Journal of Hospitality Financial Management

The Professional Refereed Journal of the International Association of Hospitality Financial Management Educators

Volume 10 | Issue 1

Article 4

2002

An Examination of Commercial Mortgage-Backed Securities-Some Useful Insights for Borrowers

Amit Nagpal

HVS International, Mineola

Atul Sheel

University of Massachusetts, Amherst

Follow this and additional works at: <https://scholarworks.umass.edu/jhfm>

Recommended Citation

Nagpal, Amit and Sheel, Atul (2002) "An Examination of Commercial Mortgage-Backed Securities-Some Useful Insights for Borrowers," *Journal of Hospitality Financial Management*: Vol. 10 : Iss. 1 , Article 4. Available at: <https://scholarworks.umass.edu/jhfm/vol10/iss1/4>

This Refereed Article is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in Journal of Hospitality Financial Management by an authorized editor of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

AN EXAMINATION OF COMMERCIAL MORTGAGE-BACKED SECURITIES—SOME USEFUL INSIGHTS FOR BORROWERS

Amit Nagpal

and

Atul Sheel

ABSTRACT

Commercial mortgage-backed securities (CMBS) have emerged strong and have faced a generally positive credit environment since the last recession. As the market grew out of recession in the early 1990s, the primary focus remained on providing better and safer returns to investors. Tied in their lock box, a period that contractually prohibits the borrower from all prepayments, the borrowers kept holding tightly onto their loans. Currently, as the delinquency rate on loans has been on the rise, and as the mortgage market offers refinancing opportunities at lower interest rates, more and more borrowers are looking to transfer or to refinance their loans. This paper examines commercial mortgage-backed securities and provides useful insights for borrowers to find their way out of CMBS loans.

Fundamentals of Securitization

The primary idea of securitization is to create certain instruments that can be placed in the market. One such application of the securitization technique is the creation of marketable securities out of (or based on) receivables. The intention of such an application is to afford marketability to financial claims in the form of receivables. Per its textbook definition, securitization of receivables is a process by which cash flows or claims against third parties of an entity, either existing or future, are identified, consolidated, separated from the originating entity, and then fragmented into 'securities' to be offered to investors (Kothari, 2000). The involvement of a third party in such a receivable securitization process adds unique dimensions to the concept. There is no legal difficulty when an entity creates a claim on itself, but the scenario is completely different when rights on third parties are turned into a tradable commodity. Also, the process affords to the issuer the rare ability to originate an instrument that hinges on the quality of the underlying asset. Hence, it allows the issuer to make his or her own credit rating insignificant or less significant and the intrinsic quality of the asset more critical. Another important function of securitization is that it adds another channel to the money cycle of a nation's economy, thereby improving liquidity in the market and diversifying risk. A traditional bank has to depend on various sources of funds to originate loans. However, by securitization, a traditional bank is not only doing away with the function of funding, but also transferring the risk on loans to its investors.

Securitization of commercial loans was born out of the severe devaluation of commercial property values in the early 1990s, when the Resolution Trust Corporation (RTC), created by Congress to facilitate the bailout of the ailing thrift industry, monetized its

investment by issuing nearly \$15 billion mixed-property commercial mortgage-backed securities.

The CMBS Structure

The basic building block of the CMBS transaction is a commercial loan obtained by the borrowers from a local or regional bank (the originator bank) to either finance a commercial purchase or to refinance a prior mortgage obligation. Many commercial loans backing CMBS transactions are balloon loans, which require substantial principal payment on the final maturity date. The CMBS structure takes shape when the originator bank holds one or more loans and sells it to an accumulator bank. The accumulator bank collects loans from one or more originator banks, structures the accumulated mortgage portfolios, and transfers them to a special-purpose vehicle (SPV) or a special-purpose entity (SPE). This transfer of assets must be a "bankruptcy remote transfer," which means that even if the originator/accumulator bank were to go bankrupt or get into other financial difficulties, the rights of the investors to the assets held by the SPV are not affected. An SPV is created solely for the purpose of transaction, which holds the assets on behalf of the investors and issues to the investors its own securities. Therefore, an SPV acts only as a pass-through entity and does not maintain the credit risk on its own balance sheet. The SPV passes the mortgage loan documents to a trust, which is responsible for calculating monthly bond payments to certificate holders and holding the mortgage loan documents. Because the majority of SPVs are Real Estate Mortgage Investment Conduits (REMICs), we will focus only on this form of conduit. The REMIC is the most popular form of conduit, as it assures a single tax on investor return. That is, if the conduit meets REMIC qualifications, it will not be subject to federal income tax except on certain enumerated transactions. Another important structural feature of CMBS transactions is the presence of both master and special servicers. Master servicers function as the primary servicers and maintain a large amount of information to facilitate the monthly collection of payments, adjustment of ARM (adjustable-rate mortgages) rates, remitting and reporting to investors and trustees, etc. Special servicers handle delinquent loans and play an important role in the event of prepayment, while maximizing the recovery for investors.

The rating agencies are private parties that evaluate the creditworthiness of the securities. To facilitate marketing of the securities to investors, the mortgage pool is divided into pieces called "tranches," and different classes of securities are sold that correspond to the various tranches. Each tranche has different risk characteristics and, therefore, the investors in each tranche earn different interest rates. The highest-rated tranche in the pool typically carries a AAA rating and will earn the lowest interest rate, because the investors in this class of securities will be the last to experience any loss of principal or interest if defaults occur in the mortgage pool. The lowest-rated tranche, or "first-loss" piece, will earn a relatively higher interest rate, but its investors will be the first to lose their investment as a result of mortgage defaults. There also may be one or more intermediate tranches. The conduit lender (SPV) also retains a small portion of the interest payable by the borrower in the form of a bond called an interest-only (IO) strip. When a mortgage interest rate exceeds the interest rate paid to the investors on the security

backed by the mortgage, the excess interest is "stripped" and sold as an IO strip. The conduit lender's profit is usually generated by selling the IO strip and by cashing out this payment stream in return for a lump-sum amount.

The entire management structure, involving the borrower, originator bank, accumulator bank, SPV, master servicer, special servicer, trust, and the investors, is established by a pooling and service agreement (PSA). This extensive document describes the duties governing each of the parties in the CMBS pool, the handling of loans, allocation of cash flows to different classes of investors, and clauses that protect the status of the SPV. The chart in Figure 1 illustrates a typical processing flow for securitization of a commercial loan.

Prepayment

A unique characteristic of commercial loans as collateral is the limitation on borrower prepayment. Unlike other asset classes, commercial loans may have extensive provisions that limit and penalize borrowers who want to prepay. In the residential mortgage-backed securities (RMBS) market, the vast majority of mortgages have no prepayment penalties. In the CMBS market, the vast majority of mortgages have some form of prepayment penalty that can affect both the investors and the borrowers. The investors want to preserve their return on investment and look for a properly formulated prepayment penalty that would suffice to pay its anticipated return. On the other hand, the borrower wants to exercise the option of refinancing his or her mortgage when the interest rates in the market decline. Considering the varying interests, it is important for the borrower to have good knowledge about the type and procedure of prepayment when signing up for the mortgage loan. Based on the mortgage documents, two popular methods of prepayment are available to borrowers: yield maintenance and defeasance.

Yield Maintenance. For many years, the life insurance industry has typically quoted a prepayment penalty using a yield maintenance method of calculation. This calculation protects the lender against a decline in interest rates. During a declining interest rate period, borrowers typically try to refinance their loans in order to improve their loan's interest rate, therefore paying off existing loans. Based on the original loan, term, and rate, a lender expects certain cash flows. If the loan pays off early, in a lower interest rate period than when the loan was originally cast, the lender would lose this cash flow by being forced to reinvest the proceeds of the loan paid off in a lower yielding investment (loan). The lender needs a shield against this loss of yield and requires the borrower to compensate for the early payoff. This compensation is called yield maintenance.

A yield maintenance penalty is generally established by multiplying the present value of the remaining payments by the difference between the coupon rate and the treasury securities yield with the same term as the remaining term of the loan. The difference between the coupon rate and the treasury securities yield is called the treasury rate differential. The idea is that the lender should be able to receive the same return as if the loan was in place to full maturity.

Figure 1 Securitization process

Table 1 illustrates the example of a borrower who, after three years and one month and after the lock-out period is over, prepays the loan. The example assumes an original loan of \$5,000,000 for a 10-year balloon term, with an amortization period of 30 years at a 7.25% interest rate.

Table 1
Yield maintenance cost estimation

Original Loan Balance	\$5,000,000
Term (10 years/120 months)	120
Amortization (30 years/360 months)	360
Coupon	7.25%
Note Dated	1/1/1999
Estimated Prepayment Date	2/1/2002
Balance Time Period (in years)	6.92
Maturity/ Anticipated Repayment Date (ARD)	1/1/2009
Outstanding Principal Balance as on 2/1/2002	\$4,838,822
Monthly Debt Service	\$34,109
Interpolated 6.92 yr. T-Bill, as on February 1, 2002*	4.6%
Yield Maintenance (YM)**	$= \$4,838,822 \times (7.25 - 4.6) \times 6.92$
	$= \$4,838,822 \times 2.65 \times 6.92$
	$= \$4,838,822 \times 18.34$
YM Penalty	$= \$ 887,343$
Total YM Cost	$= \$4,838,822 + \$887,343$
	$= \$5,726,165$

* Based on 5-year T-bill, 11/15/06—ARD, on 2/1/02 (source: www.bloomberg.com)

** $YM = \text{Prepaid Principal} \times \text{Treasury Rate Differential} \times \text{Balance Time Period}$

Based on this scenario, a borrower has to pay a penalty of \$887,343, or 18.34%, on an outstanding principal balance of \$4,838,822, for a total prepayment cost of \$5,726,165.

Ultimately, the external component that defines the yield maintenance cost is the treasury rate, which fluctuates depending on the economic environment. Considering the example in Table 1 and assuming that the mortgage was obtained at a fixed rate of 7.25%, when the treasury rate drops below 4.6%, the treasury rate differential will be higher, leading to a higher prepayment cost. Therefore, a borrower seeking to take advantage of an interest rate decline would pay a higher fee than the borrower who

prepays when interest rates have remained constant or have risen. On the other hand, if the treasury rate grows significantly above 4.6%, the treasury rate differential will become smaller, leading to a lower prepayment cost. Although the treasury rate differential may decline, it will never reach zero, due to application of the spread related to risk and transaction cost. Therefore, regardless of how much the treasury rate may increase, the borrower has to pay a prepayment penalty. Since the market interest rate and the treasury rate are directly correlated and have a high correlation, good refinancing opportunities for the borrower will be limited when the treasury rates are high.

Defeasance. In simple terms, *defeasance* is the repayment of a securitized mortgage using treasury securities/treasury bills (T-bills). Instead of passing the loan repayment and any penalty through to the investor, the borrower invests that cash in U.S. treasury securities (strips/bills) to fulfill the remaining cash flow structure of the loan. The treasury securities replace the real estate as collateral for the loan so that the expected cash flows for that loan remain intact through maturity. Therefore, a loan obligation is not canceled once defeasance occurs; rather, the loan stays alive through to its maturity date, but the borrower effectively has paid upfront each payment due for the balance of the loan term.

Under the REMIC rules, the earliest that defeasance may occur is after the second anniversary of the startup day of the REMIC, which is the first day that securitization in that REMIC is issued. This period—which contractually prohibits the borrower from all prepayments—is called the “lock-out period.” The typical defeasance process for a securitized loan, as explained by Litwa (2000) of GMACCM, is as follows

1. The borrower delivers a defeasance request to the servicer at least 30 days prior to the target defeasance date.
2. The servicer determines the particular defeasance requirements from the loan documents and delivers instructions to the borrower that outline the defeasance steps and what the borrower must implement and what the servicer will do. The servicer also sends along an estimate of the costs (other than the actual purchase price of the defeasance securities). The servicer also includes the proposed defeasance collateral agreement and, if appropriate, an escrow agreement with respect to surplus proceeds from redeemed securities.
3. The borrower gives its go-ahead after reviewing the defeasance requirements, hires its investment adviser to identify and purchase securities, and notifies the servicer of the investment adviser.
4. The servicer sends a factual statement of relevant loan information (payment date, unpaid principal balance, and interest) to the investment adviser, along with copies of relevant loan documents, and identifies the accounting firm that will provide verification of the defeasance calculations. The servicer sends similar information to the accounting firm. (The accounting certification must run in favor of the loan servicer, along with the lender, since the loan servicer may have accountability to the lender if it approves insufficient defeasance. The accounting certification also assists the rating agencies in their analysis for issuance of no-downgrade

letters. Consequently, the selected accounting firm must be acceptable to the servicer and each of the rating agencies.)

5. The investment adviser identifies the proposed defeasance securities, and a preliminary verification is obtained from the accounting firm. (The identification of the defeasance securities and preliminary accounting certification may be submitted to the rating agencies to commence rating agency review. Rating agency approval would be qualified, however, on the identified defeasance securities actually being purchased and the final accounting certification containing no exceptions or material modifications from the preliminary draft.) Once the preliminary accounting verification is favorable, the investment adviser purchases the defeasance securities and delivers the list of purchased securities and copies of the trade confirmations to the accounting firm for the accounting firm to issue and deliver its final certification to the servicer.
6. The investment adviser causes the purchased securities to be transferred to the custodian selected by the lender to hold the defeasance securities for the lender's benefit. The trades are effected by book entries. The custodian delivers trade confirmations to the servicer.
7. The borrower delivers the following to the servicer for review and approval:
 - Legal opinions regarding enforceability, perfection, and REMIC non-disqualification.
 - An officer certificate certifying compliance with all conditions to defeasance.
 - Successor borrower documents, if applicable, including a fully executed loan assumption agreement between the borrower and the successor borrower, the organizational documents of the successor borrower, and a legal non-consolidation opinion and assumption enforceability opinion.
 - Proposed forms of releases of the mortgage and related Uniform Commercial Code (UCC) financing statements.
8. If required, the servicer submits its defeasance recommendation and all defeasance materials to the rating agencies. This is done to obtain no-downgrade letters from each rating agency that rated the related commercial mortgage-backed securities. The rating agencies currently estimate a two-week review period for a no-downgrade letter request in connection with defeasance. This time requirement must be factored into the borrower's defeasance target date, as the defeasance cannot be approved unless all required no-downgrade letters have been received.
9. The servicer reviews and approves the adequacy of the materials returned by the borrower. If the defeasance conditions are satisfied, the servicer coordinates execution and distribution of the defeasance closing documents. This would include the release of the mortgaged real estate and related UCC financing statements to the borrower and, if required under the service agreement, the delivery of a servicer compliance letter to the lender (stating that all defeasance conditions have been satisfied).

10. It should be noted that part of the purpose of the review in connection with preparation of the defeasance collateral agreement is to make certain that key loan terms that appear only in the mortgage / deed of trust and are intended to remain applicable to the defeased loan are not inadvertently released by the mortgage release. For instance, many times the mortgage / deed of trust contains the SPE covenants. These would need to be either superseded by SPE requirements captured in the new defeasance collateral agreement or incorporated into it by reference.

The flow of a typical defeasance process is illustrated in Figure 2. A number of parties are involved in the defeasance process; a list of important parties and their functions is shown in Figure 3.

Defeasance can be a time-consuming process. According to Newman & Associates and Commercial Defeasance LLC., after the borrower gives a go-ahead signal for defeasance, it may take 15 to 30 days to defease the loan, depending on the complexity of the structure and the type (partial or full) of defeasance. On the other hand, yield maintenance may take 7 to 14 days for the entire prepayment process.

Like the yield maintenance penalty, the defeasance penalty also varies with the treasury rate, but in defeasance, the T-bills that are fictitious in the yield maintenance formula are actually purchased, not by the lender, but instead by the borrower. In defeasance also, the fluctuation in prepayment penalty due to treasury rate movement follows the same rules as those of the yield maintenance. That is, the prepayment cost will increase if the treasury rate differential increases due to lower treasury rates, and vice versa. But, unlike yield maintenance, the defeasance penalty can reach zero if treasury rates increase substantially and become equal to the coupon rate at which the mortgage was locked, as prepayment is made in terms of yield on T-bills only and there is no involvement of treasury rate differential. It should be noted that T-bills are non-amortizing obligations that pay interest semi-annually, and conduit loans typically require monthly payments of interest and/or principal. Hence, an experienced broker/dealer is required to select the right T-bills, which can also significantly reduce the security cost. Besides incurring defeasance penalty on purchase of T-bills, the borrower incurs transaction costs, which may vary based on the parties and the services required.

Figure 2 Defeasance flow chart

Figure 3 Parties and their functions in the defeasance process

An estimate of the defeasance cost for the borrower on February 1, 2002, using the same assumptions as those in the yield maintenance prepayment cost, is shown in Table 2.

Table 2
Defeasance cost estimation

Original Loan Balance	\$5,000,000
Term (10 years/120 months)	120
Amortization (30 years/ 360 months)	360
Coupon	7.25%
Note Dated	1/1/1999
Estimated Defeasance Date	2/1/2002
Maturity/ Anticipated Repayment Date (ARD)	1/1/2009
Outstanding Principal Balance as on 2/1/2002	\$4,838,822
Monthly Debt Service	\$34,109
Security Cost (U.S. Treasury Strips)	\$5,610,717
Defeasance Penalty (\$)	\$771,895
Defeasance Penalty (%)	15.95%
Transaction Cost*	\$73,327
Total Defeasance Cost	\$5,684,044

*Calculated from defeasance calculator available on www.defeasewithease.com

The defeasance penalty is \$771,895 or 15.95% of the outstanding principal balance of \$4,838,822. The total defeasance prepayment cost of \$5,684,044 is \$42,121 less than the \$5,726,165 total yield maintenance prepayment cost. It should be noted that the treasury rates were at a low of 4.6% during the time of this calculation; as discussed earlier, the prepayment costs may fluctuate based on the treasury rate. In the current example, the transaction cost of \$73,327 was calculated after inputting the required loan terms on the defeasance calculator (www.defeasewithease.com) provided by Commercial Defeasance LLC. Table 3 provides the detail of the transaction cost calculation.

Table 3
Transaction cost estimation

Transaction Cost	Minimum	Maximum	Estimated
Rating Agency Fee	\$ 0	\$ 20,000	\$ 5,000
Servicer Processing Fee	5,000	10,000	5,000
Special Service Fee	0	2,500	0
Custodian	12,500	25,000	14,300
Servicer Legal	15,000	25,000	15,000
Special NY Counsel	5,000	5,000	5,000
Accountants Fee	5,000	5,000	5,000
Successor Borrower	3,500	10,000	5,000
Commercial Defeasance	19,027	19,027	19,027
Total Transaction Cost	\$ 65,027	\$ 121,527	\$ 73,327

Because of the complexity of structure and the elaborate procedure required to defease a loan, newly formed consulting firms offer complete defeasance services under one roof that can work in the best interests of the borrower. Newman and Associates (a subsidiary of GMAC Holding Companies) and Commercial Defeasance LLC are considered the pioneers in this direction. The commercial defeasance market is still growing, and as the rate of loan defeasance increases, more companies specializing in defeasance are expected to emerge, which will further streamline the defeasance process and reduce security and transaction costs.

Ultimately, the borrower has two concerns—the prepayment cost and the prepayment process—on the basis of which he or she decides the prepayment method. The following paragraphs provide an analysis of the penalty cost and the prepayment process for yield maintenance versus defeasance.

Penalty Cost

Unless there is a substantial decrease or increase in the treasury rate in comparison to the coupon rate, yield maintenance and defeasance will result in similar prepayment costs. As explained, the borrower may benefit through yield maintenance as well as defeasance if treasury rates increase substantially in comparison to the coupon rate, because the price of treasuries will fall, and the borrower will be able to set up a portfolio that mimics the original cash flows at a lower price than the amount that would have had to be repaid. But, compared to yield maintenance, defeasance has a higher potential of gain, depending on the rise in treasury rates.

Prepayment Process

Defeasance, compared to yield maintenance, is a more time-consuming process for borrowers and lenders. However, newly formed consulting firms can manage the entire

process on behalf of the borrower. After the prepayment, the property may be sold. However, the borrowing entity continues to exist and could potentially affect the balance sheet and taxes. Also, because the securities need to be purchased and put into escrow before the property sells, the security broker may require a large deposit from the borrower. The defeasance process may take from 15 to 30 days, longer than the time required for yield maintenance (typically 7 to 14 days).

Conclusion and Implications for Hospitality Finance

Prepayments constitute a growing trend in the CMBS market. Due to complexities involved in the structure of CMBS loans, such prepayments present new challenges to borrowers and lenders, as well as some opportunities for potentially higher returns. Prepayment is a complex process. Such a process requires advance planning on the part of borrowers who wish to refinance or sell their properties. Yield maintenance and defeasance are two primary forms of prepayment methods. Defeasance is becoming a popular mode of prepayment. Compared to yield maintenance, it keeps investor's returns intact and incurs similar or less penalty for borrowers based on fluctuations in treasury rates. Such issues and the recent trend of increase in use suggest that defeasance, which is currently a specialized service, will become more and more popular in the coming years.

Commercial mortgage-backed securities have emerged strong and have faced a generally positive credit environment since the last recession. As the market grew out of recession in the early 1990s, the primary focus remained on providing better and safer returns to investors. Tied in their lock box, a period that contractually prohibits the borrower from all prepayments, borrowers kept holding onto their loans. Currently, as the delinquency rate on loans has been on the rise and as the mortgage market offers refinancing opportunities at lower interest rates, more and more borrowers are looking to transfer or to refinance their loans. It is expected that the detailed and practical insights provided in this paper will help borrowers better understand commercial mortgage-backed securities. Such an understanding, in turn, should make it easier for borrowers to find their way out of CMBS loans.

References

- Ambrose, B., & Sanders, A. B. (2001). *Commercial mortgage-backed securities*. Working paper. Hartford, CT: The Real Estate Research Institute.
- Butler, J. R. & Steiner, J. E. (2002). New rules of engagement for workouts: REMICS and distressed real estate loans. *Real Estate Issues*, Winter, 1-6.
- Butler, J. R. & Steiner, J. E. (2001). REMICS for dummies: New paradigm for hotel workouts. *California Real Estate Journal*, December, 1-3.
- Fabozzi, F. J., & Jacob, P. D. (Eds.) (1999). *The handbook of commercial mortgage backed securities* (2nd ed.). New York: Wiley.

Finlay, R. J. (2002). *Commercial loan defeasance*. Paper presented at the 2002 New England Commercial Real Estate Online Workshop. From www.rejournal.com.

Kothari, V. (2000). *Securitization: The financial instrument of the new millennium*. Calcutta: Academy of Financial Service.

Lefcoe, G. (1999). *Mortgage prepayment by defeasance*. Working paper. Los Angeles: University of Southern California, School of Policy, Planning and Development.

Litwa, R. L. (2000, July). Defeasance: A practical overview. *Mortgage Banking Magazine*, 1-5.

Park, E. J., & Purij, N. (2001). CMBS: Moody's approach to rating loans secured by hotel properties. Electronic Special Report. Moody's Investor Service. From www.Moodys.com.

Sears, J. (2001). *Substitute play: Defeasance as a key to unlocking conduit loan prohibitions*. Working paper. Century City, CA: Cox, Castle and Nicholson LLP.

Schonberger, M., & Moliver, D. M. (2001). Defeasance vs. yield maintenance: What's the difference? *Real Estate Issues*, Summer, 1-7.

Vanberg, E. (2001). Conduit prepayment issues: Defeasance vs. yield maintenance. Electronic Special Report. Newmark Realty Capital, Inc. From www.e-newmark.com.

Amit Nagpal is a Consulting and Valuation Analyst at the HVS International, Mineola. Atul Sheel, Ph.D., is an Associate Professor of Finance in the Department of Hotel, Restaurant and Travel Administration at University of Massachusetts, Amherst.