respective party (the trustee, the master servicer or the special servicer) should act in accordance with the best interest of the certificate holders.

However, in many cases, especially with respect to defaulted loans, significant judgment is required in determine the best action to be taken. In such cases, an action may be beneficial for a particular class of certificate, but detrimental to a different class of certificate. These potential conflicts might arise in relation to actions taken with respect to defaulted loans, advances and recovery of advances, or treatment of losses on loans.

For example, a loan in a CMBS Trust may go into default. Accordingly, the special servicer would engage in work-out discussions with the borrower and will also consider liquidation of the loan via sale or foreclosure. Upon analysis of all the work-out/liquidation options, the special servicer may conclude that the most beneficial resolution is to accept a discounted pay off of the loan. This solution may involve waiving a yield maintenance payment or accepting a pay off amount less than the loan balance. While this resolution may, in the special servicer's reasonable judgment, maximize the net recovery on a net present value basis and accordingly appear to be in the "best for the investors," it may be detrimental to an interest-only certificate holder or the subordinate bonderholders.

The Controlling Class Holder also may not be happy with the above transaction. It may prefer that the special servicer implement another viable option such as attempting to work out the loan by modifying the loan through an extension. The modification may also include changes in other terms such as lowering the interest rates and/or adding a subordinate debt structure. The Controlling Class Holder may prefer this option and insist that the special servicer enter into such arrangement. While in the long run this may provide a better return for the subordinate classes of certificates, investment grade bond holders may prefer the immediate return of the initial transaction as the second described transaction may be more risky both in structure and length. Because of the termination provisions, special servicers may feel pressured to comply with the wishes of the Controlling Class Holder. New industry-wide norms have addressed some of these concerns (by implementation of control terminating events and the trust advisor, for example), but perceived if not real these conflicts may still exist.

The role of trust advisor has been implemented into most recent CMBS transactions to alleviate some of these conflicts. The trust advisor is intended to have the capital markets and commercial real estate expertise to evaluate issues and possible solutions and then provide recommendations to the relevant decision making parties. However, parties may expect more from the trust advisor than the documents require. Further, the trust advisor's actions may also raise concerns for more subordinate certificate holders while attempting to protect investment grade bondholders.

6. Conclusion

Successful issuance and ongoing maintenance of a CMBS transaction requires the active involvement of several CMBS industry participants. During the issuance process of the bonds, the lead seller or an affiliate who underwrites or places the transaction, assisted by their counsel, plays the lead role in coordinating all the required parties, including the other sellers, the rating agencies, the accounting firms and deal parties' law firms. The lead seller or affiliated depositor also appoints the trustee, the master servicer and the trust advisor and the Controlling Class Holder appoints the special servicer. Going forward, throughout the life of the CMBS transaction, these parties work together to manage the affairs of the CMBS transaction so as to protect the interests of the investors in accordance with the servicing standard and the requirements of the pooling and servicing agreement.

The duties of the trustee, the master servicer, the special servicer and trust advisor are set forth in the pooling and servicing agreement for each CMBS transaction. Through the years, as the CMBS industry has matured, these duties have been adapted to meet the needs of the evolving CMBS market. Additionally, the CMBS industry has joined together with the CREFC to facilitate cooperation among the parties, address competing interests and facilitate improvements in the industry. These continuing efforts include:

- Attempts to standardize aspects of the pooling and servicing agreement;
- Respond to statutory and regulatory proposals, such as proposed risk retention rules and Basel III requirements; and
- Improving transparency to investors through updates to the IRP and more disclosure regarding special servicer compensation and activities. ♦



CRE Finance Council CMBS E-Primer

A comprehensive overview of commercial mortgage backed securities

Chapter 7 An Overview of The Taxation of Remics

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The Voice of Commercial Real Estate Finance

Chapter 7: An Overview of the Taxation of Remics

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The mortgage securitization market has grown dramatically over the last 20 years. One major development that facilitated this growth was the enactment by Congress of the real estate mortgage investment conduit (REMIC) provisions in the Internal Revenue Code (the “Code”). These provisions govern how certain mortgage securitizations will be treated for U.S. federal income tax purposes. Today, over 90% of all CMBS transactions elect to comply with the REMIC provisions.

What is a REMIC? Typically, a REMIC is a trust that, for state law purposes, holds a pool of mortgages, issues a series of senior and subordinate certificates, elects to be treated as a REMIC on its first tax return, and complies with the various REMIC provisions that affect the structure and operation of the trust.

Why is the REMIC such a popular tax vehicle? There are three reasons. First, like a partnership, a REMIC is not subject to tax. Instead, a REMIC’s net income or loss is allocated to its one class of equity holders. Second, a REMIC can be 100% leveraged without any risk that the IRS will recast the most subordinate certificates the REMIC issues as equity, causing a loss of the REMIC’s interest deductions and an increase in the net taxable income allocated to the equity holders. Finally, along with the passage of the REMIC rules, Congress also passed the taxable mortgage pool (TMP) rules, the effect of which is to force most non-taxable trusts that hold mortgages to elect REMIC status or risk being taxed as corporations.

History

Prior to the enactment of the REMIC provisions, many mortgage securitization transactions were accomplished through the use of trusts that, for federal income tax purposes, were classified as business trusts.

A business trust issues certificates that represent an undivided pro rata interest in the mortgages held by the trust. Cashflow from the mortgages is matched to the payments on the certificates (net of administrative expenses). The tax benefit is that the trust itself is not taxed. Instead, the certificateholders are taxed on their pro rata share of the net income generated by the underlying mortgages. The powers of the trustee to manage trust assets, however, are severely restricted. The Treasury views a business trust as a passive entity that is merely facilitating the sale of interests in the underlying mortgages. Any additional activity conducted by the trust is viewed as carrying on an active business similar to a corporation and subjects the trust to an entity-level tax.

In addition to operational restrictions, mortgage pass-through certificates issued by business trusts suffer from prepayment risk. In 1984, Sears Mortgage Securities Corporation formed a trust that issued multiple classes of certificates using a fast pay/slow pay structure designed to reduce prepayment risk and better meet the needs of the investors. In response, however, the Treasury adopted regulations (the “Sears Regulations”) providing that such multi-class trusts would not qualify as business trusts and would be taxable as corporations for federal income tax purposes. Thus, either too much operational activity or the issuance of multiple classes of certificates subjected these trusts to an entity-level tax, substantially impacting the economic return to the certificate holders.

In response to the limitations imposed on business trust structures, the industry turned to the use of special purpose entities (either partnerships or corporations) referred to as collateral mortgage obligation (CMO) issuers, which benefitted from partnership (“pass through”) tax treatment.

These entities could be structured using sequential pay securities and were not subject to the operational limitations of a business trust. The tax law was unclear, however, as to whether the most subordinated obligations issued by CMOs were to be treated as debt or equity. The treatment of these notes as debt was crucial to minimizing a CMO’s taxes since the interest served to reduce the taxable income derived by a CMO from its mortgage assets.

In the Tax Reform Act of 1986, Congress enacted the REMIC rules to address these issues and support the growth of the residential real estate market. In 1992, the Treasury issued regulations that further explained the application of these rules. These rules not only clarified the tax treatment of debt in mortgage securitization transactions but also fueled the widespread use of REMICs by allowing for 100% leverage of the trust assets without the loss of any interest expense deductions. The favorable tax treatment came at the price of substantial limitations on the operation of the REMIC and the type of debt obligations it could hold, a harsh tax regime imposed on the equity holders and, as mentioned earlier, the enactment of the TMP rules. As the CMBS market grew, the application of the operational restrictions to the administration of pools of commercial mortgages, which had not been envisioned by Congress when the rules were enacted, became and remains a chronic problem.

In recognition of this problem, the CRE Finance Council, in concert with other industry groups, has advocated the adoption of legislation to significantly reform the REMIC rules. Although the American Jobs Creation Act of 2004 (the “Jobs Act”), effective January 1, 2005, did not include these reforms—it did relax the REMIC rules by permitting REMICs to hold reverse mortgages, home equity lines of credit (HELOCs) and certain Small Business Administration (SBA) loans. As of this writing, identical REMIC reform Bills have been introduced in the House and Senate and have been favorably received.

REMIC Qualification

The Code defines a REMIC as any entity that elects to be treated as a REMIC, issues one or more classes of regular interests and only one class of residual interests, holds assets, substantially all of which are either qualified mortgages or permitted investments, uses a calendar year-end for tax purposes, and makes reasonable arrangements to ensure that residual interests are only transferred to investors that can continue to pay tax on the income allocated to these residual interests. These requirements generally are referred to as the interest test, asset test and arrangement test, respectively.

Interest Test

A REMIC is permitted to issue two types of certificates: those that qualify as regular interests and those that qualify as residual interests. Regular interests are, and must be, treated as debt for tax purposes. It is this statutorily bestowed treatment of these certificates as debt that resolves the critical tax issue of interest deductibility. Residual interests are treated as equity for tax purposes and are not required to have an economic value.

Regular Interest

A regular interest is defined as any interest in a REMIC that is issued on a designated day known as the startup day (within the first ten days of the formation of the REMIC), contains fixed terms, and is

designated a regular interest. The fixed terms must entitle the holder unconditionally to a specified principal amount. Prepayment contingencies that may impact the timing (but not the amount) of the principal payments are not treated as relevant in meeting this requirement. Thus, in contrast to the Sears Regulations, the issuance by a REMIC of multiple classes of regular interests that provide for successive subordination of each class does not impact the treatment of such regular interests as debt and allows the related interest accruals as a deduction against taxable income. To prevent an egregious use of regular interests to generate interest deductions, however, the amount of interest payable to a regular interest holder cannot exceed 125% of the certificate's specified principal amount.

To accommodate the ability of a REMIC to hold reverse mortgage obligations, the Jobs Act added an exception to the definition of a regular interest. The exception permits the specific principal amount of a regular interest to be reduced after the startup date to the extent that the REMIC fails to receive contingent payments associated with reverse mortgage loans, so long as the sponsor reasonably believed on the startup date that the all principal and interest would be paid on the regular interest prior to the liquidation of the REMIC.

Interest payments are not required, but if interest is payable, it must be payable based on a fixed or variable rate or a fixed specified portion of the interest payments from the qualified mortgages held by the REMIC. A "specified portion" of interest from the qualified mortgages can be expressed in one of three ways: (i) as a fixed percentage, (ii) as a fixed number of basis points, or (iii) as a portion or all of the interest in excess of a fixed or variable rate that is payable on the qualified mortgages held by the REMIC. As with the exception to a specified principal amount, a regular interest will not fail to qualify as such if it does not receive accrued interest amounts that relate to the failure by the REMIC to receive contingent payments from a reverse mortgage loan, so long as there was a reasonable expectation by the sponsor of full payment prior to liquidation of the regular interest's principal and interest on the startup date.

Residual Interests

The definition of a residual interest is brief: an interest issued on the startup day that is not a regular interest and is designated as a residual interest. There can only be one class of residual interests. A residual interest does not have to be the most subordinated interest issued by the REMIC. Also, a residual interest is not required to have a minimum value or be entitled to a distribution. However, if there are distributions to the residual interest holder, such distributions must be pro rata.

Asset Test

The second major test necessary to qualify as a REMIC is the asset test. This test covers the type of assets that can be held by the REMIC and the limitations on the administration and operation of these assets. For the life of the REMIC, except for the three month startup period and the liquidation period, substantially all of the REMIC's assets must consist of qualified mortgages and permitted investments. A safe harbor provision allows a REMIC to hold unqualified mortgages and non-permitted investments that, in the aggregate, are less than 1% of the adjusted tax basis of the total assets held by the REMIC.

Qualified Mortgages

A qualified mortgage is any obligation that is "principally secured" by an interest in real property. The loan must be transferred to the REMIC on the startup day or purchased, pursuant to a contract in effect on that date, within the first three months. There are three exceptions to the requirement to transfer the assets on the startup date, assuming the other requirements are met. Within the first three months, a mortgage can be replaced with a qualified replacement mortgage. Similarly, where a defective mortgage is

discovered within the first two years of the REMIC, that mortgage can be replaced with a new qualified replacement mortgage. Third, pursuant to the new Jobs Act provisions, advances made under a loan after the startup date also may qualify as an increase to a qualified mortgage. To qualify, these advances must be made pursuant to the original terms of the loan, must be secured by the same real property and all payments must be due at the maturity of the loan. Other qualified mortgage assets include any regular interest issued by a REMIC that is held by another REMIC and, as added by the Jobs Act, certain SBA loans.

Unlike an underwriting standard that would typically require the value of an asset to exceed the amount of the loan it secures, for REMIC purposes, an obligation is “principally secured” by real property if it meets one of two tests. The first test is that the fair market value of the real property securing the mortgage must be at least 80% of the issue price of the obligation either at the time it is originated (including a deemed origination caused by a significant debt modification), or at the time the obligation is contributed to the REMIC. Thus, a \$100 million mortgage loan secured by an office building worth \$80 million would be considered principally secured by an interest in real property. Additionally, a qualified mortgage also would be considered principally secured by real property if substantially all of the proceeds of the obligation are used to acquire, improve or protect the real property that, at the time the obligation is originated, is the only collateral. The term "substantially" is not defined. Using the principally secured test as a guide, however, some leading authorities have indicated that the test is likely met if 80% of the issue price of the obligation is used for permitted purposes. A safe harbor is provided where the sponsor reasonably believes that the mortgage is principally secured. If, however, the REMIC later discovers that the mortgage is not principally secured by real property, then the REMIC has 90 days to dispose of that mortgage.

To accommodate the securitization of SBA loans through a REMIC, the Jobs Act (as amended by the Gulf Opportunity Act of 2005) has expanded the definition of “principally secured” to include all obligations held by a REMIC so long as more than 50% of the obligations acquired by the REMIC are originated by the U.S. (or by a state) and principally secured by real property. If this requirement is met, all of the obligations are treated as qualified mortgages.

Permitted Investments

Permitted investments include cashflow investments, qualified reserve assets held in a qualified reserve fund and foreclosure property. Cashflow investments include payments received from qualified mortgages and the temporary investment of those payments in interest-bearing instruments prior to a distribution to the certificate holders. Qualified reserve assets are passive investment assets held by a qualified reserve fund established to reasonably ensure the payment of REMIC expenses and fund additional draws on reverse mortgages or HELOCs. However, the fair market value of the reserve cannot exceed 50% of the fair market value of all of the assets of the REMIC as of the startup date, and the reserve must be reduced as the need to fund contingent obligations is reduced. Foreclosure property is property acquired due to a default or imminent default of a qualified mortgage.

Credit enhancement contracts that guarantee the principal or interest payable on the qualified mortgages or REMIC interests, such as letters of credit or servicer advances, are not treated as a separate asset of the REMIC. Instead, such arrangements are treated as part of the mortgage or mortgage pool to which they relate.

Loan Modifications and Assumptions

The asset test imposes some of the most difficult limitations on the administration and operation of a REMIC. This test provides that a qualified mortgage (other than an advance on a reverse mortgage) can be acquired by a REMIC only during the three-month startup period or within the first two years of a REMIC as a replacement for a defective mortgage.

This restriction is problematic not only because of the limited acquisition periods, but also because of other technical tax rules in the Code outside of the REMIC rules that generally govern the treatment of loan modifications. These tax rules, commonly referred to as the 1001 Regulations, treat all significant modifications as deemed sales or exchanges of the original loan for the modified loan.

A modification is considered significant if it alters the legal rights or obligations of the debt instrument and impacts the economics of the transaction between the borrower and the lender. Examples of significant modifications include changes in yield by more than 25 basis points (including reductions in principal or deferrals of payment), certain extensions of maturity-and extensions of credit.

Therefore, a significant modification of a qualified mortgage after the startup period (or, if the mortgage is defective, after the two-year replacement period) would be considered a disposition of the original loan and an acquisition of a new loan. This modification would cause the loan to no longer meet the definition of a qualified mortgage, thereby putting REMIC status at risk and subjecting its interest income to a 100% tax. Furthermore, the deemed disposition of the original loan would be a prohibited transaction and any gain also could be subjected to a 100% tax.

The REMIC rules partially address this issue by carving out six exceptions to the 1001 Regulations. A significant modification is not treated as a deemed exchange if a qualified mortgage is in default or a default is reasonably foreseeable, an obligation is assumed, a due-on-sale or encumbrance clause in the loan document is waived, or an interest rate is converted by a borrower pursuant to a convertible mortgage. Recent (2009) changes to the Regulations added exceptions for modifications that (1) release, substitute, add or otherwise alter a substantial amount of the collateral for, a guarantee on, or other form of credit enhancement for, a recourse or nonrecourse obligation and (2) change the nature of the obligation from recourse (or substantially all recourse) to nonrecourse (or substantially all nonrecourse) or from nonrecourse (or substantially all nonrecourse) to recourse (or substantially all recourse), in each case so long as the obligation continues to be “principally secured” by an interest in real property. To qualify as “principally secured”, the real property at the time of the modification must have a fair market value of at least 80 % of the adjusted issue price of the obligation or, in the alternative, the real property must be worth at least as much as it was before the modification. The IRS clarified this rule in 2010 to safe harbor lien releases (whether or not the “principally secured” test is otherwise satisfied) if the transaction is a (1) “grandfathered transaction” or (2) if the transaction is pursuant to a “qualified paydown transaction”. To be a “grandfathered transaction”, the release must be pursuant to a unilateral option that was contracted for prior to December 7, 2010. To meet the test for a “qualified paydown transaction”, the loan paydown from the release must meet one of four tests set forth in Rev. Proc. 2010-30. In addition, in Rev. Proc. 2009-45, the IRS clarified the conditions pursuant to which a default on maturity could be determined to be “reasonably foreseeable”. Pursuant to this guidance, if the servicer or lender reasonably believes there is a significant risk of default, the exception for a “reasonably foreseeable default” is satisfied. Thus, a servicer is given broad latitude to restructure, foreclose on the real estate collateral or sell the mortgage short of a release of collateral. For a release of collateral, whether or not the loan is in default, the “principally secured” test or one of the safe harbors will have to be met. Any other actions to improve the performance of a loan by the servicer could cause a deemed exchange of the related loan and generally are prohibited in a REMIC’s governing documents.

Defeasance

It is not uncommon for a borrower to request a release of a lien on real estate securing a particular mortgage. The REMIC regulations, however, state that if such a lien is released, the mortgage ceases to be a qualified mortgage, except under limited circumstances. To maintain qualified mortgage status, the substitute collateral pledged by a borrower must be government securities, the mortgage documents must allow for the substitution, and the defeasance cannot occur within the first two years of the REMIC's startup day. The intent of the transaction also is considered. It must be to facilitate a customary commercial transaction and not be part of a scheme to replace the REMIC's assets with obligations other than mortgages.

Arrangement Test

Under the arrangement test, a REMIC is required to make reasonable arrangements to ensure that residual interests are not held by disqualified organizations and that the information necessary for the application of the tax on subsequent interest holders is available. A disqualified organization is essentially any domestic or foreign governmental agency or any tax-exempt organization. Reasonable arrangements include restrictions in the REMIC's governing instruments and notice to the residual interest holders of the restrictions.

Taxation of Sponsors, Investors and REMICs

Taxation of Sponsors

A sponsor is an individual or entity that at formation exchanges qualified mortgages and related assets for regular and residual interests in a REMIC. On the transfer of the property to the REMIC, a sponsor does not recognize any gain or loss. On the sale of REMIC regular or residual interests, however, a sponsor may recognize gain or loss. A sponsor is treated as having a basis in the REMIC interests equal to its basis in the mortgage pool transferred. That basis is allocated to each REMIC interest according to its fair market value. Any proceeds from the sale of a REMIC interest in excess of its basis are treated as a taxable gain to a sponsor. If the proceeds received are less than a sponsor's basis in a particular interest, a loss is recognized.

If a regular or residual interest is retained by a sponsor, a gain or loss is determined based on a comparison between a holder's basis in the interest and its fair market value. With respect to a regular interest, a sponsor is treated as recognizing such gain or loss over the expected life of the particular bond, typically on a constant yield basis. For a retained residual interest, a sponsor recognizes such gain or loss ratably over the REMIC's anticipated weighted average life.

Taxation of Regular Interest Holders

A holder of a regular interest is treated as holding a debt instrument for federal income tax purposes, regardless of the actual form of the instrument. The periodic payments on the instrument are treated as interest. A holder must account for this income using the accrual method regardless of its general method of accounting. For regular interests purchased at issuance at a discount or premium, such amounts, generally, are recognized as an adjustment to interest on a constant yield basis over the expected life of the instrument. More complex rules apply for regular interests purchased in the secondary market.

The tax basis of a regular interest, generally, is the amount paid by the investor. Adjustments to the basis are made to reflect current inclusions of discount or premium.

Typically, any gain or loss on the sale of a regular interest will be treated as a capital gain or loss to a holder. In certain situations where the stated interest on the instrument is very low, to ensure that interest taxable as ordinary income is not deferred and converted to capital gain, a portion of the gain upon a sale or exchange may be recast as ordinary income.

Taxation of Residual Interest Holders

Like a partnership, a REMIC's taxable income or loss is passed through to its equity holders—the REMIC's residual interest holders. Unlike a partnership, taxable income or net loss of the REMIC is determined per calendar quarter.

In addition, in an effort to ensure that a residual holder pays its tax currently, regardless of when cash distributions are received, Congress created a special class of taxable income called excess inclusion income. This income, when incurred by a residual interest holder in a particular quarter, cannot be offset by net operating losses. Furthermore, since excess inclusion income is determined per calendar quarter, this income cannot be offset by losses incurred in subsequent quarters of the REMIC within the same calendar year. These losses, however, do pass through to a residual interest holder and can be used to offset taxable income from other sources to the extent of a holder's basis in the residual interest. Quarterly losses incurred that exceed a holder's basis are suspended and may be used by a holder to reduce future REMIC income allocated to that interest, if any.

Excess inclusion income is an amount by which taxable income exceeds a specified yield on the residual interest. The yield is 120% of the long-term federal rate, as periodically published by the IRS. Initially, the yield is determined by reference to the issue price or the amount paid for a residual interest. Over the life of the REMIC, the issue price is adjusted by the amount of taxable income or loss included in prior quarters and decreased by any distributions before the end of a quarter.

Certain residuals that are structured to receive less cash distributions than would be needed to pay a residual holder's tax on its allocable share of REMIC taxable income are called non-economic residuals. For such residuals, all allocable income is treated as excess inclusion income. Also, restrictions apply that prevent the transfer of such residuals to investors unable to meet their tax payment obligations.

Because non-economic residual interest holders usually receive insufficient distributions to cover their tax liabilities, inducement fees are often paid to investors to entice them to take these interests. A non-economic residual interest holder must include the inducement fee in income over the period in which a REMIC is expected to generate taxable income.

Generally, the sale of an economic residual will generate a capital gain or loss. The wash sale rules apply, however, to the sale of a residual interest. These rules provide that, if a residual interest seller also enters into a transaction to acquire a substantially similar security within six months prior to or after the sale, then any loss suffered by the seller is not recognized until the similar asset is sold later.

As mentioned above, the basis or adjusted issue price of a residual interest is the initial amount paid adjusted for any prior quarter allocable income or loss less any current distributions. Distributions are not taxable to the extent of a residual holder's basis. Distributions in excess of basis are treated as a gain from the sale of the residual.

In general, income allocated to foreign holders of residual interests is only taken into account when paid. However, REMIC income earned by a domestic partnership and allocated to a foreign partner is subject to withholding during the partnership's current taxable year. Also, such income may be subject to a 30%

withholding tax. No U.S. exemptions from withholding or reduction of the amount of withholding under a treaty, which otherwise may be available, apply to any amount treated as excess inclusion income.

Taxation of REMICs

A REMIC is typically not subject to tax on its income. To ensure that a REMIC is passive in nature, however, certain transactions are prohibited and any income from such transactions is harshly taxed. The proscribed transactions include a disposition of a qualified mortgage in most circumstances after the startup period, a disposition of a cashflow investment outside of liquidation, income from unqualified assets, and compensation for rendering services. Dispositions of qualified mortgages are not prohibited within the first two years of a REMIC for a defective mortgage, at any time if a mortgage is in default (or imminent default), if a REMIC is in bankruptcy or insolvency, or during a REMIC's liquidation. Gross income received by a REMIC from a prohibited transaction (less any direct expenses) is taxed at 100%. Not surprisingly, losses from prohibited transactions are not taken into account in determining a REMIC's taxable income.

In addition, most contributions made to a REMIC after the startup period also are subject to a 100% tax. Exceptions are made for guarantee payments, contributions made pursuant to a cleanup call or liquidation, and contributions by residual interest holders to a qualified reserve fund.

Net income from foreclosure property is subject to tax, equal to such property's net income after expenses multiplied by the highest marginal corporate tax rate. Only expenses directly associated with the operation of a foreclosure property are allowed as a deduction against the asset's income.

Tax Reporting

A REMIC annually files Form 1066 with the IRS. A REMIC also is obligated to provide quarterly reports called Schedule Qs to residual interest holders. These reports reflect the holder's capital account, taxable income and excess inclusion income, if any.

Furthermore, the Code requires an investor that buys a regular interest at a discount at issuance to include in its annual income, essentially, a ratable portion of the total discount amount. Special rules govern the calculation of such amounts where the discounted debt instruments are backed by a pool of mortgages and subject to prepayment risk. Because of the complexity of these rules and the information required to do the calculations, REMICs are required to do these calculations and provide this information to such regular interest holders. These reports generally are referred to as tax factor sheets.

Conclusion

REMICs have become the primary tool used for issuing CMBS. While the Code imposes significant restrictions on the management and operation of REMICs, this statutory vehicle remains attractive to issuers and investors. Generally, a REMIC is not subject to tax, can be highly leveraged to minimize the tax incurred by its equity investors, and can issue multiple securities that are structured to meet the needs of the capital markets. ♦



CRE Finance Council CMBS E-Primer

A comprehensive overview of commercial mortgage backed securities

Chapter 8 CMBS Subordinate Debt

a publication of



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The Voice of Commercial Real Estate Finance

Chapter 8: CMBS Subordinate Debt

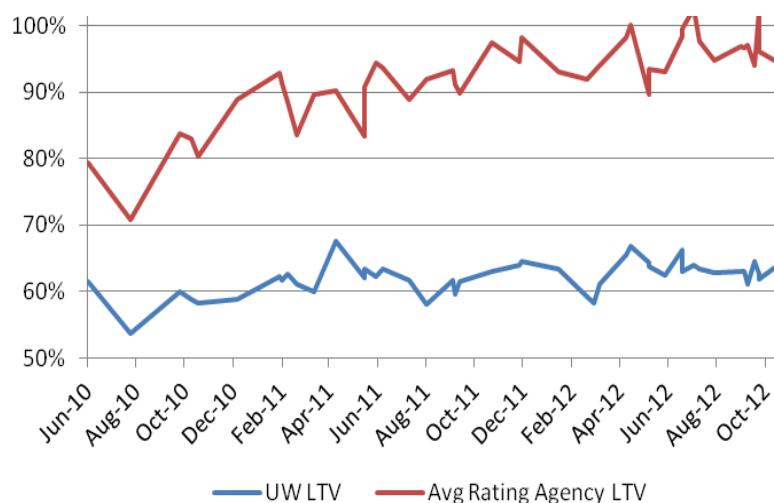
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CMBS Subordinate Debt Is Likely To Increase... So We Create a Subordinate Debt Primer for CMBS Investors

As the CMBS market starts refinancing higher leverage maturing loans, borrowers and issuers are likely to reach for subordinate financing tools to provide financing beyond what current CMBS loan standards will permit. Subordinate leverage helps limit the CMBS transaction's credit risk, but the subordinated positions still increase borrowers' total leverage, thus naturally increasing the probability of default. By definition, subordinate debt should benefit CMBS transactions by limiting pooled leverage while providing a potentially well capitalized subordinate party that has the simple right to buy out the troubled senior position at par, or to cure a senior default for some period of time. In this paper we look at B-notes and mezzanine debt structures with a focus on the intercreditor agreement. This discussion highlights several post-2008 defaults where subordinate debt benefited the senior CMBS position, as well as a few instances where the subordinate position's rights were proven to not be truly subordinate. We conclude with a list of disclosures that CMBS investors should require from issuers when a pool has considerable subordinate leverage.

Since 2008 the CMBS market has overcome several issuance hurdles. Most of this progress has been driven by improvements in underwriting, disclosure and obviously investor's demand for yield. At the same time that demand has driven spreads down to low double digits, which has motivated lenders to push the limits of leverage. In Exhibit 1 we use the rating agencies' loan to value (LTV) data to show how CMBS leverage has been creeping up over 100%, all while issuers have been trying to hold the credit quality line on what they offer to investors.

Exhibit 1: New Issuance CMBS Leverage



Source: Amherst Securities Group LP, Intex Data Solutions

A lot of this new issuance leverage is dictated by the existing CMBS maturity schedule, and in many cases involves struggling loans that remain challenged a refinance. In Exhibit 2 we show the upcoming maturities in the first table and the current debt yields of the related loans in the second table (debt yield is calculated via the most recent net operating income “NOI”, divided by anticipated loan balance at maturity). The format demonstrates a fairly wide range of debt yields, with the average remaining debt yield for 2012 maturities at 9.9%, but the \$6.4 billion of maturing loans from 2007 only having a 7.7% average debt yield. This compares to new 2012 CMBS issuance, which has had an average debt yield of 10% (according to stressed rating agency metrics). While this is an average, and recent deals have contained some loans with low 9% debt yields – CMBS securitization issuers are not able to offer the 7% debt yield required to refinance many of the maturing loans on the cusp.

Exhibit 2: Fixed-Rate Mortgage Expiries & Corresponding NOI Debt Yield (as of 10/2012)

Deal Issuance Year	Current Balance (\$MM)	2008-	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018+
2004 and prior	73,405	79	483	605	1,418	4,040	22,891	27,165	1,055	1,250	822	13,599
2005	91,096	-	15	1,208	509	1,777	971	7,982	68,645	2,204	983	6,802
2006	131,010	-	-	135	2,793	803	3,444	1,149	14,591	99,691	1,599	6,804
2007	152,685	-	-	100	577	6,391	2,573	7,499	1,165	15,973	111,146	7,263
2008	9,112	-	-	-	-	136	265	422	119	93	5,547	2,530
Total	457,308	79	498	2,048	5,297	13,147	30,144	44,217	85,575	119,210	120,096	36,998

Deal Issuance Year	Total Exit Debt Yield	2008-	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018+
2004 and prior	14.8%	5.7%	9.7%	8.4%	9.5%	14.2%	15.4%	13.3%	15.4%	18.8%	22.0%	17.0%
2005	11.2%		12.5%	8.1%	9.2%	8.5%	12.7%	13.2%	11.1%	11.6%	10.1%	11.5%
2006	10.2%			8.7%	7.4%	8.5%	10.8%	10.8%	11.3%	10.1%	10.5%	10.8%
2007	8.9%			7.5%	9.8%	7.7%	9.7%	9.4%	9.1%	8.7%	8.8%	11.3%
2008	9.8%					10.3%	7.7%	8.9%	11.6%	11.6%	9.4%	10.8%
Total	10.7%	5.7%	9.7%	8.2%	8.4%	9.9%	14.2%	12.5%	11.2%	10.0%	8.9%	13.3%

Source: Amherst Securities Group LP, Intex Data Solutions

So while the 9% debt yield is not a hard nor fast barrier, we are seeing a significant number of 7- 9% debt yield loans being refinanced from within the Exhibit 2 universe, as a variety of lenders are evaluating these loans and concluding they appear able to service their debt based upon the lenders' assessment of the long term sustainable property value. With many different investors searching for yield it should not be too surprising that several loan funds have been created to exclusively target this additional leverage, usually with parameters permitting them to take leverage of up to 90% LTV in order to earn double digit returns. When this financing is subordinated to a securitized first mortgage, it allows the rated CMBS trust leverage to remain relatively low, while helping to refinance higher leverage maturing CMBS loans.

Sizing Mezzanine Financing — The Why and How

Given that portfolio lenders and CMBS Investors are also searching for yield, one has to wonder why mezzanine or subordinate debt is necessary at all? The answer comes from the fact that many portfolio lenders are limited by hard leverage parameters, thus unsecured subordinate debt allows many of them to stay within their limits. Similarly, CMBS 2.0 investors are avoiding high leverage transactions – so creating lower leverage loans for the securitization frequently allows the transaction to appeal to a broader investor base, effectively minimizing funding costs. Given this preference to avoid credit risk, issuers have been using mezzanine loans to finance higher leverage levels while still offering CMBS pool debt yields >9%.

To illustrate this point, Exhibit 3 considers the benefits of mezzanine financing by looking at two different retail mall loans from recent CMBS deals: (i) The ~\$168 million RiverTown Crossings Mall loan contained ~\$12.9 million of mezzanine debt; and (ii) the \$105 million Las Vegas Fashion Outlets loan which contained \$32 million of mezzanine financing. These two loans provide good examples of the leverage spectrum that can be arranged with subordinate debt financing, and allows us to consider their funding costs in their current format (as well as if all the loan leverage had been included as a secured mortgage within their related CMBS transactions). The top section of Exhibit 3 lists the related deals and the actual coupon booked by the originator. The middle section lists the leverage details of each and demonstrates that the securitized leverage was cut off at ~60% for each loan. The bottom “Evaluation” matrix displays actual mortgage and mezzanine loan bond class sizes with pricing, and compares that to our estimate of achievable credit support and pricing if the full loan leverage was contained within the related CMBS transaction.

Exhibit 3: Financing Costs — 2 Recent Mezzanine Loans vs. Placing The Entire Leverage Stack Within The CMBS Deal

RiverTown Crossings Mall			Fashion Outlets of Las Vegas			
Loan Name	Transaction Name	Pricing Date	Loan Name	Transaction Name	Pricing Date	
Capital Structure	Balance	Coupon	Capital Structure	Balance	Coupon	
1st Mortgage Balance*	\$154,918,975	5.19%	1st Mortgage Balance	\$73,000,000	4.55%	
Subordinate Balance*	\$12,909,915	9.50%	Subordinate Balance	\$32,000,000	12.50%*	
Total Mortgage Balance*	\$167,828,890	5.52%	Total Mortgage Balance*	\$105,000,000	6.97%	
*At cutoff of CFCRE 2011-C2						
Credit Parameters						
	1st Mortgage	Total Mortgage		1st Mortgage	Total Mortgage	
Underwritten NOI	\$17,899,047	\$17,899,047	Underwritten NOI	\$8,353,496	\$8,353,496	
Total Debt UW NOI DSCR	1.76x	1.56x	Total Debt UW NOI DSCR	1.87x	0.98x	
Appraised Value	\$253,000,000	\$253,000,000	Appraised Value	\$125,000,000	\$125,000,000	
Total Debt UW LTV	61.2%	66.3%	Total Debt UW LTV	58.4%	84.0%	
UW NOI Debt Yield	11.6%	10.7%	UW NOI Debt Yield	11.4%	8.0%	
Avg Agency NOI Debt Yield	11.4%	10.5%	Avg Agency NOI Debt Yield	10.8%	7.5%	
Avg Agency Stressed DSCR	1.26x	1.14x	Avg Agency Stressed DSCR	1.38x	0.83x	
Avg Agency Stressed LTV	82.3%	89.1%	Avg Agency Stressed LTV	85.7%	123.2%	
Evaluation of Execution Alternatives						
Sizing/Pricing	<i>Loan Level Credit Support</i>		Resulting Change to Pool Levels	<i>Loan Level Credit Support</i>		
	Only 1st Mortgage Debt	Total Mortgage Debt		Only 1st Mortgage Debt	Total Mortgage Debt	
AAA @ ~Swaps+90bps	19%	20%	0.03%	22%	27%	0.68%
AA @ ~Swaps+200bps	16%	17%	0.06%	18%	23%	0.71%
A @ ~Swaps+300bps	12%	13%	0.05%	14%	17%	0.50%
BBB @ ~Swaps+450bps	7%	8%	0.03%	9%	11%	0.29%
BB	4%	5%	0.02%	5%	6%	0.14%
B	2%	3%	0.00%	3%	4%	0.06%
Estimated Break Even Spread to Treasuries	230 bps	235 bps	5 bps	240 bps	270 bps	30 bps
Est. Conduit Coupon	5.19%	5.24%		4.55%	4.85%	
Differential in Coupon	0.28%			2.12%		

Source: Rating Agency Presales, Intex Data Solutions

In the RiverTown loan, the secured mortgage had a 5.19% coupon and the mezzanine loan a 9.5% coupon; that blends to a weighted average interest cost of 5.52% for leverage that the issuer assessed at 66.3% LTV and the rating agencies assessed as 89.1%. The Fashion Outlets Mall is more complicated, as the first mortgage has a 4.55% coupon but the higher leverage \$32 million mezzanine loan carries an 8.55% current pay obligation plus has an additional 3.95% interest accrual. This accrual structure was necessary as the underwritten NOI was only \$8.35 million on the \$105 million of debt, creating an initial 0.98X DSCR. The rating agencies recognized this high total debt leverage with an average assessed LTV of 123.2%. If the borrower improves the property's performance, they will hopefully be able to pay the accrual rate, but this is likely a risk that is better underwritten by a mezzanine lender, rather than rating agencies and CMBS investors.

The two loans provide a full spectrum of mezzanine financing which is helpful in considering the cost efficiencies that were realized with the subordinate debt. To illustrate this, the final portion of the table calculates the debt stack mortgage coupon cost under the issuer's chosen configuration as well as if the entire mezzanine loan had been included in the CMBS pool execution. With the lower leverage RiverTown loan example we estimate if the entire loan had been included in the trust that the loan's credit class allocations would have risen an average of 2-6 bps between, and average loan funding costs would have risen from Treasuries+230bp to Treasuries+235bp. Looking at the small difference in spreads it is possible that placing all of this loan's leverage within the trust may have been more economic than selling a mezzanine loan at 9.5%. But many times an originator will co-originate with a subordinate lender in order to lock in funding costs.

For the higher leverage Fashion Outlets loan, we estimated that loan subordination levels would have risen by as much as 5%, boosting the loan's funding costs from Treasuries+240bp to Treasuries+270bp. More importantly, it would potentially have increased the entire pool's subordination levels as much as .7% on the upper conduit classes, which would have increased the pool's funding costs ~30bps, potentially costing the deal \$2.25 million in profitability. This potential large increase in subordination does not account for any additional pricing spread that may have been required to sell the conduit pool (because investors would have likely been more hesitant to buy the conduit bond classes). In estimating conduit subordination levels, pricing is often more art than science – but we expect that the issuer who considered selling these loans did similar evaluations, and saw placement benefits to slicing the mezzanine debt and pricing with investors who would price it tighter than a CMBS conduit execution.

Based on the results we can make a few observations: First - in both cases the issuers cut the transaction leverage to maintain a high ~11.5% debt yield, whereas the subordinate leverage was sized to 10.7% and as low as 8% on the first and second loan, respectively. These debt yield cutoffs were likely judged to be the point at which conduit investment grade buyers would be most comfortable. Secondly - including the extra leverage within the CMBS execution not only increases the entire pool's credit enhancement levels, but also exposes a larger portion of each loan to the b-piece (sub-investment grade) buyers' mid-teens conduit pricing, which is significantly greater than the 9.5-12.5% achieved with mezzanine funding. So while the CMBS market may have been able to price additional leverage, at a certain point the additional credit support created causes the issuer to go outside the conduit execution and offer the secondary mezzanine loan market a sizable and reasonable leverage portion of the loan.

The same is also clearly true for floating rate mortgages or on large single asset deals, as issuers will privately place the non-investment grade portion to real estate savvy investors who are better prepared to price each loan's credit risk. As rating agencies see different levels of investment grade proceeds, we also expect issuers will be very fluid in choosing their rating agencies, and that investors will still have to

consider the value of the rating being assigned. For instance, on the recent VNDO Mortgage Trust 2012–6AVE single asset transaction, both S&P and Morningstar rated the entire \$950 million loan as investment grade, while Fitch only rated the triple-A portion. Yet using published Fitch parameters¹, investors realized that the full loan exceeded most of Fitch's large loan sizing parameter for an investment grade rating (the \$950 million would have been a 1.11X coverage, while Fitch usually requires 1.35X, although might drop to 1.25X). Given Fitch's usual 2X coverage parameter for triple-A paper, we believe they had to really stretch to provide this single triple-A rating. Yet the asset is clearly a unique trophy property, so Fitch must have gotten comfortable stretching their triple-A parameter for a single senior class rating. Given the leverage, most CMBS investors realized that the subordinate classes of this transaction were effectively equivalent to mezzanine loans, and therefore the subordinate portion of the transaction's bonds priced wider (but at levels still likely attractive relative to a mezzanine loan placement costs). Investors in the senior part of the structure had no issue with the leverage, and accepted the senior bonds as triple-A (as they effectively carried three ratings), while the junior bond pricing was a less expensive financing execution for the issuer (than issuing a smaller CMBS deal with some subordinate debt). Clearly, in an efficient market, issuers (and investors) have to continuously consider the secured and mezzanine cost of issuance.

Subordinate Loan Formats

Most of this subordinate debt we are discussing was developed in the late 1980s, as originators started to create methods to provide additional leverage that would in theory be neutral to any senior property's secured mortgage position. When additional secondary debt is utilized in CMBS, it usually takes the form of a mezzanine loan secured by the borrower's equity, to avoid any conflicting senior claim on the securitized mortgage. Generally, the rating agencies viewed this format of additional debt as fairly benign to the first mortgage, as the mezzanine lender typically only has recourse to assume the first mortgage's equity position, and so the required loan credit support usually only increases marginally in order to account for the higher overall debt obligation. Because many mezzanine lenders may actually have a better credit profile than the actual borrower, a mezzanine default and the potential equity transfer actually provides additional credit resources to a troubled borrower entity if the borrower's ownership can be quickly transferred. So in its simplest form (with only rights to the borrower equity or to pay off the first mortgage), a mezzanine loan can provide additional equity and credit enhancement to a first mortgage. Unfortunately within CMBS subordinate debt, rights have evolved from their simplest format.

CMBS subordinate debt was initially used with larger floating-rate loans that were financing transitional properties requiring some level of repositioning in order to justify a similar amount of longer-term fixed-rate first mortgage debt. When these less diverse large floating-rate loan pools were securitized, the issuer frequently found it challenging to find subordinate credit investors for the whole pool's first loss. One credit investor would typically find they did not like all the mortgages, whereas another credit investor may actually like another selection of the specific subordinate loans. That challenge of placing all the subordinate mortgage debt led issuers to uncross collateralized CMBS loan pools at a certain leverage level, thus creating secured loan-specific participations (rake bonds) which sometimes took the format of separate B-notes. These uncrossed subordinate CMBS positions were just the first step in the CMBS market's subordinate debt evolution, as it was not long before issuers started providing further leverage with unsecured mezzanine debt and/or preferred equity. In Exhibit 4 we use the recent \$96.75 million Westin DFW loan from the COMM 2012-FL2 floating rate transaction to illustrate five capital sources that may be utilized to fund a commercial real estate property.

¹ Criteria for Analyzing Large Loans in U.S. Commercial Mortgage Transactions, published September 26, 2011

Exhibit 4: Westin DFW Debt and Equity Structure — COMM 2012-FL2

Westin DFW	Estimated Coupon	TTM 6/12 Debt Yield	Underwritten		Moody's			Fitch		
			Debt Yield	LTV	Debt Yield	LTV	DSCR	Debt Yield	LTV	DSCR
i. Pooled Trust Loan Amount	\$36,000,000	L+ 405	19.4%	37.2%	19.5%	56.4%	2.11x	18.4%	61.0%	1.80x
ii. B-Note	\$21,500,000	L+ 900	12.2%	59.4%	12.2%	90.1%	1.32x	11.5%	97.4%	1.13x
iii. Mezzanine	\$17,500,000	L+ 1200	9.3%	77.5%	9.4%	117.5%	1.01x	8.9%	127.1%	0.86x
iv. Preferred Equity	\$0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
v. Equity	\$21,750,000	N/A	N/A	100.0%	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL	\$96,750,000									

Source: Amherst Securities Group LP, Moody's Investor Services

The exhibit also includes the issuer's and rating agencies' reported loan to value figures, to demonstrate how the leverage is sized. The leverage at the trust level is a reasonably conservative 19% debt yield and 37% loan to value, but then as we move down through the various subordinate debt forms, leverage increases to what may or may not prove to be reasonable levels of 59% loan-to-value on the b-note, and 77.5% based upon the full leverage. In contrast, the rating agencies' assessments of this leverage utilizing their underwriting approach and a cap rate based upon historical distressed conditions suggests the B-note could be 90-97% loan-to-value while the mezzanine loan would have 0.86-1.01X debt service coverage if rates increase in their distressed case. These agency figures are meant to provide a consistent distressed measure over time. While they are relevant, most investors reviewing the credit risk will rely more upon their actual judgment of value, which may be closer to the underwriters' LTV assessment or the appraiser's value. So the fact that some of this debt is placed as non-rated subordinate debt should not be surprising, as investors looking for yield will frequently see credit value beyond the conservative standards set by rating agencies.

We next discuss characteristics of the various debt positions:

Pooled Trust Loan

Is typically a first mortgage secured by a note that is registered with title against a specific property. The note ranks senior to any potential creditor claim except local real estate taxes. This is standard CMBS collateral and the senior claim is difficult for other creditors to overturn as the mortgage is usually somewhat insulated in a bankruptcy remote SPE. Unfortunately this structure has not always proven to be "bankruptcy proof". While the priority of this secured claim has not been challenged, we have now seen bankruptcy proceedings change loan terms (as with GGP retail mortgages, which were deemed to encumber the majority of the bankrupt REIT's business). In Exhibit 4 we used the label Pooled Trust Loan amount, as it may be that the trust loan is only pooled down to the investment grade level, after which there can be various slices of subordinated debt. During the 2008 and 2009 recession, these subordinate debt holders have found several methods to challenge various senior creditors' rights, but we have not seen mortgage holders' priority entitlement to first principal or interest proceeds challenged.

Participation or B-Note

A subordinate portion of a first mortgage can be held in participation or B-note form, both of which would be governed and subordinated by the intercreditor agreement.² Either position can be held inside

² Special servicer modifications on underwater defaulted CMBS loans have also created B-notes, usually at a leverage point that is viewed as just beyond the current marked down value of the distressed asset. The troubled borrower is frequently given an

or outside the CMBS mortgage trust, but notes are generally held outside the trust. With a classic B-note or participation, the subordinate lender would agree not to exercise any rights from the mortgage loan and be designated subordinate in priority to receive any interest or principal payments from the loan's prepayment or recovery. In exchange for this contractual subordination, the special servicer is usually governed by a standard that requires them to maximize recovery proceeds for the benefit of the entire mortgage including the subordinate positions that are secured by the mortgage. This B-note format has several advantages to many different investors as it provides a collateral secured B-note position while creating an A-Note with relatively low risk because of the low leverage. The secured legal format can also be attractive to an insurance company for risk-based capital calculations, while some mortgage REITs and CDOs frequently appreciate the collateral and the fact that a property secured position is a tangible claim that can be rated by a rating agency.”

Mezzanine Financing

A mezzanine loan is only secured by a pledge of the mortgage borrower's equity, which should prevent the lender from challenging the exercise of the secured mortgage rights. This means that if a borrower defaults on the first mortgage payments, the mezzanine lender could be foreclosed out of their position subject to their right to cure that default for a period time, or to pay off the defaulted first mortgage. There is an intercreditor agreement outlining the mezzanine lender's rights to assume control of a property, cure a default, or pay off the first mortgage after a default event if the mezzanine lender determines that such actions are in their economic interest. With no secured claim on the property the mezzanine lenders rights are supposed to simply be to cure any secured mortgage default, or to face being foreclosed out. Yet as we will see in our intercreditor discussion, mezzanine lenders rights can sometimes exceed their economic position.

Preferred Equity

Preferred equity in the context of commercial real estate plays a similar role to preferred equity in the context of the stock market; it creates an unsecured interest that will receive payments at a set yield or cash flow entitlement after the debt service obligations, but in priority to the pure equity owner's entitlement. To the extent that these preferred equity obligations are not met, the preferred equity may accrue an increasing ownership position in the borrower's equity position. But with the preferred equity mechanism taking place entirely within the bankruptcy-remote borrower SPE, the preferred equity claim to equity is effectively subject to the borrower's requirements to make all senior debt payments, and can obviously be extinguished through foreclosure by either the mezzanine or senior secured lenders. In fact a preferred equity interest in a borrower is difficult to detect and rarely mentioned in the intercreditor agreement.

Key Intercreditor Terms

While subordinate debt slices are not supposed to interfere with the first mortgage's creditor rights, all subordinate debt investors negotiate to have as many rights and protections as possible to have some say over their debt positions' destiny. These rights are described in the intercreditor agreement, which defines all related interactions (such as distribution of monthly interest, to the right to direct the special servicer in

ownership interest in the B-note in order to encourage them to invest further cash in the loan workout. Modified B-note rights are very different from B-note rights created at origination. Investors interested in a full discussion of B-note modifications should read: “CMBS Hope Notes (or Hoping for Fees)? – Suggest that CMBS Needs Better Governance”, Darrell Wheeler, Vivek Tiwari and Joe Yu, 2/18/2012.

an event of default). This agreement also contains exhibits with the senior loan documents and the junior loan documents. In 2002, CREFC sponsored an industry friendly intercreditor template in cooperation with Dechert, that listed terms that senior and junior debt holders should generally accept³. However, those terms will frequently vary from this template, and investors in CMBS do not usually get to review the underlying loan intercreditor agreements, so there can be additional non-standard rights. We try to highlight items that can vary below, as we discuss key terms of the intercreditor agreement.

Cash Flow Waterfall

The primary role of the intercreditor agreement is to describe how one portion of debt is subordinated to another. The A-note is sold to the trust with the trust's master servicer collecting the entire loan's debt payments, then redistributing those payments to the trust, B-note and/or mezzanine loan based on a cashflow waterfall. The cashflow waterfall typically pays the A-note interest and principal, followed by the B-note interest and principal and then lastly the mezzanine loan interest and principal, until an event of default occurs. Investors should be aware of a deal's priority of payment structure, plus how fees (e.g. extension, exit, prepayment penalties, etc.) are prioritized and distributed both before and after an event of default. In the case of extensions the mechanics can be very complex as an extension may automatically increase the loan coupon in which case fees are effectively allocated depending upon how that extra coupon strip is allocated to the various debt positions. Unfortunately, different loan documents define fees and events of default differently, so it is important for investors to understand how an event of default can be triggered for a particular transaction.

The servicer advancing mechanism should also be clearly understood. If a loan defaults, a subordinated A/B structure would ideally be structured such that only the A-note would be entitled to advances, while all payments to the B-note would be curtailed until the default is cured. However, some recent B-notes that have resided in the trust have been allowed to receive advances to the extent that various value tests are met. Given that appraisal-driven value mechanisms are difficult to administer properly, we would prefer to see B-notes without an advancing mechanism.

The Servicing Standard

In CMBS the servicing standard requires that master and special servicers take servicing actions that maximize recoveries on the securitized loan for the benefit of the holders of the trust's certificates. However, in cases where there is a subordinate B-note privately placed outside the trust, intercreditor agreements will be amended to require servicing actions to maximize recoveries for the whole loan, which would include that B-note. This servicing standard can be difficult to administer, as the intercreditor agreement usually allows the subordinate debt position to consult with or utilize an operating advisor to oversee special servicer actions while the subordinate position has an economic interest. This subordinate debt servicing approval right raises questions regarding the extent to which subordinate debt holders can direct the servicer, and about the efficiency of the valuation mechanism that terminates this oversight.

Subordinate advisor rights usually involve material decisions, and those rights continue as long as the appraised value of the property shows that the B-note still has 25% of its original value. If a special servicer feels a B-note's activities are jeopardizing the A-note's recovery, they are supposed to disregard

³ Investors interested in a full discussion of Intercreditor rights should read Mezzanine Debt; Suggested Standard Form of Intercreditor Agreement, David W. Forti and Timothy A. Stafford, February 2002.

the B-note and take whatever actions deemed necessary to enforce the servicing standard and preserve the maximum net present value to the trust. But it can be difficult for a special servicer to make the call to disregard a subordinate debt holder's interest, as subordinate holders may have actually appointed the special servicer or their advisor may be fairly aggressive in consultation meetings, all while the subordinate debt holder continues to have a right to replace the special servicer. This replacement right is important, as subordinate debt holders can replace the loan special servicer as soon as the overall loan is created and well before any loan has defaulted. To us, this ability to replace a special servicer with what is likely a more subordinate debt friendly special servicer somewhat negates the servicing standard. Because there is risk that a new replacement servicer may be biased towards subordinate debt holders' interests, we prefer to see larger special servicers that have reputation risk on mezzanine loan assignments, and suggest that a qualified special servicing standard may be an idea worth pursuing for the commercial mortgage industry.

Cure Rights

The intercreditor agreement provides B-note holders or mezzanine loans with monetary (and non-monetary) default cure rights, usually within a limited number of days' notice from the senior lender. After a loan default, during the loan term a subordinate position might use their cure rights any time they feel the senior's actions may impair their recovery. A situation that might arise on a loan default where the value of the property could repay the A-note but create a loss for the subordinate debt because of a currently depressed real estate market that a subordinate holder thought was improving. In such a case, the subordinate position is entitled to make the mortgage payments in order to stall a loan's transfer to special servicing and potential liquidation. This would buy time for the underlying market to recover, but could also be used to buy time for the subordinate position to use a special servicer replacement right. This right to cure could be good or bad, depending upon what ultimately happens in the underlying market, as further market deterioration could eventually threaten the A-note principal. Either way, the subordinate positions' cure right can delay recovery realization for the senior position.

Fortunately, most B-notes or mezzanine loans restrict the period that can be cured anywhere from one to six consecutive months, and to a certain total number of months per year. Yet at the other end of the spectrum, some market participants have reported loans with unlimited cure rights. We think all cure rights should have a time restriction in order to allow the senior position to eventually move forward with their realization efforts and potentially to force the subordinate positions to consider their other main option, which is to purchase the senior loan. We should also mention that there have now been troubled loan cases where the subordinate positions have not cured the senior monetary default yet still managed to negotiate some monetary compensation by impeding foreclosure efforts. In the case of the Peter Cooper loan, the subordinate positions offered to the senior positions the option of continuing the workout efforts without foreclosing and incurring substantial land transfer tax costs.

Right to Purchase the Senior Loan at Par or for the Mezzanine Loan To Assume the Equity Position

Traditionally, subordinate notes and mezzanine loans have been structured with an ability to buy out senior positions at par with the payment of accrued interest and other advances. This is in addition to the mezzanine lender's ability to step into the borrower's position. Both of these options are meant to benefit the senior secured mortgage position while providing flexibility to the junior position. However junior debt holders have proven to be rarely prepared to actually pay off the existing financing unless they are forced to by the threat of being foreclosed out. This was successfully done with the Macklowe office

portfolio loan in COMM 2007-FL14, as special servicer foreclosure actions forced the mezzanine lender (which was also the loan originator, Deutsche Bank) to purchase the loan from the trust in order to protect their mezzanine loan position. In this case the secured A-note position was only \$1.13 billion relative to a \$470 million junior note and \$1.5 billion of mezzanine debt, which meant that the majority of the \$3.1 billion debt was outside the trust. This lopsided use of mezzanine leverage left the secured position in a strong negotiation position relative to the large \$1.5 million mezzanine loan.

However, we have also seen a subordinate position attempt to avoid using the par buyout requirement, by using the fair value option that legacy transactions provide to the controlling class. Normally if a junior debt holder is directing the special servicer's workout activities and retains a fair value option on the property, there should be a current valuation demonstrating that the controlling junior class has at least 25% intrinsic value. But according to news media reports⁴, a documentation error in the CSMC 2007-TFLA floating-rate transaction allowed the \$10 million mezzanine loan on the JW Marriott Hotel (a \$150 million secured loan that had defaulted at maturity) to attempt to buy the asset, post-default, for the \$84 million November 2011 appraised value before their control rights were scheduled to be transferred in January 2012. The market is classifying this ongoing dispute as a documentation error, as junior debt rights are supposed relinquish after they have lost their intrinsic value. Yet reportedly the loan documents do allow this mezzanine debt position a small window of time to exercise the fair value option before control rights are switched a trust class – putting the senior classes at risk of losses should the asset sells for less than the \$150 million mortgage. If the subordinate debt holder is successful in exercising the fair value option, then that violates the spirit of classifying the mezzanine loan as subordinate. But we have heard of a few other cases where the subordinate debt reportedly had unexpected rights, so the ongoing case points to the need for better mezzanine loan term disclosure from issuers.

Operating Advisor Rights

If a loan defaults, both senior and subordinate loans agree to notify each other of potential legal action in relation to the borrower. Obviously the first notification usually involves a borrower default to either the senior or junior debt position. These notifications help the junior position track senior's workout efforts, and usually provide an ability to direct and approve certain actions of the special servicer. In these cases the majority B-note investor or controlling mezzanine holder will generally have the ability to appoint or serve as the Operating Advisor to the servicer. If the controlling holder is a sophisticated, experienced real estate investor, this mechanism can enhance the overall transaction value by providing expertise in matters requiring the controlling holder's approval or consent (i.e., budget approvals, major lease approvals, property manager replacement, involvement in the foreclosure process, managing/selling REO properties, etc.). This right has generally been an accepted practice, as the subordinate position should be motivated to undertake actions that would maximize the value of the collateral.

While its position is “in the money,” the B-note investor as Operating Advisor has influence over major servicing decisions, such as loan modifications, the implementation of legal/foreclosure actions, the sale of assets acquired through foreclosure, compliance with environmental laws, the substitution or release of collateral, etc. This approval of special servicing functions again creates a risk that prior to a control appraisal event, the subordinate investor may pressure the special servicer to deploy tactics to delay sale-based loan resolutions, especially in cases where the subordinate position has potential large upside from an involved or risky workout strategy. Creating subordinate debt always entails some risk of undue influence in hopeless recovery situations, but this is usually mitigated by special servicer standards (as

⁴ Ex-Banker Caught Up in Debt Brawl, *Wall Street Journal*, February 15, 2012, Al Yoon and Peter Grant.

discussed above) and the eventual implementation of control appraisal events. Overall, the time required to consult and the fact that the servicer will likely give a B-note additional time to consider approving an action suggests that consulting does increase the loan workout time and expenses, which can expose an A-note to tactics that may threaten or delay the loan recovery. For CMBS investors this means they should focus upon how the control valuation is determined and how often this value is updated.

Right to Modify Senior or Junior Debt

The intercreditor agreement usually allows both the senior and junior debt to modify their loan to the extent that it does not shorten the loan term or increase the charged rates. However, after seeing several pre-2007 loans default, it seems that almost any modification can take place once a loan with the special servicer. At its worst we have seen servicers create modifications that extend term in order to give the property time to improve, while also increasing the mortgage coupon received on the junior debt positions. While an extension modification usually makes sense, the increased economics to junior position raises redirects credit benefits away from the senior note that would be in a Real Estate Mortgage Investment Trust that effectively prevents loan modifications that increase its mortgage coupon pass through rate. The final result violates the concept that the junior position is subordinate, but was facilitated by the special servicer in their assessment as being the optimum workout solution. Of course it is highly likely that the subordinate debt appointed that special servicer, so the potential exists for conflicts of interest in the modifications. We expect that there is not much a senior investor can do to restrict this modification risk, and suggest that investors ask for limits on the number of years that a servicer can extend to ensure a day of reckoning that will likely benefit the lower leverage senior position. Long extension modifications are mostly a risk on fixed-rate mortgages, as extensions on floating-rate loans are restrained by an overall requirement that limits maturities to be 7 years prior to the transaction's final rated maturity. Overall, we expect that a 2-3 year extension limitation should provide sufficient servicing flexibility on a fixed-rate loan, and allow the senior position to enforce control in a reasonable time frame while providing time for an asset to recover or stabilize.

Restrictions on Transfer of B-Notes and Mezzanine Loans

The intercreditor agreement will also impose restrictions on the B-note and mezzanine loan ownership. Typically, subordinate debt is held by a bankruptcy-remote SPE owned by an institutional lender, or by a REIT that passed some minimum net worth test of, say \$200 million, and a total assets test. This test was in place to ensure that the subordinate position is well capitalized and unlikely to file for bankruptcy, and thus to bring stability to the underlying mortgage. But today, our view is that restrictions on subordinate ownership rights have become so open that the only generalization we can draw is that these entities are simply pre-qualified by the originator and the rating agencies. This lack of standardization is why it is important to find out how the B-note buyer or mezzanine lender has been qualified, in order to determine if it is a lender or potential borrower that you would think has the wherewithal to work out the loan, buy out the A-note, or even own the property if required. Ensuring that the subordinate loan ownership has considerable experience is just as important as vetting their financial resources, as a savvy subordinate lender can add considerable value in workout negotiations with what many times has proven to be workout hardened borrowers. Financial backing is still important, as a poorly capitalized subordinate lender may not be able to buy out the senior distressed position. We have examples where in that case, the subordinate lender turns to interfering with or delaying the special servicer's workout of the loan, in order to extract hostage value from the A-note position.

We should also mention that one of the biggest ownership exceptions is when B-notes are held by entities related to the borrower. In the past, this has been a common request of mezzanine borrowers, as a related entity may have felt it knew the property well, which resulted in confidence in the borrower and made the subordinated debt yield appear attractive. In the case of a mezzanine loan, this related borrower holding was not a problem, as the debt obligation only gave the lender recourse back to its related entity and could not really affect the first mortgage security against the property. Thus, the rating agencies usually ask only that a related mezzanine loan owner void their right to cure defaults or approve budgets. But as documentation can be imperfect there should be some concerns that the related entity may attempt to delay a foreclosure against their related entity. This is an obvious concern, so Moody's has a paper on related entity lending⁵ that outlines several structural terms which the B-note holder is required to execute that would effectively make the B-note position a purely economic interest, unable to take or forestall any legal action in any default situation. We believe these measures subordinate the B-note interest, but would prefer that a simple, unsecured mezzanine loan be used instead.

Senior/Junior Structure Creates A Leverage Benefit In Exchange For A Potential Layer of Conflict

Creating a subordinate position benefits the senior position by limiting their leverage credit risk. But as we have just highlighted, it also creates potential conflict within the creditor structure that could delay realization for the senior secured value. In the intercreditor discussion the largest potential delay can come from the ability to cure the default and to play a service advisory role, which may increase loan workout time, as interest advances accrue and may potentially eventually hurt the senior position. Beyond the extension risk, the par payoff right also creates prepayment risk for the senior debt. This may not be a significant issue on a floating-rate transaction and is preferable to taking exposure to the credit risk of the entire loan, but it could be a heavy penalty in a fixed-rate transaction if the prepayment premium is also lost in the payoff discussions. Overall, additional debt increases the uncertainty surrounding the prepayment timing of the senior loan.

A couple issues that counter our concern about subordinate debt holders' potential workout strategy are the transaction's first-loss buyer's negotiation on transaction terms, as many refuse to accept pools with strong subordinate loan rights. But with more competition in the CMBS first-loss buyer market, these natural adversaries of subordinate loan rights are finding that they have to accept more loans with more subordinate rights. In fact, as CMBS issuers continue to increase conduit pool leverage, we expect that the CMBS pool's first loss buyers may actually contribute to the number of subordinate notes created, as they start to kick out the higher leverage portions of loans rather than the entire loan. At the end of the day, we are really depending on the fact that the B-note is subordinate to the A-note after a default, making it reasonable to believe that the B-note's workout strategy would be consistent with maximizing the loan's net present value.

We should also say that we have seen several examples of the appraisal correctly designating the controlling class and allowing the various parties to make appropriate decisions. So while we presented a few dispute examples where this mechanism may fail, in instances where the property valuation is clear, the control rights mechanism usually works. Transfer disputes have mostly arisen when the property valuation is near the transfer cut-off value or where the subordinate debt position is entitled to retain their own appraisal. Even then we would note that when loan positions and economics are large, subordinate lenders can usually use the intercreditor agreement to complicate matters. But then that has been the case

⁵ U.S. CMBS: Moody's Approach to Borrower Affiliates Owning Their Related B-Notes, September 10, 2004.

with any troubled large loan dealing with a defaulted borrower, so having subordinate debt just adds one more level of complexity to that equation.

Conclusion – CMBS Investors Should Push For Standardization And Simplicity In Subordinate Debt Terms

Overall, the senior/junior structure effectively segregates and sells leverage to the investors who value the components most. As originators reach to refinance more marginal loans and use CMBS for financing, we expect that investors will see more B-notes and mezzanine loans. This should not be viewed negatively, as it does limit the credit risk of the securitization while taking advantage of the hot market for secondary leverage on commercial real estate and the improved credit enhancement that can be achieved by bifurcating the loan.

In its simplest form the senior/junior commercial loan is an equitable structure. The subordination of a position with a simple senior buyout option is a huge credit positive for the senior mortgage position, even if it creates an early prepayment risk, as that prepayment would only occur if it cleans up a troubled loan. Beyond this simple format, a carefully crafted intercreditor agreement can allow for a sophisticated, experienced real estate investor to provide additional credit enhancement to the senior position in the form of loan servicing, workout experience, and a potential buyout of the A-note at par – while an efficient control allocation mechanism can minimize the risk that the B-note investor may impair the value of the A-note via “extending and pretending.”

However, market forces are always at work when the intercreditor agreement is drafted, and many times the senior CMBS creditor rights can be negotiated away as originators and issuers seek an easy method to sell subordinate debt without giving up coupon. For CMBS investors this dilution is difficult to track, as many of the subordinate holders’ rights are rarely referenced in the prospectus supplement, and are usually only referenced in the non-public intercreditor agreement. The fact that the B-note and mezzanine lender terms are not fully disseminated creates a securitization area that would benefit from the creation of a standardized B-note rights table that would highlight exceptions, and which could be included in the term sheet and the Annex A when new deals are sold. Without that type of summary, investors in CMBS containing senior A-notes should request summaries of the subordinate positions’ rights before they purchase a new issue, so as to understand the loan’s workout mechanics and subordinate holder’s repurchase abilities. Specifically, investors should ask the following questions:

- Items that are subject to the subordinate bondholder’s approval and whether there is a consultation requirement after control transfers.
- How many subordinate debt holders’ have replaced the special servicers on day one and are the new servicers large operations that have reputation risk. Eventually, it may make sense for CMBS issuance to restrict secondary financing servicing to a qualified list.
- A description of the mechanics of the control rights allocation and whether the resolution process allows the subordinate position to retain their own appraisal valuation. After the appraisal is received, how long does it take control to switch over to the new controlling creditor?
- The subordination position’s cash flow entitlement, including allocations of advances, fees and coupon changes.
- What are the B-note or mezzanine loan’s rights to cure the whole loan, including the notice period, the permitted time period, and whether advances also have to be cured?
- The terms for the subordinate position to repurchase the whole loan.

During 2006 and 2007 the growth in the use of the B-note structure and mezzanine debt was clearly accompanied by increased subordinate loan holder rights. Given the negative impact that many of these junior positions have had on the senior CMBS positions, we are surprised that there has not been more discussion of subordinate debt standardization. CMBS investors in a transaction containing a B-note or a significant mezzanine loan should ensure that they understand the control rights in the event of a loan default, including any rights to advise or replace the special servicer, or to buy the A-note out of the trust at par or even at market value.

Finally, we think investors should be considering whether some recent financings have not provided too much leverage, as we have seen several subordinate loans create significant borrower equity cash outs. Specifically, we would be concerned that this additional debt represents refinancing risk that is difficult to size as multi-loan transactions rarely disseminate the additional debt detail in an electronic format that can easily be incorporated into any automated refinancing analysis. To overcome this issue, investors should continue to push for better mezzanine loan term disclosure in Annex A materials. ♦