I. CMBS CREATION

Chapter 1: An Overview of CMBS

1.1 General

"What are commercial mortgaged-backed securities?"

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.

The effect of the Great Recession upon 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 as a result of the Great Recession, distinguish this 2015 E-Primer Update from the 2013 Update.

1.1.1 Why CMBS?

Traditionally, banks, savings & loans, insurance companies, and other financial institutions make commercial real estate loans to borrowers and retain a portfolio of these real estate loans, so that these lenders are known as "portfolio lenders."

These portfolio lenders find borrowers, make mortgage loans, service the loan payments, service any loans with serious problems, and generally retain the loan throughout its term to maturity.

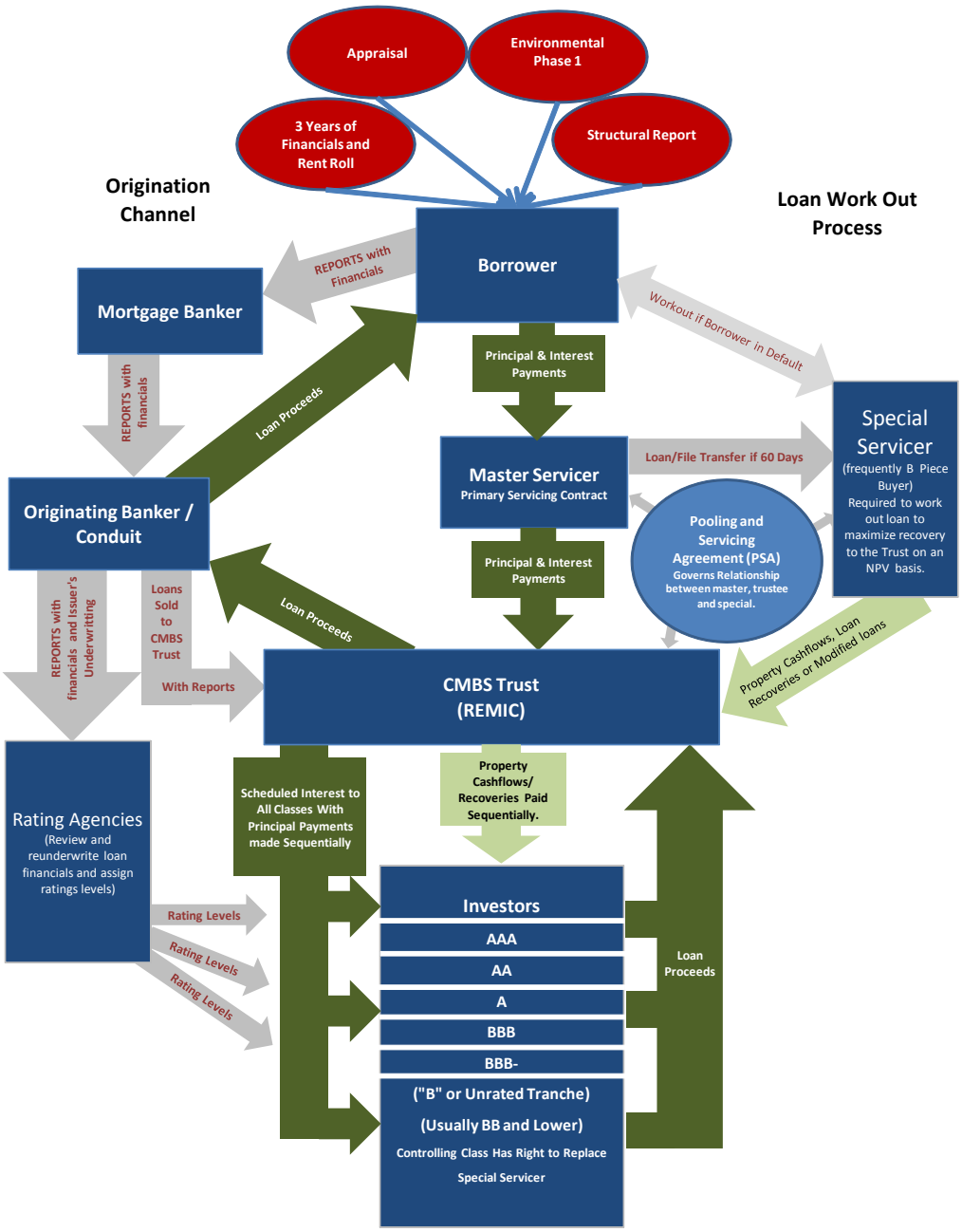
With a traditional portfolio loan, the portfolio lender thus effectively ties up its capital from extending the loan throughout the entire term of the loan.

With the severe shortage of real estate capital resulting from the Savings & Loan Crisis in the late 1980s and early 1990s, the need for leveraging the real estate capital available became acute.

CMBS provides such leverage while in effect disaggregating the functions of portfolio lenders.

Rather than making a loan, holding the loan, and tying up its capital through the end of the loan term, with CMBS the bank instead makes the loan and immediately sells the loan

Exhibit 2-7: CMBS Structure and Participants



Source: Amherst Securities Group LP

I. CMBS CREATION

Chapter 3: Originating and Underwriting Commercial Mortgages for CMBS

3.1 General

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.

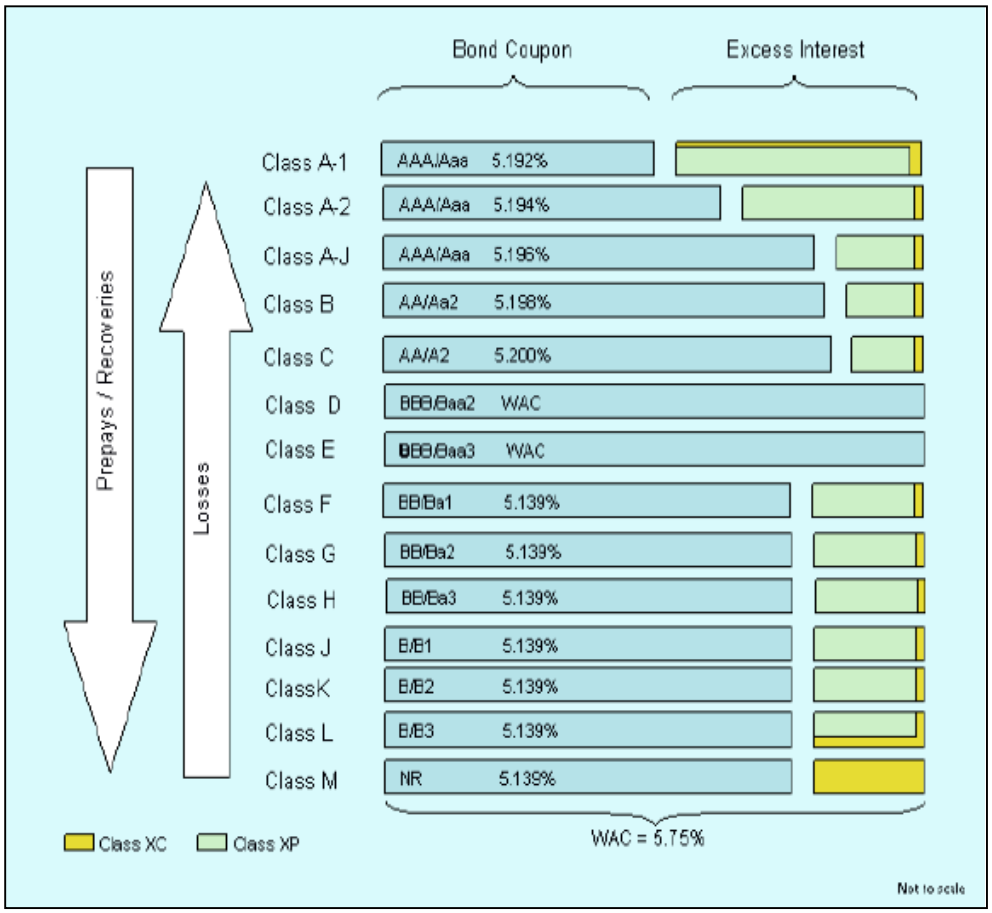
While dealing with these issues, most traditional lenders stopped making new loans and a real estate credit crunch ensued. The capital markets – CMBS – became the industry's primary source of new funds.

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 the 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 subprime mortgage 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

Figure 4-6: Representation of Loan and Bond Coupon Structure



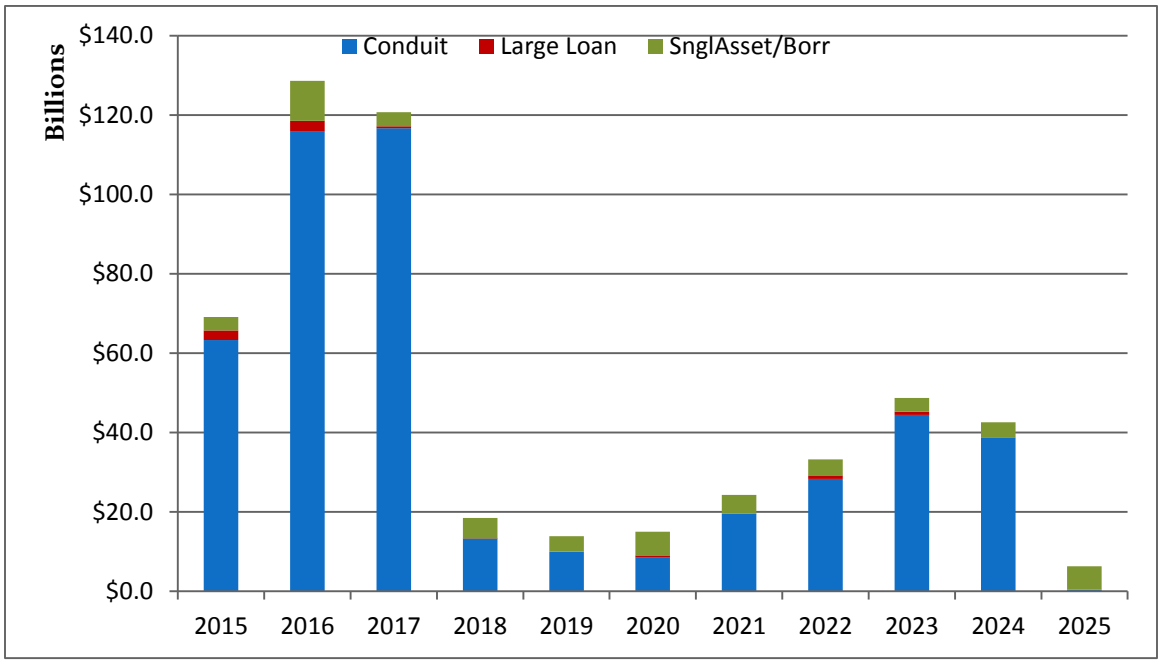
In other types of securitizations, this excess interest is used as additional credit enhancements to absorb losses. However, in CMBS, this excess interest is sold as an interest-only (IO) class or classes. Interest-only certificates can be stripped off of all of the classes, individual classes, or combined 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.

4.11 Floating Rate CMBS/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

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 5.1-8: CMBS Loan Maturities



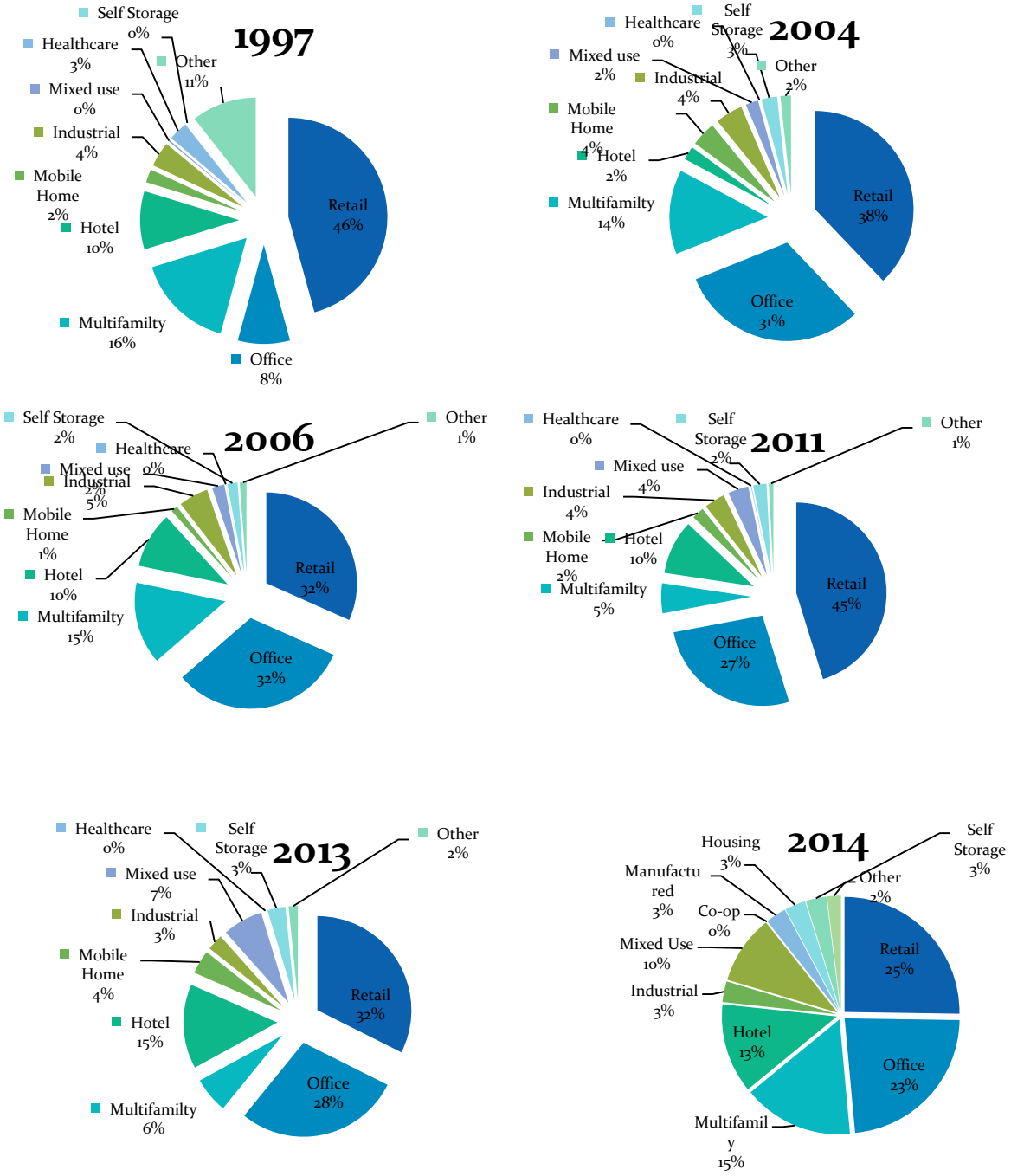
Source: Trepp

Loans that mature between 2015 and 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 maturing between 2015 through 2017. After 2017, however, the extension risk falls off markedly, largely because of the limited issuance of CMBS maturing in these years.

5.1.10 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, an 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.

Figure 5.2-8: Pool Collateral Distribution Throughout The Years



Source: Citigroup

II. CMBS INVESTMENT

Chapter 5.4: Investing in B-Piece CMBS

5.4.1 General

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.

5.4.2 Background

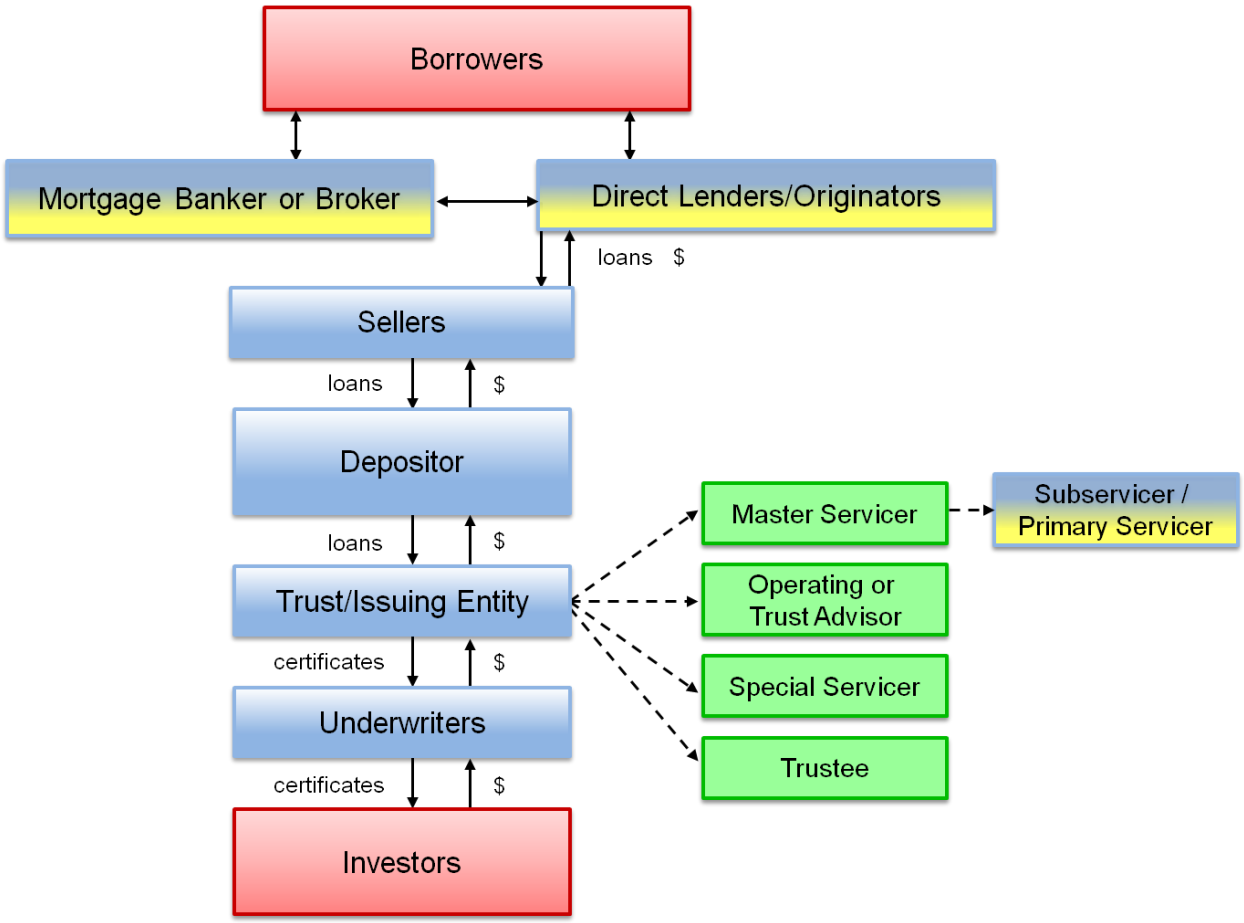
The first CMBS issues grew out of the S&L collapse and the RTC generally absorbed the risk of non-performing assets. As CMBS expanded beyond the sale of seized assets, new investors were needed to absorb the risk of non-performing assets. The first B-piece investors tended to be experienced real estate 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. B-piece buyers thus became the gatekeepers of loan quality. 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

Figure 6-1 CMBS Transactions Flow of Investments and Securities



Generally, the lead underwriter, the lead seller, the depositor, 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.

6.2 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 (PSA).

III. CMBS TRANSACTIONS

Chapter 7: An Overview of the Taxation of REMICS

7.1 General

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.

7.2 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

Exhibit 8-3: Financing Costs — 2 Recent Mezzanine Loans vs. Placing The Entire Leverage Stack Within The CMBS Deal

Loan Name	RiverTown Crossings Mall	
Transaction Name	CFCRE 2011-C2 & COMM 2012-CCRE1	
Pricing Date	12/6/2011 & 5/18/2012	
Capital Structure	**Balance**	***Coupon***
1st Mortgage Balance*	$154,918,975	*5.19%*
Subordinate Balance*	$12,909,915	*9.50%*
Total Mortgage Balance*	**$167,828,890**	***5.52%***

*At cutoff of CFCRE 2011-C2

Credit Parameters	1st Mortgage	Total Mortgage
Underwritten NOI	$17,899,047	$17,899,047
Total Debt UW NOI DSCR	1.76x	1.56x
Appraised Value	$253,000,000	$253,000,000
Total Debt UW LTV	61.2%	66.3%
UW NOI Debt Yield	11.6%	10.7%
Avg Agency NOI Debt Yield	11.4%	10.5%
Avg Agency Stressed DSCR	1.26x	1.14x
Avg Agency Stressed LTV	82.3%	89.1%

Evalutation of Execution Alternatives

	Loan Level Credit Support		**Resulting Change to Pool Levels**
Sizing/Pricing	**Only 1st Mortgage Debt**	**Total Mortgage Debt**	
AAA @ ~Swaps+90bps	19%	20%	0.03%
AA @ ~Swaps+200bps	16%	17%	0.06%
A @ ~Swaps+300bps	12%	13%	0.05%
BBB @ ~Swaps+450bps	7%	8%	0.03%
BB	4%	5%	0.02%
B	2%	3%	0.00%
Estimated Break Even Spread to Treasuries	230 bps	235 bps	5 bps
Est. Conduit Coupon	5.19%	5.24%	
Differential in Coupon		***0.28%***	

Loan Name	Fashion Outlets of Las Vegas	
Transaction Name	COMM 2012-CCRE4	
Pricing Date	11/2/12	
Capital Structure	**Balance**	***Coupon***
1st Mortgage Balance	$73,000,000	*4.55%*
Subordinate Balance	$32,000,000	*12.50%**
Total Mortgage Balance*	**$105,000,000**	***6.97%***

*The mezzanine loan has a payment-in-kind structure where the borrower must make interest-only payments at a rate of 8.55% on the mezzanine loan's original balance. The remaining interest, accruing at 3.95%, will be paid with excess cash flow. To the extent excess cash flow is not available to pay the mezzanine loan, the payment amount will be added to the mezzanine loan's principal balance.

Credit Parameters	1st Mortgage	Total Mortgage
Underwritten NOI	$8,353,496	$8,353,496
Total Debt UW NOI DSCR	1.87x	0.98x
Appraised Value	$125,000,000	$125,000,000
Total Debt UW LTV	58.4%	84.0%
UW NOI Debt Yield	11.4%	8.0%
Avg Agency NOI Debt Yield	10.8%	7.5%
Avg Agency Stressed DSCR	1.38x	0.83x
Avg Agency Stressed LTV	85.7%	123.2%

Evalutation of Execution Alternatives

	Loan Level Credit Support		**Resulting Change to Pool Levels**
Sizing/Pricing	**Only 1st Mortgage Debt**	**Total Mortgage Debt**	
AAA @ ~Swaps+88bps	22%	27%	0.68%
AA @ ~Swaps+200bps	18%	23%	0.71%
A @ ~Swaps+300bps	14%	17%	0.50%
BBB @ ~Swaps+450bps	9%	11%	0.29%
BB	5%	6%	0.14%
B	3%	4%	0.06%
Estimated Break Even Spread over Treasuries	240 bps	270 bps	30 bps
Est. Conduit Coupon	4.55%	4.85%	
Differential in Coupon		***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.