The emergence of CMBS in the early 1990s changed the market for commercial mortgages fundamentally—for lenders, borrowers, and investors. Lenders no longer had to keep the mortgages they issued on their books for the duration of the loan. Instead, they could sell the stream of interest and capital payments to investors, freeing up their capital for more lending or other business activities. Borrowers, meanwhile, benefited from improved loan availability and competitive rates.

Investors gained, too. In broad terms, they now had an efficient way to invest in commercial mortgages and an asset class capable of meeting a wide range of risk-return preferences. More specifically, CMBS offered and continues to offer some notable and favorable characteristics:

- **Better Yield Potential**—reflected in their spread premium over corporate bonds, often a popular choice for the yield-seeking investor
- **Diversification Benefits**
  - Within the CMBS asset class—because of the diversity of property locations, property types, tenants, and borrowers represented in each pool of loans, and
  - Versus other asset classes—because, historically, CMBS has shown relatively low long-term correlations to other fixed income and equity alternatives.
- **Alternative Asset Class Exposure**—CMBS credit performance is ultimately determined by how well the underlying commercial real estate properties perform.

However, because of their securitized structure, CMBS can often be viewed as complex by investors, leading some to avoid the asset class completely—despite the opportunities they present. The purpose of this document is to demystify CMBS; to explain, as simply as possible, how a CMBS bond is created, what role the ratings agencies play, how investors are compensated for their investment, and the provisions that exist within many bonds to help protect those rewards.

**What are CMBS?**

Generally speaking, CMBS are fixed rate bonds that represent an investment in a portfolio of first mortgages on a diverse range of commercial properties. This type of CMBS is commonly referred to as “conduit” CMBS and is the focus of this document. A first mortgage is the primary lien against a property and takes precedence over all other mortgages. That means that if the property is sold or if the borrower defaults, the first mortgage is paid before any other mortgage lien on the property.

**Are CMBS a Fixed Income or Real Estate Investment?**

They are a hybrid of both. While a CMBS investment involves the purchase of a bond ... the bond is backed by commercial real estate mortgages.

**What's the Typical Mortgage in a CMBS Pool?**

The mortgages are obviously commercial mortgages i.e. mortgages that have been taken out to finance the purchase or refinance of income-producing commercial properties such as office buildings, retail centers, apartments, hotels, and warehouses. On average, the borrower is required to contribute 30%-40% of the property’s value from their own funds (i.e. borrower equity), with the balance (60% - 70%) covered by the mortgage. A “typical” CMBS mortgage has a 10-year loan term, a fixed interest rate, a substantial balloon payment due at loan maturity, and investor-friendly prepayment provisions.

Asset allocation and diversification do not ensure a profit or protect against a loss.
HOW IS A CMBS BOND CREATED?

The best way to explain is with the following simplified diagram:

1. **In a CMBS transaction**, many single mortgage loans of varying size, property type and location are pooled together and transferred to a trust.

   ![Diversified Portfolio of 50 - 75+ loans]

2. **Trust** – Commercial Mortgage Loan Portfolio

   The typical structure for the securitization of commercial real estate loans is a **Real Estate Mortgage Investment Conduit (REMIC)**. A REMIC allows the trust to be a pass through entity i.e. not subject to tax at the trust level.

3. **Bonds** – Issued by the Trust

   The Trust issues a series of bonds that vary in payment priority, yield, and duration.

4. **Ratings** – Issued by Rating Agencies

   Rating agencies assign credit ratings to the various bond classes ranging from investment grade to unrated.

   ![Investment Grade Bonds: AAA/AA/A BBB](#)
   ![Non-Investment Grade Bonds: BB/B](#)
   ![Unrated Bonds](#)

**Securitization** – The process of converting the commercial mortgage loan portfolio into bonds.
HOW DOES A CMBS BOND COMPENSATE THE INVESTOR?

Each month the interest received from all of the pooled loans is paid to investors, starting with those investors holding the highest rated bonds, until all accrued interest on those bonds is paid. Then interest is paid to holders of the next highest rated bonds and so on. The same thing occurs with principal payments received. This sequential payment structure is generally referred to as the bond waterfall.

If there is a shortfall in loan payments from borrowers or if an underlying property is sold via foreclosure and does not generate sufficient proceeds to meet scheduled payments on all bond classes, investors in the most subordinate outstanding bond class will incur a principal loss first, with any further losses impacting more senior classes in reverse order of payment priority. In this way, lower rated bonds act as a shock absorber for higher rated bonds. This protection is called subordination and is explained in more detail on page 5.

It is important to keep in mind that the example provided here is very simplified. As with any other asset class, a more detailed review could reveal other complexities, however understanding the basic structure is an important first step.
HOW DIVERSIFIED IS THE POOL OF MORTGAGES THAT BACKS CMBS BONDS?

Each CMBS issuance is generally well-diversified by property type and geography as shown in the charts below. On average, the mortgage pool consists of 50-75+ loans, with the largest 10-15 loans comprising a significant portion of the pool. In contrast to residential mortgage-backed securities (RMBS), where the loans are relatively homogenous, CMBS loans often have varied and unique features. Successful investment in the asset class, therefore, requires granular analysis of the individual loans in the mortgage pool.

<table>
<thead>
<tr>
<th>PROPERTY TYPE DIVERSIFICATION</th>
<th>GEOGRAPHIC DIVERSIFICATION BY STATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office 34.0%</td>
<td>CA 14.5%</td>
</tr>
<tr>
<td>Retail 31.8%</td>
<td>NY 12.9%</td>
</tr>
<tr>
<td>Lodging 8.7%</td>
<td>TX 7.6%</td>
</tr>
<tr>
<td>Multi-Family 11.0%</td>
<td>FL 5.6%</td>
</tr>
<tr>
<td>Mixed Use 3.4%</td>
<td>VA 5.0%</td>
</tr>
<tr>
<td>Industrial 6.0%</td>
<td>IL 3.9%</td>
</tr>
<tr>
<td>Other 5.1%</td>
<td>PA 3.2%</td>
</tr>
</tbody>
</table>

Sources: Trepp, LLC, based upon the entire conduit CMBS universe

CAN CMBS BOND RATINGS CHANGE OVER TIME?

Yes they can. Rating agencies establish a rating for each bond class at the time the securitization is issued based upon their assessment of credit risk in the mortgage pool and the amount of subordination carried by each bond class. The original bond ratings assume the credit quality of the loan pool will not change significantly over time. However, as the economic landscape and commercial real estate markets change, the agencies monitor the mortgage pool’s performance and update ratings based on property performance, delinquency and potential loss events affecting the loans within the trust.

WHAT TYPES OF INVESTORS BUY CMBS BONDS?

Insurance companies and asset managers are particularly active in investment grade CMBS bonds, given their relative value versus other fixed income alternatives. Banks and money market managers tend to focus on the shorter duration, higher quality portion of the CMBS universe. Generally speaking, the primary investors in below-investment grade CMBS bonds include hedge funds and private equity firms.

ARE CMBS BONDS MORE ILLIQUID THAN OTHER FIXED INCOME INVESTMENTS?

No, not in general... but this is a common misperception of the asset class. In reality, CMBS bonds trade in an active market with ongoing new issuance and secondary trading supported by dealers at major banks and more specialized regional brokers. Increased regulation has reduced the amount of capital available for broker/dealers to hold bonds on their balance sheets, which has put a strain on liquidity across the entire fixed income landscape. Because of this, broker/dealers are moving away from “market making” (being willing to buy bonds from investors wanting to sell) towards “market facilitating,” i.e. seeking to efficiently connect buyers and sellers. Against this background, CMBS currently offers investors the ability to trade bonds in sizes equivalent to or greater than corporate bond markets at comparable bid/ask spread levels.
WHAT HAPPENS WHEN A LOAN WITHIN THE MORTGAGE POOL IS REPAID EARLY? HOW DOES IT IMPACT AN INVESTOR’S RETURN?

It should have little or no impact, because CMBS bonds are generally “call protected” as opposed to the residential market where most loans are freely pre-payable. What that means is that an underlying CMBS loan cannot be prepaid (repaid early) without investors receiving some form of compensating payment to help maintain their expected yield.

Call protection in CMBS is achieved through either defeasance or some form of prepayment penalty.

DEFEASANCE involves the substitution of government securities for the mortgage collateral. A borrower wishing to obtain a release of its property from the trust may purchase and pledge to the trust a collection of government securities that are specifically selected to generate sufficient cash to make all monthly payments due on the loan through and including any balloon payment due at maturity.

PREPAYMENT PENALTIES consist of the payment of a sum of money designed to compensate investors for the loss of yield (often referred to as “yield maintenance.”) Yield maintenance is a present value calculation that enables investors to reinvest the loan payoff proceeds at then current treasury yields through the original loan maturity and maintain the same yield as if the loan had not paid off early.

WHAT EXTRA PROTECTION DOES SUBORDINATION PROVIDE INVESTORS AGAINST LOSSES IN THE TRUST?

As already noted, if there is a loss or a shortfall in loan payments within the mortgage pool, investors in the most subordinate bond class will incur a loss first, with any further losses impacting more senior classes in reverse order. However, each bond senior to the unrated class is protected from losses by varying levels of subordination (a form of credit enhancement). So, for example, a bond with 30% subordination would be protected from cumulative losses within the mortgage pool of up to 30% of the original mortgage balance before incurring its first dollar of loss.

The following table is an example of the subordination levels that might apply to varying bonds within a CMBS structure.

<table>
<thead>
<tr>
<th>Bond Class (Original Ratings)</th>
<th>Legacy CMBS(^1) Typical Original Subordination (%)</th>
<th>CMBS 2.0(^2) Typical Original Subordination (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Super Senior AAA</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Mezzanine AAA (AM/AS)</td>
<td>20</td>
<td>20 - 25</td>
</tr>
<tr>
<td>Junior AAA (AJ)</td>
<td>12 - 14</td>
<td>N/A</td>
</tr>
<tr>
<td>AA</td>
<td>9 - 12</td>
<td>14 - 18</td>
</tr>
<tr>
<td>A</td>
<td>6 - 9</td>
<td>10 - 14</td>
</tr>
<tr>
<td>BBB</td>
<td>4 - 6</td>
<td>6 - 9</td>
</tr>
<tr>
<td>BB</td>
<td>2 - 4</td>
<td>4 - 6</td>
</tr>
<tr>
<td>B</td>
<td>1 - 2</td>
<td>3 - 4</td>
</tr>
<tr>
<td>Unrated CMBS</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\(^1\) Original ratings. Current ratings of legacy bonds may be significantly lower.

\(^2\) Legacy CMBS defined as bonds issued prior to 2009. CMBS 2.0 defined as bonds issued post 2009. The mechanics and structure of assets in any portfolio may differ materially from those outlined above.
CMBS 2.0 AND LEGACY CMBS: WHAT’S THE DIFFERENCE?

Legacy CMBS are bonds issued prior to 2009, while CMBS 2.0 are bonds issued post 2009. The basic structure of CMBS 2.0 is very similar to legacy CMBS, but the underlying mortgages are generally more conservatively underwritten. In addition, the rating agencies now require higher levels of subordination for each bond class (tranche) in the structure. For example, CMBS 2.0 A bonds now carry approximately 12% subordination, whereas subordination on legacy A bonds was around 7.5%, which equates to a 60% increase in subordination. This higher level of credit enhancement benefits investors by increasing the cushion they enjoy against losses in the CMBS pool.

CMBS 2.0 SUBORDINATION HAS INCREASED

Source: Morgan Stanley Research, Principal Real Estate Investors
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