

ADR Rule of Thumb:

Validity and Suggestions for Its Application

Hotel investors use the ADR rule of thumb because it's simple—a hotel should generate one dollar in ADR per every \$1,000 in value per guest room; but that rule is not without its problems.

BY JOHN W. O'NEILL

Most hotel-industry observers are familiar with the commonly used valuation rule of thumb that hotels should generate \$1 in ADR per \$1,000 in value per room. That technique is also referred to as the \$1-per-\$1,000 method,¹ the building-cost-rate formula,² the general rule-of-thumb method for determining room rates,³ and the ADR rule-of-thumb approach. I have seen no empirical evidence, however, that this rule-of-thumb's validity has been

tested in at least ten years,⁴ even though it continues to be taught to hospitality managers as a valid method for establishing hotel rates.⁵ Further, previous research regarding this rule has not sought to provide hospitality managers with information regarding how to apply effectively this particular ratio. This article presents research that both tests the validity of the ADR rule of thumb and provides guidance to managers regarding how to apply it.

¹ Linsley T. Deveau, Patricia M. Deveau, Nestor J. DePortocarrero, and Marcel Escoffier, *Front Office Management and Operations* (Upper Saddle River, NJ: Simon and Schuster, 1996), p. 85.

² Gary K. Vallen and Jerome J. Vallen, *Check-in Check-out*, fifth edition (Chicago, IL: Richard D. Irwin, 1996), p. 234.

³ James A. Bardi, *Hotel Front Office Management*, second edition (New York: Van Nostrand Reinhold, 1996), p. 227.

⁴ John B. Corgel and Jan A. deRoos, "The ADR Rule of Thumb as Predictor of Lodging Property Values," *International Journal of Hospitality Management*, Vol. 12, No. 4 (1993), pp. 353–365.

⁵ See, for example: Alan T. Stutts, *Hotel and Lodging Management* (New York: John Wiley and Sons, 2001), p. 87; Ahmed Ismail, *Front Office Operations and Management* (Albany, NY: Thomson/Delmar, 2002), p. 174; and Alastair M. Morrison, *Hospitality and Travel Marketing* (Albany, NY: Thomson/Delmar, 2002), p. 523.

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The Rule of Thumb

Rules of thumb have been used in real-estate appraisal,⁶ general real estate,⁷ and general business for many years.⁸ More accurate and up-to-date value indexes are needed, however, particularly for commercial real estate.⁹ As already noted, hotels' ADR rule of thumb, which has been used for decades,¹⁰ is that a hotel should generate one dollar in average daily rate per every thousand dollars in value per guest room. In other words, a 100-room hotel developed or purchased for \$12,000,000 would be valued at \$120,000 per guest room. Based on the ADR rule of thumb, this property should generate a \$120 average daily rate.

A more recent corollary to the ADR rule of thumb has been a room-rate multiplier technique for valuing hotels.¹¹ In this reverse calculation, a hotel may be valued at 1,000 times its average daily rate on a per-room basis. For example, a 100-room hotel with a \$120 average daily rate would be valued as follows:

$$1,000 \times 100 \times \$120 = \$12,000,000$$

This technique may be used in addition to the three traditional real-estate valuation approaches of income capitalization, sales comparison, and cost.¹² Despite the fact that more-sophisticated real-estate-valuation-techniques ex-

ist than just the room-rate-multiplier technique, executives, investors, and even real-estate appraisers frequently use rules of thumb.¹³ Hotel executives use the ADR rule of thumb to aid them with decision-making regarding new hotel development, and to some extent, with establishing room rates and with valuing existing hotels.¹⁴ Recent literature suggests, however, that perhaps the ADR rule of thumb needs to be revised for certain property types.¹⁵ The purpose of this article is to present research that undertakes that revision for hotels both in the aggregate and by types of hotels.

The ADR Rule of Thumb versus DCF Analysis

Hotel investors continue to use the ADR rule of thumb because of its simplicity and because the discounted cash flow (DCF) valuation technique, which is the most commonly used appraisal technique for hotel valuation,¹⁶ is not without problems, as I explain below. DCF analysis involves the projection of future revenues, expenses, and net operating income over an assumed holding period; the capitalization of the projected net operating income stream; and the capitalization of a future selling value (which is also usually based on projected net operating income) at a market-derived discount rate to arrive at the present value of an asset (such as a hotel).

One of the problems inherent in the DCF approach for estimating hotel value is that different investors are likely to use different assumptions when projecting future revenues and expenses. Thus, different analysts will arrive at different conclusions regarding the hotel's net operating income and, thus, its value. A benefit of the ADR rule of thumb is that all analysts applying it will arrive at exactly the same value conclusion assuming that they are using the same

⁶ Kenneth M. Lusht, "Measuring Rate of Return: Two Rules of Thumb versus the Internal Rate," *The Appraisal Journal*, April 1978, pp. 245–256.

⁷ Jeffrey D. Fisher, "Alternative Measures of Real Estate Performance: Exploring the Russell-NCREIF Data Base," *Real Estate Finance*, Fall 1994, pp. 79–84.

⁸ Marshall Sarnat and Haim Levy, "The Relationship of Rules of Thumb to the Internal Rate of Return: A Restatement and Generalization," *The Journal of Finance*, June 1969, pp. 479–490.

⁹ David Geltner, "The Repeated-measures Regression-based Index: A Better Way to Construct Appraisal-based Indexes of Commercial Property Value," *Real Estate Finance*, Winter 1996, pp. 29–35.

¹⁰ Corgel and deRoos, *op. cit.*

¹¹ Stephen Rushmore and Jan deRoos, "Hotel Valuation Techniques," in Lori E. Raleigh and Rachel J. Roginsky, *Hotel Investments: Issues and Perspectives* (East Lansing, MI: Educational Institute of the American Hotel & Motel Association, 1991), p. 176.

¹² Rushmore and deRoos, *op. cit.*

¹³ Lawrence B. Smith, "Rental Apartment Valuation: The Applicability of Rules of Thumb," *The Appraisal Journal*, October 1985, pp. 541–552.

¹⁴ Corgel and deRoos, *op. cit.*

¹⁵ Stephen Rushmore and Erich Baum, *Hotels & Motels Valuations and Market Studies* (Chicago, IL: Appraisal Institute, 2001), p. 233.

¹⁶ Rushmore and deRoos, *op. cit.*

average daily rate (e.g., trailing 12-month ADR). Similarly, all analysts using the ADR rule-of-thumb approach to establish ADR will arrive at the same conclusion providing that they use the same value (e.g., sale price or development cost).

Similarly, different investors will assume different holding periods when using DCF analysis. The holding periods employed for lodging properties over the past ten years have ranged in aggregate between 5.53 and 9.11 years.¹⁷ Further, these periods will vary considerably for different investors at any given time. While the holding period may have an important effect on the present value of a hotel asset, many investors do not assume a set number of years for this holding period upon acquiring a hotel. Moreover, to the extent that an investor has even a vague estimate of a future holding period, this figure must be considered flexible as economic conditions are likely to change. The ADR rule of thumb does not have the burden of requiring a holding-period assumption.

Another problem with DCF analysis is that it is based on an assumption regarding the future rate of inflation. About the only thing that analysts may be certain of with respect to inflation assumptions is that they will be wrong (i.e., expected and actual inflation rates always differ).¹⁸ Since the ADR rule of thumb does not require predicting inflation, it does not have this problem.

DCF analysis requires that analysts project the future selling value of the hotel. The projected selling value has a forecasting problem similar to that of the projected net income stream. However, future selling value is even harder to predict than income because it looks farther into the future (usually at least five years). Since the total effect of the future selling value on the present value is often substantial, the variance due to this estimate may be considerable. In addition, DCF analysis requires the highly speculative estimation of future selling costs (e.g., bro-

kerage fees, appraisal fees, legal fees). The ADR rule of thumb does not have that problem because it does not require the estimation of a future selling value.

DCF analysis requires investors to assume a certain discount rate. This assumption is important because the application of a too-low discount rate may result in a substantial overestimate of value. Unfortunately, analysts select discount rates based on imperfect market information.

The ADR rule of thumb requires neither a holding-period assumption nor an assumption regarding the future rate of inflation—unlike the commonly used DCF method.

Investor surveys exist, but the information that they contain is rarely either timely or accurate.¹⁹ The data are not timely because there is a considerable lag between the time that they are collected and the time they are reported, and, worse, those data can be questionable because of participants' tendency to report desired or optimal discount rates, rather than actual ones. The ADR rule of thumb avoids these problems.

Like DCF analysis, however, the ADR rule of thumb has the problem that it does not consider investments' financial structure. For example, the extent of leverage will vary from one investor to another, yet neither the DCF approach nor the ADR rule-of-thumb techniques take this difference into account.

Similarly, as with DCF analysis, the ADR rule of thumb does not take into account an investment's tax implications for different investors. Even when an analyst expands DCF valuation to take into account an individual investor's tax situation, DCF analysis remains problematic because it is difficult to project with any accuracy future tax benefits (e.g., interest and depre-

¹⁷ Scott Smith, "Investors Remain on Sidelines as Estimates for Growth in RevPAR Remain Questionable," *PKF Consulting Hospitality Investment Survey*, Vol. 13, No. 1 (July 2002), pp 1–3.

¹⁸ Smith, *op. cit.*

¹⁹ John O'Neill and Stephen Rushmore, "Refining Estimates of Hotel-financing Costs," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 41, No. 6 (December 2000), pp. 12–17.

EXHIBIT 1

Descriptive statistics

Hotel Type	Statistic	Rooms	Occ.	ADR	Cap.	NOI	RRM	Price per room	Property age (years)
Economy	Median	114	65.6%	\$54.09	10.6%	\$358,150	2.92	\$40,361	9.5
	Mean	105	66.2	\$56.86	10.9	\$503,584	3.02	\$41,836	10.5
	Std. deviation	42	13.9	\$16.77	2.4	\$425,097	0.70	\$19,728	7.3
	Minimum	35	18.5	\$31.50	3.9	\$67,840	1.57	\$11,228	1.0
	Maximum	242	96.3	\$99.50	17.7	\$2,019,549	5.44	\$113,140	34.0
Midscale	Median	160	66.7	\$64.50	10.7	\$665,300	2.46	\$33,646	19.0
	Mean	188	64.8	\$66.41	11.4	\$1,004,741	2.63	\$46,060	19.5
	Std. deviation	87	12.8	\$20.94	2.0	\$1,107,030	0.92	\$33,180	12.9
	Minimum	56	38.6	\$32.25	5.1	\$148,400	0.70	\$6,931	1.0
	Maximum	578	91.5	\$128.50	20.4	\$7,100,000	5.95	\$158,179	90.0
Full-service	Median	301	71.0	\$101.59	10.5	\$2,506,000	3.55	\$100,357	15.0
	Mean	349	70.1	\$111.37	10.1	\$3,410,321	3.71	\$112,179	20.2
	Std. deviation	203	9.2	\$42.53	2.2	\$3,000,856	1.30	\$72,583	20.1
	Minimum	95	36.4	\$42.50	1.1	\$155,440	0.99	\$14,308	1.0
	Maximum	1348	89.5	\$250.50	17.9	\$18,676,000	9.25	\$479,167	98.0
All-suite without food and beverage	Median	128	80.5	\$87.36	10.9	\$1,188,010	3.49	\$90,919	7.0
	Mean	134	80.1	\$94.06	11.2	\$1,200,869	3.45	\$97,000	7.9
	Std. deviation	40	7.4	\$21.22	1.3	\$542,230	0.73	\$37,467	6.7
	Minimum	66	61.1	\$56.25	8.3	\$111,740	1.21	\$22,664	1.0
	Maximum	214	92.2	\$159.70	13.2	\$2,450,000	5.35	\$194,343	34.0
All-suite with food and beverage	Median	208	69.0	\$85.50	10.2	\$1,473,400	3.25	\$69,500	8.0
	Mean	209	71.1	\$87.38	9.6	\$1,700,947	3.55	\$81,288	7.3
	Std. deviation	62	9.8	\$23.74	1.6	\$1,291,571	1.78	\$44,563	2.6
	Minimum	104	56.5	\$45.22	6.0	\$342,000	1.43	\$21,635	1.0
	Maximum	358	88.4	\$160.50	11.8	\$5,360,000	8.68	\$187,151	11.0
Total	Median	173	70.0	\$78.25	10.6	\$980,400	3.08	\$59,338	11.0
	Mean	219	68.7	\$83.15	10.7	\$1,721,277	3.21	\$74,020	16.1
	Std. deviation	163	12.2	\$37.28	2.2	\$2,213,162	1.14	\$58,330	15.2
	Minimum	35	18.5	\$31.50	1.1	\$67,840	0.70	\$6,931	1.0
	Maximum	1348	96.3	\$250.50	20.4	\$18,676,000	9.25	\$479,167	98.0

ciation expenses, potential carryovers by period, and tax-law changes).²⁰

In short, although the ADR rule of thumb has some of the same problems as the commonly used DCF analysis, it also has advantages over DCF. Thus, while the ADR rule of thumb would not be considered to be a *bona fide* appraisal technique by licensed real-estate appraisers who must abide by the Uniform Standards of Professional

Appraisal Practice (USPAP),²¹ it is practical; it continues to be used extensively by owners, investors, and analysts; and such use appears to be justified. Rules of thumb are particularly useful as a “sanity check” of more sophisticated analyses.²²

²¹ Appraisal Standards Board, *Uniform Standards of Professional Appraisal Practice* (Washington, DC: The Appraisal Foundation, 2000).

²² Shannon P. Pratt, *Business Valuation Body of Knowledge: Exam Review and Professional Reference* (New York: Wiley, 1998), p. 85.

²⁰ Smith, *op. cit.*

A negative aspect of the ADR rule of thumb is that it assumes that all of the variables that DCF analysis allows to vary will remain constant.²³ In some cases, this shortcoming may be counterbalanced by the fact that rules of thumb may be applied anywhere, anytime without specialized computer applications.

Since DCF analysis is based on a hotel's bottom line (i.e., net operating income, or NOI), it is interesting to compare the efficacy of using NOI versus ADR (i.e., a top-line figure) to project hotel value. As I discuss later in this article, in the aggregate, ADR is generally a better predictor of hotel value than is NOI. However, this superiority is not the case for every hotel type. Specifically, while ADR is a better predictor of values of full-service hotels and all-suite hotels without food and beverage facilities than is NOI, NOI is a better predictor of values of economy hotels, midscale hotels, and all-suite hotels with food and beverage than is the ADR rule of thumb.

Validity of the ADR Rule of Thumb

Previous research regarding lodging valuation has emphasized that hotel-value modeling should be based on actual hotel-sale-transaction data that satisfy the following general specifications: (1) the data should be limited to hotels and motels, (2) the data should be national in scope, (3) the data should be detailed (e.g., the data should include specific information such as the number of guest rooms at the time of sale, hotel-property type, the property location, and other property characteristics), and (4) the study period should consist of several years of data, because the limited number of hotel sale transactions in any given year means that a single year would provide insufficient data from which to draw valid conclusions.²⁴ Thus, the present study uses this recommended approach to test the ADR rule of thumb.

This study uses a database I compiled at The Pennsylvania State University's School of Hotel, Restaurant, and Recreation Management. The database, developed over the past 12 years, includes verified sales of hotels in the United States that include operating information for the 12 months preceding the sale, and is commonly referred to as the Penn State Index. The database properties represent all hotel types (economy, midscale, full service, all-suite without food and beverage, and all-suite with food and beverage) and all regions of the United States.

The Penn State Index was drawn from over 1,000 actual hotel-sale transactions to form a database comprising 327 transactions for which it was possible to obtain complete hotel operating and descriptive information. For the 12-month period prior to each transaction, the database includes: average daily rate (mean = \$83.15), occupancy percentage (mean = 68.7 percent), NOI (mean = \$1,721,277), capitalization rate (i.e., cap; mean = 10.7 percent), and room-revenue multiplier (i.e., RRM; mean = 3.21), as well as the number of guest rooms (mean = 219), sale price (mean = \$74,020 per guest room), property age (mean = 16.1 years old), hotel type (economy, midscale, full service, all-suite without food and beverage, and all-suite with food and beverage), and sale date. The database includes information regarding hotel-sale transactions from 1990 through 2002, so it subsumes at least one full economic cycle. Descriptive statistics are summarized in Exhibit 1.

Hotel automated valuation models (AVMs) using regression analysis to predict hotel-sale price have been previously developed based on a variety of the above factors.²⁵ The current database of 327 properties provides excellent statistical power—AVMs that have been developed by other researchers for other types of real property (and have had statistical significance using re-

²³ Jerome Morrison, "The Problems with Rules of Thumb," *Lodging Hospitality* (October 1994), p. 14.

²⁴ John B. Corgel and Jan A. deRoos, "Pure Price Changes of Lodging Properties," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 33, No. 2 (April 1992), pp. 70–77.

²⁵ See: John W. O'Neill and Anne R. Lloyd-Jones, "Hotel Values in the Aftermath of September 11, 2001," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 42, No. 6 (December 2001), pp. 10–21; and John W. O'Neill and Anne R. Lloyd-Jones, "September 11th: Hotel Values and Strategic Implications," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 43, No. 5 (October 2002), pp. 53–64.

EXHIBIT 2

Predictors of hotel-sale price per room

Variable	Regression coefficient	Standardized beta coefficient	t-statistic	Overall F value	Degrees of freedom	Significance
ADR	0.790	0.889	34.892	1217.440	1, 324	p < .001
NOI	0.689 *	0.830	14.996	667.180	1, 324	p < .001
Occupancy	0.160	0.400	7.859	61.762	1, 324	p < .001
Sale date	0.023	0.151	2.755	7.591	1, 324	p < .01
Age	0.002	-0.039	-0.648	0.420	1, 324	p > .10

* This regression coefficient increased slightly to 0.709 when the response variable was changed from sale price per room to sale price.

gression analysis) have had sample sizes ranging from 143 to 219 properties.²⁶

Using the Penn State database, I found through regression analyses that ADR is the single best predictor of overall hotel selling prices. Interestingly, ADR is even a better predictor of selling prices than is NOI. This finding may be due to hotel buyers' purchasing hotel properties as much for net income potential as actual historical net income. In other words, while historical net income is important, the ability of a hotel property to generate future revenue (especially since a new operator could conceivably make improvements in cost control) and the overall quality level of the hotel (as indicated by its achieved ADR) are most important. This explanation provides an argument for the use of regression analysis with ADR as the predictor variable and sale price per room as the response variable.

This linear regression model, with ADR and sale price per room, resulted in a regression coefficient (R^2 statistic) of .790. As a result, this model has an R^2 that is within the range of R^2 results of AVMs previously developed for other types of

real property (i.e., between .772 and .888).²⁷ It is interesting to note that the subject model provides fairly strong results despite the fact that a univariate linear regression model like the subject one is not technically an AVM (which, by definition, would normally require a multivariate model). The subject valuation model may be made slightly stronger by using a multivariate approach including the trailing 12-month hotel occupancy, as well as ADR. With this approach, the R^2 increases to .809.²⁸ I found that the model did not significantly improve when other variables were included—such as the hotel's age, sale date (time), cap rate, region in which the hotel is located, or a variable for large metropolitan areas (over one-million permanent residents).

Previous research on the hotel industry has also found ADR to be a reliable predictor of hotel sale price. Previous researchers found that the ADR rule of thumb performed well in the aggregate, but not as well when property sub-samples were organized by number of rooms, age, occupancy rate, and number of restaurants.²⁹ In the present study, I evaluated the ADR rule of thumb not only in the aggregate, but also by hotel types (i.e., economy, midscale, full-service, all-suite without food and beverage, and all-suite with food and

²⁶ See: Joseph K. Eckert, Patrick M. O'Connor, and Charlotte Chamberlain, "Computer-assisted Real-estate Appraisal: A California Savings-and-loan Case Study," *The Appraisal Journal*, October 1993, pp. 524–532; John H. Detweiler and Ronald E. Radigan, "Computer-assisted Real-estate Appraisal: A Tool for the Practicing Appraiser," *The Appraisal Journal*, January 1996, pp. 91–101; and John H. Detweiler and Ronald E. Radigan, "Computer-assisted Real-estate Appraisal: A Tool for the Practicing Appraiser," *The Appraisal Journal*, July 1999, pp. 280–286.

²⁷ See: Detweiler and Radigan (1996), *op. cit.*; and Detweiler and Radigan (1999), *op. cit.*

²⁸ The multiple regression model is: Predicted Value per Room = [-\$83,219 + (\$690 × Occupancy) + (\$1,323 × ADR)].

²⁹ Corgel and deRoos (1993), *op. cit.*

beverage). The ADR rule of thumb has not previously been evaluated in this manner. Therefore, I conducted regression analyses for each individual hotel type with ADR as the predictor variable and sale-price-per-room as the response variable. Each of these individual analyses resulted in significant regression coefficients (i.e., $p < .01$ for each of the five hotel types). In addition, I conducted an analysis of variance (ANOVA) to determine whether the results for the five different hotel types were statistically different from the overall mean for all hotels for both ADR per \$1,000 in value per room and \$1,000 in value per room per ADR. In both cases, these results were significant as measured by Levene's statistic (Levene = 12.829, $p < .001$, and Levene = 5.709, $p < .001$, respectively). Further, by analyzing the 95-percent confidence interval for the mean for both overall ADR/\$1,000 in value per room (\$1.41 to \$1.58) and \$1,000 in value per room/ADR (\$773 to \$844), it is clear that each of the individual group means presented in Exhibits 3 and 4 is either above or below the overall confidence intervals, distinguishing the mean of each hotel type group from the overall mean.

In addition, viewing the standard deviations by groups as presented in Exhibits 3 and 4 reveals that most of the group standard deviations are lower than the overall standard deviations, providing further support for the analysis of data by the five hotel-type groups. However, the width of the standard deviation is indicative of the extent to which the economics of an individual property may vary from the mean, and why the ADR rule is simply a rule of thumb and not a rigorous valuation model. Previous research has found that actual real-estate appraisals of commercial properties vary from sale prices by a standard deviation of only about 4.9 percent.³⁰

Like NOI, occupancy and sale date were not as strong predictors of hotel-sale price as was ADR. Neither was property age a significant predictor of sale price, consistent with previous re-

search.³¹ Though the database contains information regarding both capitalization (cap) rate and room-revenue multiplier (RRM) by case (sale transaction), those variables were not analyzed

Other hotel-industry research has shown that ADR can be a reliable predictor of a hotel's sale price.

as predictors of sale price because they both are a function of sale price. Exhibit 2 summarizes the regression coefficient and other relevant statistics for each predictor variable studied.

In summary, the data presented in Exhibit 2 provide additional support for the continued use of the ADR rule of thumb to estimate hotel value. However, while these data illustrate the high correlation between ADR and value (the two variables have a correlation coefficient of .889), they do not indicate the exact magnitude of that relationship by type of hotel, or how managers should apply the ADR rule of thumb.

Applying the ADR Rule of Thumb

Based on the Penn State Index data, over the past 12 years each \$1 in ADR is correlated with a mean of \$809 in value per room. In other words, based on actual hotel-sale prices, the average American hotel generates \$1 in ADR per every \$809 in room value. However, it is more meaningful to analyze these correlations by hotel type. Since the database used for this research includes the type of hotel for each hotel-sale transaction, it is possible to calculate the mean sale-price per room and the mean sale-price per room divided by \$1,000 for each transaction.

The analysis indicates that while no hotel type averages significantly greater than \$1,000 in value per room per dollar of ADR, some hotel types are much closer to the ADR rule of thumb than others. Specifically, the economics of all-suite

³⁰ Brian R. Webb, "On the Reliability of Commercial Appraisals: An Analysis of Properties Sold from the Russell-NCREIF Index," *Real Estate Finance*, Vol. 11, No. 1 (Spring 1994), pp. 62-65.

³¹ Corgel and deRoos (1992), *op. cit.*

EXHIBIT 3

Correlation of value per room (\$) by hotel type per \$1 in ADR

Hotel Type	Median	Mean	Rounded	SD
Economy	\$711	\$720	\$700	\$205
Midscale	\$571	\$634	\$600	\$293
Full service	\$932	\$948	\$900	\$343
All-suite without F&B	\$1,016	\$1,003	\$1,000	\$204
All-suite with F&B	\$792	\$910	\$900	\$387
All hotels	\$792	\$809	\$800	\$325

EXHIBIT 4

Correlation of \$1,000 in value per room (by hotel type) with ADR

Hotel Type	Median	Mean	Rounded	SD
Economy	\$1.41	\$1.50	\$1.50	\$0.44
Midscale	\$1.75	\$1.99	\$2.00	\$1.12
Full service	\$1.08	\$1.22	\$1.20	\$0.56
All-suite without F&B	\$0.99	\$1.05	\$1.00	\$0.33
All-suite with F&B	\$1.26	\$1.32	\$1.30	\$0.66
All hotels	\$1.26	\$1.50	\$1.50	\$0.81

hotels without food and beverage (e.g., Residence Inns and Homewood Suites) are close to the \$1-per-\$1,000 rule of thumb, with every dollar in ADR correlating with a mean \$1,003 in value per room. Further, all-suite hotels without food and beverage fairly consistently follow this rule—that is, as a group, the mean value per room per dollar of ADR has a relatively small standard deviation of \$205. The relatively high value-per-room figures could be the result of the relatively large, all-suite guest-room accommodations this type of hotel offers.

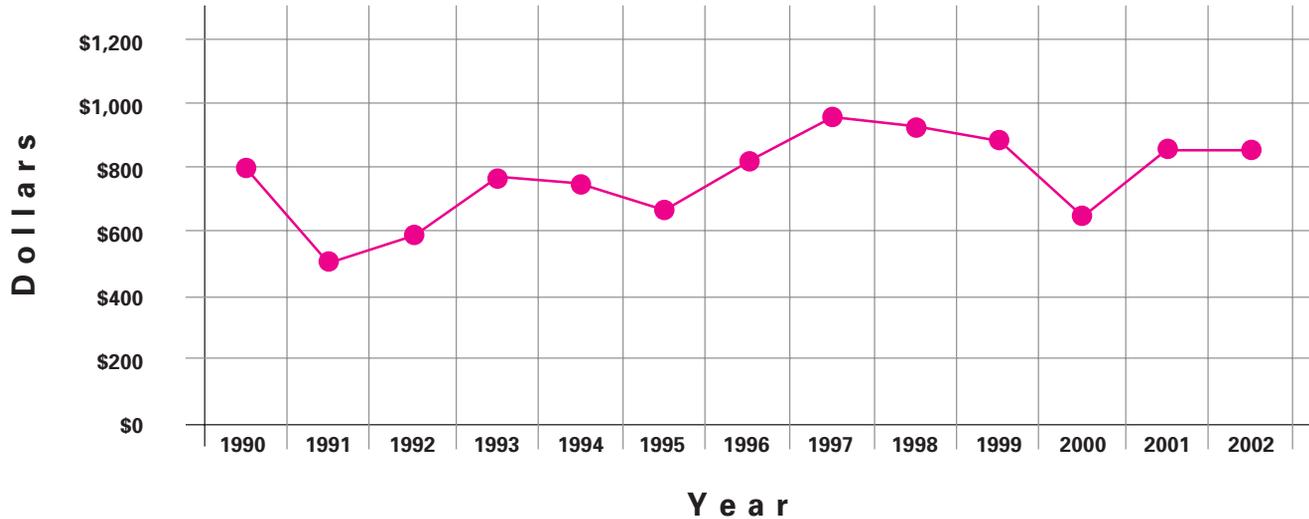
On the other hand, midscale hotels (e.g., Holiday Inns and Ramada Inns) are furthest from the rule of thumb, with each dollar in ADR correlating with only a mean of \$634 in value per room. Interestingly, these operations, which typically have food and beverage facilities, have relatively poorer economics than do all-suite hotels without food and beverage facilities. Midscale hotels have the oldest median age of the five hotel types studied, and offer meeting space as well as a restaurant and lounge. The necessity of supporting food and beverage operations (which typically generate only modest profits) as well as a sales-and-marketing effort to support the function space results in a relatively inefficient business model. As a result, midscale hotels suffer from functional obsolescence, caused by a design that diminishes their usefulness over time.³² This functional obsolescence combines with physical obsolescence (i.e., the age of the hotels) to result in relatively low valuations.

The findings of my research indicate that full-service hotels (e.g., Marriott, Hilton, Sheraton, Four Seasons) are fairly close to the ADR rule of thumb, with each dollar in ADR correlating with approximately \$948 in value per room. Similarly, at all-suite hotels with food and beverage (e.g., Embassy Suites and Hyatt Suites), each dollar in ADR correlates with approximately \$910 in value per room. At economy properties (e.g., Motel 6 and Microtel), each dollar in ADR correlates with approximately \$720 in value per room. Exhibit 3 summarizes the study's findings by hotel type.

³² Appraisal Institute, *The Appraisal of Real Estate*, eleventh edition (Chicago: Appraisal Institute, 1996).

EXHIBIT 5

Average value per room per \$1 of ADR by year



Similarly, for each of the 327 hotel-sale transactions, I calculated the hotels' ADR that corresponds with \$1,000 in value per room. When analyzed on the basis of hotel type, my results were similar to those previously presented, except that the magnitude of the figures roughly reverses (that is, mean figures are not exactly reciprocal whereas median figures may be reciprocated between the two analyses).

For example, while all-suite hotels without food and beverage generate a mean of \$1.05 in ADR per \$1,000 in value per room, midscale hotels must generate almost twice as much in ADR to result in \$1,000 in value per room (i.e., \$1.99 in ADR per \$1,000 in value per room). In other words, midscale hotels must achieve substantially higher room rates to generate comparable values to other hotel types (see Exhibit 4).

An analysis of the residuals (the difference between predicted and actual sale price for each hotel-sale transaction) revealed that residuals may be predicted by the number of hotel guest rooms, occupancy, ADR, and age. This analysis, which applied multiple regression analysis with the residual serving as the response variable, also indicated that each of the five hotel types was a significant predictor of the residual (as expected). In short, my analysis revealed that residuals are

smallest (i.e., predictions are most accurate) for hotels with relatively few guest rooms, high occupancies, high ADRs, and new physical plants.

ADR Rule-of-thumb Trends over Time

Since the database used for my research provides detailed information regarding hotel-sale transactions over a 12-year period, I am able to analyze trends in the ADR rule of thumb over time. My analysis indicates that while there are annual fluctuations in the relationship between ADR and value, the average hotel generated less than \$1,000 in value per room per dollar of ADR every single year. Also, it is clear that there has not been any single long-term upward or downward trend occurring over the entire 12-year period, but rather there have been cyclical fluctuations.

My analysis indicates that the average hotel value per room per dollar of ADR fluctuates based primarily on the economy—it has been at its lowest when demand for hotel acquisitions has been at its lowest (i.e., 1991 and 1992), indicating that hotels may be purchased at relatively low prices as a function of ADR during a buyer's market. Similarly, the average hotel value per room per dollar of ADR has been at its highest when demand for hotel acquisitions has been at its highest (e.g., 1997–1999), indicating that

hotel purchasers are willing to pay relatively higher prices during a seller's market. Since 2001, the market falls somewhere between a buyer's and seller's market (see Exhibit 5, on the previous page).

Conclusions

While the practicality of relying on a rule of thumb should be evaluated based on its accuracy, it may also be evaluated according to the ease with which businesspeople can remember and use it. That is one reason why I have presented rounded (as well as precise) figures in this article. One question that may arise regarding the use of an updated ADR rule of thumb (e.g., \$1 per \$700—or \$1.50 per \$1,000 for economy hotels) is whether a slightly more precise but less “round” rule of thumb is useful. Just as the generally accepted number of employees needed in full-service hotels evolved from 1.00 to 0.85 employees per guest room over the past several years,³³ perhaps the generally accepted ADR rule of thumb should evolve, too.

³³ Corgel and deRoos (1993), *op. cit.*

My research shows that the ADR rule of thumb has validity when it is applied to the five types of hotels presented in this article. However, for most types of hotels, the relationship between ADR and value per room does not follow the \$1-per-\$1,000 ratio that has been used generally. Rather, the figures presented in Exhibits 3 and 4 should be used. Hotel-industry professionals should apply my data by hotel type, and I would recommend using them as a “sanity check” for more sophisticated analyses, such as DCF analysis, and using the data in meetings and in the field (when sophisticated computer analysis may be difficult). In addition, my research found that the ADR rule of thumb possesses the greatest degree of accuracy when used to estimate the value of hotels that have relatively few guest rooms, high occupancies, high ADRs, and modern physical plants.

In conclusion, my research found statistical support for the use of a hotel's trailing 12-month ADR as a rule of thumb for estimating a hotel's current value, and for the use of a hotel's value (i.e., sale price) for establishing ADR. ■



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