CHAPTER 10

Analysis of Market Share, Occupancy, and Average Room Rates

¶ 10.01 INTRODUCTION

After the total current lodging demand in the subject market area is calculated and future projections for demand are made, the appraiser must identify the competitive positions of all of the area lodging facilities. This entails determining first the current market share, occupancy rates, and average room rates of the existing competitor facilities and then how these quantities would be affected by the addition of the proposed hotel. Once this information is generated, the appraiser can set about forecasting the average room rates for the market area facilities and for the subject property, so that a determination can be made about the economic feasibility of the proposed project.

Appraisers use one of two methods to analyze competitive positions: the market penetration method and the competitive index method. Both methods determine the market share captured by a lodging facility (market share is the percentage of the area's room-night demand actually supplied by the particular facility). By knowing the market share, a calculation can be made to determine the expected level of occupancy for the facility.

¶ 10.02 MARKET PENETRATION METHOD

The term penetration as it applies to the lodging industry refers to the percentage relationship between the actual market share and the fair market share of a lodging facility. The actual market share of a hotel is the number of rooms that are occupied per day in the hotel divided by the total number of occupied rooms in the market per day. The fair market share (also known as the average market share) of a hotel consists of its total number of rooms divided by the total of all the rooms in the market. The market penetration of a hotel is calculated by dividing its actual market share by its fair market share. It shows in percentages how well the hotel is attracting or capturing hotel room-night demand relative to a hypothetical "average" hotel in the market. Exhibits 10-1 and 10-2 illustrate the calculations that are used to determine the actual market share, the fair market share, and finally the market penetration of four hypothetical hotels.

The results of the penetration calculation show that Hotel A is achieving 12 percent more than its fair market share or 12 percent more than the average capture for the area; Hotel B is achieving 91 percent of its fair market share, so it is performing about 9 percent below the market; Hotel C is performing slightly above its fair market share; and Hotel D is achieving 2 percent less than its fair market share.

Exhibit 10-1 Determining the Actual Market Share

Hotel	Number of Rooms		Percentage of Occupancy		Number of Occupied Rooms Per Day	Actual Market Share
A	100	×	80%	=	80	13.2%
B	200	×	65	=	130.0	21.4
C	250	×	75	=	187.5	30.9
D	300	×	70	=	210.0	34.5
	850				607.5	100.0

Exhibit 10-2 Determining Fair Market Share and Penetration

Hotel	Number of Rooms	Fair Market Share	Actual Market Share		Fair Market Share		Penetration
A	100	11.8%	13.2%	÷	11.8%	=	1.12
B	200	23.5	21.4	÷	23.5	=	0.91
C	250	29.4	30.9	÷	29.4	=	1.05
D	300	35.3	34.5	÷	35.3	=	0.98
	850	100.0%	100.0%		100.0%		

¶ 10.03 COMPETITIVE INDEX METHOD

The competitive index of a hotel simply reflects the number of days per year for which one room in a hotel is occupied. In contrast to the penetration method, only one calculation is necessary; the competitive index is calculated by multiplying the percentage of occupancy by 365 days, as Exhibit 10-3 shows.

Exhibit 10-3 Calculating Competitive Index

Hotel	Percentage of Occupancy		Days per Year		Competitive Index
A	80%	×	365	=	292.0
B	65	×	365	=	237.0
C	75	×	365	=	273.0
D	70	×	365	=	255.0

The competitive index and market penetration show the relative competitiveness (i.e., the relative occupancy ranking) of each hotel. For example, Hotel A is 23 percent more competitive than Hotel B, as demonstrated by the calculations in Exhibit 10-4.

Exhibit 10-4 Calculating Relative Competitiveness

	Hotel A		Hotel B		Relative Competitiveness
Competitive Index	292	÷	237	=	1.23
Penetration	1.12	÷	0.91	=	1.23

[1] Advantages of Competitive Index Method

One advantage of the competitive index method over the penetration method is that the one calculation it requires is based on a single room and thus is easy to carry out. The penetration method, on the other hand, makes use of the entire room count of a property in two of the three calculations that it requires, which becomes complicated

in dynamic market areas that have fluctuating room supplies. For example, assume an additional Hotel E were to enter our hypothetical market, and an appraiser wanted to determine the effect of the addition on the competitive relationship between Hotel A and Hotel B. Exhibit 10-5 shows the different calculations that would have to be done for each method.

As the exhibit shows, the competitive index method provides the same result as the penetration method, but requires less work.

Another advantage of the competitive index is that, as an analytical tool, it is generally easier for parties not familiar with hostelry terminology to grasp, particularly when market segmentation is being considered. For example, consider the competitive indexes for Hotels A and B for each individual market segment, as shown in Exhibit 10-6.

Exhibit 10-5 Two Methods Compared

PENETRATION METHOD

Hotel	Number of Rooms		Percentage of Occupancy		Number of Occupied Rooms Per Day	Actual Market Share
A	100	×	80.0%	=	80.0	10.4%
B	200	×	65	=	130.0	16.9
C	250	×	75	=	187.5	24.4
D	300	×	70	=	210.0	27.3
E	225	×	72	=	162.0	21.1
	1,075				769.5	100.0%

PENETRATION

Hotel	Number of Rooms	Fair Market Share	Actual Market Share		Fair Market Share		Penetration
A	100	9.3%	10.4%	÷	9.3%	=	1.12
B	200	18.6	16.9	÷	18.6	=	0.91
C	250	23.3	24.4	÷	23.3	=	1.05
D	300	27.9	27.3	÷	27.9	=	0.98
E	225	20.9	21.0	÷	20.9	=	1.01
	1,075	100.0%	100.0%		100.0%		

COMPETITIVE INDEX METHODS

Hotel	Percentage of Occupancy		Days Per Year		Competitive Index
A	80%	×	365	=	292
B	65	×	365	=	237
C	75	×	365	=	273
D	70	×	365	=	255
E	72	×	365	=	263

COMPARISON OF METHODS

	Hotel A		Hotel B		Relative Competitiveness
Competitive Index	292	÷	237	≈	1.23
Penetration	1.12	÷	0.91	=	1.23

Using competitive indexes, the appraiser can state in simple terms that in Hotel A, one hotel room is occupied 175 nights per year by a commercial traveler, 29 nights per year by a meeting traveler, and 88 nights per year by a leisure traveler. Compared with Hotel B, Hotel A is almost 50% more competitive in the commercial market and 83% more competitive in the leisure market. Hotel B is, however, almost 150 percent more competitive than Hotel A in the group and meeting market.

Exhibit 10-6 Market Segment Percentage and Market Segment Competitive Index

	Market Segment Percentage			Market Segment Competitive Index		
Hotel	Commercial	Group & Meeting	Leisure	Commerical	Group & Meeting	Leisure
A	60%	10%	30%	175	29	88
B	50	30	20	118	71	48

[2] Evaluation of Proposed Properties

The competitive index method is most often used to evaluate the relative competitiveness of proposed facilities and to forecast their stabilized occupancy.

This is accomplished by assigning competitive indexes to the subject's market segments based on how it is expected to compete with the other properties in the market. Once the relative competitiveness of each hotel is determined, an estimate of market share can be made. To accomplish this, the subject's projected market share is multiplied by the area's room-night demand, which yields an estimate of the room-nights captured; this figure is in turn converted into an occupancy percentage.

For example, assume that a market area comprises the five hotels (A, B, C, D, and E) discussed earlier. Another hotel, F, is a 150-room, commercially oriented facility that is planned for the area. It will have a minimal amount of meeting space and will be an average competitor in the leisure market. To estimate its stabilized occupancy, an appraiser would compile the data listed in Exhibit 10-7.

Exhibit 10-7 Estimating Stabilized Occupancy

Hotel	Occupancy	Estimated Market Segment			Market Segment Competitive Index		
		Commerical	Group & Meeting	Leisure	Commerical	Group & Meeting	Leisure
A	80%	60%	10%	30%	175	29	88
B	65	50	30	20	118	71	48
C	75	70	20	10	192	55	27
D	70	45	40	15	115	102	38
E	72	45	35	20	118	92	53

The proposed subject property might be expected to have the following competitive indexes:

Market Segment Competitive Index

	Commercial	Group and Meeting	Leisure
Hotel *F*	190	30	50

The rationale for assigning these competitive indexes is as follows: Hotel *F* is planned to be oriented towards the commercial segment, so it is similar to Hotel *C*, which has a commercial competitive index of 192. In terms of meeting space, the proposed hotel is similar to Hotel *A*, which has a group and meeting competitive index of 29. The average leisure competitive index for the five existing hotels is 50, so it can be assumed that the proposed hotel will be similar in that regard.

The competitive indexes serve as a basis for calculating market share and percentage of occupancy estimates for the proposed hotel. However, the appraiser must first use the lodging activity build-up approach to determine room-night demand, market share, and occupancy for each hotel that is currently operating in the market (see ¶ 9.03 for a discussion of the lodging activity build-up approach).

[a] Current Room-Night Demand

Using the lodging activity build-up approach, the current room-night demand (including both accommodated and latent demand) is shown in Exhibit 10-8.

Exhibit 10-8 Estimating Stabilized Occupancy

Hotel	Commercial	Group and Meeting	Leisure
A	17,520	2,920	8,760
B	23,725	14,235	9,490
C	47,907	13,688	6,844
D	34,492	30,660	11,498
E	26,609	20,695	11,826
Total Accomodated	150,253	82,198	48,418
Latent Demand	7,513	2,466	484
Total Demand	157,766	84,664	48,902

[b] Projected Market Share

The projected market share for each property is determined by market segment by first multiplying the room count for each property by its appropriate competitive index, which results in a factor called the market share adjuster. The competitive index quantifies the competitiveness of only one room, so multiplying the competitive index by the property's room count adjusts the competitive index so that it reflects the entire property's competitiveness. The market share adjuster for one property is then divided by the total market share adjuster for all of the area's competitive hotels, which results in the market share for each property. Exhibit 10-9 shows the calculations for projected market share.

Exhibit 10-9 Calculations for Projected Market Share

COMMERCIAL SEGMENT

Hotel	Number of Rooms		Commercial Competitive Index		Market Share Adjuster	Market Share
A	100	×	175	=	17,500	9.8%
B	200	×	118	=	23,600	13.2
C	250	×	192	=	48,000	26.9
D	300	×	115	=	34,500	19.3
E	225	×	118	=	26,550	14.9
F	150	×	190	=	28,500	15.9
Total					178,650	100.0%

MEETING SEGMENT

Hotel	Number of Rooms		Meeting Competitive Index		Market Share Adjuster	Market Share
A	100	×	29	=	2,900	3.3%
B	200	×	71	=	14,200	16.4
C	250	×	55	=	13,750	15.9
D	300	×	102	=	30,600	35.3
E	225	×	92	=	20,700	23.9
F	150	×	30	=	4,500	5.2
Total					86,650	100.0%

LEISURE SEGMENT

Hotel	Number of Rooms		Leisure Competitive Index		Market Share Adjuster	Market Share
A	100	×	88	=	8,800	15.7%
B	200	×	48	=	9,600	17.2
C	250	×	27	=	6,750	12.1
D	300	×	38	=	11,400	20.3
E	225	×	53	=	11,925	21.3
F	150	×	50	=	7,500	13.4
Total					55,975	100.0%

The percentage of occupancy for each hotel is calculated by first multiplying the market share percentage by the total room-night demand for the corresponding segment to arrive at the room-nights captured for the corresponding segment. Then the subject property's combined total room-nights captured is divided by the number of available rooms per year at the subject property (i.e., the subject property's room count multiplied by 365).

[c] **Projected Occupancy**

Exhibit 10-9 shows the projected occupancy of Hotel F, as well as the effect it would have on the occupancies of the existing hotels in the market area. Note the difference in the number of room-nights captured as compared to the data for the market before the introduction of Hotel F (see ¶ 10.03[2][a]).

Exhibit 10-10 Room-Nights Captured

Hotel	Commercial	Group & Meeting	Leisure	Total	Occupancy[1]
A	15,461	2,794	7,678	25,933	71%
B	20,825	13,885	8,411	43,121	59
C	42,439	13,462	5,917	61,818	68
D	30,449	29,886	9,927	70,262	64
E	23,507	20,235	10,416	54,158	66
F	25,084	4,403	6,553	36,040	66

[1] Occupancy = Total room-nights captured ÷ (Room Count × 365)

In addition to the introduction of a new hotel, other factors that can change the competitive indexes of hotels include:

- A major renovation or an addition to an existing hotel.
- A change in management of a hotel franchise.
- A change in market orientation for a particular property.
- The physical or functional obsolescence of a facility.

Any of these factors can make the evaluation of the relative competitiveness of a new lodging facility more difficult. However, competitive indexes are useful tools in that they help to portray the competitive dynamics of a market area.

¶ 10.04 **STABILIZED OCCUPANCY**

Stabilized occupancy figures represent the anticipated levels of occupancy for lodging facilities over their economic life, including any stages of build-up, plateau, or decline in their life cycles. Stabilized occupancy calculations exclude any abnormal relations of supply and demand, as well as any transitory or nonrecurring conditions (favorable or unfavorable) that may result in unusually high or low levels of occupancy. While it is likely that a hotel will operate at occupancies above its stabilized level for a period of time, it is equally possible for new competition and temporary downturns in the economy to force the actual occupancy below this standard. Essentially, stabilized occupancy is the typical occupancy experienced by a hotel over its economic life.

For new hotels, an assumed two- to five-year build-up in occupancy is generally included in the projection; a stabilized occupancy level starting with the first year is not expected. The initial years often see operating losses, so the inclusion of the build-up period in the projection is necessary to properly account for the actual start-up cash requirements.

Many factors influence the projection of a stabilized level of occupancy. The following are some of the key *market-specific* considerations:

- Historical occupancy cycles
- Composition of demand
- Supply and demand trends
- Trends in competitive properties
- Significant area development

These are some of the important *property-specific* considerations:

- Age
- Degree of obsolescence
- Location
- Market share
- Management and image

The nature of the local hotel demand is probably the best indicator for establishing a stabilized level of occupancy. Different types of travelers have different travel patterns (i.e., days of travel, length of stay and seasonality), and the particular mixture of these visitors within a given market will influence the area's overall level of occupancy.

For example, assume that the demand in a market has a very strong business base that generates a significant room-night demand Monday through Thursday nights. However, the local area has no leisure attractions, so very few people use the market area's lodging facilities on Friday and Saturday nights. There is, however, some commercial demand on Sunday nights from business travelers planning an early start on the work week. This occupancy pattern adds up to an average areawide level of occupancy of approximately 72 percent, assuming the daily occupancies listed in Exhibit 10-11.

Exhibit 10-11 Occupancy Statistics

Weekday	Percent of Occupancy
Monday	100%
Tuesday	100
Wednesday	100
Thursday	100
Friday	30
Saturday	35
Sunday	40
Weekly Average	72%

Under the market conditions given in the exhibit, and given the nature of the existing lodging demand, there would be little justification for using a stabilized occupancy factor of more than 72 percent for a proposed facility in this market unless the

property had significant competitive attributes that would enable it to capture a larger than average share of the limited weekend demand. Furthermore, because it is highly unusual for a hotel to consistently achieve 100 percent occupancy levels 52 weeks a year with the normal commercial drop off on three-day weekend holidays, Christmas week, and the summer months, it would be difficult to maintain a 72 percent level on a year-round basis in any event, so a good case can be made for establishing the stabilized level in this example at a more reasonable 68 percent level.

Historical occupancy cycles for a market area provide an indication of the level at which stabilized occupancy should be set. Exhibit 10-12 provides the twenty-year occupancy cycle, with related statistical data, for three different cities:

Exhibit 10-12 Twenty-Year Occupancy Cycle for Three Cities

Year	City A	City B	City C
1	71.0%	72.0%	57.0%
2	66.0	74.0	68.0
3	63.0	76.0	62.0
4	69.0	75.0	56.0
5	60.0	69.0	50.0
6	61.0	68.0	47.0
7	63.0	69.0	49.0
8	66.0	70.0	51.0
9	64.0	69.0	46.0
10	66.0	64.0	57.0
11	68.0	71.0	59.0
12	69.0	71.0	61.0
13	72.0	77.0	63.0
14	72.0	78.0	60.0
15	69.0	76.0	63.0
16	66.0	72.0	62.0
17	59.0	68.0	61.0
18	65.0	68.0	61.0
19	69.0	70.0	57.0
20	70.0	69.0	60.0

	City A	City B	City C
Average Occupancy	66.4%	71.3%	57.5%
Highest Occupancy	72	78	68
Lowest Occupancy	59	64	46
Difference			

The stabilized occupancy for each of these three cities should approximate their average occupancy, which is generally close to the midpoint between the highest and lowest recorded occupancy level during the twenty-year period.

¶ 10.05 **AVERAGE RATE PER OCCUPIED ROOM**

The average rate per occupied room is among the most important variables in a forecast of the income and expense of a hotel because it directly affects both financial feasibility and market value. Professionals who conduct market studies should understand how average rates are calculated and be familiar with the various factors that affect their future movement.

To be fully documented, an economic market study and appraisal for a lodging facility should include a detailed analysis that explains the derivation of its forecasted average rates as well as a comparison of the subject property's rates with those of competitive hotels. An estimate of average rate depends on the evaluation of many factors, including:

- Supply and demand conditions in the local hostelry market

- Management's marketing expertise and ability to create a positive price/value relationship in the eyes of the consumer

- Current room rates of competitive hotels

- The quality, class, and other attributes of the subject property

- The market orientation of the subject property, including the rate-sensitivity characteristics and double occupancy percentages of each individual market segment

A hotel's average rate per occupied room is calculated by dividing the net rooms revenue derived from guestrooms by the number of paid rooms occupied. The result is the weighted average of the various rate categories used by the hotel during the period. The equation used to calculate the average rate per occupied room is as follows:

Overall Average Rate Per Occupied Room =
Net Rooms Revenue/Number of Paid Rooms Occupied

The *Uniform System of Accounts for Hotels* (8th ed., Hotel Association of New York City, Inc., (1986)) defines the components of this formula as follows:

- *Net rooms revenue:* Total rooms revenue less allowances.

- *Allowances:* Rebates and overcharges or revenue not known at the time of sale but adjusted at a subsequent date. Allowances may also include revenue forgone as a result of hotel promotions or complimentary services.

- *Paid rooms occupied:* Rooms occupied by hotel guests on a paid basis. The overall average rate per occupied room does not include any occupancy derived from complimentary rooms.

¶ 10.06 **FORECASTING AVERAGE RATE PER OCCUPIED ROOM**

The procedure used to forecast average rates per occupied room for lodging facilities varies depending on whether the property is an existing or proposed hotel. An existing hotel's established room rate level and competitive position may change slightly, but they provide the appraiser with a benchmark from which to forecast future trends in average rates. Because proposed hotels have no operating history, an average rate must be derived from an analysis of the competitive rates of local lodging facilities, both current and forecasted, based on anticipated changes in supply, demand, and competitive factors.

[1] Procedure for Existing Hotels

The first step for the appraiser in this procedure is to compile the property's overall average rates by month for the previous three to five years. The appraiser must verify that the average rates do not contain complimentary rooms. The next step is an analysis of the historical trends in average room rates for the subject property—to determine what the compounded growth rate has been over the past several years. If the data is available, the average room rate should be examined by individual market segments. Lastly, average room rates should be examined to determine if there are any seasonal effects on demand. If so, the average rate by season and month should be elevated to determine the compounded growth trends by season.

After the data regarding historical average room rates has been compiled and analyzed, the historical relationships between occupancy and average rate fluctuations should be investigated. Average room rates are often affected by changes in occupancies. For example, average rates usually soften or even decline as occupancies trend downward, and the reverse takes place as occupancies increase. The reason for this relationship lies both in the local market and in the individual property. On a marketwide basis, hotel occupancies decrease when there is either an increase in the supply of hotel rooms or a decrease in the demand for transient accommodations. Both situations typically increase the competition among area hotels, which often leads to rate sensitivity. While not all hotels feeling the impact of greater competition will immediately institute a price-cutting program, they will be more conscious of the negative effect of raising room rates or of holding a hard rate policy when negotiating new business with groups and contracts. As area occupancies decrease, hotels feel pressured to cut rates in order to hold on to their market share. In a declining market, therefore, appraisers should look for the real possibility that average rates may remain flat or even decline.

Notwithstanding local market conditions, average room rates usually increase as a property's occupancy rises. This can be attributed to the fact that when a hotel approaches 100-percent occupancy, it is able to sell more of its high-priced rooms. In addition, management's bargaining position is enhanced, so it does not have to offer discounts or other inducements to attract patronage. For example, a customer making a reservation at a hotel with one room remaining will probably pay rack or full rate. By selling out the higher-priced rooms, a hotel's average room rate will generally increase faster than either inflation or local market conditions would dictate.

[a] Average Rates of Competitors

The next step for the appraiser is to compile a list of average room rates for the subject property's primary and secondary competitors. One year's worth of historical data is adequate, but a trend analysis can be made if data from additional years can be gathered. The appraiser must be certain that the information represents average room rates and not other types of hotel room rate statistics, of which there are many. The following is a list of some of the terms used in the industry to describe different types of hotel room rates:

- *Rack rate:* An undiscounted room rate. The term is taken from the front desk's room rack which contains information about each room's rate including the highest rate that can be charged for that accommodation. When a hotel is operating full or when someone comes in without a reservation, the rack rate is generally the only rate available. The average rate is always less than the rack rate.

* *Published rate:* The rate found in directories and other publications. This rate is usually quoted in ranges (i.e., single: $70–$100) and represents the range of rack rates for specific types of accommodations. Published room rates typically set the upper limits of average rates. Average room rates tend to be closer to the published rates for single rooms than for doubles.

* *Commercial rate:* A special discounted rate available to certain commercial accounts. Some hotels allow almost any commercial traveler to use a commercial rate, while others apply this rate only for specific accounts.

* *Contract rate:* A discounted rate available to specific users, such as an airline, convention group, or bus tour. Arrangements for this rate are negotiated individually by the user, and payment is often billed directly to the firm or organization using the room. Depending on the amount and timing of the usage, a contract rate can be heavily discounted and significantly lower than either the average rate or the commercial rate.

[b] Comparison of Subject Property With Competitive Properties

The next step for the appraiser is to compare the subject property's average rate with that of the competition to determine the reasons for any differences in average rates. Generally, rate variances can be attributed to several factors, including location, physical facilities, management, image, quality, and market segments served. In addition, if there have been any trends in average rate movement over time, these factors should be quantified and evaluated.

[c] Future Changes in Market Area Economy and Competitive Supply

Once the historical competitive data has been analyzed, the appraiser must forecast any changes in the local economy or competitive supply that may affect average rates in the future. The appraiser must also forecast a yearly percentage change in average room rates over a projection period. The key factors that influence future trends in room rates are:

* *Supply and demand relationship.* As discussed in Chapters 9 and 10, the balance between the market area's supply of transient lodging facilities and the local demand generally has a significant impact on future trends in average room rates, because hotel room rates tend to mirror changes in area occupancies.

* *Inflationary trends.* When an appraiser forecasts the income and expense of a hotel over a projection period, the occupancy usually levels off at a point in time known as the stabilized year. Until this hypothetical point of equilibrium, room rates are usually affected more by local conditions and the increased (or decreased) occupancy of the subject property than by inflationary pressures. After the level of occupancy has reached this stabilized point, and all external market conditions are assumed to be in equilibrium, the average room rate is typically projected to increase at the rate of inflation.

* *New construction.* Newly constructed lodging facilities must typically achieve room rates that are higher than the going market rate in order to cover development costs.

In addition to improving the neighborhood in which it is built, a new hotel often allows existing hotels to push average room rates up so that they are competi-

tively below the new property's rates but significantly above the current levels. However, this type of rate movement takes place only in markets that are not overbuilt. If too many new rooms open at once, the rates of every hotel in the market area will suffer.

[d] Average Rate Projection for Subject Property

Once all the previously described data has been accumulated and evaluated, the appraiser forecasts the subject's average rate over the projection period.

[2] Procedure for Proposed Hotels

The procedure for forecasting average rates for a proposed hotel is similar to that used for an existing facility except that the appraiser does not have the benefit of operating history to provide a starting point for the projection. The appraiser must therefore rely upon room-rate data for competitive properties, particularly average rates by market segment. The relative competitiveness of each property must also be carefully evaluated in order to determine the room-rate differentials necessary to maximize the subject's competitive position.

Appraisers use four basic methods to project average room rates for proposed hotels: competitive positioning, the bottom-up method, the rule of thumb approach, and the market segmentation approach. Each method has advantages and disadvantages that the appraiser must consider in light of the particular circumstances surrounding a proposed hotel. In some instances a combination of methods is used when the strengths of one can counterbalance the weaknesses of another. Each method is analyzed in the following sections.

[a] Competitive Positioning Method

The competitive positioning method forecasts the room rates of a proposed hotel by using the rates currently achieved by competitive lodging facilities. The range of average room rates established by competitive hotels is considered to set the general limits for the rates that can be achieved by the proposed hotel. The rate for the proposed hotel is then determined by the actual average room rate of the competitive property that it most closely resembles in quality, size, facilities, market orientation, and location.

Exhibit 10-13 provides the average room rates of the primary competition in a hypothetical market area.

An analysis of the attributes of these hotels reveals Hotel F to be the most similar of the group to the proposed property. On the basis of this conclusion, the appraiser should give the room rate achieved by Hotel F the most weight when setting the average rate for the proposed property. Further analysis reveals that Hotel F's rate of $88.00 should be scaled slightly upward for the following reasons:

- The subject property will be new when it opens. Hotel F will be six years old.

- Hotel F derives a larger percentage of its business from the meeting and convention market segment, which tends to receive greater discounts than the commercial segment.

- The subject property will have a more visible location with better access than Hotel F.

Exhibit 10-13 Hypothetical Market Area's Average Room Rates

Property	Estimated Average Room Rate
A	$68.00
B	82.00
C	77.00
D	80.00
E	87.00
F	88.00
G	78.00
Average	$81.00

It appears that an average room rate of between $89.00 and $90.00 would be justified and reasonable for the subject property.

Advantages of the competitive positioning method are as follows:

- The dynamics of the surrounding market area are taken into account by the consideration of actual average room rates achieved by competitive properties.

- The price sensitivities of local demand are reflected in the data used in the process.

- The method is based on other local hotels, so it inherently considers area operating costs.

The disadvantages of the competitive positioning method are as follows:

- It depends on accurate average room rate information from competitive hotels, which is sometimes difficult to obtain.

- It relies on the assumption that a property, similar in almost all respects to the subject, exists in the marketplace. If such a property does not exist, subjective adjustments must be made to compensate for the differences in the subject property. The appropriateness of the ultimate result depends on the skill and experience of the appraiser. The competitive positioning method is a good way to verify that the average room rate achieved by an existing lodging facility actually reflects its competitive position in the local market.

[b] Bottom-Up Method

The bottom-up method (also known as the Hubbart Formula) assumes that a proposed hotel should charge room rates that will cover all the costs of its operation, including a predetermined net income level, debt service, and development costs. To use this method, an appraiser first determines the development and financing costs of the project. The process continues by working upward from the bottom of an income and expense statement which is tailored to the anticipated operating characteristics of the subject property, until the required room rate is derived. The required room rate, as determined by this method, directly reflects all of the predetermined development and operational considerations specific to the subject property.

Exhibit 10-14 is an abridged version of an income and expense statement for a hypothetical proposed property.

Exhibit 10-14 Abridged Income and Expense Statement

Required Net Income*	2,883,000.00
Total Fixed Charges	878,000.00
Undistributed Operating Expenses	3,207,000.00
Required House Profit	6,968,000.00
Estimated Departmental Profits (non-rooms)	1,519,000.00
Required Rooms Profit	5,449,000.00
Estimated Rooms Expense (22.6%)	1,591,000.00
Required Rooms Revenue	7,040,000.00
Total Occupied Rooms (300 × 72% × 365)	78,840.00
Estimated Average Room Rate	$89.29

*Net income to cover debt service and rate of return on invested equity

Using the bottom-up method, it was determined, on the basis of the total project cost, the amount of the mortgage, and the resulting debt service and equity return requirements, that a net income before debt service of $2,883,000 would be required. Taking into consideration local market conditions and expense factors, estimates were made for expenses such as fixed charges, undistributed operating expenses, and rooms expense as well as several miscellaneous profits such as departmental profit. Assuming an occupancy of 72 percent, the resulting calculation indicates that an average rate of $89.29 would be necessary to generate the required net income.

While the bottom-up method can be used to estimate an average room rate, it does not take into account any local market conditions or competitive factors, which means that many marketplace factors are ignored. Thus, the bottom-up method is more appropriate for justifying project feasibility than for setting actual average room rates. For example, the foregoing computation might be better used to conclude that if the market cannot support an average room rate for the subject property of at least $89.29, then the net income before debt service of $2,883,000 would probably not be achieved, resulting in a lower than contemplated return to the invested capital components (debt and equity).

The bottom-up method of establishing an average room rate has the following advantages:

- Several property-specific factors are accounted for, including return requirements of invested capital, the property's fixed costs and operating expenses, and the contemplated level of occupancy.

- This method does not require information pertaining to the average room rates of competitive lodging facilities.

The bottom-up method has the following disadvantages:

- It does not use a market basis to evaluate the reasonableness of the average room rate estimate. This method may, therefore, result in an average room rate that is unobtainable in the local marketplace.

- This method is relatively complicated to use and is overly dependent on assumptions, such as cost and expense levels.

- It requires an estimate of occupancy for the subject property, which would probably necessitate some fieldwork to compile data on occupancy percentages of competitive lodging facilities.

[c] **Rule of Thumb Method**

The rule of thumb method relies on the time-honored theory that every dollar of average room rate should support approximately $1,000 of total hotel value (i.e., land, improvements, and FF&E) on a per room basis. Exhibit 10-15 illustrates this theory.

Exhibit 10-15 Rule of Thumb Calculations

Total Hotel Property Value		$26,780,000.00
Number of Available Rooms	÷	300
Value Per Room		$89,267.00
Required Average Room Rate		$89.27
	or	
Estimated Average Room Rate (market)		$89.27
Value Per Room		$89,267.00
Number of Available Rooms	×	300
Total Property Value		$26,780,000.00

These calculations show that the rule of thumb method can be used in two directions. The first calculation starts with the local property value and determines the average room rate necessary to justify this amount of investment. This procedure and its conclusion are similar to the bottom-up method in that the average room rate is not market-justified but rather illustrates economic feasibility. The second calculation starts with the average room rate, which is derived from the market, and calculates the maximum amount of total property value this room rate would be able to support.

The rule of thumb method relies on a number of assumptions, including the subject's occupancy, ratio of food and beverage revenue to rooms revenue, operating costs, fixed expenses, and capital costs. Properties that do not fit the national norms for these assumptions are apt to require more or less than $1.00 of average rate to justify $1,000 of per room value. For example, assume that this rule of thumb works for hotels with an assumed occupancy level of 72 percent. If the subject property was projected to achieve only a 68 percent stabilized occupancy then it would take more than $1.00 of average room rate to equate to $1,000 of per room value.

The advantages of the rule of thumb method are:

- It is simple to calculate and easy to use.

- It may be used to determine either an average rate based on total value, or the total value based on an achievable average rate.

The disadvantage of the rule of thumb method is that it relies upon a number of inherent assumptions that are not explicitly accounted for. For this reason, it should only be used to establish broad parameters for room rates and project value.

[d] **Market Segmentation Method**

The market segmentation method uses a forecasted market breakdown (i.e., commercial, meeting and group, or leisure) for the subject property as a basis for calculating

a weighted average room rate. This method involves multiplying the average room rate per market segment by the anticipated number of occupied room nights for each respective market segment that produces revenue for the hotel. The overall average room rate is then calculated by dividing the total rooms revenue by the total number of occupied rooms. The result is a weighted average room rate that reflects the price sensitivity of each segment of lodging demand.

Most hotel market studies and appraisals use the competitive positioning or market segmentation methods for estimating average room rates. Each method works well for all types of existing and proposed lodging facilities. However, neither of the methods are purely objective; they both rely heavily on the experience and judgment of the appraiser who conducts them.