Institutional Valuation & Advisory Services

Debt Valuation Methodology Overview

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VALUATION & ADVISORY SERVICES

CBRE

Contents

Introduction

Purpose, Objective and Application

CBRE adopts a private market methodology for the valuation of commercial real estate ("CRE") loan instruments for financial reporting, portfolio valuation, and internal governance purposes. The methodology is designed to provide a consistent and transparent framework for estimating the fair value of CRE loans across jurisdictions, asset classes, and capital structures. It applies to all loan structures such as senior, mezzanine, whole loan, and back-leverage exposures secured against income-producing, transitional, or development real estate assets. The methodology is adopted to derive fair value estimates that reflect prevailing market conditions as at the valuation date and are representative of the pricing that would be achieved in an orderly transaction. Debt valuation is viewed differently by borrowers and lenders. From the borrower's perspective, the valuation process focuses on the cost of capital and its impact on equity returns. Conversely, lenders prioritize risk-adjusted yield and creditworthiness, assessing collateral value, cash flow stability, and default probability to ensure the loan meets underwriting standards.

Accounting Standards and Valuation Basis

The application of the methodologies outlined are based on principles and requirements outlined in applicable accounting standards for measuring fair value. The methodologies described herein are in accordance with FASB Accounting Standards Codification Topic 820, Fair Value Measurement ("ASC 820") and IASB International Financial Reporting Standard 13, Fair Value Measurement ("IFRS 13"). Given the absence of observable market pricing for private CRE loan instruments, valuations produced under this methodology are generally classified as Level 3 within the fair value hierarchy established by these standards. Key premises on fair value measurement include:

- Market participant behavior establishes fair value (ASC 820-10-05-1B)
- Market participants include buyers and sellers of real estate (ASC 820-10-35-5A)
- Buyers and sellers of real estate are primarily concerned with equity yield (ASC 820-10-05-1C)
- Fair value assumes market participants act in their own economic best interest (ASC 820-10-35-9)

Valuation Approach & Sources of Inputs

Borrower's Perspective

Aligned with accounting guidance, fair value is equal to an exit price. For the purpose of marking debt to market from either the lender's or borrower's perspective, it is assumed that the loan is outstanding; therefore, the debt is transferred to another borrower. When a loan is attached to a real estate transaction, there are two cash flows that are being derived as part of the underwriting process: 1) Buyer originating new debt and determining a market interest rate; and 2) Assuming existing debt. The difference between these two cash flows becomes the basis for estimating the favorable or unfavorable interest in the debt from the borrower's perspective.

When valuing the loans from the borrower's perspective, CBRE estimates the present value of the difference between the contractual debt service payments and market debt service payments at a market interest rate. Typically, the existing debt structure is taken into consideration in comparison to a market interest rate. For example, if the assumed debt is fixed, a fixed market interest rate is estimated. If the assumed debt is floating or variable, a floating or variable market interest rate is estimated.

Equity Yield Analysis

This is under the assumption that as a borrower, the primary concern is the impact of the debt on the equity return. The equity discount rate is derived using the cost of debt, unlevered IRR from a third-party appraisal and loan-to-value ratio as the denominator. Example formula: [Unlevered Property Discount Rate - (Market Interest Rate x LTV)] ÷ (1-LTV). After careful review of public and private data sources, the market rate reflects our best estimate for how a lender would price an equivalent loan based on the origination term (e.g. if a 10-year loan has 6 years remaining, the market rate reflects a 10-year rate).

When these loans are transferred, there is almost always sharing between the buyer and seller on the impact of the real estate for that loan. Based on our experience, we rarely see the impact of the loan equal 100% of the DCF result. It is not always explicitly negotiated, which makes it difficult to support and to observe in the market. However, this is supported by our access to transactions via the Debt and Structured Finance Team database of debt and equity interest rates. With these two pieces of information, we can measure the impact of the debt on the transactions.

Valuation Approach & Sources of Inputs

Based on what we have observed in the market, we typically weight results between DCF and par however, each loan is unique and we examine the reconciliation based on various factors and we reconcile accordingly. This tends to reduce volatility from a borrower's perspective in terms of the impact on returns, as oftentimes a loan is held through maturity, and thus being prepaid at par regardless. This practice mirrors how a borrower is likely to refinance their existing debt rather than receive a negative mark in an exit scenario. The mark-to-market on the loan represents the difference between the fair value and the ending principal balance as of the valuation date and is meant to reflect the impact of above or below market financing on equity cash flows. Any changes in fair value in subsequent valuation periods should be reflective of changes in debt capital markets and property risk.

Lender's Perspective

Given the rights of those who own debt financial assets, fair value is calculated by discounting a single set of cash flows (the remaining contractual debt service payments) at a market yield (discount rate) that is typically equal to the current market interest rate for loans with a similar risk profile. The discount rate is derived from observed rates of return for comparable assets or liabilities that are traded in the market. Given that the discount rate represents a market rate of return for the risks inherent in the cash flows, as the cash flows reduce in term so does the term of the corresponding discount rate. The schedule of cash flows should represent what is most likely to occur after a review of contractual terms and expectations. In other words, if the loan is expected to perform (and without prepayment, etc.) , the present value of the loan payments will be the loan value.

After consideration of contractual loan economics, adjustments may be needed to represent what is most likely to occur. The most likely cash flow may change over the life of a loan depending on different facts and circumstances. Examples of possible variations that should be considered include anticipated early prepayment, contractual amendments, extension options, forbearance agreements, expected missed payments or in some cases exercising the right to step into equity ownership (i.e foreclose on the loan). In all cases, the cash flows used to determine fair value should be attributable to the financial asset being measured and should be reflective of assumptions that market participants would use when pricing the asset or liability.

Calibration

The principle of calibration is an effective way to reflect the risk components a lender would consider in pricing a loan. This concept assumes that the contractual interest rate in a loan is equal to the market yield at the time of origination. In subsequent valuation periods, estimating a market yield as of the measurement date then becomes an exercise in observing changes in the risk profile of the loan since origination. Loans with a fair value conclusion above par, but open to prepay may be marked to par. Similar to the borrower's perspective, this practice reinforces that borrowers will act in their own economic best interest and refinance existing debt as opposed to receiving a negative mark. However, there are instances where this may not occur such as having only a slightly unfavorable value, or relatively little term left where refinancing would be perceived as more costly and/or time-consuming than just paying to maturity.

To address these multifaceted considerations, three primary valuation methodologies are commonly employed. Each methodology is designed to capture distinct dimensions of loan value, leveraging specific data sources and analytical techniques to ensure that valuations accurately reflect prevailing market realities and risk-adjusted expectations.

Discount Rate Construction and Calibration

Discount rates applied to performing loans comprise:

- A benchmark risk-free or swap rate
- A credit-specific discount margin

The discount margin is determined using a structured, two-stage process.

a) Base Discount Margin

The base discount margin is derived from:

- Recently observed private CRE debt placements across comparable asset classes, jurisdictions, and leverage profiles
- CBRE proprietary market intelligence

Where appropriate, public market reference points, including CMBS pricing, traded real estate debt indices, and secondary loan market data, may be considered as a high-level sense check to assess broader market pricing dynamics and relative risk premia. These references are used to support calibration rather than as direct valuation inputs. The base margin reflects market pricing for loans secured against comparable collateral at market-average leverage and structural terms.

Calibration

b) Credit Adjustments

Adjustments to the base margin are applied to reflect loan-specific characteristics, assessed across defined credit categories, including:

- Quality, location, and liquidity of the underlying collateral
- Leverage levels and covenant strength
- Loan size, structure, and complexity
- Financial strength, experience, and track record of the sponsor
- Prevailing market conditions and macroeconomic environment

Adjustments reflect relative pricing differentiation observed in the market compared to comparable loans. The resulting all-in discount rate is applied to the projected contractual cash flows.

Estimating a Market Interest Rate

To estimate a current market interest rate, investors will frequently reach out to lenders who will perform an analysis of the risks inherent in the collateral and loan terms. Considerations in developing an appropriate lending rate may include investment type, market, loan to value ratio, performance of the underlying collateral, debt service coverage and term. For the purpose of measuring fair value, the market interest rate should represent the most likely lending rate for the existing debt contract given capital markets and investment performance as of the measurement date.

- **Borrower's Perspective**

  The purpose of estimating a market interest rate is to understand the impact of newly originated debt on equity cash flows in comparison to the contractual debt service payments. Therefore, the market interest rate is applied by calculating the debt service payments using all other contractual terms from the loan. The resulting variance between contract and market payments is a direct indication of the impact on equity cash flows as a result of changes in risk.

- **Lender's Perspective**

  Typically equal or similar to all-in coupons of loans with a similar risk profile.

Loan Classification Framework

At each valuation date, loans are classified into one of the following categories based on their credit status:

- **Performing**
- **Sub-Performing**
- **Non-Performing**

The loan classification determines the valuation approach that will be applied.

Loan Cash Flow Methodology (Performing Loans)

- This methodology applies to performing loans using the DCF method by estimating the present value of the remaining monthly principal and interest payments calculated to the loan's anticipated repayment date.
- The cash flows used to determine fair value should be attributable to the financial asset being measured and should be reflective of assumptions that market participants would use when pricing the asset.
- The fair value of the loan is calculated with consideration of prepayment penalties, though these are rarely the primary basis for valuation due to their less favorable terms for borrowers compared to the income or market approaches.
- Origination fees typically are not included in the cash flow projections to maintain a conservative and accurate valuation. This process ensures a comprehensive and defensible valuation, balancing market dynamics, borrower behavior, and loan-specific factors.
- Loans with a fair value conclusion above par, but open to prepay typically are marked to par. This practice reflects how a borrower is likely to act in their own economic best interest and refinance their existing debt.

Real Estate Cash Flow Methodology (Sub-Performing Loans)

- This methodology is a hybrid of the Loan Cash Flow and Real Estate Cash Flow Methodologies, and applies to sub-performing loans, which are loans that are not currently in default but are expected to default during the holding period or which are not expected to be paid off at maturity.
- The loan value is estimated via a discounted cash flow as applied to the projected debt service payments and any partial principal recovery at maturity.

Loan Classification Framework

Default Cash Flow Methodology (Non-Performing Loans)

- This methodology applies to non-performing loans where the payments are currently not being made and the lender is in the process or will soon begin the process of foreclosure or another means of acquiring ownership of the property.
- The value of the loan is based on the value of the underlying collateral value. Assumptions are made to estimate the present value of the collateral considering costs associated with its taking, interim income (or losses) during a holding period and proceeds generated through its assumed sale.

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Loan Classification Framework

Distressed Debt Assets

At a high level, to determine the level of distress in a specific loan, we would look at the following as it relates to the impact on the collateral value and loan terms:

1) **Market distress:** Macro or external challenges impacting the performance obligations, including expansion in cost of capital;

2) **Operation distress:** Underperformance of business plan, not necessarily due to macro conditions but rather specific operating challenges, such as excess vacancy, unanticipated capital needs, outsized expenses, or revenue shortfalls; 3) Time constraints: Timing considerations related to market and operational challenges impact the level of distress. A long-dated maturity can allow for a curing of operational distress and work-through of market cycles. Acute distress arises as maturity nears, and uncertainty of repayment of principal grows. Regardless of performance, debt valuations should begin with modeling the most likely cash flows and determining the market yield given the term, credit risk level, etc.

To maximize recovery on distressed loans, our process focuses on evaluating foreclosure and sale of the underlying real estate, or alternative resolutions, based on a structured analysis:

a) Discount Rates and Market Evidence

Direct comparable transactions for non-performing CRE loans are often limited or non-observable. Discount rates are therefore derived with reference to:

- Observed pricing behavior of market participants active in the distressed debt sector
- Target internal rates of return applied to comparable risk profiles
- CBRE insight into distressed and special situations debt markets

Public market data, such as traded CMBS and distressed real estate debt benchmarks, can serve as a qualitative check. However, CBRE Loan Advisory has an established debt advisory business specializing in restructuring and sale advisory for both performing and non-performing loans. As a result, CBRE has expertise and engages in frequent dialogue to understand target return requirements among market participants across different credit profiles and recovery scenarios in global markets.

Loan Classification Framework

b) Foreclosure and Sale Evaluation

We assess the viability of foreclosing and selling the underlying real estate to optimize recovery. The factors below include consideration of whether the property is in a judicial or non-judicial state, complexity and distress in the collateral, and many other factors. Specific factors involve analyzing:

- The cost of foreclosure and sale.
- Liquidation expenses
- The foreclosure and marketing timeline.
- The internal rate of return (IRR) required by a buyer to justify the investment risk.
- The discounted purchase value a hypothetical buyer would pay for the right to foreclose and sell the asset.

c) Alternative Resolution Consideration

Where applicable, we explore a deed-in-lieu of foreclosure as a less costly and time-consuming alternative, particularly when the borrower acknowledges that the collateral is unlikely to generate cash flow or return capital beyond satisfying the debt obligations.

Key Valuation Factors: Our valuation of the note for prospective buyers centers on:

- The underlying value of the collateral.
- The value of any senior debt in a priority position.
- Available cash flows for distribution during the interim period.

d) Cost Assumptions

We may also include nominal costs associated with the transfer of the note to streamline the process and enhance recovery. This disciplined approach ensures alignment with market conditions and buyer expectations while maximizing value for the lender.

Resources

CoStar, Greenstreet, Trepp, PwC, MSCI Real Assets, Chatham Financial, CBRE internal database of recently closed loan transactions.

Gain more insights and efficiencies.

Reach out to us to get started.

For more information, please visit:
www.cbre.com/institutionalvaluations

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