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CHAPTER 13

Property Valuation

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¶ 13.01 INTRODUCTION

Hotel owners, lenders, and operators frequently require appraisals to establish the value of properties in which they have an interest. In performing a market study and appraisal, a valuation is essential in order to determine whether the subject property is economically feasible. Simply put, a project is considered feasible when its economic value is greater than the cost that was incurred in its development; if the project's value upon completion is less than the cost of its development, then it is considered not feasible. Appraisals are also used to establish prices for sales and transfer, to determine the security for mortgage debt, and to verify assessed value for property taxes.

Professional appraisers use a combination of three approaches in appraising real estate for market value: (1) the cost approach, (2) the sales comparison approach, and (3) the income capitalization approach. Usually, all three are employed in an appraisal, and the appraiser takes into account the inherent strengths of each as well as the nature of the subject property when making the final estimate of market value.

The cost approach is based on a determination of the cost of replacing a property, with adjustments for various forms of depreciation and obsolescence. The sales comparison approach compares the known sales prices of hotels that are similar to the subject hotel. The income capitalization approach capitalizes the anticipated earnings of the property in order to estimate its total value.

In theory, all three approaches result in the same value estimate. In practice, however, the value indicated by the income capitalization approach most closely reflects the type of analysis generally performed by typical buyers and sellers. The results from the cost and sales comparison approaches are generally used to support and verify the results of the income approach.

¶ 13.02 **COST APPROACH**

The cost approach yields an estimate of market value by totaling the current cost of replacing a property. This is accomplished by determining the value of the land when vacant and available and combining it with the estimated cost to construct the improvements. For an existing hotel, depreciation, in the form of physical deterioration or functional or economic obsolescence, must be quantified and deducted from the replacement cost to estimate market value. For proposed hotels, the cost approach is compared with the market value conclusion by means of the income approach to determine project feasibility.

The cost approach may provide a reliable estimate of value for newly constructed properties not suffering from external obsolescence; as buildings and other forms of improvements age and depreciate, however, the resultant loss in value becomes increasingly difficult to quantify.

Knowledgeable buyers of lodging facilities generally base their purchase decisions on such economic factors as forecasted net income and return on investment. Since the cost approach does not reflect any of these income-related considerations but rather requires a number of subjective and unsubstantiated depreciation estimates, it is not commonly used as the primary process in a hotel valuation.

[1] Replacement Cost

Replacement cost is simply the cost of developing a property similar to the subject property. The replacement cost of several elements must be combined to determine the total replacement cost for the subject property. These elements are: land value; building construction cost; furniture, fixtures, and equipment (FF&E) cost; soft costs; opening costs; and developer's costs.

The replacement cost for property improvements, which includes buildings, parking facilities, landscaping, and signage can be estimated with information provided by one of several construction cost services, such as Marshall Stevens, Boecke, or Dow. Other sources of replacement data include local building contractors and developers, architects, engineers, and professional cost estimators. Cost may be estimated by an amount per square foot of improvements (calculator method), as an amount per room, or as an amount per each building component (segregated method).

A developer will typically provide the appraiser with the budgeted development cost of a proposed hotel. As of the writing of this book, the construction of new limited-service and extended-stay hotels has resumed. The development of full-service hotels is not yet feasible in most markets throughout the United States. The valuation of a proposed extended-stay hotel is used as a case study throughout this chapter.

The main element of the replacement cost for property improvements is physical replacement construction cost. Exhibit 13-1 sets forth the estimated construction cost of a proposed extended-stay product, as provided by the developer.

Exhibit 13-1 Estimated Construction Cost of Proposed Extended-Stay Product

Development Budget	
Cost Category	Amount
Land	\$1,235,000
Building	
Construction Contract	6,800,000
Architectural and Engineering	180,000
Real Estate Taxes	30,000
Insurance	38,000
Permits	<u>620,000</u>
Contingency	340,000
Furniture, Fixtures, and Equipment (FF&E)	1,755,000
Soft Costs	
Legal and Clearing Costs	110,000
Feasibility and Appraisal	40,000
Financing Fees	50,000
Construction Interest	352,000
Pre-opening and Startup Costs	225,000
Working Capital	100,000
Operating Reserve	325,000
Development Fees	<u>600,000</u>
	1,802,000
	\$12,800,000

A cost analysis performed by the appraiser through the use of Marshall Stevens indicates a basic improvement cost of \$68.20 per square feet for the 99,483 square feet of the proposed improvements, yielding an estimated basic structure cost of \$6,784,740, supporting the basic building cost estimate provided by the developer.

The replacement cost of the FF&E can be estimated through the use of a cost service or design company or by surveying hotel companies for their typical FF&E expenditure. The Uniform Franchise Offering Circulars (UFOCs) of hotel franchise companies also provide a good source for a range of FF&E costs of different lodging products. For a proposed project the replacement cost for FF&E can be determined by multiplying the amount of money budgeted per room for the proposed project by the final number of rooms in the facility. The FF&E cost for this proposed extended-stay hotel is \$12,500 per room or a total of \$1,755,000 for the 130 units of the project.

Soft costs include legal and closing expenses, fees for financing and other professionals, as well as construction interest. Pre-opening costs consist of the funds necessary to hire and train personnel prior to the hotel's opening, pre-market the property, and equip the hotel with inventories. Estimates of working capital and funds

for an operating reserve to cover any operational or debt service shortfalls during the initial years of operation can be based on the profile and total cost of the development.

If the project is to be franchised, the initial franchise fee must be included in the cost estimates. In addition, the developer's cost—the fee that must be paid to a developer for providing project administration—must be considered.

A developer's profit of 10 percent to 20 percent of total project cost inclusive or exclusive of land value has historically been included in the cost approach estimate developed by appraisers. In practice, many developers made little or no profit during the last construction cycle. There are differing theories regarding developer's profit, but it is generally accepted that developers require profit in order to do their job. The reality is that development opportunities are often scarce, and a reasonable developer's fee is considered adequate to compensate a developer. Often the development arm of a hotel management or ownership company is motivated by the profits it will garner through its on-going involvement with the property. The earning of management fees or the upside of return on owner's equity can be considered a developer's profit for the entity undertaking the project.

[2] Land Value

The traditional method of estimating land value, through the review and analysis of comparable land sales, is generally the most accurate method of estimating land value for a particular site, but it is applicable only if enough relevant and recent data is available. Sales of land slated for hotel development are best analyzed in terms of price per room of the project proposed for the site. Comparably located and zoned sites can also be adjusted to the subject site to determine land value.

Because of the real estate depression of the early 1990s, few transactions of land purchased for hotel development occurred between 1990 through 1995. Land sales from the mid- to late-1980s are likely irrelevant in estimating land value today because of the dramatic change in market conditions since that time. The fact that land is worth something to someone only when it can be put to use explains why land values generally decline by a greater proportion than values of improved properties during a real estate downturn. Many markets in the United States are now experiencing the development of limited-service and extended-stay hotels, so land transactions for these projects are providing an indication of market value. However, because full-service hotel development is not yet feasible in many markets, land transactions are scarce for such projects. In the absence of land sales, two alternative approaches are useful in evaluating what a hotel site is worth.

[a] Ground Lease Approach

When the existing or proposed hotel improvements represent the highest and best use of the property, the ground lease approach is an accurate method for estimating land value because it is readily supported by numerous self-adjusting comparables (e.g., hotels that are constructed on expensive land tend to generate higher rooms revenue), as well as the overall economics of the individual project.

During the past twenty-five years, hotels have been routinely constructed on leased land. Lease terms differ somewhat from hotel to hotel, but the basis for the rental calculation is usually tied to a percentage of the revenue generated by the hotel. By using the forecasted stabilized revenues for the subject property and applying a typical hotel ground lease rental formula, the appraiser determines the hotel's economic rental, or what can be termed the income attributed to the land. The land value

is then estimated by dividing the economic rental by an appropriate capitalization rate.

One advantage of this method is that rental formulas are tied directly to a percentage of revenue that inherently reflects both the locational attributes of the site (occupancy and rate) and the allowable density of development, so the resulting economic ground rental justly represents the greatest net return to land over a given period of time. This self-adjusting aspect is one of the main reasons for the reliability of the ground lease approach.

Recalculating a data base of lease formulas as a percentage of only rooms revenue results in a range of 3 percent to 4 percent for areas in the United States outside of California and Hawaii, and 4 percent to 7 percent within desirable areas of these two states. Some local submarkets will fall outside of these norms because of specific market conditions. Applying the ground rental percentage to an estimate of rooms revenue results in the net income attributable to the land. Applying an overall capitalization rate of 7 percent to 11 percent, depending on the market and location, results in a land value estimate.

Assume, for example, that the proposed hotel, were it open and stabilized today, could be expected to achieve a \$92 average rate. Exhibit 13-2 sets forth a land estimate using the ground lease approach, a 1996 average rate of \$92, a 3.5 percent ground rental percentage and a 9 percent capitalization rate.

Exhibit 13-2 Ground Lease Approach

Stabilized Average Rate (\$ '96)	\$92
Days in the Year	365
Stabilized Occupancy	80%
Projected Rooms Revenue Per Room	\$26,864
Ground Rent %	3.5%
Projected Income Attributable to Land	\$940
Capitalization Rate	9%
Estimated Land Value Per Room	\$10,447

[b] Land Residual Approach

An alternative method of estimating a hotel site's value is the land residual approach. This method, if used with accurate variables, is the most appropriate for determining what the developer can afford to pay for the land for a specific project. A market feasibility study is performed to estimate what the economic value of the hotel will be once it is open and operational. The development costs of the hotel, including all soft costs (e.g., interest and pre-opening expenses, as well as a developer's fee) are estimated. A developer's profit may or may not be generated, depending on the project's profile and market conditions.

The amount by which the economic value of the hotel, based on projected future cash flow, exceeds the hotel's estimated development cost is what determines the net residual value to the land. In our example, the developer's consultants have estimated that the hotel will be worth \$105,000 per room once it is open and operational in 1998. The developer estimates that the total development cost of the hotel, exclusive of land costs and a developer's profit, will be \$89,000 per room. The residual value of the land and developer's profit is equal to the value of the total project upon completion of \$105,000 per room less the project's development cost of \$89,000 per

room, or \$16,000 per room. Assuming a developer's profit of 10 percent of the project cost exclusive of land value raises the total project cost to \$98,000, leaving a residual to the land of \$105,000 less \$98,000 or \$7,000 per room. Reducing the developer's profit to 5 percent raises the residual value of the land to \$11,500.

Applying these two approaches to our example results in an estimate of land value ranging from \$7,000 to \$11,500, or 7.1 percent to 11.7 percent of total project cost. For this case study, we will conclude at the value derived by means of the ground lease approach, \$10,500 per room or a total of \$1,235,000. Once the hotel has been developed, the value of the land component may rise to represent a greater proportion of total value. However, the challenging economics of hotel development will likely reduce land values to below the traditional range of 10 percent to 20 percent of total project cost for the near term. While the choice of variables used in such an analysis is subjective, a careful consideration of the attributes of the market, the proposed project, and the site can lead to a prudent analysis and conclusion. Developers attempting to build new hotels should be careful not to pay too much for the land component in this current economic environment of low inflation and slim developer profits.

¶ 13.03 **SALES COMPARISON APPROACH**

The sales comparison approach is used to estimate the value of a property by comparing it with similar properties recently sold in the open market. To obtain an accurate estimate of value, the sales price of a similar property must be adjusted to reflect any differences between it and the subject property.

During the early 1990s, hotel sales transactions were scarce. The lack of data made this approach difficult to apply in the valuation process. In 1994 the market was revitalized, and sales activity picked up considerably. Today, hotel investors and developers keep current on hotel sales transactions, looking for the dollar amount per room for which a hotel has transacted and the capitalization rate at which the hotel has sold. Historical fiscal year, trailing twelve-month or first forecasted year net income before depreciation and income taxes but after deducting management fee and a reserve for replacement, is divided by the sales price to derive the capitalization rate. While these indicators are of interest to participants in the hotel industry, they do not serve as a basis for their own valuation conclusions regarding a specific project because of inherent limitations in the sales comparison approach.

The sales comparison approach can provide a usable value estimate for simple forms of real estate, such as vacant land and single-family homes, where the properties are homogeneous and adjustments are few in number and relatively simple to compute. However, for larger and more complex investments such as shopping centers, office buildings, and hotels, where the adjustments are numerous and difficult to quantify, the sales comparison approach becomes considerably less reliable.

As with the cost approach, hotel investors typically do not use the sales comparison approach to reach final purchase decisions. Various factors, such as the lack of timely hostelry data, the number of insupportable adjustments, and the difficulty involved in determining the true financial terms and human motivations of comparable transactions, usually render the results of the sales comparison approach somewhat questionable. The sales comparison is best used as a means of providing a range of values that bracket and support the income capitalization approach. Any reliance on its results, however, beyond the establishment of broad generalizations, is not normally justified by the quality of data.

The market-derived capitalization rates used by some appraisers (which rely on data derived from the sales comparison approach) are susceptible to the same shortcom-

ings inherent in the sales comparison approach itself. To substantially reduce the reliability of the income capitalization approach by employing capitalization rates obtained from unsupported market data not only weakens the final estimate of value but also ignores the normal investment analysis procedures employed by typical hotel purchasers.

¶ 13.04 **INCOME CAPITALIZATION APPROACH**

Appraisers and participants in the hotel industry use the income capitalization approach to value property by analyzing the local market for transient accommodations, examining existing and proposed competition and developing a forecast of income and expense that reflects current and future anticipated income trends and area cost components up through a stabilized year of operation or for a specific holding period.

The forecast of income and expense is expressed in current dollars as of the date of each forecasted year. The stabilized year reflects the anticipated operating results of the property over its remaining economic life, including the normal stages of build-up, plateau, and decline. A stabilized year level of occupancy and average rate should inherently take into consideration normal economic fluctuations that cause cyclical increases and decreases in the net income of a hotel investment. Any abnormal transitory or nonrecurring conditions that result in unusual revenue or expenses for the property are excluded from consideration in the selection of a stabilized year of operation.

The forecast of income and expense is then converted into a value through an income capitalization process that reflects the rate of return required by market participants. One of the considerable benefits of real estate ownership is that the investment may be leveraged (i.e., the buyer may finance a major portion of the purchase price and therefore significantly increase the yield on the equity invested in the project. One year of forecasted net income may be capitalized into an estimate of market value if the hotel's upside potential and downside risks can be adequately reflected through a single-year forecast. The overall capitalization rate applied to the net income may be derived from the market (i.e., calculated by dividing the historical or forecasted net income of a hotel that has recently been sold by the sales price). Since such a method is rarely reliable because of the numerous conditions affecting net income and transaction prices, an alternative method—the band of investment method—is often used. The band of investment is a calculation of the weighted cost of capital. The debt component, typically representing 50 percent to 75 percent of an investment, and the equity component, representing the remainder of the purchase price, are weighted at their respective rates of return. The resultant capitalization rate is divided into the forecasted net income to derive an estimate of market value.

Hotels, because of their large business and personal property components, are typically in some form of transition. Buyers generally look to enhance the value of the hotel they are acquiring by physically improving or changing the management of the property. Hotel markets are also often in flux because of additions to supply and changes in the make-up of existing supply. For these reasons, a multi-year forecast of income and expense is generally preferred to reflect future fluctuations in occupancy, average rate, and net income. Ten-year forecasts have become the norm for real estate valuations, because they represent typical holding periods and are used to analyze and value other real estate investments that require complete lease rollovers to accurately reflect market rents. A multi-year forecast of net income may be converted into an estimate of market value through a discounted cash flow analysis whereby the net income forecasted for the ten-year holding period plus the net sales proceeds at the end of the holding period are discounted back to the date of value by an appropriate discount rate. One overall discount rate that considers the varying costs of cap-

ital used in the market may be derived through surveys of market participants or through an analysis of actual sales. This simple discounted cash flow model may be further refined through the use of a mortgage-equity technique that considers the different cost of capital required by the debt and equity components.

Because of the compounding inherent in rates of return required over multi-year holding periods, the simple weighted cost of capital utilized in the band of investment is mathematically inaccurate for the development of an overall discount rate that accurately reflects the debt and equity components of an investment.

To estimate the value of the subject property, we have used a ten-year discounted cash flow analysis in which the cash flow to equity and the equity reversion are discounted to the present value at the equity yield rate, and the income to the mortgagee is discounted at a mortgage interest rate. The sum of the equity and mortgage values is the total property value. To convert the forecasted income stream into an estimate of value, the anticipated net income (before debt service and depreciation) is allocated to the mortgage and equity components on the basis of market rates of return and loan-to-value ratios. The sum of the mortgage component and the equity component equals the value of the property. The process of estimating the value of the mortgage and equity components is as follows.

1. The terms of typical hotel financing are set forth, including interest rate, amortization term, and loan-to-value ratio.
2. An equity yield rate of return is established. Numerous hotel buyers base their equity investments on a ten-year equity yield rate projection that takes into account ownership benefits such as periodic cash flow distributions, residual sale or refinancing distributions that return any property appreciation and mortgage amortization, income tax benefits, and various nonfinancial considerations (e.g., status and prestige). The equity yield rate is also known as the internal rate of return on equity.
3. The value of the equity component is calculated by first deducting the annual debt service from the forecasted net income before debt service, leaving the net income to equity for each projection year. The net income as of the eleventh year is capitalized into a reversionary value. After deducting the mortgage balance at the end of the tenth year and the typical brokerage and legal costs, the equity residual is discounted back to the date of value at the equity yield rate. The net income to equity for each of the ten projection years is also discounted to the present value. The sum of these discounted values is the value of the equity component. Adding the equity component to the initial mortgage balance yields the overall property value.

Because the mortgage and the debt service amounts are unknown but the loan-to-value ratio was determined in step 1, the preceding calculation can be solved through an iterative process or by use of a linear algebraic equation that computes the total property value.

4. The value is proven by allocating the total property value between the mortgage and equity components and verifying that the rates of return set forth in steps 1 and 2 can be met from the forecasted net income.

[1] Mortgage Component

Data for the mortgage component is generally developed from statistics pertaining to actual hotel mortgages made by long-term permanent lenders. The American Council of Life Insurance, which represents twenty large life insurance companies, publishes

quarterly information pertaining to the hotel mortgages issued by its member companies. Exhibit 13-3 summarizes the average mortgage interest rate of the hotel loans made by these lenders. The AA utility bond yield as reported by Moody's Bond Record is shown for purpose of comparison.

Exhibit 13-3 Typical Hotel and Motel Mortgage Rates

Source: American Council of Life Insurance; Moody's Bond Record

Year	Average Interest Rate	Average AA Utility Bonds
1995	8.94	7.77
1994	9.50	8.22
1993	9.13	7.44
1992	9.73	8.55
1991	10.42	9.09
1990	10.53	9.65
1989	10.11	9.56
1988	10.27	10.31
1987	9.94	9.77
1986	9.83	9.30

(Data not shown for limited number of loans.)

The average interest rate of a hotel mortgage and the concurrent yield on an AA utility bond have a close mathematical relationship. Through regression analysis, this relationship is expressed as follows:

$$Y = 2.9040 + 0.77650X$$

where Y = Estimated hotel/motel mortgage interest rate

X = Current average AA utility bond yield (coefficient of correlation is 95.5%).

If, for example, the current yield on AA utility bonds, as reported by Moody's Bond Record, is 7.68 percent, the equation produces an estimated hotel/motel interest rate (Y) of 8.9 percent.

In addition to the mortgage interest rate estimate derived from this regression analysis, the terms of hotel mortgage loans made by institutional lending clients are constantly monitored. There has been a significant increase in the availability of debt financing since 1994, though one would not yet characterize capital as "free flowing" for hotel investments, particularly for new construction. Projects are able to secure mortgage financing at interest rates ranging from 8 percent to 11 percent, depending on the location, affiliation, and operator, and loan-to-value ratio. Underwriting is much stricter than it was during the 1980s, and lenders are looking for minimum debt coverage ratios of 1.4, and loan-to-value ratios rarely exceed 65 percent. Amortization schedules have also decreased from the thirty-year norm prevalent during the 1980s to anywhere from ten to twenty-five years, with twenty years being the most prevalent. Lenders are now more aware of the short life cycles and high risks associated with hotel investments and thus are requiring that debt be retired more rapidly than in the past.

For the proposed extended stay property, we have assumed that a 9.00 percent interest, twenty-year amortization mortgage with a 0.109769 constant, and a 65 percent loan-to-value ratio is appropriate.

[2] Equity Component

Additional capital required for a hotel investment is generally supplied by an equity investor. The rate of return that an equity investor expects over a ten-year holding period is known as equity yield. Unlike the equity dividend, which is a short-term rate of return, an equity yield specifically considers a long-term holding period (generally ten years), annual inflation-adjusted cash flows, property appreciation, mortgage amortization, and proceeds from a sale at the end of the holding period.

It is difficult to quantify the rate of return required by equity investors seeking to purchase hotel properties. To establish an appropriate equity yield rate, two important sources of data are past appraisals and investor interviews.

[a] Past Appraisals

Appraisers can derive equity yield rates from the market when they appraise hotels that sell on or about the time at which they are appraised. In the case of hotels that were actually sold after appraisal, it is possible to determine an appropriate equity yield rate by inserting the projection into a valuation model and adjusting the appraised value to reflect the actual sales price by modifying the return assumptions. Exhibit 13-4 shows a representative sample of hotels that were sold shortly after they were appraised, along with the imputed equity dividend and equity yield returns based on the valuation approach.

Exhibit 13-4 Summary of Derived Rates and Yields

Hotel	City and State	Date of Sale	Overall Rate (%)	Total Property Yield (%)	Equity Yield (%)
Warner Center Marriott	Woodland Hills, CA	12/95	9.1	11.7	14.8
Westin Bonaventure	Los Angeles, CA	12/95	1.9	17.8	24.2
Hilton at the Club	Pleasanton, CA	12/95	10.5	13.4	17.0
The Plaza	New York, NY	6/95	7.0	11.0	14.0
Residence Inn	Baton Rouge, LA	6/95	12.7	14.8	21.2
Residence Inn	Overland Park, KS	6/95	8.9	14.7	20.8
Residence Inn	Des Moines, IA	6/95	9.8	14.1	19.6
Residence Inn	Hunt Valley, MD	6/95	12.3	13.6	18.3
Residence Inn	Kansas City, MO	6/95	10.4	13.2	19.8
Residence Inn	Lincoln, NE	6/95	10.0	13.7	18.5
Fullerton Suites	Fullerton, CA	5/95	12.9	18.7	28.5
Savoy Hotel	San Francisco, CA	3/95	5.8	14.4	19.6
Marriott Fisherman's Wharf	San Francisco, CA	12/94	10.8	13.4	19.4
Sheraton Inn	Napa, CA	12/94	8.9	13.7	19.8

Exhibit 13-4 Summary of Derived Rates and Yields (cont.)

Hotel	City and State	Date of Sale	Overall Rate (%)	Total Property Yield (%)	Equity Yield (%)
Marriott Hotel	Portland, OR	12/94	12.9	17.4	30.0
Radisson Inn	Springfield, MO	12/94	8.2	10.1	11.3
Williamsburg Hilton	Williamsburg, VA	12/94	15.4	19.0	32.0
Marriott Tech Center	Denver, CO	12/94	13.7	16.4	27.1
Holiday Inn Sunspree	Singer Island, FL	12/94	8.6	10.6	
Sheraton Hotel	Hasbrouck Heights, NJ	11/94	18.3	21.1	30.7
Marriott East Side	New York, NY	10/94	8.5	9.7	11.1
Marriott Resort	Vail, CO	10/94	14.2	18.9	30.5
Radisson Mark Resort	Vail, CO	9/94	8.9	15.8	24.1
Marriott SFO	Burlingame, CA	8/94	10.2	13.2	19.0
Best Western Otay Valley Inn	Chula Vista, CA	7/94	13.2	21.1	31.8
Sheraton Hotel	Cypress Creek, FL	7/94	9.0	13.3	19.4
Hampton Inn	Islandia, NY	7/94	12.6	16.6	28.2
Hampton Inn	Willow Grove, PA	7/94	11.0	14.3	23.0
Hampton Inn	West Palm Beach, FL	7/94	10.8	10.8	14.3
Hampton Inn	Naples, FL	7/94	11.4	11.5	24.9
Hampton Inn	Albany, NY	7/94	9.3	11.5	24.9
Westin Kauai	Lihue Kauai, HI	6/94	(1.9)	8.1	7.2
Residence Inn	Binghamton, NY	6/94	10.8	13.9	21.9
Hotel Millenium	New York, NY	6/94	9.5	14.1	23.0
Radisson Inn	Orlando, FL	5/94	12.9	18.0	28.2
Newark-Fremont Hilton	Newark, CA	5/94	8.8	14.9	20.7
Best Western Fireside Inn	Cambria, CA	4/94	11.7	15.8	24.3
Checkers Hotel Kempinski	Los Angeles, CA	4/94	3.0	18.3	27.0
Phoenician Resort	Phoenix, AZ	4/94	6.6	9.3	8.9
Crescent Hotel	Phoenix, AZ	3/94	6.5	7.2	2.2
Holiday Inn	Edison, NJ	3/94	6.5	7.2	2.2
Ritz-Carlton	Phoenix, AZ	2/94	11.0	14.6	21.7
Sir Francis Drake	San Francisco, CA	12/93	7.7	16.9	25.6
Omni Chicago	Chicago, IL	9/93	8.5	14.3	20.4
Seven Peaks Excelsior Hotel	Provo, UT	8/93	8.7	15.3	20.7
Airport Marriott	Long Beach, CA	7/93	14.7	18.5	30.1
Doubletree Hotel	Salt Lake City, UT	7/93	10.4	16.5	26.5
Radisson Pan American	Miami, FL	5/93	8.3	12.0	17.1
Hyatt Hotel Airport	Atlanta, GA	4/93	8.0	10.7	11.7

[b] Investor Interviews

Institutional and individual hotel investors, as sources of equity funds, have definite return requirements that can be expressed as an equity yield rate based on a ten-year projection of net income before incentive management fees but after debt service. Based on surveys and investor interviews, Exhibit 13-5 is an illustration of the equity yield requirements of a cross-section of hotel investors.

Exhibit 13-5 Surveys and Investor Interviews

<u>Source of Equity</u>	<u>Equity Yield Requirements</u>
Private Placement	20%–24%
Institutional	18%–22%

Upward adjustments are indicated where expense and/or revenue projections substantially deviate from historical data, proposed properties, properties located in seasonal markets (which increase cash flow volatility), leasehold interests, properties located in very small markets, older hotels, properties that rely on only a few demand generators or cyclical demand generators, properties in areas that lack economic diversification, properties or markets that are particularly dependent on one demand segment, and properties located in areas characterized by a declining population and employment base. An upward adjustment is also indicated when a property has the potential to lose its franchise, when rooms revenue constitutes a small portion of total revenue, and when the penetration rate is high, to reflect its vulnerability.

Downward adjustment of the yield rate is indicated in primary market areas or hotels located in markets that have strong barriers to entry (making new supply unlikely beyond the stabilized year). Factors considered indicative of new competition include strong areawide occupancy and average rate levels and the availability of vacant land with favorable zoning and pricing.

Given an assumed 65 percent loan-to-value ratio, which is the risk inherent in achieving the projected income stream and anticipated market position of the subject property, it is likely that an equity investor would require an equity yield rate of 20 percent before payment of incentive management fees. This estimate is well supported by the equity yield requirements presented previously.

[3] Terminal Capitalization Rate

Inherent in the valuation process is the assumption of a sale at the end of the assumed ten-year holding period. The estimated reversionary sales price at that time is calculated by capitalizing the projected eleventh year's net income by an overall terminal capitalization rate. From this sales price, a percentage is deducted for the seller's brokerage and legal fees. The net proceeds to the equity interest (also known as the equity residual) are calculated by deducting the outstanding mortgage balance from the reversion.

In estimating the residual value of a property, the appraiser must select a terminal capitalization rate and an allocation for brokerage and legal fees. The terminal capitalization rate is an overall rate applied to one stabilized year; it thus incorporates the cost of debt and equity capital. The terminal capitalization rate can be derived through a mortgage equity band of investment technique, which calculates the weighted average cost of the capital used in a hotel investment. Exhibit 13-6 com-

bines the previously derived mortgage financing terms (a 65 percent loan-to-value ratio and a 0.109797 debt service constant) with a cash-on-cash equity dividend rate of 9 percent to calculate an overall capitalization rate.

Exhibit 13-6 Calculating an Overall Capitalization Rate

	Percent of Value		Rate of Return	=	Weighted Average
Mortgage	0.65	×	0.1070797	=	0.07018
Equity	0.35	×	0.09000	=	0.03150
Overall Capitalization Rate					0.10168

Because the overall rate will be used to capitalize net income ten years from the date of value, an upward adjustment is appropriate to reflect the uncertainty inherent in this extended time period. For the purpose of this valuation, an 11 percent terminal capitalization rate will be used.

As a point of reference, the terminal capitalization rate may be compared with the going-in rate implied by the value estimated for the subject property. The going-in rate reflects the capitalization rate that would be applicable if a hotel were operating at a stabilized level as of the date of value. This rate is calculated by dividing the stabilized net income, expressed in current dollars as of the date of value, by the value indicated by the income capitalization approach. Generally, the terminal capitalization rate is approximately 100 to 200 basis points above the going-in rate.

[4] Valuation of Mortgage and Equity Components

Up to this point in the analysis, a number of objective decisions and some subjective evaluations of market data have been made; the remainder of the valuation analysis is purely mathematical. An algebraic formula equation calculates the amount of debt and equity that the hotel will be able to support given the anticipated cash flow derived from the forecast of income and expense and the specific return requirements of the mortgage lender (interest) and the equity investor (equity yield). As an alternative to an algebraic formula, the value (based on the previously defined terms) may be calculated on an iterative basis, as described in the proof of value that follows.

The process of solving for the value of the mortgage and equity components begins by deducting the annual debt service from the projected income before debt service, leaving the net income to equity for each year. The net income as of the eleventh year is capitalized into a reversionary value using the terminal capitalization rate. The equity residual, which is the total reversionary value less the mortgage balance at that point in time and less any brokerage and legal costs associated with the sale, is discounted to the date of value at the equity yield rate. The net income to equity for each projection year is also discounted back to the date of value. The sum of these discounted values equals the value of the equity component.

The amount of the mortgage and the debt service are unknown; however, the terms and loan-to-value ratio of current financing applicable to the subject property have been derived. The annual debt service and resultant net income to equity cannot be calculated without knowing the property's total value, the very unknown that we are attempting to calculate. In essence, the property's value must be determined by forecasting the net income available for debt service, and by calculating, through an iterative or algebraic process, the mortgage amount that the net income is capable of

supporting at the assumed interest rate and a specified loan-to-value ratio. This process computes total property value on the basis of market-derived mortgage and equity return requirements.

A proof of value is established by allocating the total property value between the mortgage and equity components and verifying that the rates of return set forth can be met from the projected net income. Using a computerized mortgage/equity model to perform the necessary iterative calculations results in the following estimate of value.

The value is proven by calculating the yields to the mortgage and equity components during the projection period. If the mortgage achieves its 9 percent yield and the equity yield is 20 percent, then \$13,695,000 is the correct value by the income capitalization approach. Using the assumed financial structure set forth in the previous calculations, market value can be allocated between the debt and equity as follows:

Mortgage Component (65%)	\$8,902,000
+ Equity Component (35%)	<u>\$4,793,000</u>
Total	\$13,695,000

The annual debt service is calculated by multiplying the mortgage component by the mortgage constant:

$$\text{Mortgage Component } (\$8,902,000) \times \text{Mortgage Constant } (0.107967) = \$961,123$$

The cash flow to equity is calculated by deducting the debt service from the projected net income before debt service, as shown in Exhibit 13-7.

Exhibit 13-7 Cash Flow to Equity Calculation

Year	Net Income Available for Debt Service		Total Annual Debt Service	=	Net Income to Equity
1997	\$1,124,000	–	\$961,000	=	\$163,000
1998	1,418,000	–	961,000	=	457,000
1999	1,663,000	–	961,000	=	692,000
2000	1,709,000	–	961,000	=	748,000
2001	1,769,000	–	961,000	=	808,000
2002	1,833,000	–	961,000	=	872,000
2003	1,898,000	–	961,000	=	937,000
2004	1,962,000	–	961,000	=	1,001,000
2005	2,032,000	–	961,000	=	1,071,000
2006	2,103,000	–	961,000	=	1,142,000

The equity residual at the end of the tenth year is calculated as follows:

$$\text{Reversionary Value } (\$2,175,000/0.1100) = \$19,773,000 - (\text{Brokerage and Legal Fees } (593,000) + \text{Mortgage Balance } (6,323,000)) = \$12,857,000$$

Exhibits 13-8, 13-9, and 13-10 demonstrate that each of the components actually received their anticipated yields, providing that the \$30,493,000 value is correct given the assumptions used in this approach.

Exhibit 13-8 Total Property Value

Year	Net Income before Debt Service		Present Worth of \$1 Factor @ 14.1%	=	Discounted Cash Flow	
1997	\$1,124,000	x	0.876490	=	\$985,000	
1998	1,418,000	x	0.768234	=	1,089,000	
1999	1,653,000	x	0.673349	=	1,113,000	
2000	1,709,000	x	0.590184	=	1,009,000	
2001	1,769,000	x	0.517290	=	915,000	
2002	1,833,000	x	0.453399	=	831,000	
2003	1,898,000	x	0.397400	=	754,000	
2004	1,962,000	x	0.348317	=	683,000	
2005	2,032,000	x	0.305296	=	620,000	
2006	21,283,000*	x	0.267589	=	5,695,000	
Total Property Value					=	\$13,694,000

*10th year net income of \$2,103,000 plus net sales proceeds of \$19,180,000

Exhibit 13-9 Mortgage Component

Year	Total Annual Debt Service		Present Worth of \$1 Factor @ 8.9%	=	Discounted Cash Flow	
1997	\$961,000	x	0.918465	=	\$883,000	
1998	961,000	x	0.843578	=	811,000	
1999	961,000	x	0.774798	=	745,000	
2000	961,000	x	0.711625	=	684,000	
2001	961,000	x	0.653603	=	628,000	
2002	961,000	x	0.600311	=	577,000	
2003	961,000	x	0.551365	=	530,000	
2004	961,000	x	0.506410	=	487,000	
2005	961,000	x	0.465120	=	447,000	
2006	7,284,000*	x	0.427196	=	3,112,000	
Value of Mortgage Component					=	\$8,904,000

*10th year debt service of \$961,000 plus outstanding mortgage balance of \$6,323,000

Exhibit 13-10 Equity Component

Year	Net Income to Equity		Present Worth of \$1 Factor @ 20.0%		Discounted Cash Flow
1997	\$163,000	x	0.833322	=	\$136,000
1998	457,000	x	0.694426	=	317,000
1999	692,000	x	0.578681	=	400,000
2000	748,000	x	0.482227	=	361,000
2001	808,000	x	0.401851	=	325,000
2002	872,000	x	0.334871	=	292,000
2003	937,000	x	0.279056	=	261,000
2004	1,001,000	x	0.232543	=	233,000
2005	1,071,000	x	0.193784	=	208,000
2006	13,999,000*	x	0.161484	=	2,261,000
Value of Equity Component					\$4,794,000

*10th year net income to equity of \$1,142,000 plus sales proceeds of 12,857,000

¶ 13.05 BREAK-EVEN ANALYSIS

A break-even analysis identifies the point at which the level of sales for a lodging facility produces neither a profit nor a loss from operations. Basically, for hotels and motels the break-even point is the occupancy level at which all cash outlays necessary for the operation can be met. The break-even point can be established either before or after debt service, although most lenders require a calculation of the break-even point after debt service to determine the security of their loan.

The break-even occupancy level can be estimated by using a computerized analysis of the fixed and variable components of revenue and expense items. Programs have been written that are able to take an achievable occupancy percentage (and the corresponding operating ratios) established by an appraiser for a subject property and, through a series of steps, drop the occupancy level and automatically adjust the operating ratios to reflect the lower revenues that would be achieved. The calculations continue until the break-even point for occupancy, before and after debt service, is attained. The appraiser then compares the break-even figures with those for the projected stabilized year for the subject property in order to determine whether there is enough leeway to cover debt service during low points in the occupancy cycle.

¶ 13.06 FEASIBILITY

The key to determining the economic feasibility of a lodging facility is the value estimate derived from the income capitalization approach. A new hotel is feasible if the economic value of the hotel as determined by the income capitalization approach exceeds the total replacement cost for the facility by a wide enough margin so as to provide the developer and the investors in the project with a satisfactory profit.

The same type of feasibility analysis is carried out each time a hotel is bought or sold. Essentially, the buyer performs an analysis based on the income capitalization approach and establishes a maximum price that he or she is willing to pay. If the

selling price demanded by the seller is less than the value set by the buyer's analysis, the deal is made.

¶ 13.07 **PROPERTY TAX ASSESSMENTS FOR HOTELS AND MOTELS**

Among the significant expenses incurred by hotels are the property taxes paid to local municipalities. Because hotel owners may pay as much as 8 percent of their total revenue in real estate taxes, hotel owners and operators should constantly monitor their hotels' tax assessments to ensure that their property tax burden is kept to a minimum.

Property taxes are levied by municipalities to generate revenues to pay for essential government services. The purpose of real estate taxes is to allocate the municipal tax burden on the basis of real estate value. The higher the value of the real estate owned by a taxpayer, the larger the proportion of the tax burden the individual must assume. The concept underlying this tax is known as ad valorem, or in proportion to value. To establish the proper distribution of the tax burden, municipalities employ tax assessors to value all the taxable property within their jurisdiction. Theoretically, the assessed value of a property should bear a definite relationship to market value, so that properties of equal market value have similar assessments and properties of higher or lower value have proportionally larger or smaller assessments.

[1] **Estimation of Market Value**

The goal of the entire property tax assessment process is the accurate estimation of market value. This goal is fairly easy to achieve for real estate such as vacant land and single-family homes. However, the issues involved in developing a supportable estimate of value for more complex properties become highly complex. Leading the list of property types that are difficult to value for assessment purposes are hotels and motels. Assessors must understand that lodging facilities comprise more than the traditional property components of land, bricks, and mortar; they are retail-oriented, labor-intensive businesses necessitating a high level of managerial expertise. In addition, hotels require a significant investment in personal property (furniture, fixtures, and equipment) that has a relatively short useful life and is subject to rapid depreciation and obsolescence. Characteristics specific to lodging facilities must be taken into consideration during the hotel assessment process in order for an accurate value assessment to be determined.

[2] **Improvement Value Evaluation**

Hotel owners should monitor their property assessments on an ongoing basis to ensure that a favorable assessment relationship with other hotels in the taxing jurisdiction is maintained. This can be accomplished by evaluating the assessed values of all comparable hotels within the local market area. Assessors generally provide separate values for land and improvements. Since it is usually difficult to successfully appeal the land portion of the assessment, only the improvement value portion of the property assessment must be evaluated.

The first step in the evaluation process is equalizing the improvement assessment by using a common unit of comparison, which for a hotel is the assessed value per available room (i.e., the improvement assessment divided by the room count). The assessed values (per room) of all the comparable hotels are then compared with the

owner's to determine whether the properties have been fairly assessed relative to each other. Adjustments related to differences such as quality of facilities, number and types of amenities, product class, and markets served should be considered. At this point in the analysis, owners should be looking for glaring discrepancies between the assessed value of their property and that of other hotels in the market area.

Comparing the assessed values of hotels within a taxing jurisdiction by means of this technique only pinpoints inequities between hotel assessments; it does not verify that the assessed value placed on a property is fair relative to its market value or the value of other types of real estate.

To evaluate the relationship between a property's market value and its assessed value, hotel owners should use the income capitalization approach, as previously set forth in this section, to aid in determining a fair assessment of the value of their lodging facility.



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