
Forecasting Revenues and Expenses

To develop a supportable estimate of value using the income capitalization approach, the appraiser must make forecasts of income and expenses that reflect the outlook of typical hotel investors. Hotels and motels are unique forms of real estate with many unusual characteristics, including intensive use of labor, cost-of-goods-sold expense categories, and a retail product identity. Special knowledge and data are required to estimate the future income of a hotel. This chapter describes step-by-step procedures for projecting income and expenses using data sources available to all appraisers.

Existing Facility vs. Proposed Facility

Valuing an existing hotel generally requires less fieldwork than valuing a proposed facility. In the case of an existing hotel, the appraiser first reviews the local supply and demand situation and projects the subject's future reve-

nue. Then, using the property's operating ratios obtained from previous years' financial statements, various expense categories are estimated. These estimates should be compared to the operating results of similar properties, if available, or to national averages; any differences should be resolved. Discrepancies may occur for several reasons, including:

- Unusual property characteristics. Some hotels are more costly to operate than others. For example, beachfront hotels have higher maintenance expenses, properties in the Northeast U.S. pay more for energy, commercial hotels have more credit card commissions, and airport hotels incur shuttle bus expenses.
- Assumed competent management. Projected expenses reflect competent management, while the actual management may be better than, equal to, or less capable than is typical.
- Different levels of occupancy and average rate. When comparing expense ratios for two properties, the appraiser must ascertain that they operate at similar levels of occupancy and have similar average rates. Lodging facilities generally experience more efficient operations as their rates and occupancies increase.

The final income and expense estimate for an existing hostelry should be a blend of past operating results and future expectations.

Assembling sufficient market information and comparable data for a proposed facility requires more research. The primary objective of market analysis is to accumulate enough information to formulate estimates of occupancy and average rate. Once these two factors have been established, rooms revenue and other sources of income may be computed.

Because a proposed hotel has no operating history on which to base an expense projection, the appraiser must either obtain data from existing comparable properties or use national averages. Statistics from either of these sources can be processed to project income and expenses for the proposed subject property. Because national averages are available to all appraisers, they are used here to demonstrate the projection procedure. However, actual operating performance data from a comparable property are generally preferred.

National Averages

Each year several firms compile operating statistics and ratios for hundreds of hotels and motels throughout the United States. This information is generally categorized according to property size, room rate, geographical location, and other characteristics. The data represent average operating results and typical management ability and may be used to evaluate an existing operation or to project income and expenses for a proposed facility. Currently, the best source of national hotel operating data is Smith Travel Research.

Uniform System of Accounts for Hotels

The data found in most hotel financial statements are arranged in accordance with the *Uniform System of Accounts for the Lodging Industry (USALI)*. This system, which was established by the Hotel Association of New York City in 1926 and later adopted by the American Hotel and Motel Association. The

Ninth Revised Edition of the format, designed to conform with evolving accounting practices, was issued in 1998.

The USALI provides a simple formula for classifying the accounts used by hotels of all types and sizes. The universality of the system allows appraisers to compare individual properties or groups of properties with similar characteristics.

A complete set of financial statements for a hotel or motel should include a balance sheet, a statement of income and expenses, a statement of changes in financial position, and any disclosures needed to comply with generally accepted accounting principles. The appraiser is primarily interested in the data contained in the statement of income and expenses.

The following list is extracted from the *Uniform System of Accounts for the Lodging Industry* (1998), published by the Educational Institute of the Ameri-

can Hotel and Motel Association, Orlando, Florida. It shows how various hotel activities are classified in income and expense statements.

Operated departments

- Rooms
- Food
- Beverage
- Telephone
- Garage, parking lot
- Guest laundry
- Golf course
- Golf pro shop
- Tennis, racquet club
- Tennis pro shop Health club
- Swimming pool, cabanas, baths
- Other operated departments
- Rentals and other income

Total operated departments

Undistributed operating expenses

- Administrative and general expenses
- Human resources
- Information systems

- Security
 - Transportation
 - Marketing
 - Guest entertainment
 - Franchise Fee
 - Property operation and maintenance
 - Energy costs
- Total undistributed operating costs

House Profit

- Management Fee

Total income before fixed charges

- Rent, property taxes, and insurance
- Interest expense
- Depreciation and amortization

Total fixed charges

Income before income taxes

- Income taxes

Net income

The total income after expenses for each major revenue-producing department is listed separately. If there are other departments with revenues and expenditures, they too are enumerated. The expenses incurred by undistributed overhead departments and capital expenses are then listed. The entries are totaled to determine the property's income before taxes. Then state and federal income taxes are deducted to arrive at the net income of the property.

Because this format does not address the specific needs of the appraiser, who must capitalize income after property taxes and insurance but before interest, depreciation, and amortization, a slightly modified system is required to indicate:

Total income before fixed charges

- Property taxes
- Insurance
- Reserve for Replacement

Total fixed charges

Income before debt service

Under the USALI, salaries and wages are allocated to individual departments and expense categories as follows:

Rooms

- Assistant managers
- Front office
- Housekeeping
- Service (doorman, front)
- House officers and watchmen

Food

- Food preparation
- Food service

Beverage

- Beverage service

Administrative and general

- Manager's office
- Accounting office
- Data processing
- Front office bookkeeping

- Night auditors
- Credit office
- Timekeepers
- Receiving clerks
- Employment office
- Employees' locker attendants

Marketing

- Sales department
- Advertising
- Merchandising
- Public relations and publicity
- Research

Guest entertainment

- Manager
- Entertainment director
- Stagehands

Property operation, maintenance, and energy costs

- Chief engineer and assistant
- Engineers
- Painters and paperhangers
- Radio and television repair
- Grounds and landscape
- Office and storeroom

Forecast of Revenue and Expense

The forecast of revenue and expense begins by converting the occupancy and average rate projections into an estimate of rooms revenue. Using data collected in the market and industry statistics, the appraiser then develops a forecast of other revenue items such as food, beverage, telephone, and other income as well as normal hotel operating expenses. Combining all this information produces a highly documented forecast of revenue and expenses, which becomes a key component in estimating market value and evaluating the economics of the investment. This chapter will demonstrate how all types of hotel revenues and expenses are forecasted.

Rooms Revenue Defined

The primary components of rooms revenue -- occupancy and average room rate -- were discussed and projected in Chapter 3. A projection of rooms revenue is derived using the following formula:

Occupancy X average room rate X room count x 365 = Rooms revenue

The following case study demonstrates the projection of rooms revenue.

CASE STUDY

Rooms Revenue

The rooms revenue projection for the proposed Sheraton Hotel is calculated in Table C.S.5.1, while the rooms revenue projection for the existing Embassy Suites is calculated in Table C.S.5.2. In each case, the occupancy rate is multiplied by the number of rooms in the hotel per year (room count x 365) in order to generate an estimate of the number of occupied rooms. Rooms revenue is then calculated as the product of occupied rooms multiplied by average rate.

Fixed and Variable Component Approach to Forecasting

Before projecting individual items of hotel revenue and expense, appraisers must understand the fixed and variable component approach to forecasting. This approach produces one of the most accurate models of a hotel's financial performance; it forms the basis for many computerized hotel forecasting programs utilized by hotel appraisal firms, hotel companies, investors, lenders, and developers.

Theoretical Basis

The fixed and variable component approach is based on the premise that hotel revenue and expenses have one component that is fixed and another com-

ponent that varies directly with occupancy and use of the facility. A projection can therefore be made by examining a known level of revenue or expense and calculating the portion that is fixed and the portion that is variable. Then the fixed component is held at a constant level, while the variable component is adjusted to reflect the percentage change between the projected occupancy and facility utilization and the actual occupancy and facility utilization that produced the known revenue or expense. This process is demonstrated in the following example.

Example

A 200-room commercial hotel operated last year with an occupancy of 70%, an average room rate of \$104.33, and a rooms department expense of \$1,226,000, or 23% of rooms revenue. A projection for this year indicates that the subject's occupancy is expected to fall to 61% because several new hotels will open in the area during the year. This year's rooms department expense can be calculated with the procedure described below.

First, last year's rooms department expense is expressed in this year's dollars by applying a 3% inflation rate.

$$\$1,226,000 \times 1.03 = \$1,263,000 \text{ (rounded)}$$

The appraiser has determined that 60% of the rooms expense is typically fixed and the remaining 40% varies with occupancy. Thus fixed and variable components of this year's rooms expense are estimated as follows:

$$\text{Fixed: } .60 \times \$1,263,000 = \$758,000 \text{ (rounded)}$$

$$\text{Variable: } .40 \times \$1,263,000 = \$505,000 \text{ (rounded)}$$

Next, the variable component is adjusted for the decline in occupancy from 70% to 61%. The percentage decline in occupancy (occupancy adjustment) is calculated by dividing the projected occupancy by the known occupancy.

$$.61 \div .70 = .8714$$

Multiplying the occupancy adjustment by the variable component yields the adjusted variable component.

$$.8714 \times \$505,000 = \$440,000 \text{ (rounded)}$$

Finally, the fixed component and the adjusted variable component are combined to produce the estimated rooms department expense at 61% occupancy.

Fixed component	\$ 758,000
Adjusted variable component	<u>440,000</u>
Projected rooms department expense	\$1,198,000

Assuming the hotel's average rate remains at \$104.33 in the first projection year, the hotel's rooms departmental expense ratio will increase from 23.0% to 25.8%.

The fixed component of rooms expense represents items such as front desk salaries and the cost of cleaning of public areas that must be maintained whether the hotel is operating at 0% or 100% occupancy. The variable component is made up of items such as maids' salaries and guest supplies, which vary directly with the level of occupancy.

Application of the Approach

The process of forecasting hotel revenue and expenses by the fixed and variable component approach is accomplished in nine steps, which are outlined below.

Step 1. All items of revenue and expense are projected based on information found in the financial statements of the subject and/or comparable hotels. If the subject property is an existing hotel, then its past operating performance is generally used to establish future projections. For proposed hotels the appraiser must rely on the operating results of hotels considered to be comparable to the subject property.

Step 2. Comparable financial statements must usually be adjusted or modified somewhat to reflect the unique characteristics of the subject property. These adjustments may include changing the average room rate, modifying the income and expense ratios, and altering the fixed charges. These various adjustments and modifications are made to create a one-year financial statement that uses the first-year average room rate of the subject property expressed in current dollars, prior to any initial year discounts, and the income and expense ratios that represent the level of occupancy actually experienced by the comparable. This profit and loss statement is called the *base* (or comparable base) and will form a foundation for calculating fixed and variable component relationships.

Step 3. The revenue and expense figures that make up the base are revised (inflated or deflated) to reflect current dollars for each forecast year. The rate of change applied should reflect the anticipated price change for the individual line item in the income and expense statement. The average room rate used in the base is derived from the average rate projection. Any discounting of average room rates is disregarded in developing the base for each projection year. The purpose of Step 3 is to put the comparable financial data that make up the base into the inflated dollars anticipated for that particular year.

Step 4. Fixed and variable percentages are estimated for each revenue and expense category. Table 5.1 shows typical ranges of fixed and variable percentages and the index used to measure the amount of variable change.

These fixed and variable percentages were developed from a regression analysis that evaluated hundreds of financial statements to determine what por-

tion of each revenue and expense category was fixed and what portion was variable.

The index of variability refers to the factor that controls the movement of the variable component. For example, the variable component of food revenue moves in response to changes in occupancy. Beverage revenue seems to be tied directly to food revenue. Food and beverage expense levels are largely dependent on changes in food and beverage revenue. The variable components of undistributed operating expenses and all fixed expenses seem to move in relation to total revenue.

Step 5. Each individual line item in a hotel's financial statement is projected separately using the fixed and variable calculations. The fixed component is estimated by multiplying the appropriate fixed percentage by the base revenue or expense line item for the corresponding projection year. The variable component is estimated in Steps 6 through 8.

Step 6. Variable components are assumed to vary directly with the index of variability established in Step 4. The amount of variable change is quantified by dividing the appropriate projected index of variability by the index of variability for the base. For example, assume that the projected occupancy percentage for the subject property in Year 1 was 62%. The occupancy of the base was 73%. Dividing the projected occupancy by the base occupancy results in the following variable percentage change:

$$\frac{\text{Projected occupancy}}{\text{Base occupancy}} = \frac{.620}{.730} = .849, \text{ or } 84.9\%$$

$$\text{Base occupancy} \quad .730$$

Basically this calculation shows that, as of that projected year, the subject's occupancy is estimated to be 84.9% of the occupancy percentage found in the comparable base data.

Step 7. The unadjusted variable component is calculated by multiplying the appropriate base revenue or expense item for the projected year by the varia-

ble percentage estimated in Step 4. Note that the total of the fixed and variable percentages for each line item must equal 100%.

Step 8. The unadjusted variable component must now be adjusted for variability in the index by multiplying the results of Step 7 by the variable percentage change calculated in Step 6. The product is known as the *adjusted variable component*.

Step 9. The forecast for the revenue or expense category is the total of the fixed component calculated in Step 5 and the adjusted variable component calculated in Step 8.

Step 1: Obtain Comparable Financial Statements

Obtaining operating information on hotels and motels is relatively simple for firms that regularly appraise existing lodging facilities. For those who only perform this type of assignment occasionally, comparable financial data can be more difficult to obtain.

The key to selecting financial data for use in projecting hotel income and expenses is to rely on only recent financial statements from properties that are truly comparable to the subject. Employing the financial comparable selection procedure facilitates this process. Lodging facilities vary in many respects, including differences attributable to location, size, facilities, class, management, occupancy, and average room rate. Each of these factors can impact a hotel's financial operating results in a unique way. When a number of financial statements are available, the financial comparable selection procedure indicates the order in which factors should be considered to screen out the statements of hotels that are less similar to the subject.

Financial Comparable Selection Order

1. Average room rate (class)
2. Facilities
3. Room count

4. Management (image & service)
5. Occupancy
6. Geographic location

In evaluating several financial statements, the appraiser should first look for income and expense data from hotels that are similar to the subject property in terms of average room rate. The class or rate structure of a hotel has a direct impact on both income and expense ratios, particularly fixed expenses that are measured on a per-available-room basis. Generally hotel operating data should not be compared unless the properties are either in the same class or no more than one class away. Most hotels can be categorized in one of the following room rate classifications: luxury, first-class, mid-rate, economy (budget), or sub-budget.

After the appraiser has accumulated financial statements from other properties with similar room rates, attention is focused on hotels with facilities that are most comparable to those of the subject property. The term facilities is first used in a broad sense. Hotels can be classified by the types of facilities offered -- e.g., commercial, convention, resort, conference, health spa, suite,

extended stay. Within these broad classifications financial comparability can be further refined by matching properties with similar physical components. For example, the term convention hotel can include a wide range of properties, from a 250-room suburban hotel to a 2,000-room convention center facility. Some resort hotels may just offer rooms on a beach, while others may provide a full resort complex with all types of recreational amenities. The age and condition of the facility should also be considered. Financial comparability can be enhanced by using the financial statements of properties with similar facilities, particularly if these facilities generate large amounts of revenue (food and beverage) or operating expenses (golf courses).

Room count is the next consideration in the financial comparable selection order. The financial data used in projecting income and expense are generally more reliable when they come from comparable properties that are similar in size to the subject property. In assessing comparability size can be defined in broad terms. A small hotel might be defined as one with 0 to 150 rooms. A midsize property would range from 150 to 300 rooms and properties of 300 to 1,000 rooms would be considered large. A mega-property would be a hotel of

1,000 rooms or more. These categories can overlap so size must be evaluated on a case-by-case basis.

When the future management of a hotel is known, it is often appropriate to use the financial operating ratios exhibited by other properties managed by this particular operator as a basis for forecasting income and expense. Although more weight should be given to the previous considerations in the financial comparable selection order (i.e., average room rate, facilities, and rooms count), the obvious strengths and weaknesses of the contemplated management should be factored into the analysis, particularly if the property is subject to a long-term management contract.

Occupancy is one of the least important considerations in the evaluation of comparability. When the fixed and variable income and expense forecasting model is used, differences in occupancy levels between the comparable and the subject property are automatically adjusted. Nevertheless, appraisers should avoid using financial data from hotels that exhibit widely divergent occupancies.

Geographic considerations are generally given minimal weight in selecting comparable financial data. Most hotel operating expenses are not dependent on the property's geographic location. However, two specific expense categories, energy cost and property taxes, are strongly affected by local factors. In addition, data from markets such as New York City, Washington, DC, and San Francisco, which are burdened by unusually high labor costs, should not be compared with properties that are not similarly affected.

Appraisers should recognize that the financial comparable selection order provides a quick method for identifying financial data that may be comparable to the subject property. In certain situations it may be appropriate to use data that do not fall within the process described so long as the desired effect -- i.e., a proper base for projecting income and expense -- is ultimately obtained.

CASE STUDY

Financial Comparable Selection Order

The following statement of income and expense (Table C.S.5.3) was obtained from a hotel that is considered to be closely comparable to the proposed Sheraton.

Table C.S.5.4 shows the areas of similarity between the comparable and the proposed Sheraton Hotel.

Several adjustments will be made to these financial data to make them comparable to the physical, operational, and location-specific characteristics contemplated for the proposed Sheraton.

Step 2. Adjust comparable financial statements

Comparability among hotels is never precise, so adjustments must be made to individual categories (line items) of income and expense to bring the actual operating results of the comparable closer to the expectations for the subject.

Comparable financial data are adjusted in two stages. In Stage 1, the comparable operating data for a particular income or expense category are projected for the subject property using an appropriate unit of comparison. This produces a general estimate of each income and expense category. In Stage 2, each of the subject's projected revenue and expense categories is fine-tuned by factoring the property's unique physical, operational and location-specific attributes into the final projection. Both of these stages are described.

When making a projection of income and expense using comparable financial data, it is first necessary to break down the comparable income and expense statement into specific units of comparison. For hotels, these units of comparison include:

- Percent of total revenue
- Percent of rooms revenue
- Percent of food and beverage revenue
- Dollars per available room
- Dollars per occupied room

Applying units of comparison puts the financial data on a common basis so that the operating results of the comparable can be analyzed and projected for the subject. A given unit of comparison may be better suited to some revenue and expense categories than others. Certain units are more applicable because of specific volume relationships, which cause individual revenue and expense categories to react differently to changes in a hotel's occupancy, average room rate, and food and beverage volume. If, for example, a revenue or expense category varies in relation to changing occupancy levels or average room rates, the appropriate unit of comparison would be the percentage of rooms revenue or total revenue. If the category is primarily fixed, then greater emphasis should be placed on the

dollars per available room unit of comparison. A category that is food and beverage-sensitive would be expressed as a percentage of food and beverage revenue.

Table 5.2 shows the primary units of comparison applied in projecting each category of hotel income and expense from a comparable financial statement.

Each of the five units of comparison in the first column is sensitive to the various factors shown in the second column. For example, the percentage of total revenue is sensitive to a hotel's occupancy, average room rate, and food and beverage revenue. The last column shows which income and expense categories are best projected by a specific unit of comparison. Since most items of income and expense have both a fixed component and a variable component, it is sometimes appropriate to use more than one unit of comparison.

Once a projection for a category of income and expense is made using the units of comparison described, it is often necessary to fine tune the projection to account for the physical, operational, and location-specific differences between the comparable and subject property. Primary differences that should be adjusted for include:

- Difference in average room rate, particularly if the subject property is in a higher or lower class (e.g., economy, mid-rate, first, luxury) than the comparable;
- Substantial differences in size (room count);
- Differences in food and beverage volume, particularly if one property had significantly more or less beverage or banquet revenue;
- Location-specific differences, which generally affect energy costs and property tax expense.

Since fixed and variable analysis adjusts for differences in occupancy between the comparable and the subject property, no specific adjustment is needed to account for a variance in occupancy at this point in the projection process.

When fine-tuned adjustments are required to account for differences between properties, the unit of comparison used in the projection is adjusted either upward or downward in the manner described below.

Percent of total revenue. Adjusting the percentage of total revenue unit of comparison upward for an expense item causes the dollar amount of that expense to increase.

Average room rate. When the comparable has an average room rate that is higher than the rate of the subject property, its operating expense ratios based on a percentage of total revenue tend to be lower. If such an unadjusted percentage were to be applied to the subject property, it would be understated; therefore, the unit of comparison should be fine-tuned upward.

Room count. It is difficult to determine how to adjust the percentage of total revenue based on the size of the property. In general, if the comparable is slightly larger than the subject property, its operating expense ratios, which utilize a percentage of total revenue, tend to be lower because some of the fixed expenses (such as payroll) can be spread out over a greater amount of revenue. This advantage ends at the point when added costs must be incurred to handle the additional rooms. For example, a single general manager might operate a 100-room hotel efficiently. That same individual could probably handle an additional 75 rooms, which would decrease the management payroll expressed as a percentage of total revenue. Once the room count exceeds 175, however, it may be necessary to hire an assistant manager to take over some of the operational responsibilities. This extra expense quickly increases the expense ratio.

Food and beverage revenue. When the comparable has more food and beverage revenue than the subject property, its operating expense ratios, based on a percentage of total revenue, tend to be lower and should be fine-tuned upward when projecting expenses for the subject property.

Percent of rooms revenue. The fine-tuned adjustments for this unit of comparison are the same as those just described for the percentage of total revenue.

Percent of food and beverage revenue. This unit of comparison is used primarily to project food and beverage department expenses. As the volume of food and beverage increases, the food and beverage expense ratio usually decreases. If the comparable has more food and beverage revenue than the subject property, its food and beverage expense ratio would be lower and should be adjusted upward to project the subject's food and beverage department expenses. An even greater upward adjustment is needed if the comparable has a considerable amount of beverage or banquet business, which tends to operate at a greater profit margin.

Dollars per available room. Adjusting the dollars per available room unit of comparison upward for an expense item causes the dollar amount of that expense to increase.

Average room rate. When the comparable has an average room rate that is higher than the rate of the subject property, it is likely to be providing a superior level of service. This would tend to increase the cost of operations on a per-available-room basis. In this instance the unit of comparison used to project expenses for the subject property should be adjusted downward.

Room count. The preceding discussion of an efficient room count also applies to the dollars per available room unit of comparison. If the comparable has a room count that is less efficient than the subject's, its operating expenses expressed on a per-available-room basis, could be overstated and may have to be adjusted downward when making a projection for the subject property.

Food and beverage revenue. If the comparable has a greater amount of food and beverage revenue than the subject property, its operating expenses will probably be higher when expressed on a per-available-room basis. In this case the unit of comparison used to project expenses for the subject property should be adjusted downward.

Dollars per occupied room. Since the occupancy level used for the subject property's base profit and loss statement will be the same as the occupancy of the comparable, the adjustments made to this unit of comparison should be identical to those used for the dollars per available room.

CASE STUDY

Adjusting Comparable Financial Data

The process of adjusting comparable financial data will be illustrated for the proposed Sheraton Hotel. First, each income and expense category is projected using an appropriate unit of comparison (Stage 1) and then the results are fine tuned (Stage 2). Each category of income and expense is analyzed and adjusted separately using the comparable statement of income and expense (Table C.S.5.3), which was selected for the proposed Sheraton through application of the financial comparable selection order. This process will result in a one-year financial statement that incorporates the subject's base year average room rate expressed in current dollars (before initial year discounting), and income and expense ratios that reflect the level of occupancy actually experienced by the comparable. This profit and loss statement, which is called the base or comparable base, will form a foundation for calculating the fixed and variable component relationships.

Rooms Revenue

The base rooms revenue is calculated by multiplying the occupancy rate by the average room rate, the room count, and 365. Since the fixed and variable component approach will automatically adjust for differences in occupancy,

the comparable property's occupancy level will be used for the subject property. The Sheraton's average room rate was projected at \$172.22 in the fifth year. Deflating this figure back to base year dollars at the assumed underlying inflation rate of 3.0% renders a result of \$148.56. The base rooms revenue is therefore calculated as follows:

$$.68 \times \$148.56 \times 250 \times 365 = \$9,218,000 \text{ (rounded)}$$

Food and Beverage Revenue

Food and beverage revenue is generated by a hotel's restaurants, lounges, coffee shop, snack bar, banquet rooms, and room service. These outlets are both revenue sources and necessary amenities for the sale of guest rooms. Although some hotels have active lounges and banquet facilities that draw local residents in most hotels, guests represent a substantial portion of the food and beverage patrons.

In the Uniform System of Accounts for the Lodging Industry, food revenue is defined as "revenue derived from the sale of food, including coffee, milk, tea and soft drinks. Food sales do not include meals charged on employee's (staff) checks." Beverage revenues are "derived from the sale of beverages." In addition to the revenue generated through the sale of food and beverages, hotels normally produce other related income derived from meeting room rental, cover charges, service charges, and miscellaneous banquet revenue. The combination of food income, beverage income, and other food and beverage income equals total food and beverage revenue.

Table C.S.5.5 shows the various revenue categories that comprise the food and beverage department within a hotel.

The comparable statement of income and expense (Table C.S.5.3) provides the following data, which will be used to project the base food revenue for the proposed Sheraton.

Total food revenue	\$4,734,000
Food revenue per available room	\$16,325

Food revenue per occupied room	\$65.77
Ratio of food revenue to rooms revenue	46%
Ratio of food revenue to total revenue	26%

The description of the comparable hotel provided in Table C.S.5.4 indicates that this hotel has larger, more elaborate food and beverage facilities than are planned for the proposed Sheraton. Specifically the comparable has 50 square feet of meeting and banquet space per room compared to the subject's 42 square feet -- a difference of about 16%. In addition, the Sheraton will have a lower concentration of restaurant and lounge space.

These differences between the food facilities of the comparable and those planned for the subject indicate that the food revenue per available room unit of comparison should be adjusted downward. Offsetting this downward adjustment would be a slight upward adjustment to reflect the Sheraton's new facilities and higher average room rate, which could have a positive impact on menu prices. Based on this analysis, the comparable property's food revenue per available room will be adjusted downward by 15%. When this adjustment is applied, the following base food revenue is produced:

$$\$16,325 \times .85 \times 250 \text{ rooms} = \$3,469,000 \text{ (rounded)}$$

The ratio of food revenue to rooms revenue would also be an appropriate unit of comparison. This unit of comparison would be adjusted downward to compute the subject's food base. However, the ratio of food revenue to total revenue is generally a less reliable unit of comparison.

Beverage revenue is derived from the sale of alcoholic beverages in a hotel's restaurants and banquet rooms and from the sale of both alcoholic and non-alcoholic beverages in the hotel's bars and lounges. Beverage revenue can be projected in a manner similar to food revenue using either the build-up cover approach or the fixed and variable component method. Appraisers should recognize that much of the beverage revenue generated by a hotel usually comes from its lounge outlet. Lounge customers tend to be very fickle, however, frequenting a popular spot one year and not returning the next. Since management plays an important role in the ultimate success of a hotel's beverage operation, it is often wise to use comparable beverage revenue data

that reflect the same level of beverage management expertise as will be experienced by the subject property.

Beverage revenue tends to be highly variable, changing directly with food revenue. The most appropriate unit of comparison, therefore, is a percentage of food revenue. The ratio of beverage revenue to food revenue for the comparable is approximately 33%. While the proposed Sheraton will have a similar ratio of beverage facilities to food facilities as the comparable, a downward adjustment to the unit of comparison is appropriate to account for the comparable property's highly successful lounge. Using a ratio of beverage revenue to food revenue of 27%, the following calculation shows the base beverage revenue for the subject property.

$$\$3,469,000 \times .27 = \$937,000 \text{ (rounded)}$$

Telephone Revenue

Telephone revenue is generated from hotel guests charging local and long-distance calls to their rooms and from out-of-town patrons using the hotel's public telephones. Before deregulation of the telephone industry in the early 1980s, hotels were limited to a 15% commission on long-distance calls. This mark-up was generally too low to generate a profit for most hotels' telephone departments, which typically ran at a loss. Today, however, the mark-up at which hotels can resell telephone services to guests is not regulated. Because of this freedom and the development of sophisticated call accounting equipment, the telephone department is generally able to make some profit. State-of-the-art telephone equipment can provide functions as sophisticated as least cost routing, automatic price billing, and post telephone charging to guest folios. Moreover, hotels can select among various providers of long-distance services and can work with any one of a number of Alternative Operator Services (AOS), which route and price calls and may also provide additional telephone-related guest services.

In recent years the hotel industry has seen diverging trends with respect to telephone revenue. The number of long-distance calls billed per occupied room has decreased due to the use of long-distance carrier services accessed via calling cards, as well as increased reliance upon email. When hotel

guests charge long-distance calls to their personal or business telephone accounts, the hotel loses the revenue from the long-distance tariff and mark-up and can generally charge only an access fee.

Table C.S.5.6 shows the various accounts that comprise telephone revenue according to the Uniform System of Accounts for the Lodging Industry.

Telephone revenue varies directly with changes in occupancy. The small portion of this revenue category that is fixed represents pay station revenue generated by unregistered patrons using the hotel's food and beverage outlets and meeting rooms. The appropriate units of comparison would be revenue per occupied room and revenue per available room.

The comparable statement of income and expense shows the following data, which provide a basis for projecting the base telephone revenue for the proposed Sheraton.

Total telephone revenue	\$474,000
-------------------------	-----------

Telephone revenue per available room	\$1,636
Telephone revenue per occupied room	\$6.59
Ratio of telephone revenue to rooms revenue	4.6%
Ratio of telephone revenue to total revenue	2.6%

Because the comparable property has about 15% more meeting, banquet, restaurant, and lounge facilities than the proposed Sheraton, it probably attracts 15% more unregistered food and beverage patrons who would use the pay telephones. If outside usage represents 10% of the total telephone revenue (the fixed component), then the comparable data should be adjusted downward by approximately 1.5% ($15\% \times 10\% = 1.5\%$). Based on this analysis, the comparable property's telephone revenue per occupied room is adjusted downward by 1.5%. With this adjustment, the base telephone revenue is calculated as follows:

$$\$6.59 \times .985 \times 250 \text{ rooms} \times .68 \times 365 = \$403,000 \text{ (rounded)}$$

The same base telephone revenue could have been calculated using the telephone revenue per available room. The ratio of telephone revenue to rooms revenue or to total revenue are considered secondary units of comparison because small changes in a hotel's average room rate generally have little impact on the charges for telephone service. If the comparable were a different class of hotel, then the potential difference in telephone rates charged would have been taken into consideration.

Other Income

Other income represents revenue derived from sources other than the sale of guest rooms, food and beverages, and telephone service. Depending on the type of hotel and the facilities and amenities offered, other income may include the following revenue items.

- Rents charged for stores, office space, concession space, clubs, and storage;
- Commissions from auto rental, photography, telegrams, and vending services;

-
- Concession revenue paid by others for the privilege of operating departments that might otherwise be operated by the hotel itself; gift shops, barbers, and beauty shops are typically concessions;
 - Revenue derived from in-room movie charges;
 - Cash discounts earned from creditors' accounts for payment within the discount period; trade discounts, which are deducted from the cost of goods sold, are not considered other income;
 - Electronic games and pinball machines;
 - Forfeited advance deposits and guaranteed no-shows;
 - Service Charges added to customers' accounts for service that does not have to be paid to service personnel;
 - Interest income from house accounts;
 - Salvage revenue from the sale of old and obsolete items.

Other income is highly sensitive to occupancy and slightly sensitive to food and beverage usage so the appropriate units of comparison would be either a percentage of rooms revenue adjusted for any unusual food and beverage volume or revenue per occupied room. When a hotel has extensive retail or

office rental space, recreational amenities, or other significant sources of other income, a separate revenue category may be used to show the extent of this income.

The following data from the comparable statement provides a basis for projecting the base other income for the proposed Sheraton.

Total other income	\$870,000
Other income per available room	\$3,000
Other income per occupied room	\$12.09
Ratio of other income to rooms revenue	8.4%
Ratio of other income to total revenue	4.8%

Using the ratio of other income to rooms revenue as the unit of comparison, several fine-tuned adjustments would be appropriate. A downward adjustment is needed to reflect the comparable property's more extensive restaurant and banquet space, which should generate more other income than the subject. A slight upward adjustment should also be applied to reflect the sub-

ject's higher average rate, newer facilities, and greater ability to use these advantages to generate proportionately more other income than the comparable.

Based on this analysis, the comparable property's 8.4% ratio of other income to rooms revenue will be adjusted downward to 8.0%. When this adjustment is applied, the following base other income is produced

$$.08 \times \$9,218,000 = \$737,000 \text{ (rounded)}$$

Total Revenue

The base total revenue is calculated by adding the five revenue components.

Rooms	\$ 9,218,000
Food	3,469,000
Beverage	937,000

Telephone	403,000
Other income	<u>737,000</u>
Total	\$14,764,000

Rooms Expense

Rooms expense consists of items relating to the sale and upkeep of guestrooms and public space. Table C.S.5.7 outlines the components of the rooms department expense category according to the Uniform System of Accounts for the Lodging Industry.

Most of the categories comprising rooms expenses appear to be moderately occupancy-sensitive and slightly rate-sensitive, which indicates that a portion of the category is fixed and the remainder is occupancy-variable.

Salaries, wages, and employee benefits account for a substantial portion of the rooms expense. Although a portion of the payroll expense is occupancy-variable in that management can schedule maids, bell personnel, and house cleaners to work only when occupancy requires, much of the rooms payroll is fixed. Front desk personnel, public area cleaners, a housekeeper, and other supervisory staff are needed regardless of the level of occupancy. As a result, salaries, wages, and employee benefits are only moderately occupancy-sensitive.

Commissions represent remuneration to travel agents for booking rooms. Since these charges are usually based on a percentage of rooms revenue, they are very occupancy- and rate-sensitive. Similarly, reservation expenses normally reflect the cost of a franchise reservation system, which typically charges a percentage of rooms revenue.

Other rooms expenses such as laundry, linen, supplies, and uniforms are also somewhat affected by volume and are therefore slightly occupancy-sensitive.

Because rooms expenses are greatly influenced by changes in occupancy and average room rates, the applicable unit of comparison would be either a percentage of rooms revenue or an amount per occupied room.

The comparable statement of income and expense shows the following data which can be used to project the base rooms expense for the proposed Sheraton.

Total rooms expense	\$2,444,000
Rooms expense per available room	\$8,428
Rooms expense per occupied room	\$33.96
Ratio of rooms expense to rooms revenue	23.5%

The percentage of rooms expense to rooms revenue was selected as the appropriate unit of comparison for the appropriate proposed Sheraton. A fine-tuned adjustment is required because the proposed Sheraton has an estimated average room rate of \$148.56 in the base year compared to the comparable property's current average rate of \$144.50. This slight difference should ena-

ble the Sheraton to achieve a rooms expense ratio that is somewhat lower than the comparable property's. The amount of the downward adjustment can be based on the percentage relationship between the average room rates of the comparable and the Sheraton. The average room rate of the comparable divided by the average room rate of the Sheraton shows that the comparable property's rate is 97% of the Sheraton's. Multiplying this percentage by the comparable property's ratio of rooms expense to rooms revenue quantifies the downward adjustment.

$$.235 \times .97 = .229, \text{ or } 22.9\%$$

In addition to this room rate modification, a slight upward adjustment should be made to reflect the fact that the comparable has 40 more rooms than the subject. Based on this analysis, the comparable property's rooms expense ratio is adjusted to 23.0%. The base rooms expense is calculated by multiplying the subject's base rooms revenue by the rooms expense ratio.

$$\$9,218,000 \times .23 = \$2,120,000 \text{ (rounded)}$$

Food and Beverage Expense

The food and beverage department expense consists of costs incurred for the operation of a hotel's food, beverage, and banquet facilities. Although food revenue and beverage revenue are normally projected separately and each has its own categories on a hotel's income and expense statement, the expenses for these revenue sources are combined into a single expense category called food and beverage expense. Table C.S.5.8 outlines the components of the food and beverage department expense category.

The costs of sales, salaries, and wages comprise the major portion of food and beverage expense. These components are moderately to highly food-and-beverage-sensitive in that they vary directly with changes in food and beverage volume. Associated costs for china, glassware, and linen; operating supplies; other operating expenses; and uniforms tend to be either slightly food-and-beverage-sensitive or moderately fixed. Based on this analysis, the appropriate unit of comparison is a percentage of food and beverage revenue. When using this unit of comparison, care must be taken to select comparable properties with similar ratios of beverage to food sales.

Since the profit margin from the sale of beverages is considerably higher than the profit from the sale of food, a hotel with a higher ratio of beverage to food sales should have a lower food and beverage departmental expense ratio. The expense ratio increases as the ratio of beverage to food sales declines.

To quantify the impact of different ratios of beverage to food sales, it is sometimes helpful to analyze the cost of food sold and the cost of beverages sold separately. The three cost components that comprise the comparable property's food and beverage expense category are shown below. This information can be obtained from the supporting schedules, which are normally part of a hotel's financial statements.

Cost of food sold	\$1,565,000	33%*
Cost of beverages sold	271,000	18%**
All other food and beverage expenses	<u>2,873,000</u>	46%***
Total	\$4,709,000	

*Percent of food revenue

**Percent of beverage revenue

***Percent of total food and beverage revenue

The comparable data indicate a food cost of 33% of food revenue, a beverage cost of 18% of beverage revenue, and all other expenses totaling 46% of total food and beverage revenue.

The comparable hotel shows a ratio of beverage revenue to food revenue of approximately 33%, compared to the proposed Sheraton's base ratio of 27%. Because of this difference, one would expect the Sheraton's food and beverage department expense ratio to be higher than the comparable property's 75.0%. The comparable also has higher food and beverage volume on a per-room basis, indicating stronger banquet capture which tends to increase food and beverage profits due to lower costs. (See Table C.S.5.9.)

Based on this analysis, an upward adjustment to the comparable property's food and beverage expense ratios is warranted. Shown below are the adjusted expense ratios that will be used to project the base food and beverage expense for the proposed Sheraton Hotel.

Cost of food sold	34%
Cost of beverages sold	19%
All other food and beverage expenses	47%

The base food and beverage expense for the proposed Sheraton is calculated in Table C.S.5.10.

The ratio of the Sheraton's total food and beverage base expense to its total base food and beverage revenue (\$4,406,000) is 78%, which appears well supported by the comparable data and data from other, similar hotels.

Telephone Expense

Telephone expenses consist of all costs associated with the operation of a hotel's telephone department. For smaller hotels with automated phone systems, the telephone department may be simply an additional responsibility for the front desk personnel. In most large properties the telephone department will have one or more full-time telephone operators to provide the necessary phone service to guests.

Table C.S.5.11 illustrates the various accounts that make up telephone expenses.

The bulk of the telephone expense is attributable to the cost of local and long-distance calls billed by the telephone companies providing this service. Since in-house guests make most of these calls, these expenses are moderately occupancy-sensitive. Unless a particular department has unusually heavy telephone usage, normal telephone usage by hotel employees is also charged to this account. The remaining costs such as salaries and wages, other expenses, and printing are all moderately fixed. Note that according to the *Uniform System of Accounts for the Lodging Industry* (USALI), the rental of telephone

equipment is categorized as a fixed charge, under the rent, taxes, and insurance item. Care should be taken to determine exactly how the hotel accounts for telephone equipment rental or leasing.

Based on this analysis of the components of telephone expense and considering that the cost of telephone service is largely driven by in-house usage that generates telephone revenue, the appropriate unit of comparison would be a percentage of telephone revenue.

The comparable statement of income and expense provides the following data as a basis for projecting the base telephone expense for the proposed Sheraton.

Total telephone expense	\$199,000
Telephone expense per available room	\$687
Telephone expense per occupied room	\$2.77
Ratio of telephone expense to	
Telephone revenue	42.0%

Using the ratio of telephone expense to telephone revenue as the unit of comparison, a slight upward adjustment is needed because the comparable property's telephone department will probably generate more profit than the proposed Sheraton's. This difference can be attributed to the comparable property's higher concentration of meeting and banquet space, which attracts somewhat more outside capture and therefore more telephone usage than is expected for the Sheraton. Greater telephone usage is indicated by the comparable property's telephone revenue per available room, which is \$1,636 compared to the Sheraton's base of \$1,612 (1.5% difference).

Based on this analysis, the comparable property's ratio of telephone expense to telephone revenue is adjusted upward very slightly from 42.0% to 43.4%. With this adjustment, the following base telephone expense is produced:

$$.434 \times \$403,000 = \$175,000 \text{ (rounded)}$$

Other Income Expense

Other income expense covers all the expenses associated with other income revenue. The extent of these expenses depends on the nature of the revenue. For example, if a hotel leases a gift shop to an operator (tenant), the expenses of the hotel will be minimal, consisting only of items such as rental fees and commissions. If, on the other hand, the hotel operates the gift shop, both the revenue and expenses will be higher; the products sold will generate revenue and the cost of goods sold, payroll, and other expenses will be incurred. The appropriate unit of comparison is a percentage of other income (revenue).

The comparable statement of income and expense shows the following data, which provide a basis for projecting the base other income expense for the proposed Sheraton.

Total other income expense	\$413,000
Other income expense per available room	\$1,425
Other income expense per occupied room	\$5.74
Ratio of other income expense to	

Other income revenue	47.5%
----------------------	-------

Using the ratio of other income expense to other income revenue as a unit of comparison, an upward, fine-tuned adjustment is required to reflect the premium in the comparable property's other income revenue expressed on a per-available-room basis, relative to the subject property. (See Table C.S.5.12.)

Based on this analysis, the comparable property's ratio of other income expense to other income revenue is adjusted upward from 47.5% to 48.3%. This reflects an adjustment of approximately 1.8% and takes into account both the fixed and variable components of other income expense, which is generally 50% fixed and 50% variable. The following calculation shows the base other income expense for the proposed Sheraton:

$$.483 \times \$737,000 = \$356,000 \text{ (rounded)}$$

Administrative and General Expense

The administrative and general expenses of a hotel include all the managerial and operational expenses that cannot be attributed to a particular department. For example, the general manager might work part of the day solving a problem in the rooms department and spend the remainder of the day on booking an important food and beverage function. It would be difficult to allocate the manager's salary to the individual departments served, so the category of administrative and general is used. Table C.S.5.13 outlines the components of the administrative and general expense category according to the Uniform System of Accounts for the Lodging Industry.

Most administrative and general expenses are relatively fixed. The exceptions are cash overages and shortages; credit card commissions; provisions for doubtful accounts which are moderately affected by the quantity of transactions or total revenue; and salaries, wages, benefits, and security, which are slightly influenced by volume.

In recent years several new categories have been added to administrative and general expenses. The human resources account includes the cost of recruit-

ing, relocating, and training employees. Security expenses cover the cost of contract security for the property and other related expenses. General insurance (also known as liability insurance) was recently moved out of the administrative and general expense category, into insurance. Insurance expense previously consisted of only building and building contents insurance. The elements of the newly defined insurance expense category will be detailed later in this section.

Considering the components of administrative and general expense, the appropriate unit of comparison is the amount per available room, supported by the percentage of total revenue.

The following data from the comparable statement of income and expense provide a basis for projecting the base administrative and general expense for the proposed Sheraton.

Total administrative and general expense	\$1,361,000
Administrative and general expense	
per available room	\$4,692

Administrative and general expense	
per occupied room	\$18.90
Ratio of administrative and general expense to	
total revenue	7.5%

Using the administrative and general expense per available room as a unit of comparison, with support from the ratio of administrative and general expense to total revenue, several fine-tuned adjustments are needed to compensate for various differences between the comparable and the subject property.

As Table C.S.5.14 indicates, the comparable hotel's total rooms, food and beverage, telephone, and other income revenue expressed in dollars per available room is 5.2% higher than that of the proposed Sheraton. The difference between the total revenue per available room of the Sheraton and the comparable is \$62,150 - \$59,056, or \$3,094. Applying the comparable property's ratio of administrative and general expense to total revenue of 7.5%, the additional administrative and general expense incurred by the comparable is estimated to be $\$3,094 \times .075 = \232 . Since the administrative and general ex-

pense category is 70% fixed and 30% variable, only 30% of the \$232 of administrative and general expense, or \$70, would be deducted from the comparable property's per-room cost.

Based on this analysis, the comparable property's administrative and general expense of \$4,692 per available room is adjusted downward to \$4,622. This adjustment of approximately 1.5% takes into account the fixed and variable components of this expense category. The following calculation shows the base administrative and general expense for the proposed Sheraton.

$$250 \times \$4,622 = \$1,156,000 \text{ (rounded)}$$

The base administrative and general expense estimated above equates to 7.8% of the Sheraton's total revenue. Relative to the comparable, this increase in the expense ratio appears normal and provides support for the previous per-available-room calculation.

Marketing Expense

Marketing expense includes all the expenses associated with the advertising, sales, and promotion of a lodging facility. These marketing activities are designed to obtain new customers and retain existing ones. Marketing efforts attempt to create an image for the hotel, develop customer awareness, and stimulate patronage for the property and its facilities. Unlike most expense categories, marketing is controlled almost completely by management. Most hotel operators develop annual marketing plans that detail the expenditures for the coming year. If such a budget is followed, total marketing expenses can be projected accurately.

In establishing a marketing budget, a hotel operator considers many factors. The results of marketing expenditures are not always realized immediately. Depending on the type of advertising and promotion used, the increased patronage generated may not be seen for several months or several years. One advantage of this lag period is that the benefits of a successful marketing campaign tend to continue after the marketing program has ended.

Hotels have unique operating characteristics that must be considered in developing a marketing plan or reviewing the effectiveness of an established marketing effort. Some significant characteristics are outlined below.

- New hotels, especially those catering to the meeting and group segment, need a pre-opening marketing plan that begins before the hotel opens. Most groups book hotels several months to several years prior to their meetings. For business meetings and conferences, accommodations are typically engaged three to six months in advance; large national conventions may choose their sites as many as five years in advance. If a meeting-oriented hotel is not active in the marketplace in time to obtain this pre-booked business, it will lose out to the established competition and suffer low occupancy during its initial years of operation.
- Marketing efforts tend to be cumulative, so the initial marketing budget for a new hotel should allow for greater expenditures, which may be needed to generate the desired impact.
- If an existing property has neglected its marketing efforts for the past several years, a higher-than-normal marketing budget may be needed to maintain or increase current revenues. However, if an aggressive marketing program has been in effect, marketing expenses may be reduced without adversely affecting revenues.

- The marketing budget should be tailored to the specific property and to the nature of the local supply and demand for transient accommodations. Characteristics such as location, visibility, chain affiliation, class, and the types of market segments served can affect the type and amount of marketing expenditures required. The local competitive environment can also influence the amount of money needed to capture the necessary market demand.

Table C.S.5.15 shows the various accounts that comprise marketing expense according to the Uniform System of Accounts for the Lodging Industry.

Marketing expenses can be divided into five subcategories: sales, reservations, advertising and merchandising, other marketing activities, and fees and commissions. Together these activities describe the entire marketing effort of the property, incorporating both internal staff and outside operators.

Costs related to the marketing of guest rooms -- e.g., reservations, travel agency fees, commissions -- have traditionally been charged to rooms department expense. The Uniform System of Accounts for the Lodging Industry states that, "There is a growing recognition that these costs are elements of the overall marketing activity . . . and hotels which recognize these func-

tions as marketing responsibilities should charge these expenses to marketing."

Table C.S.5.15 shows that all categories are budgeted as fixed expenses except fees and commissions, which are occupancy- and rate-sensitive because they are generally based on a percentage of rooms revenue.

Considering the components of marketing expenses, it appears that the appropriate unit of comparison is the amount per available room. Note that in most cases (and in the presentation of this case study), franchise fee costs are calculated separately. These costs are generally 100% variable and dependent on rooms revenue.

The proposed Sheraton is expected to implement an extensive pre-opening marketing effort focusing on meetings and convention patrons who typically book their functions in advance.

The comparable property's marketing expenditures are currently \$2,095 per available room, or approximately 3.4% of total revenue. Since the total revenue per available room of the comparable property is approximately 5.2% higher than the projected base total revenue per available room of the proposed subject property, it is logical to assume that the marketing budget for the subject will be somewhat lower than the comparable property's \$2,095 per available room. Based on this consideration, we have adjusted the comparable expense ratio downward by 5.2%. The calculations for the comparable property's base marketing expense are

$$\$2,095 \times 0.948 = \$1,986$$

$$\$1,986 \times 250 \text{ rooms} = \$497,000 \text{ (rounded)}$$

A \$497,000 base marketing expense budget, which equates to 3.4% of base total revenue, should be adequate for this type of hotel.

(A new hotel generally requires a larger marketing budget during its initial years of operation to penetrate the market effectively, capture its market share, and build occupancy. In the case of the subject property, this particular

competitive market is approaching a point of saturation and, in this competitive environment, a greater-than-normal marketing effort will be required to capture a sufficient level of patronage. This adjustment will be addressed later in the Case Study.)

Franchise Fee

A number of fees are commonly charged as part of a given hotel's affiliation with a hotel chain. The most common on-going expenses are reservation fees, marketing assessments, and royalties. Reservation fees are categorized as a rooms department expense, while the marketing assessment is categorized as a marketing department expense. The royalty portion of the franchise expense represents the fees paid for the use of the company's name, trademarks, and service marks. The royalty is typically considered the equivalent of the franchise fee. The royalty is generally charged as a percentage of rooms revenue. In the case of Sheraton, current royalty rates equate to 5.0% of rooms revenue. The base year franchise fee is therefore calculated as follows.

$$\$9,218,000 \times .05 = \$461,000$$

Property Operations and Maintenance Expense

Property operations and maintenance (PO&M), which was formerly known as repair and maintenance, is another expense that is largely controlled by management. Except for essential repairs needed to keep the facility open and prevent damage, most maintenance items can be deferred for varying lengths of time. Maintenance is an accumulating expense. If a necessary repair is postponed, it does not go away; rather it becomes deferred maintenance, which ultimately must be cured at a later date. When an appraiser projects the income and expenses of an existing lodging facility, the property operations and maintenance expenses over the past several years should be investigated to determine if adequate expenditures were made to keep the facilities in good condition. This investigation should be conducted in conjunction with the physical inspection of the property to ensure that the funds expended took care of the required repairs.

Several factors influence the level of maintenance required for a lodging facility:

- The age of the hotel. Most new hotels are protected for several years by the manufacturer's warranties on new equipment, which reduce PO&M costs during the initial years of operation. As hotels age, maintenance costs tend to escalate rapidly.
- Use of a preventive maintenance system. Some hotel operators adopt preventive maintenance programs, periodically checking and maintaining all the important components of the lodging facility. Preventive maintenance allows management to anticipate possible maintenance problems and correct them early with a minor repair rather than a major overhaul.
- Quality of facilities. The quality and type of the initial construction can have a direct impact on future maintenance requirements. The use of quality building materials and sound construction methods will generally reduce maintenance expenditures over the long term. During the physical inspection, the appraiser should investigate the physical condition and quality of the original construction.

Property operations and maintenance is considered an operating expense and, as such, must only contain components that can be expensed rather than capitalized under IRS regulations. For example, if a table leg breaks, repairing the leg would be considered an expense chargeable to property operations and maintenance. If the table is replaced, it becomes a capital expenditure that would not fall into the property operations and maintenance category. Appraisers account for the capital replacement of items such as furniture and equipment in the reserve for replacement account, which will be discussed in a later section of this chapter.

Table C.S.5.16 outlines the components of the property operations and maintenance expense category.

The items in the property operations and maintenance category are either fixed or very slightly influenced by changes in occupancy and food and beverage usage. Because PO&M is mostly fixed, the appropriate unit of comparison for this expense category is the amount per available room supported by the percentage of total revenue.

The property operations and maintenance expense for the comparable is currently \$2,724 per available room. A downward adjustment to the comparable property's per-room PO&M unit of comparison is needed to reflect the 5.2% higher total revenue per available room of the comparable, relative to the base year projections for the proposed Sheraton. As with previous per-available-room adjustments, the variable component must be factored into the calculation.

First the \$2,724 per room PO&M expense of the comparable is multiplied by the 5.2% difference in revenue ($\$2,724 \times .052 = \142). The resulting figure is then multiplied by 30%, which represents the portion of the PO&M expense category that is considered variable ($\$142 \times .30 = \42). This amount is deducted from the comparable property's per-room PO&M expense to produce the subject's per room base ($\$2,724 - \$42 = \$2,682$). The total base property operation and maintenance expense for the proposed Sheraton is calculated as follows:

$$\$2,682 \times 250 \text{ rooms} = \$671,000 \text{ (rounded)}$$

(As with the marketing expense, an adjustment is generally warranted in the initial years of a maintenance expense forecast for a new hotel. Because wear and tear accrues gradually, and because a new hotel has the benefit of warranties for the first one to three years of operation, maintenance expense tends to require a discount in the first two to three projection years. The basis for this adjustment is set forth later in the Case Study.)

Energy Cost

Energy consumption within a lodging facility typically takes several forms: water and space heating, air-conditioning, lighting, cooking fuel, and other miscellaneous power requirements. The most common sources of hotel energy are electricity, natural gas, fuel oil, and steam. The energy cost account also includes the cost of water and sewer service.

Table C.S.5.17 illustrates the various accounts that make up energy expenses according to the Uniform System of Accounts for the Lodging Industry.

The total cost of energy varies with the source and quantity of fuel used. Electricity tends to be the most expensive source, followed by oil and gas. Although all hotels consume a sizable amount of electrical energy, most properties supplement other, less expensive sources such as gas and oil for heating and cooking.

The cost of electrical energy is a function of the amount of energy consumed and the size of the peak demand. The unit of electrical consumption is the kilowatt hour (kwh), which is measured with a watt-hour meter. To calculate the monthly electric bill, the utility company reads the electric meter and determines the number of kilowatt hours of electricity consumed since the last reading. This amount is multiplied by the appropriate rate schedule to determine the usage charge. The peak demand charge reflects the highest number of kilowatts required by the property during a specific, short time period. The demand is also read monthly from the utility meter, with the additional charge added to the electric bill based on a demand rate schedule.

Utility charges for other sources of energy such as gas and oil are generally calculated based entirely on usage, with no additional expense for demand.

The unit for gas consumption is the therm, which is measured by a gas meter. Oil is delivered to the property and stored in tanks. Bills are rendered upon delivery and the unit of measurement is the gallon.

A large portion of a hotel's energy consumption is relatively fixed and varies little with changes in occupancy. Restaurants, kitchens, public areas, and corridors must be continually lighted and heated or air-conditioned, whether the hotel is full or nearly empty. The energy costs of an additional occupied room (i.e., the cost of a few hours of light, television, heat, or air-conditioning) are minimal.

To forecast the energy costs of a hotel or motel, total energy consumption, the sources of energy used, and utility rates must be estimated.

The amount of energy consumed in heating, air-conditioning, and operating a lodging facility is measured in British Thermal Units (BTUs). By estimating the number of BTUs a hotel or motel will use over a 12-month period and multiplying this amount by a cost factor based on local utility charges, an energy cost forecast can be developed.

A survey performed by The Hospitality, Lodging and Travel Research Foundation, Inc., provides information on the annual BTU energy requirements of hotels in various regions on a square-foot basis. A total of 268 properties with 100,281 guestrooms were surveyed. Table C.S.5.18 shows the results of this survey

If the approximate square footage of the hotel is known, this table can be used to estimate its total annual energy consumption.

To estimate the amount of fuel consumed, a factor is applied to convert the unit of consumption (kilowatt hour, therm or gallon) into the specific number of BTUs. Table C.S.5.19 shows the conversion factors for electricity, gas, and oil.

A portion of the energy consumed by hotels and motels is always in the form of electricity. This source is generally supplemented with either gas or oil, when these alternatives are available and cost-effective. According to another survey performed by The Hospitality, Lodging and Travel Research Founda-

tion, Inc., electrical energy accounts for approximately 40% to 60% of the total BTU consumption for a typical lodging facility, with the supplemental fuels representing the remainder.

Once the total units of consumption are calculated, the utility company and fuel oil dealer can be contacted to determine rates and costs. Utility companies are usually extremely helpful about providing the necessary data, information, and costs to estimate the energy costs for a lodging facility.

The comparable hotel used in developing the base for the proposed Sheraton is located in the Northeast region of the United States, as is the subject, but the comparable is not served by the same utility company as the subject. Therefore the energy expense, particularly the electricity charges of the comparable, may not be appropriate for projecting the Sheraton's base. The data presented in Tables C.S.5.18 and 5.19 will be used to estimate the specific components of energy consumption, taking into account the rates actually charged within the market area.

Table C.S.5.18 indicates that a hotel like the proposed Sheraton located in the Northeast region of the United States would consume approximately 161,807 BTUs per square foot per year. According to the facility recommendations for the subject property, the total building area will be approximately 168,750 square feet (675 square feet per room). Multiplying the number of BTUs per square foot per year by the hotel's total area results in the estimated annual BTU consumption.

$$161,807 \times 168,750 = 27,304,931,250 \text{ BTUs/year}$$

Assuming that 50% of the subject property's energy will come from electricity and 50% from oil, the calculations in Table C.S.5.20 show the projected kilowatt hours of electricity and the gallons of oil that will be required during the hotel's stabilized year of operation.

The current electric rate quoted by the local utility company is \$0.0868 per kilowatt hour, including normal demands charges, seasonal fuel adjustments, and quantity discounts. Oil prices are currently \$1.20 per gallon, including delivery charges and appropriate quantity discounts. Water charges

were estimated at \$112,000. The total base energy expense for the proposed Sheraton can be calculated as follows:

Electricity:

4,000,136 kwh x \$0.0868	\$347,212
--------------------------	-----------

Oil:

97,518 gallons x \$1.20	117,012
-------------------------	---------

Water:

	<u>112,000</u>
--	----------------

	\$ 575,224
--	------------

Total base energy expense (rounded)	\$ 575,000
-------------------------------------	------------

The total base energy expense for the proposed Sheraton Hotel is estimated to be \$2,300 per available room, which is in line with the comparable property's energy expense of \$2,483 per available room.

Management Fee

The management fee expense category covers the basic fee paid to the type of hotel management company that is anticipated to operate the subject property. Some hotel management companies provide management services only, while others offer both management services and a brand-name affiliation. When a management company has no brand affiliation, the property owner can often acquire a franchise to provide the necessary image and recognition. Although most hotel management companies use a fee structure that includes both a basic fee (usually a percentage of total revenue) plus an incentive fee (usually a percentage of a defined profit), the incentive portion is generally subordinated to debt service and does not appear in a forecast of net income before debt service. Although the incentive fee does not lessen the cash flow available for debt service, it does reduce the potential cash flow to equity and therefore must be considered in the valuation process.

Generally the most appropriate way to account for the impact of the incentive fee on the equity component of the investment is to use the net income forecast before debt service and incentive fee, but adjust the equity dividend or yield rate upward to reflect this added cost of management.

Basic hotel management fees are almost always based on a percentage of total revenue, which means that they are 100% variable. The proper unit of comparison is therefore a percentage of total revenue.

The proposed Sheraton will be operated by the HVS Hotel Group, an independent hotel operating company with experience in managing similar hotels. The hotel will have a Sheraton franchise affiliation for brand name identification and a reservation system. The HVS Hotel Group has agreed to operate the subject property for a basic management fee of 3.0%, which is considered typical for this type of operator.

Applying this management fee structure to the base total revenue for the proposed Sheraton Hotel produces the following base management fee estimate:

$$.03 \times \$14,764,000 = \$443,000 \text{ (rounded)}$$

Property Taxes

Property taxes are the taxes paid to local municipalities for government services such as highways, schools, parks, and sanitation service. The purpose of property taxes is to allocate the municipal tax burden on the basis of property value. The higher the value of the property owned, the larger the proportion of the tax burden the owner must assume. The legal term for property tax is ad valorem tax, or a tax "in proportion to value."

Depending on the taxing policy of the municipality, property taxes may be based on the value of the real property alone (real estate tax) or the value of the personal property (personal property tax.)

To properly allocate the tax burden, municipalities employ assessors, who assess, or value, all the taxable real estate within their jurisdictions. Theoretically the assessment bears a definite relationship to market value, so properties with similar market values will have similar assessments and properties with higher or lower values will have proportionately larger or smaller assessments.

Projecting property taxes for an existing hotel is relatively simple. The assessed value is normally a matter of public record and can be obtained by contacting the local taxing authority. Multiplying the assessed value by the anticipated tax rate produces the estimated property tax. However, care must be taken to determine whether the assessed value may escalate at some future time due to increasing real estate values in the local market or a new assessment of the subject property triggered by a recent sales transaction.

Projecting property taxes for a proposed lodging facility is generally more difficult. Since the objective of property assessment is to maintain a specific value relationship among all the properties in a taxing jurisdiction, the best way to estimate the assessed value of a proposed hotel is to use the actual assessed values of comparable hotels. This procedure is similar to the sales comparison approach. The assessed value of the subject property is estimated by comparing it with the assessed values of similar hotels in the market area. The estimate is then adjusted to reflect dissimilarities between the comparable data and the subject.

It is advisable to compare and adjust the assessed values of property improvements only and not the combined value of the land and improvements. Taxing jurisdictions provide separate assessed values for land and improvements. The combination of the two equates to the total property value, which forms the basis for calculating the real estate tax burden.

The assessed value of the land is developed from actual land sales within the jurisdiction. Based on these known land sales, the assessor forms a grid of land values in the jurisdiction indicating where the best parcels with the highest values are located. Values decline as one moves away from this prime area toward less desirable sites. Since each parcel is assessed based on its desirability relative to the surrounding parcels, assessors are extremely reluctant to change one land assessment because this could alter the assessment grid for all the other parcels in the jurisdiction. Consequently, when estimating the assessed value of a proposed hotel, the actual assessed value of the land should be considered unchangeable; only the value of the improvements should be compared and adjusted.

Since only the value of the improvements is to be adjusted, any location-specific advantages or disadvantages of the property should be disregarded because they have theoretically been accounted for in the land assessment. Moreover, the value of hotel improvements also does not include consideration of non-real estate components such as decor, management, franchise, and business value.

If the local taxing jurisdiction uses a personal property assessment, the appraiser must also estimate the value of the facility's furniture and equipment. Since personal property assessment procedures vary widely, assistance from the local assessor is often helpful. In many instances the assessed value of furniture and equipment is based on their actual cost minus the depreciation specified by a mandated depreciation schedule. It is important to have a clear definition of what is considered personal property and what is considered real property.

The taxing jurisdiction in which the proposed Sheraton is located assesses only real property. The current land assessment for the subject property is \$2,800,000, or \$11,200 per room for the 250-room hotel. Information on the

assessed values of competitive hotels in the subject's taxing jurisdiction is presented in Table C.S.5.21.

In Table C.S.5.21, the unit of comparison is the assessed value per room, the key variable tracked by hotel investors and consultants. Depending on the taxing jurisdiction, some assessor's office personnel use value per square foot as the basis for comparison. In either case, the findings rely on the same basic notion of comparison, and would likely result in similar findings.

The hotel with facilities most comparable to the proposed Sheraton is the Hilton Hotel, which has an improvements assessment of \$55,638 per available room. The proposed Sheraton will be newer than the Hilton and feature a more modern design. Based on this comparison, an improvements assessment of \$60,000 per available room will be used for the proposed Sheraton. This per-room assessed value equates to a total improvements assessment for the proposed Sheraton of \$15,000,000 ($\$60,000 \times 250$). Thus the total base year assessment for the proposed Sheraton, assuming it is fully constructed and operational, is estimated as follows:

Land	\$ 2,800,000
------	--------------

Improvements	<u>15,000,000</u>
Total	\$17,800,000

The current tax rate is \$24.72 per \$1,000 of assessed value. Based on this rate, the base property tax for the proposed Sheraton would be:

$$\$17,800,000 / 1000 = \$17,800.00$$

$$\$17,800.00 \times \$24.72 = \$440,000 \text{ (rounded)}$$

These estimated base property taxes for the proposed Sheraton equate to \$1,760 per available room. Any comparison of the Sheraton's property tax burden with that of the comparable is not appropriate because the comparable is located in another taxing jurisdiction.

Insurance Expense

The insurance expense category consists of the cost of insuring the hotel and its contents against damage or destruction from fire, weather, sprinkler leakage, boiler explosion, plate glass breakage, and other accidents. Furthermore, as of the latest revision of the USALI, it also includes general (or liability) coverage.

Insurance rates for contents insurance are based on many factors, including building design and construction, fire detection and extinguishing equipment, fire district, distance from firehouse, and the area's fire experience. Sometimes an estimate of insurance cost can be obtained from a local insurance agent familiar with the project and area insurance rates. If this is not possible, the appraiser should use insurance expenses derived from comparable lodging facilities expressed on a per-available-room basis.

General (or liability) insurance covers third-party actions involving bodily injury and personal property and is typically based on rooms receipts, meeting and banquet revenue, and food and beverage revenue. Some of the factors that can affect a hotel's liability insurance expense include the size of the meeting, banquet, or restaurant facility, the amount of alcohol served as a

percentage of total food and beverage sales, and the presence of a dance floor in the lounge. Factors that can increase a hotel's liability insurance expense include a high-rise structure, a swimming pool, life safety support systems, and any transportation services provided by the hotel.

The comparable statement of income and expense shows an insurance expense of \$650 per available room. A slight downward adjustment is appropriate to reflect the fact that the proposed Sheraton will have somewhat smaller array of public facilities.

Based on this analysis, the comparable hotel's insurance expense, expressed as a dollar amount per available room, is adjusted downward to \$600 per room. The following calculation shows the base insurance expense for the proposed Sheraton.

$$\$600 \times 250 \text{ rooms} = \$150,000 \text{ (rounded)}$$

Reserve for Replacement Expense

Furniture, fixtures, and equipment are essential to the operation of a lodging facility, and their quality often influences the class of a property. Included in the reserve for replacement expense category are all non-real estate items that are normally capitalized, not expensed.

The furniture, fixtures, and equipment in a hotel are exposed to heavy use and must be replaced at regular intervals. The useful lives of these items is determined by their quality, their durability, and the amount of guest traffic and use.

Periodic replacement of furniture, fixtures, and equipment is essential to maintain the quality, image, and income of a lodging facility. Capitalized expenditures are not included in the operating statement, but they do affect an owner's cash flow. Therefore, an appraisal should reflect these expenses in an appropriate reserve for replacement.

Based on industry experience, a reserve for replacement ranging from 3% to 5% of total revenue is generally sufficient to provide for the timely replacement of furniture, fixtures, and equipment.

A reserve for replacement equal to 4% of total revenue was determined to be sufficient to provide for the periodic replacement of the furniture, fixtures, and equipment of the proposed Sheraton. The following calculation shows the base reserve for replacement expense.

$$\$14,764,000 \times .04 = \$591,000 \text{ (rounded)}$$

Base Statement of Income and Expense

Table C.S.5.22 shows two statements of income and expense. The first is the comparable statement that was selected through the financial comparable selection order. (These figures were shown in Table C.S.5.3.) The second is the base statement of income and expense for the proposed Sheraton, which has been developed in this case study through category-by-category analysis.

This one-year base financial statement uses the subject's stabilized average room rate, deflated to current base year dollars, and income and expense ratios that reflect the level of occupancy actually experienced by the comparable. This profit and loss statement provides the basis for the fixed and variable component relationships developed in the subsequent steps of the analysis.

Step 3. Revise the base

The base revenue and expense categories must be revised to reflect current dollars for each forecast year and the anticipated rate fluctuations resulting from other, non-financial variables (general inflation).

The purpose of Step 3 is to adjust the comparable operating data that make up the subject property's base to reflect forecasted costs stated in the current

dollars anticipated for each particular year. To compute the fixed and variable operating data and forecast relationships for each projected year, an assumed rate (or rates) of inflation is (are) applied to each operating category.

Each revenue and expense category can be affected by different factors which increase or decrease associated costs. For example, future changes in the average room rate are largely influenced by local supply and demand conditions, which may modify general inflation assumptions. Energy costs are usually tied to the prices of fuels, which often move in erratic cycles. Changes in property taxes are often correlated to changes in the local tax base, which means that the rate assumption may be negative in an area that is experiencing rapid new development. Labor costs can change radically if a new union contract is implemented.

The appraiser should look at each revenue and expense category and project an individualized assumption that reflects the market's current view of pricing for the components within the stated category or the category as a whole. Often it is appropriate to apply a single inflation factor to all categories of

revenue and expense data, particularly for the years projected after the property reaches a stabilized level of occupancy. This assumes that all other cost-influencing variables remain stable.

CASE STUDY

Revising the Base

After analyzing the local market for the proposed Sheraton, the appraiser has developed the following change assumptions.

- Energy costs. The local utility company has had difficulty meeting the energy needs of this growing market area. As a result, energy costs have been increasing faster than the area's general rate of inflation. With the recent opening of a new generating plant and the introduction of several efficiency measures, future energy costs should increase at a slower rate. Table C.S.5.23 shows the anticipated future growth in energy costs.

- Property taxes. The market area has recently experienced rapid growth in new commercial and residential development, which has significantly increased the local tax base. Assuming efficient government spending, property taxes are expected to increase as shown in Table C.S.5.24.
- All other categories. An overall inflation assumption of 3% per year will be used to project other categories of revenue and expense. In practice, such an assumption should be supported with adequate market data. (Note that the rooms revenue forecast already reflects the above-inflation growth rates applied to average rate in the first three projection years. The stabilized average rate projected for the sixth projection year was deflated back to base year dollars using the underlying 3.0% inflation rate. Thus, the application of the base inflation rate through the projection period essentially re-inflates the average rate to the level projected earlier in the case study.)

Table C.S.5.25 shows the subject property's base year income and expenses projected out at the rate of inflation forecast for each revenue and expense category. After the stabilized year, all revenue and expenses are assumed to increase at the annual rate of 3%.

Step 4. Estimate fixed and variable percentages for each revenue and expense category

As discussed previously, each category of revenue and expense has a component that is fixed and one that varies directly with occupancy and facility usage. To apply the fixed and variable component approach to forecasting, the fixed and variable percentage of each revenue and expense category must be determined. The ranges of fixed and variable percentages for each revenue and expense category presented as Table 5.1 and subsequent descriptions of the composition of each category can be used as general parameters. Specific fixed and variable percentages are developed by evaluating the operating characteristics of the subject property. The total of the fixed and variable components of each category should equal 100.

CASE STUDY

Estimating Fixed and Variable Percentages

Table C.S.5.26 shows the fixed and variable percentages selected for each revenue and expense category of the proposed Sheraton Hotel.

The fixed food revenue percentage for the proposed Sheraton was set at 30%. This portion of food revenue is generally composed of outside patronage, which includes local banquets and diners in the restaurants. All fixed and variable percentages have been selected to be in line with established ranges.

Steps 5 through 9: Final revenue and expense projection

The actual projection of each revenue and expense category using the fixed and variable calculations is accomplished in Steps 5 through 9. The elements of each step are outlined below.

- Step 5. The fixed component is estimated by multiplying the appropriate fixed percentage by the base revenue or expense category.
- Step 6. The amount of variable change is quantified based on the appropriate index of variability.
- Step 7. The unadjusted variable component is calculated by multiplying the appropriate base revenue or expense category by the variable percentage.
- Step 8. The unadjusted variable component calculated in Step 7 is multiplied by the amount of variable change calculated in Step 6 to produce the adjusted variable component.
- Step 9. The fixed component calculated in Step 5 is added to the adjusted variable component calculated in Step 6 to yield the forecast for the revenue or expense category.

CASE STUDY

Final Forecast of Revenue and Expense – Proposed Sheraton Hotel

The process outlined in Steps 5 to 9 will be applied to forecast the revenue and expense of the proposed Sheraton Hotel. Each revenue and expense category will be illustrated separately. The projection of revenue and expense for the existing Embassy Suites will also be presented following the completion of the Sheraton forecast.

Food Revenue

The fixed component of the food revenue is calculated by multiplying the base food revenue in each projected year by the 30% fixed percentage of food revenue. (Table C.S.5.27).

Food revenue is occupancy-variable in that any revenue above the fixed component is largely dependent on changes in occupancy. The variable change for each projected year is calculated by dividing the projected occupancy by the base occupancy (Table C.S.5.28).

The unadjusted variable component is calculated by multiplying the base food revenue in each projected year by the 70% variable percentage (Table C.S.5.29).

Multiplying the unadjusted variable component by the variable percentage of change attributed to differing levels of occupancy produces the adjusted variable component of food revenue (Table C.S.5.30).

The fixed and adjusted variable components of food revenue for each projected year are added together to estimate total food revenue (Table C.S.5.31).

Table C.S.5.32 shows several pertinent units of comparison.

Beverage Revenue

Beverage revenue is assumed to be 100% variable and directly tied to changes in food revenue. The ratio of beverage to food revenue is 27%. Table C.S.5.33 shows the beverage revenue projection.

Telephone Revenue

Telephone revenue is projected in a manner similar to food revenue (Table C.S.5.34). The variable percentage change is based on occupancy.

Other Income

Other income is projected in Table C.S.5.35.

Total Revenue

The total of all revenue sources is shown in Table C.S.5.36.

Rooms Expense

The rooms expense for the proposed Sheraton is calculated in Table C.S.5.37.

Variable Percent Change for Expense Categories

The variable percent change for expense categories is based on the change in corresponding revenue levels. Table C.S.5.38 shows the bases for calculating the variable percent change for various expense categories.

In Table C.S.5.39, the variable percent change for each expense category is calculated. The subsequent tables show the estimated expenses for the proposed Sheraton. (See Tables C.S.5.40 through C.S.5.51.)

Marketing

The proposed Sheraton Hotel will be new when it opens in Year 3 of the projection. As a result, an upward adjustment to the market expense is warranted in the first two projection years, in order to reflect the costs of establishing a new hotel's market position. In the first projection year, a premium factor

of 1.20 is applied, (reflecting an upward adjustment of 20%). In year two, the premium factor is estimated at 1.10. In year three, the expense is assumed to stabilize with no premium factor. Table C.S.5.44 identifies the associated calculations.

Property Operation and Maintenance

The proposed Sheraton Hotel will be new when it opens in Year 3 of the projection, so its property operation and maintenance expense during the initial years should be lower than the comparable expenses used to develop the base. These savings are reflected by adjusting downward the property operation and maintenance expense for the first two years of operation. In the first two years of operation, downward adjustments of 20% and 10% will be applied, respectively. No adjustments will be made after the fourth projection year. Table C.S.5.46 identifies the associated calculations.

Table C.S.5.52 shows the results of the individual fixed and variable calculations for each item of income and expense. The forecast of income and ex-

penses for the proposed Sheraton Hotel covers the first two years of operation, as well as the stabilized year.

Forecast of Revenue and Expense –Embassy Suites

The methodology associated with the projection of income and expense for an existing hotel is less complex than that associated with a proposed hotel, particularly if the hotel is established and operates at its stabilized level. In the case of the existing Embassy Suites, the subject property's historical income and expense levels are identified in Table C.S.5.53.

Table C.S.5.54 identifies the inflation factors applied to each of the revenue and expense items, from the base year through the third projection year.

Table C.S.5.55 identifies the fixed and variable percentages selected for each revenue and expense category of the existing Embassy Suites.

After applying the fixed and variable calculations detailed in the case of the proposed Sheraton Hotel, the forecast of income and expense for the Embassy Suites through the stabilized year results. Table C.S.5.56 sets forth the results of the calculations.

As indicated, the Embassy Suites overall level of operating efficiency is expected to decline from the first projection year through the third projection year, then improve slightly in the stabilized year. These shifts are a function of the hotel's occupancy rate decline, a dynamic that is itself a function of increased supply.
