# The Broker vs. The Appraiser: How To Value A Hotel 

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# THE BROKER VS. THE APPRAISER: HOW TO VALUE A HOTEL 

## The rivalry between brokers and appraisers is put to the test.

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Estimating the value of a hotel is one of the most Cdifficult appraisal assignments. Transient lodging facilities represent not only real estate investments but going businesses as well. To qualify as an expert hotel valuer, the individual must possess both real estate knowledge and hotel operational expertise. This rare combination of talents is usually evidenced in brokers who have specialized in handling hotel transactions and appraisers who have formal hotel and appraisal training.

The ultimate objective of any hotel appraisal assignment is to estimate the price at which the seller will be willing to sell and the buyer would be willing to buy, neither of whom are under any pressure to act and both of whom have full knowledge of the property and marketplace. While appraisal literature sets forth a standard methodology for deriving this sales price and hotel brokers often use their own valuation procedures, it makes little difference how this price is actually determined. What matters is whether the valuation

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process results in predicting the price a hotel ultimately sells for.

Over the years there has always been a quiet rivalry between appraisers and brokers as to who is best able to estimate market value. Appraisers tend to have a higher level of training in the various theories of valuation while brokers usually possess a greater grasp of the actual marketplace.

To settle this rivalry and to contrast the appraiser's and the broker's valuation approaches, the authors of this article decided to independently appraise a hotel that recently sold. Although the appraiser and broker knew in advance the sales price of the hotel, they agreed to use their standard valuation procedures irrespective of the outcome. Both authors were familiar with the parties to the transaction and concluded that the price paid for the property reflected its market value.

## Property Description

Because of confidentiality considerations, the following descriptive and financial information pertaining to the subject property has been modified. making the value conclusions hypothetical but realistic. The subject property is a 300 -room, first-class, commercial-grouporiented, airport hotel situated in a growing mid-size

| EXHIBIT 1 | OCCUPANCY AND AVERAGE RATES |  |
| :---: | :---: | :---: |
| Year | Occupancy | Average Rate |
| 1995 | $70 \%$ | $\$ 66.00$ |
| 1994 | $68 \%$ | $\$ 64.00$ |
| 1993 | $74 \%$ | $\$ 68.50$ |

city in the U.S. The property features a 150 -seat allpurpose restaurant, a 100 -seat sports lounge, approximately 9,000 square feet of meeting space, an indoor/outdoor pool, a health club, and a gift shop. Additional facilities include an in-house laundry, a fourpipe heating and air-conditioning system, and 500 parking spaces. The hotel is fully sprinklered and complies with all ADA requirements.

Situated on an eight-acre parcel, the property opened in 1981 and was operated by a major first-tier hotel management company under a contract that could be canceled in event of a sale with payment of a $\$ 250,000$ termination fee.

The subject property's facilities are in fair to good condition. The restaurant and lounge underwent a concept change two years ago, the root" was recently replaced, and the ballroom was fully renovated in 1995. The guestrooms, however, still have original case goods, which are tired and should be replaced. The soft goods are also quite old (eight years) and are worn and outdated. The property also needs a new phone system with voice mail. several pieces of laundry equipment, and an energy management system. The total cost of upgrading the property to a level at which it will compete more effectively with the other first-class properties in the market is estimated to be $\$ 3.000,000$.

## Economic and Competitive Environment

The area surrounding the subject is highly developed with retail outlets, a major mall, a coliseum/convention center, office/warehouse space. and numerous lodging facilities and restaurants. In addition, several nearby tourist attractions make this city a popular vacation destination. The property is fully visible and readily accessible from a major interstate highway.

The local economy is focused on industry and on tourism, which has experienced continuous growth during the past decade. Several new

EXHIBIT 2 OPERATING DATA FOR COMPETITIVE FACILITIES

| Hotel | Room | Occupancy | Averag <br> Rate | RevPar |  |
| :--- | :---: | :--- | :--- | :--- | :--- |
| Subject | 300 | 1995 | $77 \%$ | $\$ 72.00$ | $\$ 55.44$ |
| Property |  | 1994 | $80 \%$ | $\$ 69.00$ | $\$ 55.20$ |
| Embassy | 170 | 1995 | $83 \%$ | $\$ 97.00$ | $\$ 80,51$ |
| Suites |  | 1994 | $80 \%$ | $\$ 90.00$ | $\$ 72.00$ |
| Sheraton | 160 | 1995 | $76 \%$ | $\$ 88.00$ | $S 66.88$ |
|  |  | 1994 | $74 \%$ | $\$ 85.00$ | $\$ 62.90$ |
| Homewood 100 | 1995 | $84 \%$ | $\$ 85.00$ | $S 71.40$ |  |
| Suites |  | 1994 | $88 \%$ | $\$ 80.00$ | $\$ 70.40$ |
| Hyatt Hotel | 475 | 1995 | $84 \%$ | $\$ 125.00$ | $\$ 105.00$ |
|  |  | 1994 | $83 \%$ | $\$ 120.00$ | $\$ 99.60$ |
| Independe | 200 | 1995 | $77 \%$ | $\$ 115.00$ | $\$ 88.55$ |
|  |  | 1994 | $74 \%$ | $\$ 100.00$ | $\$ 74.00$ |
| Radisson | 320 | 1995 | $63 \%$ | $\$ 68.00$ | $\$ 42.84$ |
|  |  | 1994 | $61 \%$ | $\$ 64.00$ | $\$ 39.04$ |

companies are moving into the area, and an additional shopping mall is being planned. Airport enplanements have risen at an annual rate of $8 \%$ since 1990.

Until 1994 the largest employer in the area was a government military installation. With the recent cutbacks in military spending, this base was closed and most of the personnel were laid off. While this has led to a downturn in the short-term economic climate, it is expected that as new companies move into the area, the local economy will quickly recover.

The demand for transient accommodations has shown increasing strength during the past several years. Exhibit 1 sets forth occupancy and average rate trends for all the hotels and motels in the surrounding market.

The impact of the military base closing on the local hotel market is shown in 1994. Occupancy dropped six points and rate fell $\$ 4.50$. Demand started to recover in 1995, which increased the area-wide occupancy two points and the prevailing rate $\$ 2.00$.

The subject property competes directly with six other firstclass lodging facilities. Exhibit 2 shows the operating data for these competitive facilities, which demonstrates that the better quality properties operate at occupancy and room rate levels above the area-wide average.

The exhibit shows that the military base closing had little impact on the area's first-class hotels. Since most of these properties charged rates above
the local government per diem, they were not used by many of the visitors to this installation.

The Embassy Suites and Homewood Suites opened in 1989 and recently went through a complete softgoods replacement. The Sheraton, the Hyatt, and the Independent have also received massive renovations in recent years, and the Radisson is currently going through a similar upgrading.

Comparing the occupancy and rate data for the subject property with that of the other first-class hotels in the market demonstrates the adverse impact of its deteriorating physical condition. Given its location and level of facilities and amenities, the subject property's occupancy and average rate should be positioned somewhat above the Sheraton and below the Embassy Suites.

As with most hotel markets, there are a number of budget and economy properties either recently opened or currently under construction. These include a 125 -room Fairfield Inn, a 125 -room Comfort Inn, a 100 -room Super 8. and a 90 -room Microtel. While none of these properties will compete directly with the subject property, they will dilute the demand somewhat. There are no first-class hotels proposed for this market. Exhibit 3 shows the operating results for the subject property during 1994 and 1995.

## Broker's Approach

First, the broker looked at the subject's historic financial operating results. In 1995, the hotel achieved a $77 \%$ occupancy and a S 72.00 rate which resulted in a revpar of $\$ 55.44$. Its net operating income (after management fee and reserve for replacement) was S 1.433.000. A purchaser's first assessment might simply be to apply a capitalization rate to the net operating income and subtract the renovation cost. However in today's acquisition climate, where there are numerous buyers aggressively seeking similar first-class, full-service hotels, the broker believes this approach would yield far too low a price.

The broker focused on the hotel's room revenue performance as compared with its competitive set. Exhibit 2 shows that the subject property's revpar was the second lowest in the market. The Hyatt and the Independent achieved a significantly higher revpar than did the other hotels because of their location adjacent to a major tourist attraction, which enables them to capture the upscale leisure traveler willing to pay a pre
mium for proximity. Since the subject property does not benefit from this locational advantage. it would be unlikely to justify similar levels of room rates and revpar. However, the subject is superior to the Hyatt and the Independent from the point of view of attracting commercial business. It is far more accessible from the major highways, the airport, and many of the area businesses and industry. This locational attribute should enable the subject property to become more competitive with properties like the Sheraton and Embassy Suites once the renovation is complete.

The greatest difference between the subject property and its competitive set is its fair physical condition. Most of the other hotels in the market are cither relatively new or have recently gone through a renovation. The subject is not dysfunctional, obsolete, or in really bad condition, but its guest rooms, common areas, and equipment have become tired and dated. The broker believes that the difference in the hotel's condition has created a $\$ 20$ to $\$ 30$ gap in average rule ;is compared with the competition. Although it is likely that the $\$ 3,000,000$ renovation budget would bring the subject property's condition up to a level that would justify such an increase in room rate, it is unlikely that a buyer would factor this much of a rate jump into a proforma. The broker decided to use an $\$ 80$ average rate in estimating the subject's stabilized rooms revenue along with the actual 1995 occupancy of $77 \%$. The $77 \%$ occupancy might be somewhat conservative in light of the fact that the subject achieved an $80 \%$ in 1994, but the broker believed buyers are not currently factoring into their proformas a lot of occupancy upside in strong hotel markets that are experiencing capacity levels approaching their maximum.

Second, the broker evaluated the expenses that went into the hotel's net operating income calculation to determine whether the hotel could be operated more efficiently. Looking over the operating margins, the broker saw only a few improvements that could be made from cutting costs. The following is a list of expense items the broker believed a buyer could improve upon:

- Food and beverage expense: This could be reduced from $88 \%$ to $83 \%$, more in line with normal food and beverage operating ratios for a hotel with extensive meeting and banquet space. In addition, the recently renovated ballroom should attract more banquets, which have a higher profitability factor.

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## EXHIBIT 3 INCOME AND EXPENSE STATEMENT FOR THE SUBJECT PROPERTY

| Year | $\mathbf{1 9 9 4}$ | $\mathbf{1 9 9 5}$ |
| :--- | :--- | :--- |
| Rooms | 300 | 300 |
| Occupancy | $80.00 \%$ | $77.00 \%$ |
| Average Rate | $\$ 69.00$ | $\$ 72.00$ |
| Days Open | 365 | 365 |
| Rooms Occupied: | 87,600 | 84,315 |


|  |  | \$ | \% Gross | Per Room | \$ | \% Gross | Per Room |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Revenues |  |  |  |  |  |  |  |
| Rooms |  | 6,044 | 63.20\% | 20,147 | 6,071 | 65.40\% | 20,237 |
| Food |  | 2,700 | 28.20\% | 9,000 | 2,400 | 25.80\% | 8,000 |
| Beverage |  | 400 | 4.20\% | 1,333 | 390 | 4.20\% | 1,300 |
| Telephone |  | 235 | 2.50\% | 783 | 225 | 2.40\% | 750 |
| Other Income |  | 180 | 1.90\% | 600 | 200 | 2.20\% | 667 |
|  | Total | 9,559 | 100.00\% | 31,863 | 9,286 | 100.00\% | 30,953 |
| Dep't Expenses |  |  |  |  |  |  |  |
| Rooms |  | 1,412 | 23.40\% | 4,707 | 1,457 | 24.00\% | 4,857 |
| Food \& Beverage |  | 2,610 | 84.20\% | 8,700 | 2,460 | 88.20\% | 8,200 |
| Telephone |  | 170 | 72.30\% | 567 | 180 | 80.00\% | 600 |
| Other Income |  | 80 | 44.40\% | 267 | 100 | 50.00\% | 333 |
| Total Expenses |  | 4,272 | 44.70\% | 14,240 | 4,197 | 45.20\% | 13,990 |
|  | Dep't Income | 5,287 | 55.30\% | 17,623 | 5,089 | 54.80\% | 16,963 |
| U.D.O.E. |  |  |  |  |  |  |  |
| Admin. \& Gen. |  | 930 | 9.70\% | 3,100 | 880 | 9.50\% | 2,933 |
| Management Fee |  | 290 | 3.00\% | 967 | 279 | 3.00\% | 930 |
| Franchise Fee |  | 242 | 2.50\% | 807 | 243 | 2.60\% | 810 |
| Marketing |  | 485 | 5.10\% | 1,617 | 470 | 5.10\% | 1,567 |
| Property Operations <br> \& Maintenance |  | 520 | 5.40\% | 1,733 | 515 | 5.50\% | 1,717 |
| Energy |  | 410 | 4.30\% | 1,367 | 415 | 4.50\% | 1,383 |
| Total U.D.O.E. |  | 2,877 | 30.00\% | 9,590 | 2,802 | 30.20\% | 9,340 |
|  | I.B.F.C. | 2,410 | 25.30\% | 8,033 | 2,287 | 24.60\% | 7,623 |
| Fixed Charges |  |  |  |  |  |  |  |
| Property Tax |  | 190 | 2.00\% | 633 | 195 | 2.10\% | 650 |
| Insurance |  | 200 | 2.10\% | 667 | 195 | 2.10\% | 650 |
| Reserve <br> for Replacement Total Fixed |  | 480 | 5.00\% | 1,600 | 464 | 5.00\% | 1,547 |
| Charges |  | 870 | 9.10\% | 2,900 | 854 | 9.20\% | 2,847 |
|  | Net Income | 1,540 | 16.20\% | 5,133 | 1,433 | 15.40\% | 4,777 |

$\qquad$

- Administrative and general expense. This could be reduced from $9.5 \%$ to $8.7 \%$ as a result of higher revenue and more efficient staffing.
- Marketing expense. This could be reduced from 5.1 \% to $4.7 \%$ as a result of higher revenue and exploitation of the free publicity from the renovation.
- Property operations and maintenance expense. This could be reduced from $5.5 \%$ to $4.9 \%$ as a result of higher revenue and lower maintenance costs after the completion of the renovation.
- Energy expense: This could be reduced from $4.5 \%$ to $4.2 \%$ as a result of savings from the new energy management system.
- Insurance expense. This could be reduced from $\$ 195,000$ to $\$ 190,000$.
- Reserve for replacement: Although some chains require a $5 \%$ reserve for replacement, buyers of hotels are currently factoring $3 \%$ to $4 \%$ into their proformas, A 3\% reserve will be used.

The broker used a one-year projection of income and expense, assuming all revenue and expenses were stabilized. Exhibit 4 shows the broker's stabilized proforma for the subject property. The resulting stabilized net operating income is approximately \$2,300,000.

The broker then used two capitalization approaches to derive an estimate of value. The first uses an unleveraged capitalization rate, which the broker believes should range from $12.5 \%$ to $13 \%$ in the current market. Selecting a $12.75 \%$ cap rate results in the following value:

$$
\frac{\$ 2,300,000}{.1275}=\$ 18,000,000
$$

From this value the broker deducts the $\$ 3,000,000$ renovation expense which results in a value estimate of $\$ 15,000,000$.

The broker's second approach assumes a leveraged transaction with a first mortgage of $70 \%$ at an interest rate of $9 \%$ and amortization of 25 years (. 100 mortgage constant). The equity com-.ponent is looking for a $20 \%$ return. The capitalization rate is derived by calculating the weighted cost of capital as follows:

## EXHIBIT 4 STABILIZED INCOME AND EXPENSES

| Year | Stabilized |
| :--- | :--- |
| Rooms | 300 |
| Occupancy | $77.00 \%$ |
| Average Rate | $\$ 80.00$ |
| Days Open | 365 |
| Rooms Occupied | 84,315 |


|  | $\mathbf{\$}$ | \% Gross | Per Room |
| :--- | :--- | :--- | :--- |
| Revenues |  |  |  |
| Rooms | 6,745 | $68.40 \%$ | 22,483 |
| Food | 2,330 | $23.60 \%$ | 7,767 |
| Beverage | 375 | $3.80 \%$ | 1.250 |
| Telephone | 220 | $2.20 \%$ | 733 |
| Other income | 200 | $2.00 \%$ | 667 |
|  | TOTAL 9,870 | $100.00 \%$ | 32,900 |


| Dep't Expenses |  |  |  |
| :---: | :---: | :---: | :---: |
| Rooms | 1,580 | 23.40\% | 5,267 |
| Food \& | 2,250 | 83.20\% | 7,500 |
| Beverage |  |  |  |
| Telephone | 180 | 81.80\% | 600 |
| Other Income | 100 | 50.00\% | 333 |
| TOTAL EXPENSES | 4,110 | 41.60\% | 13,700 |
| DEP'T INCOME | 5,760 | 58.40\% | 19,200 |
| U.D.O.E. |  |  |  |
| Admin. \& Gen. | 860 | 8.70\% | 2,867 |
| Management | 296 | 3.00\% | 987 |
| Fee |  |  |  |
| Franchise Fee | 270 | 2.70\% | 900 |
| Marketing | 460 | 4.70\% | 1,533 |
| Property Operations | 485 | 4.90\% | 1,617 |
| \& Maintenance |  |  |  |
| Energy | 410 | 4.20\% | 1,367 |
| TOTAL U.D.O.E. | 2,781 | 28.20\% | 9,270 |
| I.B. | 2,979 | 30.20\% | 9,930 |


| Fixed Charges |  |  |  |
| :--- | :--- | :--- | :--- |
| Property Tax 195 $2.00 \%$ 650 <br> Insurance 190 $1.90 \%$ 633 <br> Reseive for <br> Replacement <br> TOTAL FIXED <br> CHARGES 296 $3.00 \%$ 987 <br> NET INCOME 2,298 $23.30 \%$ 7,660  | $6.90 \%$ | 2,270 |  |

```
Mortgage \(.70 \times .100=.070\)
Equity \(\quad .30 \times .200=.060\)
            Cap Rate .13
    \(\frac{\$ 2,300,000}{.13}=\$ 17,700,000\)
```


## EXHIBIT 5 PROJECTION OF OCCUPANCY AND AVERAGE RATE

\(\left.$$
\begin{array}{llll}\text { Year } & \text { Occupancy } & \begin{array}{l}\text { Average } \\
\text { Rate } \\
\text { 1996 }\end{array} & 70 \%\end{array}
$$ \begin{array}{l}Percent <br>

Change\end{array}\right]\)| 1997 | $77 \%$ | $\$ 79.34$ |
| :--- | :--- | :--- |
| $\mathbf{1 9 9 8}$ | $79 \%$ | $\$ 82.09$ |
| Stabilized | $76 \%$ | $\$ 84.96$ |

From this value the broker deducts the $\$ 3,000,000$ renovation expense, which results in a value estimate of \$14,700,000.

Unlike traditional appraisers, the broker did not bother with the cost or sales comparison approaches. Nor did the broker attempt to derive a capitalization rate from market sales. The broker has observed over the years that typical buyers of hotels rely solely on the income approach and place little credence on any other valuation method. The broker concluded that the subject property would probably sell within a range of $\$ 14,700,000$ to \$15,000,000.

## Appraiser's Approach

The appraiser observed the market conditions and competitive environment in much the same way as the broker. Because of its poor physical condition, the subject property was holding on to occupancy by discounting its room rates relative to the other first-class hotels in the market. After the contemplated renovation, the subject property should achieve a higher rate. In addition, the appraiser thought the property was well managed but saw improvement potential in some of the expense ratios, particularly in food and beverage.

The appraiser used a 10-year discounted cash flow model to value the subject property. The basis for this calculation is a projection of income and expense up to a point in time when the subject's occupancy and average room rate stabilizes. Thereafter, the model assumes that revenue, expenses, and net income increase each year by the underlying rate of inflation.

The projection of income and expenses employs a fixed and variable component approach based on the premise that hotel revenue and expenses have one component that is fixed and another component that varies directly with occupancy and use of the facility. The projection model calculates the portion of the revenue or expense item
that is fixed and the portion that is variable. The fixed component is then held at a constant level. while the variable component is adjusted to reflect the percentage change between the projected occupancy and facility utilization and a known level of occupancy and facility utilization. The sum of the fixed and variable components is used in the projection.

The foundation of the fixed and variable projection model is an estimate of the property's occupancy and average rate up to the year in which it stabilizes. On the basis of the appraiser's analysis of the local market, particularly the supply and demand relationships and the positioning of the subject property during and after the renovation, a projection of occupancy and average rate was made.

The analysis resulting in the projection of occupancy and average rate assumes that the buyer acquires the hotel at the beginning of 1996 and immediately commences the $\$ 3,000,000$ renovation, which takes most of the year to fully complete. During this period, the hotel is disrupted. and occupancy declines to $70 \%$. Rate growth is limited to $2 \%$. In 1997, the subject property takes full advantage of its new appearance and pushes both occupancy and room rate. Part of the rate growth can be attributed to normal market increases and part to an improved product. Occupancy peaks at $79 \%$ in 1998 but is brought down to a $76 \%$ stabilized level in the fourth projection year which represents a normalized occupancy over the 10 -year projection period. Starting in 1998, rate growth has stabilized at $3.5 \%$ per year.

The appraiser next looks at the operating history of the subject property and what improvements in performance a buyer in the current market would be willing to pay for. The broker did a similar analysis. In today's highly competitive market, the appraiser has found that in order to be the successful bidder on a hotel acquisition, a buyer must factor most of the directly controllable savings into the proforma. For example, if food and beverage department expense can be reduced through a more efficient use of staff, those savings must be incorporated into the proforma, which increases the bottom line and raises the purchase price. This is an example of a directly controllable saving. More speculative savings, such as those resulting from a potential property assessment appeal or a significantly higher room rate from the renovation may not warrant inclusion in the bottom line.

## EXHIBIT 6 PROJECTION OF INCOME AND EXPENSES FOR SUBJECT PROPERTY

| Year | 1996 | 1997 |  |  | 1998 |  |  | Stabilized |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rooms | 300 | 300 |  |  | 300 |  |  | 300 |  |  |  |  |
| Occupancy | 70.00\% | 77.00\% |  |  | 79.00\% |  |  | 76.00\% |  |  |  |  |
| Average Rate | \$73.44 | \$79.32 |  |  | S82.09 |  |  | \$84.96 |  |  |  |  |
| Days Open <br> Rooms Occupied | 365 | 365 |  |  | 365 |  |  | 365 |  |  |  |  |
|  | 76,650 | 84.315 |  |  | 86.505 |  |  | 83.220 |  |  |  |  |
|  | \$ | \% Gross | Per Room | S | \% Gross | Per Room | S | \% Gross | Per Room | \$ | \% Gross | Per Room |
| Revenues |  |  |  |  |  |  |  |  |  |  |  |  |
| Rooms | 5.629 | 64.10\% | 18.763 | 6.688 | 66.00\% | 22,293 | 7.101 | 66.20\% | 23.670 | 7.070 | 65.90\% | 23,567 |
| Food | 2.349 | 26.80\% | 7.830 | 2.571 | 25.40\% | 8,570 | 2702 | 25.20\% | 9.007 | 2,733 | 25.50\% | 9,110 |
| Beverage | 382 | 4.40\% | 1,273 | 418 | 4.10\% | 1,393 | 439 | 4.10\% | 1,463 | 444 | 4.10\% | 1.480 |
| Telephone | 214 | 2.40\% | 713 | 241 | 2.40\% | 803 | 255 | 2.40\% | 850 | 255 | 2.40\% | 850 |
| Other Income | 198 | 2.30\% | 660 | 214 | 2.10\% | 713 | 225 | 2.10\% | 750 | 228 | 2.10\% | 760 |
|  | TOTAL 8.772 | 100.00\% | 29,240 | 10.132 | 100.00\% | 33,773 | 10.722 | 100.00\% | 35.740 | 10,730 | 100.00\% | 35.767 |
| Dep't Expenses |  |  |  |  |  |  |  |  |  |  |  |  |
| Rooms | 1,453 | 25.80\% | 4,843 | 1,561 | 23.30\% | 5,203 | 1,632 | 23.00\% | 5.440 | 1,663 | 23.50\% | 5,543 |
| Food \& Beverage | ge 2.282 | 83.60\% | 7.607 | 2.421 | 81.00\% | 8.070 | 2,523 | 80.30\% | 8.410 | 2,584 | 81.30\% | 8.613 |
| Telephone | 180 | 84.10\% | 600 | 193 | 80.10\% | 643 | 201 | 78.80\% | 670 | 206 | 80.80\% | 687 |
| Other Income | 101 | 51.00\% | 337 | 107 | 50.00\% | 357 | 112 | 49.80\% | 373 | 114 | 50.00\% | 380 |
| Total Expenses | 4.016 | 45.80\% | 13,387 | 4.282 | 42.30\% | 14,273 | 4.468 | 41.70\% | 14.893 | 4,567 | 42.60\% | 15,223 |
| DEPT INCOME | 4.756 | 54.20\% | 15.853 | 5.850 | 57.70\% | 19.500 | 6.254 | 58.30\% | 20.847 | 6.163 | 57.40\% | 20.543 |
| U.D.O.E. |  |  |  |  |  |  |  |  |  |  |  |  |
| Admin. \& Gen | 845 | 9.60\% | 2,817 | 896 | 8.80\% | 2.987 | 933 | 8.70\% | 3.110 | 956 | 8.90\% | 3.187 |
| Management Fee | e 263 | 3.00\% | 877 | 305 | 3.00\% | 1,017 | 322 | 3.00\% | 1.073 | 322 | 3.00\% | 1,073 |
| Franchise Fee | 225 | 2.60\% | 750 | 267 | 2.60\% | 890 | 284 | 2.60\% | 947 | 282 | 2.60\% | 940 |
| Marketing | 469 | 5.30\% | 1,563 | 497 | 4.90\% | 1,657 | 518 | 4.80\% | 1.727 | 531 | 4.90\% | 1.770 |
| Property | 469 | 5.30\% | 1,563 | 497 | 4.90\% | 1,657 | 518 | 4.80\% | 1.727 | 531 | 4.90\% | 1,770 |
| Operations |  |  |  |  |  |  |  |  |  |  |  |  |
| Energy | 410 | 4.70\% | 1,367 | 428 | 4.20\% | 1,427 | 444 | 4.10\% | 1.480 | 458 | 4.30\% | 1.527 |
| Total U.D.O.E. | 2,681 | 30.50\% | 8,937 | 2.890 | 28.40\% | 9.633 | 3.19 | 28.00\% | 10.063 | 3,080 | 28.60\% | 10,267 |
|  | B.F.C. 2,075 | 23.70\% | 6.917 | 2,960 | 29.30\% | 9,867 | 3.235 | 30.30\% | 10.783 | 3,083 | 28.80\% | 10.277 |
| Fixed Charges |  |  |  |  |  |  |  |  |  |  |  |  |
| Property Tax | 217 | 2.50\% | 723 | 225 | 2.20\% | 750 | 233 | 2.20\% | 777 | 241 | 2.20\% | 803 |
| Insurance | 207 | 2.40\% | 690 | 214 | 2.10\% | 713 | 222 | 2.10\% | 740 | 230 | 2.10\% | 767 |
| Reserve (or Replacement | 351 | 4.00\% | 1,170 | 405 | 4.00\% | 1,350 | 429 | 4.00\% | 1.430 | 429 | 4.00\% | 1.430 |
| Total Fixed Charges | 775 | 8.90\% | 2.583 | 844 | 8.30\% | 2,813 | 884 | 8.30\% | 2.947 | 900 | 8.30\% | 3.000 |
| NET INCOME 1.300 |  | 14.80\% | 4.333 | 2.116 | 21.00\% | 7,053 | 2.351 | 22.00\% | 7.837 | 2,183 | 20.50\% | 7.277 |

On the basis of the appraiser's analysis of the operating history of the subject property, the following expenses were adjusted in the projection of income and expenses:

- Food and beverage expense: Reduced from $88 \%$ to 81\%
- Administrative and general expense: Reduced from
9.5\% to $8.9 \%$
- Marketing expense: Reduced from 5.1 \% to 4.9\%
- Property operations and maintenance expense:

Reduced from 5.5\% to 4.9\%

- Energy expense: Reduced from $4.5 \%$ to $4.3 \%$
- Property tax: Increased from $\$ 195,000$ to $\$ 217,000$
as a result of pending renovation and increase in value.
- Insurance: Increased from \$195,000 to \$207,000 in 1996 as a result of pending renovation.
- Reservelor replacement: Use 4\% of total revenue.

Based on the projection of occupancy and average room rate described in Exhibit 5 and the adjustment to the operating expenses. Exhibit 6 shows the subject property's projected income and expense up to the point at which occupancy stabilizes (four years).

The 10-year discounted cash flow model used by the appraiser is based on a mortgage-equity relationship in which the yearly income to equity plus an equity reversion is discounted at an equity yield rate and the income to the mortgagee is discounted at a mortgage yield rate. The sum of the equity and the mortgage values is the total property value.'

The appraiser researched the current state of hotel financings and developed the following input variables for the valuation model:

| Mortgage Interest Rate | $9.5 \%$ |
| :--- | :--- |
| Mortgage Amortization | 25 Years |
| Loan-to-Value Ratio | $70 \%$ |
| Equity Yield Rate | $20 \%$ |
| Broker and Legal Fees | $3 \%$ |
| Terminal Capitalization Rate | $11.5 \%$ |
| Income Inflation After Stabilization | $3.5 \%$ |

Using the projection of income and expenses and the input variables, the model developed the following estimate of value:

| Mortgage Component | $\$ 12,594,000$ |
| :--- | :--- |
| Equity Component | $5,397,000$ |
| Total Value | $\$ 17,991,000$ |

This value can be proved by showing that the equity component does indeed achieve an equity yield of $20 \%$.

Cash flow to equity is the net income less debt service:

| Year | Net Income | Debt Service | Cash Flow <br> to Equity |
| :--- | :--- | :--- | :--- |
| 1996 | S $1,300,000$ | $\$ 1,320,000$ | $\$-20.000$ |
| 1997 | $2,116,000$ | $1,320,000$ | 796,000 |
| 1998 | $2,351,000$ | $1,320,000$ | $1,031,000$ |
| 1999 | $2,183,000$ | $1,320,000$ | 863,000 |
| 2000 | $2,260,000$ | $1,320,000$ | 940,000 |
| 2001 | $2,339,000$ | $1,320,000$ | $1,019,000$ |
| 2002 | $2,421,000$ | $1,320,000$ | $1,101,000$ |
| 2003 | $2,505,000$ | $1,320,000$ | $1,185,000$ |
| 2004 | $2,593,000$ | $1,320,000$ | $1,273,000$ |
| 2005 | $2,684,000$ | $1,320,000$ | $1,364,000$ |

Equity Residual:

| Net Income Eleventh Year | $\$ 2,778,000$ |
| :--- | :--- |
| Terminal Capitalization Rate | .115 |
| Reversionary Value | $\$ 24,153,000$ |
| Less: Mortgage Balance | $10,537,000$ |
| Less: Brokerage and Legal | 725,000 |
|  | $\$ 12,891,000$ |

Discounted cash flow proof showing that the value of the equity component is $\$ 5,397,000$.

| Year | Cash Flow <br> to Equity | $\mathbf{2 0 \%}$ PW <br> Factor | Discounted <br> Cash Flow |
| :--- | :--- | :--- | :--- |
| 1996 | S-21,000 | .8333 | $\$-17,000$ |
| 1997 | 796,000 | .6944 | 552,000 |
| 1998 | $1,031,000$ | .5787 | 596,000 |
| 1999 | 863,000 | .4822 | 416,000 |
| 2000 | 940,000 | .4019 | 377,000 |
| 2001 | $1,019,000$ | .3348 | 341,000 |
| 2002 | $1,101,000$ | .2790 | 307,000 |
| 2003 | $1,185,000$ | .2326 | 276,000 |
| 2004 | $1,273,000$ | .1938 | 247,000 |
| 2005 | $14,255,000(1)$ | .1615 | $2,302,000$ |
| Value of Equity Component |  |  |  |

(1) Tenth year cash flow to equity of $\$ 1,364,000$ plus equity residual of $\$ 12,891,000$

From the total property value of $\$ 18,000,000$ the appraiser deducts the $\$ 3,000,000$ renovation cost yielding a current "as is" value for the subject property of approximately S 15,000,000.

## Conclusion

As would be expected, the broker and appraiser used the income approach. Although both were obviously familiar with recent transactions and market sales, they did not attempt to justify the final value though a traditional sales comparison approach but probably made the calculation, which showed that the income approach resulted in a value of $\$ 50,000$ per room "as is" and $\$ 60,000$ per room after the renovation which was in the ballpark with the market. Neither used a cost approach, but both knew that the property's replacement cost would be in the range of $\$ 90,000$ to $\$ 100,000$ per room, indicating that there are barriers to entry for any new competition attempting to build a first-class facility in this market.

The broker used a valuation model derived from capitalizing one stabilized year with a capitalization rate derived through a mortgage-equity calculation. The appraiser used a more complicated

10-year discounted cash flow model, but it also relied on the cost of the mortgage and equity components. It is significant that neither the appraiser nor the broker attempted to derive their capitalization rates from market sales or to divine a discount rate based on the build-up approach. Both consultants adjusted the property's financial operating results to reflect a more efficient level of operation. The broker concluded that the final value would fall within the range of $\$ 17,700,000$ to $\$ 18,000,000$ before the deduction of the renovation cost. The appraiser rendered a point estimate of $\$ 18,000,000$ which is generally required by most clients.

How did they do? The broker's final estimate of value of the subject property in its "as is" condition was between $\$ 14,700,000$ and $\$ 15,000.000$, and the appraiser came up with a value of $\$ 15,000,000$. The actual sales price of the property was $\$ 15,200,000$, which means that the broker's and the appraiser's value estimates were within $1 \%$ to $2 \%$. Not bad.

[^0]
[^0]:    Note
    ' For a complete description of this valuation approach see Stephen Rushmore, "Hotel Valuation Techniques," 6 Real Estate Finance Journal, Summer 1990, pp. 50-57.

