

Summer 2002

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Recommended Citation

Corgel, John B., "A Hotel Investment is only as Good as its Local Market!" (2002). *Articles and Chapters*. Paper 559.
<http://scholarship.sha.cornell.edu/articles/559>

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Abstract

[Excerpt] One real estate issue that has yet to be resolved in *Real Estate Issues* relates to the question of how human behavior affects returns on investment. On one side, proponents contend that real estate markets are sufficiently competitive and efficient to produce returns entirely based on the fundamentals (i.e., relative locations, growth of the local economy) while under the guidance of competent property and asset management. Others argue that human behavior in the forms of direct actions taken by managers, specific information generated by analysts, and involvement of uninformed and distressed participants will either create or destroy real estate investment opportunity. Unfortunately, the real estate academic literature offers little assistance in bringing closure to this issue.

Keywords

hotels, income, real estate investment, rate of return, commercial and institutional building construction

Disciplines

Finance and Financial Management | Hospitality Administration and Management

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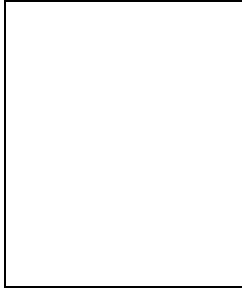
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FOCUS ON HOSPITALITY ISSUES

A HOTEL INVESTMENT IS ONLY AS GOOD AS ITS LOCAL MARKET!

by John (Jack) B. Corgel



John (Jack) B. Corgel

One real estate issue that has yet to be resolved in *Real Estate Issues* relates to the question of how human behavior affects returns on investment. On one side, proponents contend that real estate markets are sufficiently competitive and efficient to produce returns entirely based on the fundamentals (i.e., relative locations, growth of the local economy) while under the guidance of competent property and asset management. Others argue that human behavior in the forms of direct actions taken by managers, specific information generated by analysts, and involvement of uninformed and distressed participants will either create or destroy real estate investment opportunity. Unfortunately, the real estate academic literature offers little assistance in bringing closure to this issue.

Because of short-term rental periods and the intensity of business management, hotel investments are the most likely of all property types to experience return volatility due to the extraordinary behavior of the people involved. The conventional wisdom in the hotel investment community holds that excess returns cannot occur without superior management and brand affiliation. The only study (although unpublished) to empirically address this issue finds no relationship between returns and combinations of affiliation and management (Hanson, 1991).

At specific times, however, pricing in the hotel property markets has been altered substantially by non-fundamental human behaviors. Jan deRoos and I empirically demonstrated that Japanese buyers severely overpaid for hotels during the late 1980s and the RTC greatly under sold hotels in the early 1990s (Corgel and deRoos, 1994).

During the development and testing of a new method to forecast hotel property revenues called Share Down, we directly confronted questions about how much hotel revenues depend on the movements of local markets in which they compete. While revenues represent only one important component of investment returns, knowledge about the correlation between property revenues and local market revenues provides useful information to hotel investors about where to focus their attention. This article reports on our findings from early tests of hotel property and metropolitan market revenue co-movements.

THE BASIC IDEA OF SHARE DOWN

Students in introductory corporate finance courses learn that asset risk comes from two sources—the behavior of the market in which the asset trades and the unique characteristics of the income-producing asset. This simple, yet powerful, dichotomy provides a basis for generating answers to various

investment-related questions by separating problems into *systematic* or market driven forces and *unsystematic* or asset-specific forces. Extensions of this concept to other situations in which asset incomes are determined in organized markets become fairly straightforward.

Hotel real estate assets operate as part of a market system in which external forces continually affect financial performance. The financial outcomes for these assets also are determined by endemic factors, such as the decisions of management and development activity within close proximity to the hotel site. As with any asset, therefore, the movement of hotel revenues occurs because of both systematic and unsystematic forces.

Motivating the development of the Share Down forecasting method is a simple operating hypothesis—the *revenue patterns of a hotel over time have a large systematic component and a small unsystematic component*. If this hypothesis is correct, then econometric forecasts of market segment revenues for the metropolitan statistical area (MSA) market in which a hotel competes will serve as a virtual roadmap to future property revenues. This assumes that the proper linkages can be determined between the local market and the property revenue flows.

The Share Down forecasting models produced by the Hospitality Research Group (HRG) and Torto Wheaton Research (TWR) are based on the relationships between the historical interaction of demand and supply in the market and historical property performance. Specifically, Share Down uses econometric forecasts for MSA hotel markets from the quarterly HRG/TWR *Hotel Outlook* and the results of regression analysis of market and property performance to predict property revenue. Hence, the *Hotel Outlook* forecasts are "shared down" to the property level.

DETERMINANTS OF HOTEL RevPAR

The Share Down model takes the following form for estimating the historical relationships that underlie the property RevPAR forecast:

$$\text{Property RevPAR} = \alpha + \beta_1 (\text{MSA RevPAR}) + \beta_2 (\text{National RevPAR}) + \beta_{3,4,5} (\text{Q2, Q3, Q4}) + \beta_6 (\text{RENO}) + \beta_7 (\text{REPO}) + \beta_8 (\text{MANG}) + \beta_9 (\text{COMP}) + e$$

where,

- $\alpha, \beta_1 \dots \beta_9$ —estimated parameters of the model.
- Q2, Q3, and Q4—quarterly dummy variables (i.e., 1 or 0 depending on the quarter of historical data).
- RENO—dummy variable to capture the effects of a major renovation to the hotel during the historical period.
- REPO—dummy variable to capture the effects of a repositioning of the hotel during the historical period.
- MANG—dummy variable to capture the effects of a management change in the hotel during the historical period.
- COMP—dummy variable(s) to capture the effects of major changes in the competitive set of the hotel during the historical period.
- e—error term.

The coefficient of MSA RevPAR (i.e., β_1) is the most interesting of the parameters in the equation because β_1 may be generally interpreted as the "beta" of the property—much like the beta of a traded stock. This interpretation comes from the assumption that the market effects on a hotel property largely result from local demand and supply forces. If, for example, a subject full-service property has an estimated RevPAR beta of 1.14 then the property RevPAR moves either up or down by an estimated \$1.14 for every \$1.00 movement in MSA full-service RevPAR. In capital market terms, the subject property has a moderate degree of systematic risk.

TEST RESULTS FOR 14 FULL-SERVICE HOTELS

A large hotel company graciously provided HRG/TWR with 25 quarters of historical RevPAR information for 14 of their full-service properties to perform initial tests of the Share Down method. As shown in Exhibit 1, the Share Down model performed well with these data. The average R2 equals .86 with a minimum value of .73. The beta estimate on the MSA, full-service RevPAR variable falls within a logical range of .60 to 1.72 (mean = 1.23).

Although the results of initial tests provide encouragement regarding the potential of the modeling approach, the 14 properties involved in the test are quite typical of hotels found in their respective MSA, full-service markets. The model may not perform as well for properties with historical RevPARs substantially above or below the average level of the market in which the properties compete.

Exhibit 1:

**Test Results of the Hotel Share Down Model
for 14 Full-Service Properties**

Property	Number of Periods	Market Segment	Model Form	R ²	b MSA Full-Service RevPAR*	Other
1	25	FS	log	0.8842	0.6762	quarterly dummies
2	25	FS	log	0.7309	0.6067	quarterly dummies
3	25	FS	linear	0.8991	1.8786	quarterly dummies
4	25	FS	log	0.8999	0.6226	quarterly dummies
5	25	FS	linear	0.7565	0.9876	quarterly dummies
6	25	FS	linear	0.7955	1.1361	quarterly dummies
7	25	FS	log	0.9351	1.3384	quarterly dummies
8	25	FS	linear	0.8662	1.2743	quarterly dummies
9	25	FS	linear	0.8533	1.6831	quarterly dummies
10	25	FS	log	0.8623	1.5694	quarterly dummies
11	25	FS	linear	0.9535	1.0135	quarterly dummies
12	25	FS	log	0.7790	1.7297	quarterly dummies
13	25	FS	log	0.9276	1.6050	quarterly dummies
14	25	FS	linear	0.9627	1.1176	quarterly dummies
Averages	N/A	N/A	N/A	0.8647	1.2313	N/A

*All betas are significant at a 95% confidence level.

CONCLUSION

The initial tests of the Share Down model provide qualified evidence that a hotel investment is only as good as its local market. Interpretations must be hedged by noting that "good" investments can be made in "bad" markets and "bad" investments occur in "good" markets. The results do, however, indicate that the revenues of a hotel property follow the revenues of the local market in highly predictable ways. Thus, forecasts of local market revenue translate smoothly into property forecasts. What is so surprising about the results is the tightness of the fit of these data, as indicated by the R², and size of the beta, which aligns closely with expectations derived from capital market experiences. In the broader context, it would appear that hotel revenues are not as related to unsystematic factors, such as the specific actions of managers, as traditionally believed.

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ABOUT OUR FEATURED COLUMNIST

John "Jack" B. Corgel, Ph.D., joined the Hospitality Research Group (HRG) of PKF Consulting in 1999 as managing director of applied research. There, he is developing new products for the hotel industry based on property-level financial performance information. Prior to joining HRG, he was a member of the Cornell Hotel School faculty for 10 years and served as the first director of the Center for Hospitality Research from 1992-1994. He is widely published in academic and professional journals and is a fellow of the Homer Hoyt Institute. (E-mail: jc1616@pkfc.com)