MOODY'S INVESTORS SERVICE

CROSS-SECTOR METHODOLOGY

Sustainable Net Cash Flow and Value for CMBS and CRE CLOs Methodology

Americas and Asia-Pacific

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This rating methodology replaces *Approach to Sustainable Net Cash Flow and Value for CMBS and CRE CDO CLO Real Estate Collateral in the Americas and ex-Japan Asia Pacific* published in December 2016. The update includes extensive editorial changes to enhance clarity and readability. These updates do not change our methodological approach.

Scope

This cross-sector methodology describes our assessment of sustainable net cash flow and values of commercial real estate and loans securitized in a CMBS or CRE CLO transaction.

In this cross-sector methodology, we explain our commercial real estate (CRE) property- and loan-level analysis which we use in evaluating collateral for commercial mortgage-backed securities (CMBS) and commercial real estate collateralized loan obligation (CRE CLO) transactions. The evaluation relies on the concept of sustainable net cash flow (NCF), which we use to determine Moody's loan-to-value (MLTV) ratios and Moody's debt service coverage ratios (MDSCRs).

This methodology describes how we derive sustainable NCF and value for major property types in North America, Latin America and Asia-Pacific (APAC). Differences in market practices and the amount and quality of information available in the Americas and APAC compared to Europe, the Middle East and Africa dictate a tailored approach to each market.

We divide the report into three sections covering our analysis of the property types most commonly found in CMBS and CRE CLO transactions:

1) Moody's NCF
2) Property Quality Grades/Cap Rates
3) Moody's Value

These sections describe the different types of NCF and how we derive Moody's NCF for core and non-core assets (some of which have operational components), assign capitalization (cap) rates based on property quality grades, and Moody's value for CRE properties.

While the report primarily provides examples and details for transactions back by US and Canadian CRE transactions, the approaches we apply are similar for transactions in Latin America and APAC.

The appendices describe how we derive Moody's NCF and value assets with significant operational components: hotels, casinos, healthcare facilities, and parking facilities. Our approach to deriving sustainable NCF from these operationally intensive businesses necessitates a different type of cash flow analysis than for traditional core property types.

The appendices also include a list of the information issuers typically provide to us for use in our rating analysis, as well as Moody's property quality grades.

Moody's NCF

In this section, we describe the key components and related factors we consider when calculating Moody's NCF.

NCF represents the cash flow available to service debt after allowing for recurring capital costs. Our NCF estimates (Moody's NCF) are fundamental to our CRE analysis and are used as inputs into our large loan and single asset/single borrower and conduit/fusion collateral assessments.

Moody's NCF is our assessment of sustainable net cash flow for a CRE property collateralizing a loan. The goal is to identify a level of NCF that a property can reliably produce, which may be higher or lower than the actual NCF in any given year. In deriving Moody's NCF, we consider both industry-standard reporting and borrower reporting of operating statements. For larger loans, we look for independently audited financial statements from a nationally recognized accounting firm. Market participants define and report NCF in a variety of ways depending on the purpose for which they use NCF, including:

» Actual NCF: The actual performance of a CRE property under accrual or cash accounting methods, typically for a calendar year or a trailing twelve-month period.

» Underwritten NCF: The lender's assessment of NCF at securitization. Each lender has its own underwriting policies and procedures, but most require some form of validation of in-place income and expenses.

» Pro-forma NCF: An estimate of NCF, typically by the borrower or lender, based on a set of assumptions that may or may not materialize. For example, a lender could assess a vacant CRE property using current or forecast market rents, occupancy levels and market expenses to derive an NCF estimate assuming full lease-up of the property. We assess the reasonableness of the assumptions underlying the pro-forma estimate of NCF as part of our credit analysis.

» Operating Statement Analysis Report (OSAR)-reported NCF: Once a lender has securitized a loan in a CMBS transaction, borrowers remit their rent rolls, financial statements and other operating reports to the sub-servicer, servicer or special servicer (i.e., the servicers). The OSAR provides current and historical normalized operating results, including income, operating expenses, net operating income, capital items and net cash flow. The servicers commonly normalize operating statements, which facilitates comparisons of ongoing reporting on the property's performance.

A basic property-level financial analysis requires estimates of income, vacancy and collection loss, operating expenses and capital expenses for most property types. We take this analysis a step further by incorporating the concept of sustainability when we derive Moody's NCF. We review long-term trends to see how current income and expense levels compare to historical operating levels and market figures to make positive or negative adjustments as needed.

Compared to the underwritten NCF, our negative adjustments typically entail reducing income, increasing vacancy and collection losses, and normalizing operating and capital expenses. Positive adjustments are exceptions because we consider the sustainability of NCF from a debt, rather than equity, perspective.

The following exhibit lists the key components of our NCF analysis.

EXHIBIT 1
Moody's NCF Key Components

CONTRACTUAL RENT
+
OTHER INCOME
=
POTENTIAL GROSS INCOME
-
MARK-TO-SUSTAINABLE-MARKET ADJUSTMENTS
-
VACANCY AND COLLECTION LOSSES
=
EFFECTIVE GROSS INCOME
-
OPERATING EXPENSES
=
NET OPERATING INCOME
-
CAPITAL COSTS
=
MOODY'S NET CASH FLOW

Source: Moody's Investors Service

Contractual Rent

In assessing asset income, we first consider (1) contractual rent from leases, (2) the type of rent, and (3) any rent-free periods. Leases are binding contracts and typically can only be rejected by a tenant in bankruptcy. As such, there is often a high degree of certainty associated with revenues from contractual leases. When the lease is to a Moody's-rated tenant, the certainty is greater the higher the rating of the tenant.

Contractual rent payments: The starting point of our analysis is the contractual rent. Contractual rent at the property level can differ from in-place rent if a tenant(s) defaults on its lease obligations. We address the loss factor between contractual and in-place rents in our estimates for vacancy and collection losses.

Type of rent: Contractual leases specify fixed or variable rent. Rental payments can be fixed, step-up or, more rarely, step-down over the life of the lease. Periodic adjustments to rental payments can be linked to an index such as the Consumer Price Index (CPI). Variable rent is often a percentage rent, which is common in retail leasing where the rental payments either in addition to or instead of fixed rent are tied to a share of the tenants' sales at the location subject to the lease.

Free rent periods: Depending on supply and demand, landlords may offer initial free rent periods which provide new tenants with the ability to fund their move from another location and build out at their new location without adding significant stress to their business operations. Free rent periods in lease renewals are less common but also provide existing tenants with an incentive to remain at a property.

In some markets, landlords offer tenants renewal options tied to fair market rent, typically 90% to 95%, to increase tenant retention; retaining an existing tenant is typically more advantageous for a landlord than finding a new tenant. If a landlord and tenant disagree, a lease typically provides for an arbitrator to decide between estimates from each party.

Quality of Rental Payment Stream

Our analysis of the quality of the rental payment stream from an asset considers (1) the tenant's credit quality, (2) lease terms, and (3) rental space. We factor only contractual in-place rents into our NCF assessment, generally excluding income from leases out for signature and pro-forma leases.

Tenant credit quality: To account for the benefit of tenant credit quality, we may recognize a discounted portion of above-market rent derived from tenants that we rate investment grade or we determine to be sufficiently creditworthy, such as in the US top 100 law firms and top 4 accounting firms. For these tenants, along with tenants that we rate between B3 or Ba1, we may also reduce our vacancy and collection loss estimates along with tenant improvement (TI) and leasing commission (LC) costs.

Lease terms: We also consider lease terms in our analysis when determining our rent, vacancy and collection loss, and TI assumptions. Lease terms vary according to property type and market practice. Asset types with shorter lease terms can result in greater cash flow volatility because they are more frequently subject to resetting to market. Conversely, base rent volatility for properties with longer lease terms is lower.

Rental space: One important factor when landlords and tenants negotiate lease terms is how to measure the rental space. In evaluating NCF, we may examine how landlords conform to market practice when measuring assets.

In the US, rental rates for office buildings, retail properties and industrial assets are, for example, expressed per square foot (PSF) per year, or in some cases, per month. Hotel pricing is typically per key (room) per night; pricing for extended-stay properties is per key per week or per key per month. Multifamily properties (including assisted living facilities) quote rents per unit per month without reference to physical measurement. Some student housing properties advertise rents per bed per month; others follow multifamily pricing practices. Manufactured housing properties price on per pad per month basis.

Master Leases

Property owners can master-lease all or a portion of their property to a related or third party. In a typical master lease structure, tenants pay the landlord a triple net (NNN) rent. Any sublease profits from re-tenanting are typically reserved for the master tenants' benefit, although leases can call for sublease profits to accrue to the landlord. The master lease is generally subordinate to the loan, though the lender generally agrees not to disturb a third-party tenant as long as the master lease is not in default.

A master tenant who is a related party to the borrower on the loan may not represent the results of an arms-length negotiation. Thus, in our credit analysis, we generally review the terms of a master lease with respect to the market, the intended use of the space, the date the master lease is executed, and the borrower's motivation in master-leasing all or a portion of a property. In deriving NCF, we typically exclude income from master leases if the master-lease rents are above market, the resulting occupancy level is above market, or the master lease was otherwise executed to increase loan proceeds.

We generally view master-lease income from a third party differently than from a related party as it is generally derived from an arms-length negotiation. A typical structure in nursing facilities involves an operating company specializing in senior care master-leasing a facility from a borrower. Casino operators and some hotels owners also use similar structures. In all cases, our analysis looks through the master lease to the actual performance of the asset in comparison to the market. In estimating sustainable NCF, we also consider the strength and reputation of the operator and the availability of a suitable replacement operator.

Concessions

When market conditions favor the tenant in the lease negotiating process, landlords may elect to offer tenants concessions such as free-rent periods, moving allowances, the assumption of the tenant's rental payments under an existing lease at another property, financing of above-building-standard TI allowances or anything of economic value to which the parties agree.

Reimbursements

Lease types vary by market and asset. To evaluate revenue sustainability, we consider the market standards. Common underwriting practices adjust non-market leases to market terms to compare effective rents. For example, if a building has five gross leases and one NNN lease, and it is located in a gross market, we gross up the NNN rent, depending on the property's reimbursable operating expenses and real estate taxes, to compare rental rates.

The following exhibit outlines common lease types and unique expense types in leases.

EXHIBIT 2

Common Lease Types

Lease Type	
Gross lease	The landlord is responsible for paying all property-related expenses, including real estate taxes, insurance, utilities and repairs.
Modified gross lease	Similar to a gross lease, the difference is that it establishes the lease's first year as a base year, after which the tenant pays any increases in the base year expenses pro rata.
Net lease	The tenant is responsible for paying property-related expenses, including real estate taxes, insurance, utilities, and repairs and maintenance. The landlord is responsible for capital expenditures.
NNN lease	The tenant is responsible for paying all expenses related to the leased property. A particular form of NNN lease, the bondable NNN lease, assigns all real estate risk to the tenant, which most NNN leases do not. These additional risks include rebuilding after a physical disaster, regardless of the adequacy of insurance proceeds, and paying rent after a partial or full condemnation. Tenants cannot terminate bondable NNN leases, nor do these leases allow rent abatements. A bondable NNN lease can also be referred to as a hell-or-high-water lease.

Source: Moody's Investors Service

Other Lease Considerations

Lease agreements can contain certain clauses that allow a tenant to pay reduced rent or vacate prior to their stated expiration date. We factor these clauses into our rent and vacancy assumptions.

For example, co-tenancy clauses, which tie the occupancy or rental conditions of one or more tenants to minimum occupancy thresholds, or to the occupancy of one or more other tenants at a property, can be critical when we analyze a retail center's income productivity. If an anchor tenant departs or goes dark, a severe drop in income may result if a significant share of the center's revenue from other tenants is based on leases requiring that the anchor tenant be open for business. Similar issues can arise from tenant termination options based on sales performance thresholds.

Other common items for consideration include cancellation clauses, which allow a tenant to cancel its lease according to prescribed lease terms, typically including the repayment of unamortized TIs and LCs, and purchase options, which allow a tenant to acquire the leased premises or property at a specific time for a specified price, based on an empirical formula or depreciated book value. In a build-to-suit situation, the purchase option price can reflect actual construction costs plus interest through the option period. Tenants can negotiate to secure the right of first refusal upon sale of the property, which allows them to exert control over future ownership of their premises. Purchase options and rights of first refusal can limit the marketability of a property and consequently reduce market value as well.

Net Effective Rent

Based on a property's recent leasing history, if available, we estimate the net effective rent to facilitate lease comparisons both for a property and in a market. Net effective rent reflects the discounted rent payable to the landlord over the lease term, net of free rent and other concessions. We may also consider adjustments for the form of lease and any amortized tenant improvements included in the base rent.

Net effective rents help us gauge the financial feasibility of new construction, an important consideration when we assess NCF sustainability.

In markets where a significant amount of new construction is likely, it may be difficult for a landlord to increase rental rates faster than increases in its operating expenses.

Other Income

CRE assets can generate other income in addition to contractual rents and reimbursements. Revenue items lenders typically do *not* recognize include interest income, processing fees, termination payments and excessively high utility surcharges.

We typically assess the historical performance and those of comparable properties to determine a sustainable revenue level. Below are examples of various other-income revenue streams.

Amenity Income

Any attribute of a property or service provided for which a landlord can levy a separate charge can be considered an amenity.

Antennae Income

Buildings can lease or license portions of their rooftop areas and exterior space to communications providers.

Billboard/Signage Income

The advantageous locations of some properties add "visibility value." With zoning permits, properties can lease or license space to firms that specialize in advertising on billboards or the sides of buildings.

CAM Add-on Fees

Landlords typically add administrative fees to the CAM charges paid by tenants in a retail center in addition to the general and administrative and management fee expense line items.

Kiosk Revenue

Income from kiosk tenants typically in retail centers is derived from short-term license agreements. The kiosk tenant generally pays a percentage rent only and contributes to the property's merchant's/marketing fund.

Licensing Revenue

License agreements permit temporary usage of a property. We typically recognize sustainable income from license revenue if it is supported by historical performance.

For regional shopping centers, license agreements can cover the operations of temporary tenants. For office buildings, license agreements can govern executive suite rentals or rooftop antennae. Franchise agreements for hotels and restaurants can also be considered license agreements. For apartments, a license agreement may govern the use of a roof deck or screening room for a party.

Merchant's/Marketing Association Fees

Regional shopping centers typically have property-wide marketing and advertising initiatives. A portion of the costs to operate these endeavors is reimbursable by the tenants.

Observation Deck Income

Observation decks on office buildings in major central business districts (CBDs) can generate admission fees, gift shop revenues, and food & beverage income.

Parking Income

Parking income can be variable and volatile depending on property occupancy, market conditions, ownership rights and the agreement between landlord and tenant. We generally consider only parking income attributable to the legally permissible number of parking spaces. We evaluate the adequacy of parking as a factor in the level and sustainability of base rental income from the related commercial property.

Utility Surcharges

When tenant electricity is sub-metered, the landlord typically adds on an administrative fee which helps the landlord cover the costs to operate a central plant or supply energy to the tenant.

Potential Gross Income

Potential gross income is the total potential property revenue at full occupancy before (1) accounting for vacancy and collection loss (bad debt) allowances and (2) recognizing any mark-to-market adjustments. It includes contractual rent, pro-forma rent from vacant space leased-up at market terms, reimbursements and other income.

Mark-to-Sustainable-Market Adjustments

We typically compare in-place rent to current and forecast market rents. When a property's asset quality or location warrants a premium over market rents, and that premium is sustainable as evidenced by a consistent leasing history and analysis of comparable rents, we generally recognize some of the excess over the average for the market. In some cases, particularly for office properties tenanted on a long-term basis by

firms with a suitable Moody's credit rating or credit assessment, we recognize the value of the excess rent available during the lease term.

In many cases, we adjust in-place rent downward to reflect current or anticipated market conditions. Rent spikes or dips occur in markets when supply and demand become seriously imbalanced. Comparing a property's historical leasing results to those of other properties provides a solid measure of its performance and the ability to command below-, at- or above-market rents. We may also consider the market's current stage in the real estate cycle using tools such as our Red-Yellow-Green® (RYG) Report.

In analyzing regional mall and other large retail centers income, we generally consider the ratio of occupancy cost to tenant sales the best measure of sustainable tenant performance. If a retail tenant's total occupancy cost ratio is too high because of high minimum rent or reimbursement obligations, or low tenant sales, the tenant's longer-term operational ability could be in jeopardy. Sustainable occupancy cost ratios vary by tenant type and overall sales productivity. Industry standards exist to facilitate comparisons. Tenants with excessively high occupancy cost ratios may not remain viable, which could increase the property's vacancy rate.

Vacancy and Collection Losses

Underwriters and lenders commonly reduce potential gross income to account for the possibility of structural vacancy, market vacancy, tenant turnover and tenant credit issues that manifest in the non-payment of rent or reimbursements. In determining a vacancy factor, we typically consider the following:

- property's physical layout
- existing and past occupancy
- historical, current, and forecast market conditions
- downtime between leases
- co-tenancy clauses
- tenant sales and occupancy costs
- historical bad-debt expenses
- tenants' credit rating/assessment

High actual vacancy rates for a sustained period can indicate a troubled asset, and we will typically assess these properties for functional obsolescence.

Effective Gross Income

Effective gross income (EGI) is the expected income from a CRE property before operating and capital expenses but after accounting for vacancy and collection losses.

Operating Expenses

Our analysis of operating expenses may consider historical performance, management's budget, operating expense ratios, and the historical operating expenses of comparable properties. Operating expenses for CRE include both fixed and variable expenses. Fixed operating expenses require payment regardless of property occupancy, and generally include ground rent (if applicable), insurance and real estate taxes. Variable operating expenses are based on a property's occupancy and include management fees, repairs and maintenance, and utilities.

Ground Rent

CRE ownership may include both the land and building (fee simple estate) or the rights to each may be separately owned (leased fee estate and leasehold estate). When the loan collateral represents a leasehold interest, ground rent typically is paid by the ground tenant to the ground landlord. When the borrower owes ground rent to the fee owner, we estimate the ground rent when we derive sustainable NCF. In evaluating the ground lease, we typically consider the following, among other factors:

- ground lease term – absolute term and term relative to the loan term
- ground rent payment, frequency of payment and any future adjustments
- renewal provisions in the ground lease
- default provisions including notice and cure provisions
- leasehold lender's rights and remedies

We consider a ground lease a capital/finance lease rather than an operating lease. Hence, we focus on the credit impact of the liability created by the ground lease structure on the leasehold interest.

If ground lease payments are fixed, the longer the remaining term of the ground lease, the lower the risk to the ground lessee. When ground lease payments reset periodically, we typically evaluate how the reset works and if the ground lessee can pass any increases through to the leasehold tenants.

Ground rent increases operating leverage, resulting in greater cash flow volatility. The level of volatility reflects the ratio of expenses to revenue, the amount of ground rent and whether both expenses and ground rent are fixed or variable (and the degree thereof). Higher cash flow volatility can also adversely affect the property value, thereby negatively affecting the ability to refinance even if there is no default during the loan term.

The ground lease's remaining term can also adversely affect a landlord's ability to refinance or secure a property sale and repayment at the loan maturity date. Short remaining ground lease terms diminish the value of the leasehold interest as the end of the lease approaches. We consider a ground lease term (including extensions) of 30 years past the loan's legal maturity date as credit neutral. For ground lease terms less than this, we may use a discounted cash flow valuation approach to reflect the shorter-term nature of the collateral.

Leasehold value can also decline because of large fixed increases or step-ups in ground rent payments that can progressively reduce leasehold cash flow.

Insurance

CRE owners usually purchase a variety of insurance policies to protect their equity investment against unpredictable events. We typically assess the sustainable cost of purchasing this coverage by reviewing the historical cost, that of comparable properties, and analysis from third-party reports.

Real Estate Taxes

We estimate real estate taxes to accurately reflect term and balloon risk in our calculation of sustainable NCF. In doing so, we consider the practices of the tax jurisdiction, current and future assessments, current and future mil rates, market values, special assessments, payments in lieu of taxes and any abatements in place. Our approach generally takes into account property taxes at the greater of fully assessed or current market levels to address any differences between the taxes incurred if the servicer forecloses on the collateral and current levels.

Examples of typical abatement and tax programs that may impact real estate tax levels include:

ABATEMENTS

We review the terms of each tax abatement program in estimating real estate taxes. If an abatement extends beyond the original loan term, we reduce the unabated taxes by the capitalized net present value of the difference between full taxes assuming no abatement and abated taxes beyond the loan term.

BUSINESS IMPROVEMENT DISTRICT (BID) ASSESSMENTS

We include special assessments when estimating real estate tax expenses, such as Business Improvement District (BID) Assessments.

PAYMENTS IN LIEU OF TAXES (PILOT)

The ownership nature or the use of a particular property may exempt it from taxes. PILOT programs are designed to compensate a local government for some or all of foregone tax revenue. If a PILOT program results in real estate taxes below the normal unabated assessed taxes for the property and the program extends beyond the loan term, we will assess the taxes as we would for an abatement.

TAX INCREMENT FINANCING (TIF)

TIF creates funding for public or private projects by borrowing against a future increase in property tax revenues resulting from the projects. If a TIF program results in real estate taxes below the normal unabated assessed taxes for the property and the program extends beyond the loan term, we will assess the taxes as we would for an abatement.

Variable Operating Expenses

Variable operating expenses are those tied or linked to property occupancy, such as advertising and promotion, cleaning and janitorial, legal and professional fees, management fees, and utilities. Depending on how the property manager or owner categorizes expenses, some of these variable line item expenses may also have significant fixed components.

When the security for a loan is an interest in a condominium, maintenance fees represent another expense for costs incurred on behalf of the entire condominium.

We generally estimate variable operating expenses based on a sustainable occupancy rate supported by market data evidence. In determining individual line item expenses, we review the property's historical financials, management's budget, market data, and the operating expenses of comparable properties, when available. One line item, management fees, warrants specific mention. Management fees can be either flat-rate or a percentage of EGI. Market-oriented management fees generally range from 3% to 4% of EGI. Management fees for larger assets are often capped at a negotiated amount. We typically use the greater of a market-based management fee or the existing contractual fee to estimate variable operating expenses.

Operating Expense Ratios

Properties with lower expense ratios can withstand larger declines in income before pressuring debt service coverage, and properties with higher expense ratios can withstand only small declines in income to maintain adequate coverage.

Operating expense ratios (total operating expenses over EGI) vary by property type, age and geography. Industrial, parking, and self-storage facilities typically have lower expense ratios, generally ranging from 20% to 30% of EGI. Multifamily, office, and retail properties typically have operating expense ratios of 40% to 50% of EGI. Hotels and healthcare facilities have the highest operating expense ratios, from 65% to 75% or more.

When an operating history is not available, we often estimate operating expenses using ratio analysis and comparable data.

For single-tenant buildings with NNN leases, we typically include market-based expenses that we derive from an appropriate operating expense ratio and pass through the operating expenses as reimbursements subject to vacancy and collection losses.

Forecast Growth in Expenses vs. Income

Our sustainable NCF estimate is static but subject to change during our monitoring review based on individual property performance or broader market trends. When forecast expense growth is higher than forecast income growth, we may decide to raise estimated expenses above their current levels to reflect any increased pressure on NCF that emerges over time.

Net Operating Income

NOI is the difference between EGI and total operating expenses. We deduct capital costs and then capitalize NCF to reflect the capital-intensive nature and the costs associated with owning and managing CRE.

Capital Costs

Replacement Reserves

Every property incurs ongoing capital costs to maintain its competitive edge. These costs vary by property type, building age, property condition and location. For CMBS loans, a third-party engineer generally predicts the necessary renovations over the life of the loan. Their estimates are divided evenly over the loan term to arrive at a supported annual replacement reserve allowance. When a significant expense is anticipated for some point during the loan term, lenders may require reserves to make improvements; these reserves are generally either pre-funded at the loan closing or funded through an annual contribution in advance of the improvement. The exhibit below lists the minimum replacement reserves by property type that we generally use in deriving our estimate of sustainable NCF.

EXHIBIT 3

Minimum Replacement Reserves per Property Type

Office	
Effective Age	Reserve PSF
1-5	$0.20
6-10	$0.25
11-15	$0.30
16-20	$0.35
21-25	$0.40

Industrial	
Effective Age	Reserve PSF
1-5	$0.15
6-10	$0.20
11-15	$0.20
16-20	$0.25
21-25	$0.30

Retail	
Effective Age	Reserve PSF
1-5	$0.15
6-10	$0.15
11-15	$0.20
16-20	$0.25
21-25	$0.30

Multifamily	
Effective Age	Reserve PSF
1-5	$200
6-10	$225
11-15	$250
16-20	$300
21-25	$350

EXHIBIT 3

Minimum Replacement Reserves per Property Type

Parking	
Effective Age	**Reserve/Space**
1-10	$50.00
11-20	$75.00
21+	$100.00

Source: Moody's Investors Service

Tenant Improvements

To attract tenants, office, retail and industrial landlords often provide a work-letter or TI allowance, with an amount that is subject to negotiation and market conditions. Landlords sometimes may amortize the cost of above-base building standard improvements into the tenant's rent, essentially providing financing to the tenant over the lease term.

Based on market conditions as well as historical leasing and building practices, where available, we estimate a normalized TI allowance for the property and divide it by the standard lease term to generate an annual allowance.

Leasing Commissions

Landlords use third-party leasing agents to help keep their buildings occupied. In most markets, the landlord pays the leasing commission to the brokers that secured the tenant lease. Leasing commission schedules vary by property type and market, but generally range from 4% to 6% of base rent for new tenants and 2% to 3% for renewals. In some cases, sliding scales are used. Similar to our approach when calculating the annual TI allowance, we consider market-based LCs, a tenant retention (or renewal) ratio, average lease term, occupancy rate and our estimate of market rents to calculate an annual LC allowance.

Property Quality Grades/Cap Rates

In this section, we describe how we assign property quality grades and their corresponding cap rates used to derive Moody's value.

For every property we analyze, our property quality grade and its corresponding cap rate are inputs in our large loan and single asset/single borrower, conduit/fusion and CRE CLO loan collateral quality assessments.

After we assess sustainable NCF, we then apply a cap rate to estimate the property value used in MLTV. NCF divided by the cap rate results in Moody's value.

Moody's value differs from the market or appraised value. Consistent application of cap rates permits comparisons of leverage across vintages and different points in the real estate cycle.

Property Quality Grades

We assign a property quality grade to each property we analyze using a six-point scale from zero to five. The most important factor when we assign a property quality grade is the stability and durability of cash flow. A grade of 0 corresponds to very stable future cash flow (low risk), a grade of 5 to significantly volatile future cash flow (high risk). These property quality grades correspond to a cap rate (see Appendix 6).

Our property quality grades reflect relative risk across property types. Thus, the cap rates in the property quality grade/cap rate matrix in Appendix 6 vary at the same grade for different property types. For

example, the cap rate corresponding to a 2 grade for a multifamily property will be lower than the rate corresponding to a 2 grade for a skilled nursing facility.

In general, we consider factors that affect the ability to finance or sell an asset. We therefore base our property type risk assessments on a number of factors, among them:

- asset quality
- asset type risk spectrum
- average lease term/rollover risk
- capital intensiveness
- financing liquidity
- lead time and complexity in developing new product
- location
- management and sponsorship
- market supply and demand
- market dominance
- operating leverage
- policy/regulatory risk
- investment sales liquidity
- tenancy
- volatility of recovery upon default

Asset Quality

Our property quality grades/cap rates, in part, reflect our opinion of asset quality. We follow market practice in determining asset quality, but our opinion may differ from other market participants. CRE market participants often categorize properties by relative quality, with better quality properties commanding lower cap rates. The most common categorization is a simple class distinction (A, B or C) that weighs factors such as:

- age
- size
- functionality
- location
- construction
- appearance
- customer preference
- leasing and management
- amenities

For all asset types, Class A properties are generally newer, more-efficient buildings with high-quality construction, market amenities and professional leasing and management. These properties typically command the highest rents in the market and generally maintain the highest occupancy rates. Class B properties include former Class A properties no longer as highly desired by tenants due to age or location. They often have solid construction and good leasing and management, but typically have some functional obsolescence and system deficiencies because of building age or design. Class C properties are usually older and not modernized.

The typical owner's level of reinvestment in the asset is highest for Class A properties and lowest for Class C, with some exceptions, such as acquisitions with the intent to reposition an asset.

Asset Type Risk Spectrum

We consider asset types with significant operational components (i.e., skilled nursing homes, assisted living facilities, and full- and limited-service hotels) to be higher on the risk spectrum. Asset types with a broad base of investors and less management and capital intensive would be lower on the risk spectrum (i.e., multifamily, mobile home parks and self-storage).

Average Lease Term/Rollover Risk

Average lease terms differ by property type, exposing revenue streams to market risk. Hotels effectively have daily lease terms, while multifamily properties typically have annual lease terms, although some multifamily properties are leased on a month-to-month basis. Retail and office property lease terms typically range from five to twenty years. Shorter lease terms potentially subject the collateral to greater cash flow volatility while longer lease terms typically provide more cash flow stability due to lower tenant rollover costs.

Regardless of the average lease term, high tenant retention rates at a property reduce cash flow volatility due to lower rollover costs.

When loans are structured with amortization periods, very long-term leases to tenants can reduce balloon or refinancing risk because loan amortization is more likely.

Some property types with shorter average term leases are nonetheless lower on the asset risk spectrum. Multifamily properties typically have high lease renewal rates that reduce turnover costs. Self-storage facilities, which are often leased on a month-to-month basis, are lower on the risk spectrum due to their tenant diversity, low operating expenses, and low capital intensity.

Concentrated lease rollover can place undue stress on NCF. Ideally, rollover would be evenly distributed across the average lease term. In reality, newly constructed properties often lease-up around the same time, resulting in a concentrated lease rollover schedule. Typical market renewal rates range from 50% to 70% depending on the asset, location, market conditions and property type.

Capital Intensiveness

Moody's NCF addresses the capital intensiveness of each asset class because maintaining a property in prime condition is critical to maintaining rent and occupancy levels.

Certain property types require more capital than others to maintain their cash flow profile. For hotels to retain their franchise and remain competitive, they must complete a property improvement plan (PIP), replacing both soft and case goods, every five to ten years. Office buildings require capital when leases roll over for TIs and LCs. Office properties may also require periodic and significant cash infusions due to

functional and technological obsolescence. Leasing and operations for regional malls are similarly capital-intensive.

Other property types require less capital which allows for a larger investor base. Self-storage facilities have few capital needs. Industrial properties have little to no office space that would require more expensive TI allowances upon rollover, although LCs are common. Multifamily also require less capital, due to the low cost of painting and cleaning upon tenant rollover.

For CRE CLOs, in most cases we approach the value of future funding on a stabilized, as-built basis, assuming that contemplated future fundings are made available for the project and that the proposed work is completed in a timely manner.

Financing Liquidity

We assign a lower property quality grade/cap rate to loans on properties where financing is readily available from a diversity of sources providing a greater array of options to refinance the CMBS or CRE CLO loan at maturity. Typical commercial lenders include life insurance companies, pension funds, banks, CMBS and CRE CLO lenders, opportunity funds, hedge funds and private lenders. These lenders typically target office, retail, multifamily, mobile home parks, self-storage and industrial assets for lending; some also target hotels. Loans for tenant-leased facilities, nursing homes and other esoteric property types are typically provided by specialized lenders with specific knowledge and expertise in the relevant sector. Financing for multifamily properties currently benefits from additional financing liquidity from the two government-sponsored enterprises, Fannie Mae and Freddie Mac.

Lead Time and Complexity in Developing New Product

Anything that exacerbates mismatches between supply and demand can make CRE cash flows volatile. For example, the permitting process may be extensive and lengthy in some jurisdictions, which increases the lead time for delivery of new product to the market. Demand at the beginning of the construction process might not exist by the end.

Long lead times and other constraints on new construction can also exacerbate swings in market rents and vacancy rates. When demand is higher than supply, rental rates rise above sustainable levels and vacancy rates fall to artificial lows. Tenants who need space during these unbalanced periods are forced to pay more than tenants who sign leases when supply and demand conditions are balanced. With artificially high rents comes increased tenant default risk.

Some markets have barriers to entry that make building more difficult. Typical barriers include the availability of suitable land or strict zoning. These factors can constrain the ability to quickly add supply to meet rising demand.

Market imbalances can exist for longer periods for property types with long development time frames. Construction of a full-service hotel or super-regional mall takes longer than for a self-storage facility or industrial property. Office buildings take longer to build than multifamily properties. As a result, the delivery of new supply may be delayed when demand is at its highest.

Location

Location is a key factor in the success of an asset, although the relative value of a given location can change over time. Despite this potential for change, we can make the following observations.

First, properties in prime locations in strong markets tend to outperform properties in inferior locations in the same market and all properties in secondary or tertiary markets.

Second, an urban location is typically preferable to a suburban location. In most cities, demand in urban markets has been more stable over time and supply more restricted. Tenants often prefer urban areas because of their larger and more established employment base and better transportation access to the surrounding region. Loan credit quality can be enhanced by barriers to entry – physical, economic and legal – that prevent excessive construction.

Third, proximity to similar properties or complementary uses can enhance the desirability of a given location and lead to greater profitability for an asset. Landlords can monetize that proximity benefit into higher rents. Similarly, student housing properties on or adjacent to campus typically charge higher rents than comparable facilities farther from campus.

Management and Sponsorship Quality

When we assign property quality grades/cap rates, we may also consider qualitative factors such as management (including leasing) and sponsorship quality.

Better management companies have relevant experience in the property type and market. Experienced managers can introduce operating efficiencies, resulting in lower operating expenses. Being adept at promptly handling tenant issues can facilitate tenant retention and lower re-tenanting costs. Excellent relationships with leasing brokerages are also critical. Reaching the broadest possible potential tenant base and presenting the property in the best possible light are key factors to maintaining high occupancy and rents.

Sponsorship can also be important in successfully maintaining or growing NCF. Ownership's equity investment in a property – in the form of both initial and ongoing capital improvements – is one indication of their commitment to the asset. How the sponsor characterizes the asset (core versus non-core), its history with the property, its ties with the leasing community and tenants, and the financial strength and nature of its other real estate holdings also influence the sustainability of future NCF.

Most securitized CRE loans are non-recourse, and sponsors tend to make economically rational decisions in electing to support or not support a troubled loan. But all else equal, a sponsor with the capital and management expertise to support the collateral if it makes economic sense to do so is a credit positive.

Market Dominance

Regardless of property type, assets that prove their market dominance over time generally have property quality grades/cap rates at the lowest end of our spectrum. An asset can dominate a market for a variety of reasons. The right mix of tenants and anchors at a regional mall in a dense and affluent trade area can lead to sales at the higher end of the market range, resulting in lower cash flow volatility than an older regional mall in a depressed market with multiple newer competitors. For office properties, a location in a major metro market with a large, diversified and well-educated employment base can lead to much more stable NCF over time. Assets that dominate in these major markets may have owners who hold out for the highest possible rents, may be in irreplaceable locations or may offer unique amenities and building systems.

Market Supply and Demand

Assessing property rollover risk relative to the local market cycle is a key step in deriving sustainable NCF. When supply and demand are out of balance, large swings in vacancy rates and rental rates can occur. Moody's RYG quarterly assessment of US property markets is one tool we may use to assess the short-term

supply and demand characteristics of major property types in major markets. We may also review third-party market forecasts and gain greater insight into individual market performance through site inspections. Finally, we generally consider other factors that can affect either supply or demand, including:

» the highest and best use of a property

» major public policy announcements (i.e., military base closures)

» community support for the current or an alternative use

» zoning incentives

» tax abatements

» rent control/rent stabilization regulations

» land use restriction agreements

We typically apply higher property quality grades/cap rates to speculative endeavors.

Operating Leverage

Property types with lower operating leverage are typically subject to less risk than properties with higher operating leverage. The degree of variation often correlates with the strength of the property market (i.e., high-rent markets frequently have less operating leverage) and the level of management intensity for a particular asset type. The higher the operating leverage, the greater effect a decrease in revenue has on profits, which could make NCF more volatile. For example, if a hotel were operating at a 75% expense ratio and revenues dropped 10%, operating leverage would increase to 83%, which in turn would decrease NCF by 40%. In contrast, if revenues for an industrial property operating at a 25% expense ratio were to drop 10%, the operating ratio would increase to 28%, which would decrease NCF by only 13%.

The following exhibit includes examples of operating leverage for fee-simple interests per property type.

EXHIBIT 4

Operating Leverage for US and Canadian Property Types

Property Type	Operating Leverage General Range
Industrial	25% - 30%
Retail	30% - 35%
Multifamily	35% - 40%
Office	45% - 50%
Limited-Service Hotels	65% - 75%
Full-Service Hotels	70% - 75%

Source: Moody's Investors Service

Operating leverage is higher for mortgages secured by leasehold interests than for their fee-simple counterparts. We address the higher volatility by deriving a credit equivalent adjustment for the same property with and without ground rent, and determining the necessary increase to the unadjusted cap rate.

Investment Sales Liquidity

The depth and breadth of the investment sales market for a given property type influences the cap rate associated with a given property quality grade because it addresses the likelihood of loan repayment through a sale. For example, there are many qualified buyers for small to medium-sized multifamily properties, but far fewer qualified buyers who want to own and operate a hotel or nursing facility. Enhanced sales liquidity in the multifamily property markets translates into a lower cap rate at a given quality level than for comparable hotels or nursing homes.

In certain major metro areas, such as New York and San Francisco, the investment sales market is very deep due to the presence of both domestic and international investors. For loans on high-quality properties in such markets, we may make additional cap rate or credit enhancement adjustments to reflect their greater ability to attract capital at all points in the credit cycle.

When groups of loans are cross-collateralized and cross-defaulted into a single portfolio loan, the pool of potential buyers for the entire portfolio typically shrinks given the larger total cost of the portfolio compared to the lower cost of the individual assets. However, the few qualified buyers for the portfolio may pay a premium to secure a significant asset base. When selecting a property quality grade/cap rate, we generally consider the potential for a portfolio to be sold both intact and piecemeal.

Tenancy

Tenancy is an important determinant of property value sustainability. Tenancy length, diversity, tenant credit quality, nature of use, space utilization (i.e., whether single- or multi-tenant, direct leases or subleases), ease of existing-tenant relocation to competitive properties, and the depth and breadth of the tenant replacement pool can worsen cash flow volatility.

Policy/Regulatory Risk

We assign higher cap rates to skilled nursing facilities than to other types of CMBS collateral in part because of policy and regulatory risk. Small changes in government Medicare and Medicaid pay rates can significantly affect a skilled nursing facility's cash flow given the industry's high operating expense ratio. In addition, licenses and certificates of needs (CONs), which control supply, are subject to withdrawal upon government review. Replacing a CON upon a transfer of interest is subject to state agency approval.

Volatility of Recovery Upon Default

We assign higher cap rates to property types with more-volatile recovery rates. For example, high-quality multifamily properties receive a lower cap rate than a typical hotel property where market valuations at the bottom of the real estate cycle are far less than at the top of the real estate cycle. The variability in valuation (and recovery upon default) is far less for the multifamily property than the hotel.

Mixed-use Properties/Portfolios

Mixed-use properties can benefit from the synergies created by the combination of uses, while mixed-use portfolios can benefit from cross-collateralization and cross-default provisions from imperfectly correlated assets. In either case, we typically break down the property's or portfolio's revenue into its component parts and use property quality grades/cap rates that reflect the particular component's sustainability. For example, an office building could have multiple components, each with different risk characteristics. The quality and sustainability of the income stream from the observation deck on a building's rooftop can differ materially from the income generated by long-term office leases to credit-rated tenants. Similarly, the quality and sustainability of NCF from a ground-floor retail space can differ materially from the underground parking facility. When the components generate a material share of the building's overall NCF, and the risk to the sustainability of that component's NCF differs from that of other components, we typically apply different property quality grades/cap rates reflective of each component's unique risks. We then generate a weighted-average property quality grade/cap rate.

Overbuilding vs. Overlending

Higher property quality grades/cap rates are warranted in non-supply-constrained markets with a history of overbuilding, in contrast to supply-constrained markets where the boom-bust history is non-existent or less severe. Market collapses have historically resulted from excess leverage or excess space.

Our property quality grade/cap rate matrix addresses the potential for excess capital, and our NCF estimate addresses the risk of additional space. They introduce an element of normalization to stress but are only a point of departure for the enhancement or tranching we assign in our rating process, in which we consider potential stress scenarios.

Our property quality grade/cap rate matrix does not directly address the risk of overlending, which historically has been characteristic of the overall economy rather than a specific market or property type. However, the absolute level of market leverage and the difference between market leverage and Moody's leverage may be indicative of excess financing liquidity in the market.

Esoteric Assets

We consider the potential alternative real estate use of an esoteric asset to assess its ratability in the CRE group. For example, cell phone towers do not typically have an alternative use and as such would not be rated as CMBS. On the other hand, bank branches, co-location and data centers, and merchandise marts can generally be converted to other uses and could be rated as CMBS. When we rate an esoteric asset as CMBS, we base our judgment on the property's quality grade and cap rate in part on the potential for an alternative real estate use.

Moody's Value

In this section, we describe how we derive property value (Moody's value) used to assess large loan and single asset/single borrower and conduit/fusion CMBS and CRE CLO transactions.

Our loan-level analysis considers one or more of the following:

» as-is market value

» as-stabilized market value

» insurable value

» assessed value

However, we rely on our own value estimate to calculate the MLTV ratio. The property value is an input in our large loan and single asset/single borrower and conduit/fusion approaches.

Loans on stabilized assets are generally among assets in conduit/fusion transactions, while loans on transitional assets are generally found in large loan floaters and CRE CLO transactions. When loans on non-stabilized assets are part of a conduit/fusion transaction, sized to an as-stabilized value, the probability of default and loss given default can increase significantly.

Direct capitalization and discounted cash flow (DCF) are the two primary market approaches for analyzing cash flow valuation:

» Direct capitalization estimates value in one step either by dividing a single year's income by an appropriate cap rate or by multiplying it by an appropriate factor.

» DCF analysis estimates value by discounting a projected stream of incomes and a reversionary value back to a total present value at a specific yield rate.

CMBS lending generally involves loans backed by assets with a stable operating history, so we typically use direct capitalization in estimating value. For condo conversion or land development loans, we may use DCF to better replicate the loan structure. When loans default or during property market dislocations, we may use intrinsic or floor values and/or values derived from comparable sales in addition to, or instead of, values derived from direct capitalization.

Alternative Use/Highest and Best Use

Moody's value typically assumes the current property use; however, in certain cases we may consider alternative uses to determine value. For example, in evaluating a data center, we will likely review values for comparable office or industrial properties rather than assuming its continued use as a data center. We might assess other non-core asset types for alternative use also. Similarly, if the highest and best use of a property is not the current use, we may value the asset based on its highest and best use, recognizing the costs required for alterations to achieve that alternative use.

Balloon Risk

We can use Moody's value to calculate an MLTV ratio at balloon. For loans with long remaining terms, this is a more credit-sensitive measure of potential refinancing risk than current market value. However, for loans subject to near-term refinancing risk, we may use a value closer to the current market value because the potential volatility in interest rates/cap rates declines. Estimating a property's actual sale price is also helpful in estimating losses on REO loans or loans in special servicing and likely to see a quick disposal.

Comparable Properties

To derive Moody's value, we evaluate comparable properties. Similar property quality grades/cap rates generally apply to similar properties. At the same time, the NCF from these assets could differ, resulting in prices that vary across markets. Regardless, in similar markets or in a single market, our valuation of similar properties normally produces similar values per the relevant unit of comparison (see Exhibit 5).

EXHIBIT 5

Relevant Units of Comparison by Property Type

Property Type	Relevant Unit of Comparison
Multifamily	Per unit
Student housing	Per unit or per bed
Mobile home park	Per pad
Industrial	PSF
Self-storage	Per unit or PSF
Anchored & unanchored retail	PSF
Movie theater	Per screen
Office	PSF
Mixed use	PSF
Assisted living	Per unit
Skilled nursing	Per bed
Hotels	Per key

Source: Moody's Investors Service

Floor Values

At certain points in the real estate cycle, we may use floor values in our analysis that represent the asset's intrinsic value. A floor value is the value per relevant unit of comparison that market participants would pay for an asset despite temporarily depressed NCF levels. We often apply floor values to hotels whose daily

pricing structures make them particularly vulnerable to demand fluctuations. For example, during a downturn, a hotel's income can decline 25% or more, resulting in a commensurate decline in market value. When market values dip below replacement costs, hotel owner/operators can take advantage of price dislocation to expand. Rebranding, renovating and repositioning a hotel during a downturn can significantly enhance value at the trough with an expectation of reopening when the economy is again on the upswing. The situation is similar for other property types. We may use a floor value higher than the in-place NCF-derived value at the trough of a downturn and lower than the likely achievable value after the downturn. Typically, this floor value represents a meaningful discount to replacement cost. We typically review sales activity in a market to validate these floor values or an investment analysis replicating buyer behavior in the absence of transactions.

Pro-forma Income

Moody's value reflects a debt, rather than an equity, perspective. Prudent market lending standards generally dictate advancing only on the value based on in-place income, recognizing that bringing a sub-performing asset up to market performance (stabilizing an asset) is more of an equity type of endeavor. Nevertheless, since our objective is to estimate the sustainable NCF and value that reflect an asset's credit profile, we may recognize positive or negative adjustments to value reflecting below- or above-market leases.

Loans to buyers acquiring properties based on a pro-forma analysis can be found in a CMBS or CRE CLO transaction. Lending on these pro-forma loans may be based on an as-stabilized valuation and income not yet in place. In some cases, lenders may structure a transaction to partially mitigate these equity-type risks, often using short-term floating-rate loans as an interim financing vehicle for assets not yet stabilized. We evaluate these types of pro-forma loans case by case, emphasizing sustainable NCF given the asset's current position in the real estate cycle. We tend to give these assets above-average NCF haircuts, given the execution risk of attaining and maintaining the pro-forma income.

Lit/Dark and Stressed Scenario Analysis

Properties leased, or substantially leased, to a single tenant are subject to binary risk because the tenant can either pay or fail to pay its rent. Moody's typical valuation for these types of assets captures this binary risk through a lit/dark analysis. In this analysis, we derive two value estimates and then blend them into a single value estimate based on the probability that the tenant will renew. The first value estimate – the lit value – assumes the tenant will remain in place. The second value estimate – the dark value – assumes the tenant will depart. We deduct costs associated with the "dark time" prior to releasing the space, capital renovations (e.g., the cost to convert a single-tenant building into a multi-tenant office building), TI allowances, and LCs from the as-stabilized value, assuming the market rental and occupancy rates. In some cases, the binary risk may be too great to assign any weight to the lit analysis and we rely solely on a dark analysis.

Typically, we apply two cap rates to value the property on both lit and dark bases with a higher cap rate typically applied when determining the dark value. For example, in the lit analysis the property could currently be 100% leased to a tenant with an investment-grade Moody's rating on a long-term lease, which would likely warrant a low cap rate.

Ongoing Viability

Tenant preferences change over time, resulting in product demand that can differ materially from available offerings. In CRE, this may lead to new construction, renovations, or demolition when properties become functionally obsolete.

Appendix 1: Information Packet Contents

Information provided to us typically includes the following:

- Appraisal, market study, and/or feasibility study
- Asset summary report
- Environmental report and/or environmental insurance policy
- Engineering report detailing remaining useful life, cost to correct deferred maintenance, and a projection of reserves for capex
- Seismic report detailing probable maximum loss, if applicable
- Ground lease summary, if applicable
- Primary loan documents including note, loan agreement, deed of trust or mortgage, deposit control (lockbox) agreement, cash management agreement, nonrecourse guaranty, basic borrower organizational documents.
- Detail property rent roll
  - Suite or unit number
  - Tenant name
  - Leased area (SF or units)
  - Unit type (e.g., 1 bedroom/1 bath for multifamily or 90% warehouse/10% office for industrial)
  - Lease start and end dates (include any rent adjustment dates) with associated Rent Per Period (including free rent)
  - Renewal options (including terms)
  - Termination options (including terms)
  - Expansion or contraction options (including terms)
  - Co-tenancy clauses/early termination clauses
  - Operating expense and real estate tax reimbursement method (including calculation examples) and base year expenses (year and amount, if applicable)
  - Electric reimbursement type
  - Indication of non-revenue space (e.g., staff units, building storage)
  - For multifamily, include a rental and occupancy analysis by unit type
  - For co-ops, include maintenance payments, indication of sponsor units and investor units, and an indication of monthly positive/negative carry
  - For regional malls, include an analysis of anchor and in-line tenant comparable sales along with anchor and in-line occupancy cost-to-sales ratios
  - For condo/hotels, differentiate rental pool program units

- Historical property income & expense statements (typically three years)
  - Denote average occupancy rate per year
  - For hotels, monthly profit and loss statement and current year-to-date compared to the same period last year
- Management's budgeted income and expenses
- Certificate of insurance and/or policy and copy of insurance bill
- Copy of current real estate assessment(s) and tax bill(s)
- Underwritten net cash flow and footnotes
- Management agreement
- Leasing agreement
- Hotel specific
  - Franchise agreement
  - Franchise inspection report
  - Historical monthly occupancy and Average Daily Rate (ADR) (typically three years)
  - Current STR report
  - Detailed historical and future capex program (typically five-year history and three-year projection)
  - Historical market segment report detailing occupied room nights and ADR
  - Group booking pace report that compares historical bookings with current period bookings
  - Turn-away report/fill night report
  - Top ten accounts and room night production reports
  - Marketing plan and budget
  - Demand segmentation report (occupied room nights and ADR by market segment)
  - Hotel brochures
  - For non-US assets, historical breakdown of US guests versus non-US guests including details on the share of US credit card payments versus total receipts
- Healthcare specific
  - Copies of current valid licenses
  - Reports of violations
  - Reports concerning payors who refuse to reimburse as a result of noncompliance
  - Resident surveys
  - Review/action plans

» Renovation and Redevelopment
  – Scope of redevelopment including property configuration, amenities, build-out, etc.
  – Analysis of compliance with zoning, use, and occupancy restrictions
  – Detailed timeline of the redevelopment through stabilization
  – Detailed redevelopment budget including an analysis of sources and uses of funds, contingencies, overage, and timing
  – Borrower résumé detailing prior redevelopment experience
  – Detailed borrower/sponsor financial statements
  – Evidence of borrower equity contribution(s)
  – Market analysis
  – Appraised value (land, as-is, as-completed, and as-stabilized)
  – Loan documents and summary of basic loan terms/structure
    › Loan amount, type (e.g. initial vs fully funded), rate, rate type (e.g., fixed/floating), maturity date, default provisions, other material provisions
    › Reserve summary and sizing analysis
  – Pre-leasing analysis
  – Copies of the management and/or leasing agreements
  – Pro-forma income and expense statements upon stabilization
» Summary of cash management terms (e.g., how the money flows from the borrower to the bondholder and where it is kept)

Appendix 2: Hotels

Hotels are among the riskiest of the major property types in CMBS collateral pools. Unlike the other major core property types, hotels do not typically have long-term leases; instead, rooms are sold almost entirely by the night. As such, pricing adjustments to changing market conditions are immediate, increasing cash flow volatility.

Hotels also have the highest expense ratio of any core asset class. The expenses of full- and limited-service hotels typically constitute 70% or more of total revenue. Consequently, small declines in revenue can result in significant decreases in NCF.

High operating leverage, given that hotels are essentially operating businesses housed in real estate, highlights the need for experienced and competent management.

The capital-intensive nature of the asset (where rooms and common elements must be regularly refurbished due to high guest turnover rates and the resulting wear and tear on the property) highlights the need for experienced and well-capitalized sponsors who can finance capital expenditure programs to maintain the hotel's market competitiveness.

These factors affect all hotels, although an individual hotel's ability to consistently generate and accommodate demand while avoiding supply-induced performance deterioration also depends on the property type, physical condition, geographic location and market orientation.

Property Type Reflects Risk Profile

The risk level of a hotel depends on the property type. Among hotel types, full-service hotels are generally the least risky, followed by extended-stay properties and then by limited-service assets.

The risk level for each property type reflects the potential for new supply, operational considerations and demand drivers. Limited-service hotels are at the riskier end of the spectrum, in part because they can be built more quickly than other hotel types resulting in lower barriers to entry. The size and amenities full-service hotels offer results in development periods that typically range from 18 to 36 months, but limited-service hotels can often be completed in as few as 12 months. These typically have smaller land requirements, are relatively inexpensive to build and easier to finance. Hotels with conference/meeting room space, restaurants, bars, gyms and spas require a more experienced operator, to manage operational risk. Finally, because full-service properties offer numerous amenities, they are typically able to meet the needs of a more diverse customer base and will therefore attract group, corporate and leisure travelers. Limited-service properties typically cater to a narrower customer base.

This risk assessment generally holds true, with a few exceptions. In some strong urban markets, limited-service hotels will compete directly with full-service hotels. In those markets, limited-service hotels will command revenue per available room (RevPAR) levels slightly lower than those of their full-service counterparts, generating higher profit margins amid lower expenses. Although property type segmentation is helpful in assessing risk, our analysis considers submarket and asset-specific circumstances and does not follow a one-size-fits-all approach.

At extended-stay hotels, nightly turnover is lower than at full- and limited-service hotels which diminishes the volatility of operations. Furthermore, operating profit margins for extended-stay properties tend to be higher than those of comparable transient hotels. For example, because of longer stays, smaller marketing expenditures may be sufficient to achieve the same occupancy level as a comparable transient hotel. Rooms expense may also be lower if housekeeping work is done per stay or on set intervals versus nightly. Our review of extended-stay hotels takes into account where the specific hotel is positioned relative to a full- or

limited-service hotel in terms of the property's amenities and actual RevPAR levels, and adjusts for operating leverage benefits by specific property.

Market Segmentation Targets Guest Preferences

Hotels vary by market orientation and are classified in the hotel industry based on their function or target market segment and price point.

These classifications are not exclusive and a hotel can fall into more than one category. For example, an upscale convention hotel located in Hawaii with extensive resort-quality amenities can also be considered a resort hotel.

We consider a property's market orientation in the context of its contribution to sustainable cash flow. We typically evaluate a hotel's ability, given its market orientation, to mitigate the effects of supply increases and maintain a stable customer base. For example, a 2,000-room convention hotel adjacent to a city convention center cannot easily or quickly be replicated, which shields it from the stress of new supply. A suburban highway hotel, however, that generates occupancy solely from passing transient travelers does not have a diverse demand base and could be badly affected by a change in traffic patterns.

Even when new addition to supply is not directly competitive because of differences in price points or target market, it will affect the overall market performance. For example, a full-service urban hotel that caters mainly to corporate demand with only a small amount of leisure business might not be negatively affected by the addition of an extended-stay or a limited-service hotel into the sub-market. However, these new hotels can compete for some share of the full-service hotel's leisure business. Despite the seemingly non-competitive nature of new hotel "products," we may consider any overlap in demand segments.

Brand Affiliation Helps Drive Demand

A majority of hotels in the CMBS universe are affiliated with a nationally-recognized flag or a brand with a reservation system that helps to reach a larger user audience. We typically apply negative adjustments to sustainable net cash flow and value when franchise agreements expire during the loan term and loan documents lack a provision requiring the property to remain affiliated with a comparable, nationally-recognized flag or a brand with a reservation system during the loan term. The loss of flag can result in immediate and measurable declines in bookings which we reflect in our analysis.

Moody's NCF

Rooms Revenue

Since rooms revenue is the largest component of total hotel revenue, our analysis of rooms revenue is critical in determining a hotel's sustainable NCF. To determine rooms revenue, we generally estimate a stabilized occupancy rate and an ADR for the hotel, which we then convert into a single data point, RevPAR, which facilitates comparison with other hotels.

To derive stabilized RevPAR, we typically analyze a hotel's historical performance and its annual RevPAR growth rates in comparison to its competition. We often consider a hotels' ranking in its competitive set along with its yield index or RevPAR penetration rate, which we calculate by dividing the hotel's RevPAR by the average RevPAR of the competitive set, based on both an actual gross dollar amount and trends. A penetration rate of 100% indicates that the hotel's RevPAR is equal to the competitive set's average RevPAR. A penetration rate greater than 100% signifies that the hotel is outperforming, and one less than 100% is underperforming the competitive set. However, because of declining demand for lodging room nights, the actual gross dollar amount of market average RevPAR has fallen over the three years. The market trend in this case would weigh more heavily than the RevPAR penetration rate in deriving stabilized RevPAR.

RevPAR penetration rates provide a useful snapshot of the hotel's ranking in its competitive set. But the penetration rate can be manipulated by including properties that do not belong in the competitive set, or excluding properties that do. As such, an ideal competitive set comprises competitors that are (1) geographically proximate; (2) provide comparable physical offerings; (3) target the same sources of demand; and (4) include properties with both higher and lower RevPAR than the hotel we are analyzing.

Operating performance measures such as occupancy, ADR, RevPAR and RevPAR penetration rates help to gauge levels of demand. But we must evaluate both demand and supply conditions to determine the strength of the hotel market. Factors affecting supply growth include the availability of development sites and capital, construction costs, and the length or difficulty of the development approval process.

Competitive set and RevPAR penetration rates provide a starting point for analyzing existing competition. Competition can be further segmented by property type.

New Supply

When new supply is introduced to a market, competitive hotel rankings may reorder. New supply will most likely rank towards the top of the competitive set. However, our definition of new supply also includes assets with extensive repositioning which may have a similar effect on the rank ordering of the competitive set.

To gauge the impact of new supply or a significant repositioning program of an existing competitor, we typically estimate a stabilized market level RevPAR considering the new supply, review the hotel's ranking in the new competitive set, and estimate the loss or gain of penetration rate. We typically receive a detailed market, competitive set, and demand generator analysis from a nationally recognized firm which helps us fully comprehend and reflect the introduction of new supply.

Cash Flow Analysis

The primary component of our hotel credit analysis is an evaluation of cash flow sustainability. In determining sustainable NCF, we review the underwriter's projections of revenues, expenses, and furniture, fixture, and equipment (FF&E) reserves. We then make necessary adjustments based on historical performance, historical and prospective market conditions, and other factors based on our judgment.

In our hotel cash flow analysis, we typically review historical NCF data in addition to the current month's year-to-date or trailing-twelve-month performance compared to the same period in the previous year. We generally assess historical operating revenues and expenses as a gross dollar amount, as a share of total departmental revenue, per available room (PAR), and per occupied room (POR).

We often incorporate the use of POR, PAR and ratios in our analysis of a hotel's cash flow in a manner consistent with the market. Hotel revenues tend to fluctuate in conjunction with occupancy levels. A POR analysis yields a more accurate picture than simply evaluating gross dollar amounts because doing so isolates the increases or decreases in total dollar amounts due to fluctuations in occupancy. The POR analysis is most useful when evaluating assets with large fluctuations in occupancy as opposed to hotels with stable occupancy levels and inflationary increases in average daily rate. In contrast, a PAR analysis is useful in evaluating undistributed expenses. Because these are costs for maintaining a hotel's operation, they are largely fixed and are less affected by fluctuations in occupancy. In addition, all revenues and expenses, with the exception of departmental expenses, are also typically evaluated as a percentage of total revenue. We generally evaluate departmental expenses as a share of the respective departmental revenue.

Departmental Revenues and Expenses

Departmental revenues and expenses are typically for rooms, food and beverage, telephone and minor operating departments and vary in line with occupancy; we therefore evaluate them based on POR. Departmental expenses are operating expenses require adjustment, relative to estimated revenues. We review these based on POR and as a share of their respective departments' revenues.

However, departmental expenses do not vary entirely in line with occupancy. For example, rooms expense constitutes approximately 50% fixed expenses and stops decreasing after a decline in occupancy because a hotel needs to maintain a minimum staffing level to implement daily housekeeping tasks and maintain public space. Exhibit 6 presents the approximate portion of fixed departmental revenues and expenses.

EXHIBIT 6

Fixed Components of Departmental Expenses

Departmental Expense	% Fixed
Rooms	50% to 60%
Food & beverage	55% to 65%
Minor operating departments	Varies

Source: Moody's Investors Service

Room Revenues and Expenses

Room-related revenues are a very good indicator of hotel performance, and ultimately, value. However, lodging property performance can be extremely cyclical and volatile due to a daily pricing structure. As a result, we try to look through this cyclicality/volatility to core asset performance. For example, when a market is distorted, Moody's RevPAR is unlikely to equal the most recent year's performance. Market distortions – such as a temporary decrease in RevPAR at an airport hotel because of an airline strike, or an increase in RevPAR because of increased demand generated by a local one-time event such as the Super Bowl – create unsustainable changes to cash flow because these events are neither typical nor recurring. We attempt to isolate the impact of these one-time events and exclude any associated revenues and expenses from our estimate of sustainable NCF.

We also examine industry trends or asset-specific improvements in estimating sustainable NCF. For example, if a hotel were being affecting by a national-level market expansion or contraction, we would use results from a more economically stable year. When demand is low, pricing power is compromised, but an improving economy can quickly fuel increases in occupancy and ADR, especially when new supply is limited. Thus, our sustainable RevPAR may be higher or lower than in-place RevPAR, depending on the current phase of the real estate cycle. We will likely view asset-specific improvements such as an increase in RevPAR from a recent management change or major capital project as ongoing and sustainable.

Rooms department expenses include salaries, wages and fringe benefits for the front desk, housekeeping, bell staff and laundry. Additional expenses include linen, cleaning supplies, guest supplies, uniforms, reservations expenses and travel agent commissions. Rooms expense typically constitutes 20% to 30% of rooms revenue and is adjusted based on historical and market levels. An expense level less than 20% of rooms revenue is unsustainable for a property managed by a third party. We typically evaluate rooms expense based on historical operating results, comparable facilities and industry standards.

Food and Beverage Revenues and Expenses

Food and beverage (F&B) revenues are generated by sales associated with a hotel's restaurants, cafes, lounges, banquet facilities, room service and public room rentals. Depending on the type of full-service hotel, food and beverage revenue as a percentage of total revenue will typically range from 15% to 25%. However, food and beverage revenue at resort, convention, and urban hotels with multiple food and

beverage outlets, or hotels with significant banquet and catering services, can constitute as much as 40% to 50% of total revenue. We typically estimate food and beverage revenues based on historical operating results adjusting for significant non-hotel patronage.

In deriving sustainable NCF, we generally adjust non-traditional F&B revenue and expense margins and use a higher cap rate to reflect increased risks. Traditionally, food and beverage outlets have been relatively unprofitable cost centers necessary to accommodate guests. However, for some hotels, such as those in urban locations with roof-top bars, the F&B outlets can be significant profit centers. In many of these, the F&B outlets derive a higher percentage of sales from alcohol, which is more profitable than food, resulting in F&B revenue that is skewed compared with traditional hotel F&B operations. However, relying on F&B revenue from non-traditional sources increases bottom-line volatility and is riskier over the long term.

We typically evaluate F&B expenses based on historical operating results, comparable facilities and industry norms. For full-service hotels, F&B expenses typically constitute 70% to 80% of departmental revenue, although this ratio can vary significantly depending on the hotel. Hotels that generate a majority of their F&B revenue from banquets will typically have higher profit margins because of lower operating and labor costs. Hotels that lease their F&B facilities to third-party operators may have only a net number because the margin risk has been shifted with the lease.

Minor Operating Departments/Rentals and Other Income and Expense (MOD)

MOD includes revenues and expenses from parking, internet access charges, guest laundry and valet, business centers and concession rentals, retail boutiques and leased restaurants. Some hotels may charge separate to, or incorporating some of, these items a daily resort fee surcharge. Revenue from these departments typically constitutes 2% to 10% of total revenue; for some large full-service resort and convention hotels, revenue from spa, golf, parking and casino operations can exceed 10% of total revenue.

If a minor department is an integral part of the hotel's operation and helps attract business, we treat it as part of the hotel's ongoing operation. However, we might use a higher cap rate for that portion of the NCF generated by facilities outside the scope of traditional hotel operations.

Undistributed Expenses

Undistributed expenses are those that cannot be allocated to a specific department and include general and administrative, sales and marketing, utilities, and property operations and maintenance. A large portion of undistributed expenses are fixed and do not correlate directly with fluctuations in revenue. Exhibit 7 shows the approximate portion of fixed undistributed expenses.

EXHIBIT 7

Fixed Component of Undistributed Expenses

Undistributed Expense	% Fixed
General & administrative	85% to 90%
Sales & marketing	80% to 90%
Franchise fees	0%
Management fees	0%
Utilities	85% to 90%
Property operations & maintenance	80% to 90%

Source: Moody's Investors Service

We typically evaluate undistributed expenses as a share of total revenue and based on PAR. For example, the general manager's salary is typically part of G&A expenses. If the hotel's occupancy drops significantly, the general manager's salary will remain unchanged and the fluctuation in G&A will be minimal.

General and Administrative

We typically estimate G&A expenses based on the hotel's historical record and the operating results of comparable hotels. G&A, 85% to 90% of which is fixed, typically takes up 7% to 10% of total revenue. G&A expense includes payroll and related expenses for the general manager, personnel and training, clerical staff, controller and accounting staff. Other G&A expenses are credit card commissions, licenses and dues, office supplies, professional fees, travel expenses and liability insurance.

Sales and Marketing, Management Fees, Franchise Fees

The focus of our analysis of these expenses is to ensure that an ample level of expenses and fees is allocated to attract a competent third-party manager and maintain a given level of operating performance.

Market-based management fees typically range 3% to 4% of total revenue; some management agreements have a lower contractual base fee and a performance-linked incentive fee. In deriving sustainable NCF, we typically exclude the incentive fee expense if the incentive fee is subordinate to the debt service. Also, we generally exclude the incentive fee if the combination of the base management fee, sales and marketing, and franchise fees are at a market rate. We typically include the incentive fee if it has an accrual feature and is due and payable upon refinance or sale.

Sales and marketing expenses typically constitute 5% to 8%, and franchise fees, 2% to 8%, of total revenue. However, the classification and distinction between sales and marketing expenses and franchise fees often becomes blurred for chain-affiliated but independently operated hotels. Furthermore, chain-managed properties do not typically incur franchise fees because the benefits of the brand are included in the management fees and marketing allocations.

Because sales and marketing, franchise fees and management fees are all used to strengthen a hotel's performance, we generally evaluate the combined percentage of these three expenses. Depending on how the hotel is operated (chain-affiliated versus independently, or corporate-owned and managed versus third-party managed and franchised), total fees will differ. As a typical benchmark, the three items should constitute approximately 10% to 16% of total revenue. Properties generating a higher cash flow level may maintain performance with a lower overall percentage because the actual dollar amount generated is higher. Limited-service hotels may need to spend 16% or more of gross revenue to benefit from a chain affiliation and reservation system. We typically evaluate historical combined expenses and adjust as warranted.

Utilities

Utility costs include electricity, water, waste removal, sewage, fuel and steam, and typically constitute approximately 3% to 5% of total revenues. Some of the larger hotel chain operators can negotiate bulk purchases under long-term contracts. We evaluate energy-related costs case by case, recognizing the possibility that the operator may change over the life of the loan.

Property Operations and Maintenance (POM)

POM expense includes payroll and related expenses as well as the cost of painting and repair of the building, grounds and equipment. We typically estimate this expense based on historical expenses and industry averages, taking into account the property's current physical condition, age, the types of amenities it offers, and its historical and planned capex programs. POM expense is typically 4% to 5% of total revenue.

Fixed Charges

Fixed charges typically include real estate taxes, insurance and ground rent. Real estate taxes are generally based on the current assessed value and tax rate, and may be adjusted for any assumed tax increases related to a sale, repositioning or expected change in revenue. Furthermore, adjustments may be necessary in the

event of a tax abatements or if growth in the tax rate is otherwise constrained. Insurance expense is typically based on the greater of historical expenses incurred at the hotel or the current expense, assuming coverage is adequate. We typically analyze ground lease payments to reflect stabilized levels during the loan term, taking into account any steps that will occur.

FF&E Reserve

Hotels are a capital-intensive business and its physical appearance is important in attracting demand. With high guest turnover rates, continuous reinvestment is necessary to maintain cash flow and remain competitive. The annual FF&E reserve is typically used for routine maintenance and replacement of non-revenue-enhancing items such as carpets, bedding, window treatments, case goods and wall vinyl. Revenue-generating expenditures beyond the annual reserve, to reposition a hotel from an upscale to a luxury hotel, for example, are not reflected in the hotel's statement of cash flows.

We typically consider an FF&E reserve of 4% to 5% of total revenue to be the standard market rate, depending on gross revenue and PAR. The FF&E reserve requirement may be closer to the 4% of total revenue range for hotels with high RevPAR because a higher room rate produces more available dollars for FF&E. FF&E requirements are not constant over a hotel's life and typically increase with the property's age. We reserve a fixed portion of total revenue each year in anticipation of an increase in capital requirements during a hotel's life.

Revenue and Expense Ratio Guidelines

Exhibit 8 is a guideline or a starting point that we use to assess the cash flow of the typical full- and limited-service hotel. Because each department has different profit ratios, revenue composition will vary on the asset's characteristics, resulting in a direct impact on NCF. For example, rooms division tends to be more profitable than F&B divisions. Thus, assets with a larger portion of revenue from F&B will have a lower NCF as a percentage of total revenue.

EXHIBIT 8

Baseline Hotel Revenue and Expense Ratios

Departmental Revenue as a Share of Total Revenue	Full-Service	Limited-Service
Rooms	72% to 78%	93% to 95%
Food & beverage	17% to 20%	0% to 5%
Telephone	2% to 3%	2% to 3%
Minor operating departments	Varies	Varies
Departmental Expense as a Share of Departmental Revenue		
Rooms	25% to 30%	20% to 27%
Food & beverage	75% to 80%	90% to 100%
Minor operating departments	Varies	Varies
Undistributed Operating Expenses		
General & administrative	7% to 8%	8% to 10%
Marketing	5% to 6%	5% to 8%
Utilities	3% to 5%	3% to 5%
POM	4% to 5%	4% to 5%
Management fee	3% to 4%	3% to 5%
Franchise fee	3% to 5%	5% to 8%
Fixed Charges as a Share of Total Revenue		
Property taxes	Actual Bill	Actual Bill
Insurance	Actual Bill	Actual Bill
FF&E reserves	4% to 5%	4% to 5%
NCF as a Share of Total Revenue	20% to 25%	25% to 35%

Source: Moody's Investors Service

Moody's Value

Using direct capitalization, we typically apply the same factors we outlined when selecting an appropriate cap rate to derive a Moody's value for hotel properties. Sometimes, when a hotel is being repositioned through an extensive renovation during which a significant share of total rooms will be offline for an extended period, we may use a discounted cash flow analysis to value a property. Using this type of analysis, our valuation can capture both the significant initial costs of repositioning the hotel and the resulting benefits reflected in RevPAR and operating margins over the loan term.

We often apply floor or capped values in our hotel valuations which neutralizes the impact on value of temporary or cyclical swings in NCF that meaningfully depart from our view of sustainable NCF.

Appendix 3: Casinos

In CMBS transactions, we generally consider casinos as a component of a hotel property.

Given the level of regulatory oversight for gaming operations relative to traditional core real estate assets, we must consider the number and quality of potential replacement operators for any given loan with a casino component. We also consider competition, both current and future, in any local market analysis, as well as broader industry trends when estimating long-term sustainable NCF.

Moody's NCF

For hotels with a casino component, we view casino income as ancillary income that helps to attract or retain room night demand.

As a highly regulated sector, regulatory changes in the state where a property is located, as well as adjacent states, can have a significant impact on cash flow. Generally, new casino openings do not create significant new demand, but shift or channel existing demand. Furthermore, gaming licenses are operator- and asset-specific. Loan foreclosure requires additional steps that can disrupt operating performance.

We typically estimate hotel casino expense based on historical performance, industry ratios and an analysis of comparable properties. We reflect the expense as part of other departmental expenses.

Replacement reserve requirements are typically significant for casinos, given that customer traffic is driven by the latest gaming equipment.

Moody's Value

Our selection of a cap rate for hotel casinos may reflect a component-based analysis if net casino income is a significant portion of the property's overall NOI or if the variability in casino performance differs materially from that of the hotel component. We also determine whether to apply the same cap rate based on the composition of the casino revenue. For example, casinos with a higher percentage of slot machines tend to produce more stable revenue streams than casinos with a higher percentage of table games. The stability and predictability of NCF over time and forecast changes in the competitive landscape are key factors. When volatility in the property's historical NCF is higher because of casino income and expenses, we generally isolate casino income and expenses and use a higher cap rate than we normally use for a traditional lodging property.

Appendix 4: Healthcare Facilities

Healthcare facilities are one of the riskiest asset types in CMBS transactions because they are subject to changes in government policy and regulations. Small changes in the government's Medicare and Medicaid pay rates can significantly affect a healthcare facility's NCF given the industry's high operating expense ratio. In our analysis of these facilities, we typically consider both traditional real estate issues and the current and forecast regulatory environment.

We may review income and expense items in the context of property-specific characteristics such as occupancy, payor mix, acuity mix and location. We may also consider cap rates, DSCRs and loan and value per bed indices in light of the unique attributes of healthcare facilities.

Healthcare Spectrum

There are three main types of organized living arrangements available for older adults, with the primary difference between them being the level of medical care required by the residents. These differences affect credit quality.

INDEPENDENT LIVING FACILITIES (ILFs)

ILFs are adult communities with active residents, little or no medical provisions, and divided into two major sub-categories: age-restricted housing[1] and congregate care facilities.

Age-restricted housing is housing for individuals over a set age (usually 55) in multifamily complexes similar to regular apartment buildings, often with additional safety features such as emergency call systems in the bedrooms and bathrooms and 24-hour staffing.

Congregate care facilities are rental units with a central dining room, shared living spaces and that typically provide additional services such as transportation and personal care. Loans on congregate care facilities with small or non-existent kitchens are subject to more risk due to the difficulty to covert to general multifamily use.

ASSISTED-LIVING FACILITIES (ALFs)

ALFs are licensed-care facilities for the frail who need assistance with activities of daily living. These are service-enriched multifamily residential properties, typically with studios or one-bedroom apartments. Residents receive personal care and the facilities provide 24-hour protective oversight but not 24-hour medical care. Other services may include meals, medication management, emergency response, transportation and social programming.

Some ALFs have Alzheimer's or dementia care wings which may include secure areas and additional supervision.

SKILLED NURSING FACILITIES (SNFs)

SNFs are the most healthcare-intensive of the major categories. They are institutions that have transfer arrangements with one or more hospitals and provide in-patient skilled nursing care and rehabilitation services. These facilities are licensed, long-term healthcare and residential properties that serve persons who require constant medical supervision or who require significant physical assistance to manage continence and use specific devices.

[1] A subset would include age-suggested (sometimes referred to as aging-in-place) housing or naturally occurring retirement centers (NORCs). Typically, these are apartment buildings in which the majority of long-time residents are older adults.

OTHER CATEGORIES

Other categories include continuing care retirement communities (CCRC) and long-term acute care hospitals (LTACHs). A CCRC typically has a mixture of independent living, assisted living and nursing care services. LTACHs are hospitals with an average Medicare in-patient stay exceeding 25 days. The primary difference between a nursing facility and an LTACH is the level of care and services each facility can and is licensed to provide. LTACHs are licensed as hospitals and, like nursing facilities, are eligible to become certified to participate in the Medicare program. Medicare is the largest payor for LTACHs.

Other Factors to Consider

Unlike ILFs, both ALFs and SNFs entail special-purpose construction with severely restricted alternative uses. Alternative uses are possible, but the costs of retrofitting the physical plant tend to be cost-prohibitive. As such, analysis of the operator is paramount.

Lenders typically foreclose on SNFs only as a last resort because there may be little value in the physical plant absent the operating license. Failures are often management-related; hence, replacement of the operator can often result in a turnaround. SNF operators typically are licensed by the state. As such, an assignment of the operating license is typically granted to the lender at loan origination. In states where the operator is directly licensed, assignment of the license may be of limited value. In states where the building is licensed, assignment of the license is of more value. Even with the assignment, lenders need licensed professionals to manage operations. States are typically motivated to work with lenders to keep residents safe and limit disruption. Most states appoint a receiver or its equivalent if the borrower is not meeting debt service. Some states will also increase the provisional Medicaid rate if that is an impediment to meeting debt service.

The regulatory environment for ALFs is not as restrictive as it is for SNFs, and an alternative operator can typically be found with relative ease in the event of foreclosure.

Moody's NCF

Master Leases and Subleases

Many healthcare transactions are structured with a master lease between the facilities and the operating company. Typically, borrowers lease a portfolio of facilities to an operating company (OPCO) specializing in senior care under a NNN master lease, with the OPCO responsible for all operating, insurance, real estate taxes and capital expenses. The master lease is subordinate to the mortgage loan, but may benefit from a Nondisturbance agreement, particularly if the OPCO is not related to the property owner.

Frequently, the lease amount will be less than the cash flow generated by the facilities but still sufficient to pay debt service and provide a reasonable equity return. Our analysis of these facilities is typically based on the cash flow and value of the underlying facilities, assuming that all mechanisms are in place to capture the facilities and revenues in the event of foreclosure.

If operating cash flow declines to less than the rent obligation, the timing for evicting the OPCO, accessing the pool's operating cash flow, and replacing the operator is a concern. To address this potential concern, a debt service reserve fund is generally sized to an amount commensurate with the time requirements of that particular location. In addition, typical lease structures mandate that, at the time of termination or default, the tenant return to the landlord the operating rights (licenses, Certificate of Need, Medicaid and Medicare certifications) intact. Patients and functional staff remain with the facility.

Revenues

We typically evaluate expenses based on historical performance, market and industry data and comparable properties. Important factors include the facility occupancy and turnover rates, location, census and acuity

mix, per-diem rates, changes to competitive supply and revenues from ancillary services such as therapy, transportation, beauty, and food and beverage.

Operating Expenses

Our review of expenses, among other things, takes into account three key issues: case mix, property size and location. Patient care case mix addresses the level of acuity for the facility's population, which affects line item expenses such as nursing and ancillary services. We may recognize economies of scale for many operating expense items based on the size of a property. Location can also influence wage rates, insurance expenses, real estate taxes and utility costs.

Moody's Value

We may use direct capitalization to derive Moody's value for healthcare facilities, for which cap rates are significantly higher than those we use to value core property types, to reflect higher regulatory and operational risk.

Appendix 5: Parking Facilities

Commercial parking facilities in CMBS transactions are primarily in three basic formats: (1) surface parking lots, (2) multi-storied ramps/garages and (3) garages with elevators with their use likely tied to an operation (i.e., urban rental car facility) or an adjacent demand generator (i.e., remote airport parking lot).

When the option value of a parking facility exceeds its current interim use value, the risk level associated with the loan may be lower than the current DSCR would indicate. However, any redevelopment of a parking facility, including any associated remaining air rights, will depend on market feasibility and financing.

Parking Facility Cash Flow Risk

Location and demand generators significantly influence the cash flow generated by a parking facility. Volatility levels for a facility in a residential building in a densely populated urban area, with annual lease contracts from the residents is similar to those of the apartment complex. Similarly, volatility for a parking facility tied to a hotel is likely commensurate with the hotel's. Income from monthly tenants tends to be more stable than income derived from transient traffic.

Access and proximity to demand generators are important location attributes of parking facilities. How traffic patterns feed into the area, the surrounding street patterns and the type of frontage for the facility are key factors in determining accessibility. Double frontage (mid-block locations with frontage on two parallel streets) enhances a parking facility's operation of and affects its value by doubling exposure and allowing better entry and exit efficiency. Proximity to demand generators is also important.

Moody's NCF

Revenues

Revenue sources may include hourly, daily, weekly, monthly and annual contracts from multiple users or a single tenant. As a result, tenant creditworthiness is an important factor when assessing the likely stability of cash flow from rental income. Many parking properties have hundreds of users and are thus theoretically protected against the bad credit of any individual occupant. However, high concentrations of user employment in a single industry could deprive parking properties of this inherent diversity.

Experienced property management, strong sponsorship and branding, and substantial borrower equity positions are all positive factors for the stability of cash flow generated by the parking facility. The owner's equity position in the property also provides an incentive for better management and ongoing capital investment.

Market Rent

Parking facility loans can be securitized backed by either leased fee or fee simple interests in the collateral. Leased fee properties are master leased to an operator who, in turn, subleases it to one or more users. To evaluate the stability of future cash flows, we typically check master lease rents against the relationship of rental income to business income (or parking sales). If the ratio of rental income to business income is below 1.50:1.00, we may adjust the master lease rent downward when estimating sustainable NCF. We may also consider comparable master leases. For loans backed by fee simple interests, we may also consider past performance and expected future performance as reflected in the property's operating budget, relative to the market.

We typically review market trends to evaluate all contract rents for sustainability. For most properties, monthly leases generally account for the majority of revenues, with the balance generated by transient business. Transient and short-term contract rents are almost always reflective of market rents, given how frequently they are adjusted.

We may make mark-to-market adjustments to derive sustainable NCF. Master lease rents may deviate from market, particularly for longer-term contracts. Rental and parking rates can also vary materially depending on location, access, visibility, convenience to demand generators, physical condition, configuration and size.

One difficulty in determining parking facility cash flows is ascertaining whether the cash flow reported is the cash flow actually collected. This is particularly important for facilities with a high percentage of transient income. We generally review an agreed-upon procedures letter, audited financial statements from a nationally recognized accounting firm, or completed IRS forms to substantiate revenue.

Though many parking facilities operate at overcapacity, in which case the number of cars parked exceeds the legal amount of space for which a facility is licensed, we only consider revenues derived from the number of legal and licensed spaces. Nevertheless, a parking facility can sell 110% to 120% of its capacity in anticipation of spaces vacated before the end of their allotted time. In this case, a facility will not have exceeded its legal limit at any given time.

Other Income

"Breakage" occurs when customers use less than their allotted time in a parking space. Breakage is a gain to the parking facility operator and is a significant factor in facilities with high short-term parking stays. Overlapping parking fees yield additional income.

Vacancy and Collection Loss

We generally apply a vacancy rate to a facility based on its peer group, submarket and market characteristics, along with its operating history and current and forecast performance. If the facility is 100% leased to a parking operator, we may apply a vacancy and credit loss estimate considering "frictional vacancy" (down time) between leases and the ratio of operating income to lease amount. Parking facilities' vacancy rates vary greatly depending on the market, location, and quality and type of users.

Expenses

For facilities leased on a gross or modified gross basis, we typically evaluate underwritten expense levels by reviewing them against the historical performance of the facility, comparable facilities, and industry norms. When parking properties are leased to an operator on a NNN basis, the tenant pays all operating expenses.

Overall operating expenses are typically 20% to 30% of effective gross income. Typical expenses include licensing fees, real estate taxes, insurance, payroll and related, utilities, trash removal, repairs and maintenance, management, advertising and promotion, general and administrative, and other.

Replacement Reserves

We generally use the higher of a standard reserve allowance for parking properties (scaled for facility age) and the replacement reserve estimate in the engineering report. We may adjust for properties with significant recent renovations. Our minimum reserve allowance for facilities with different effective ages can be found in Exhibit 4 under "Capital Costs" in the "Moody's NCF" section.

If the engineering study indicates deferred maintenance for which no reserve has been collected, the deferred maintenance amount reduces the Moody's value. Reserves for replacement are not included in an analysis of NNN leased properties because all repairs, including structural, are typically the responsibility of the tenant.

Moody's Value

For most parking facilities, we use direct capitalization to value the asset. When the option value of a parking facility exceeds its current interim-use value based on direct capitalization, we may value the facility

based on its highest and best use, deducting costs to realize the higher value. Given the additional risk associated with redevelopment, we typically use higher cap rates reflective of the additional risk in deriving Moody's value.

When parking is a significant component of the total value of a larger property/complex, and cash flow stability is independent of the other uses, we may value the components individually.

Appendix 6: Property Quality Grade/Cap Rate Matrix

EXHIBIT 9

Moody's Cap Rates

Property Quality Grade	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
Multifamily	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.50	12.50
Manufactured Housing	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.50	12.50
Industrial	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	12.00	13.00
Self-Storage	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	12.00	13.00
Regional Mall	6.75	7.25	7.75	8.25	8.75	9.25	9.75	10.25	10.75	11.75	12.75
Anchored	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	12.00	13.00
Unanchored	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	13.00	14.00
Office	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.50	13.50
Mixed Use	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.50	13.50
Assisted Living	8.50	9.00	9.50	10.0	10.50	11.00	11.50	12.00	12.50	13.50	14.50
Skilled Nursing	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00	14.50	15.50	16.50
Limited-Service Hotel	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	14.00	15.00
Full-Service Hotel	8.50	9.00	9.50	10.0	10.50	11.00	11.50	12.00	12.50	13.50	14.50

Source: Moody's Investors Service

Moody's Related Publications

Cross-sector credit rating methodologies are typically applied in tandem with sector credit rating methodologies, but in certain circumstances may be the basis for assigning credit ratings. A list of sector and cross-sector credit rating methodologies can be found here.

For data summarizing the historical robustness and predictive power of credit ratings, please click here.

For further information, please refer to *Rating Symbols and Definitions*, which includes a discussion of Moody's Idealized Probabilities of Default and Expected Losses, and is available here.

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