FOCUS ON HOSPITALITY ISSUES

HOW TO DETERMINE THE FUTURE DIRECTION
OF HOTEL CAPITALIZATION RATES

For many in the hotel industry, the ratio of property-level operating income and asset market pricing - the capitalization or 'cap' rate - provides an important foundation for rational investing and financing decisions.1 During periods, such as the recent past, when both the numerator and denominator of the ratio experience different magnitudes of movement, hotel cap rate interpretations become especially difficult for all in the industry. As the markets for hotel room sales now appear headed toward more stability, hopes are rising that the wide bid/ask spreads now in the hotel asset market will narrow, leading to more normal transaction volume and returning property development to pre-2001 levels.

The topic addressed in this article is the near-term direction of hotel cap rates. If the rate increases, then the pace of property transaction activity and development will be slower than if rates decline. Based on the conceptual arguments presented below, the probability of hotel cap rates declining in the short run exceeds the probability of rates increasing.

**HOTEL CAP RATES APPEAR
COUNTER CYCLICAL**

Exhibit 1

Quarterly Hotel Capitalization Rates, 1992 I   2002 IV
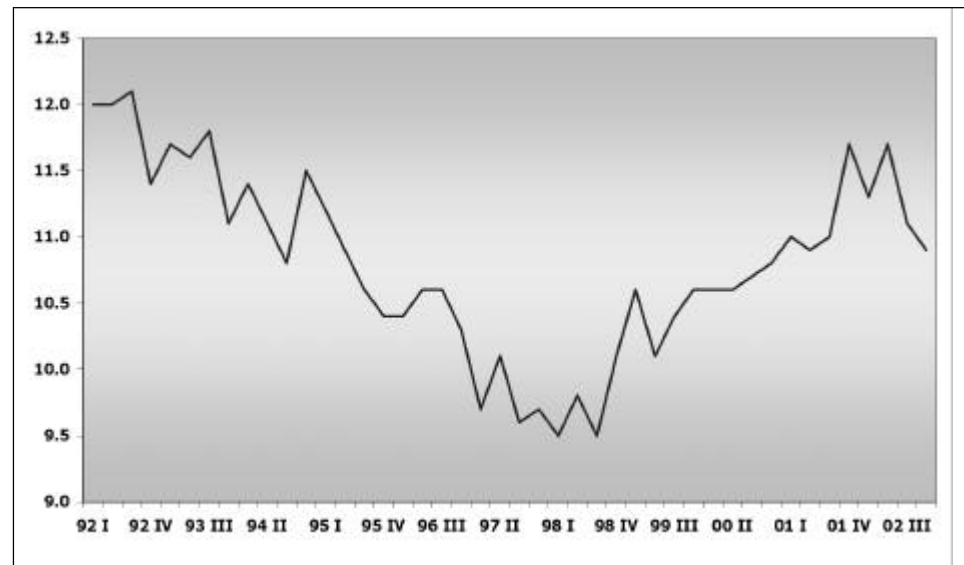*Data Source: Real Estate Research Corporation*

Exhibit 1 presents a ten-year history of full-service hotel cap in the U.S. The information comes from the Real Estate Research Corporation (RERC). The RERC conducts quarterly surveys of institutional real estate investors and lenders to assemble consensus estimates of key market performance indicators. The hotel cap series from RERC dates back to 1992.

The consistency of RERC's administration and application of definitions for their surveys results in a reliable time series. In fact, the RERC data represent the only historical data of hotel cap rates available for each quarter of the last ten years.[2] These estimates come from averages of expert opinions, and not directly from market transactions, which constitutes the major criticism of the RERC reports.

Hotel cap rates appear to move in a counter-cyclical pattern. The highest rate of slightly above 12% occurred at the end of the early-1990s recession. The average rate reached 11.7% during the recent recession, but fell sharply over the past two quarters. Hotel cap rates moved downward and broke through the 10% barrier for several quarters in 1997 and 1998 when the economy was rapidly expanding. In theory, hotel cap rates should conform to the counter-cyclical pattern they followed during the past ten years because hotel property values logically decline (rise) as incomes fall (increase).

CURRENT SPREADS ARE WIDE
Another perspective on hotel cap rates comes after examining historical spreads between this rate and other capital market rates. Exhibit 2 shows hotel cap rates relative to ten-year Treasuries and the Moody's Baa corporate bond series since 1992. As with rate levels, the spreads appear counter-cyclical. This means that hotel risk premiums move above the long-run average during recession and below the average during periods of economic expansion. Average spreads equal 481 bps above ten-year Treasuries and 272 bps over Moody's Baa bonds. In 2002 IV, hotel cap rate spreads stood at or near the ten-year historical highs.

Cap rates for full-service hotels declined from a peak of 11.7% in 2002 II to 10.9% by the end of 2002.

Exhibit 2

Spreads Between Hotel Capitalization Rates and Selected Market Capital Rates, 1992-2002
Data Source: Real Estate Research Corporation
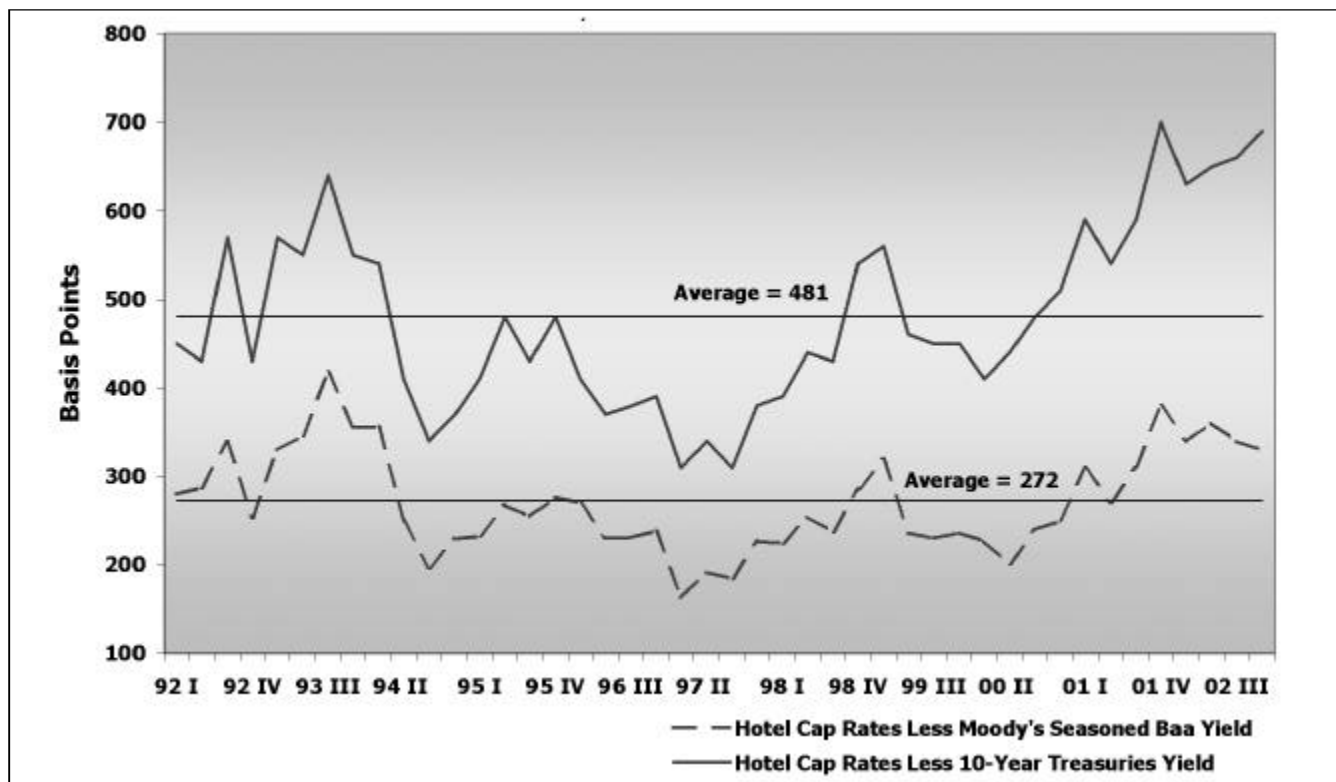
The current rates almost equal the ten-year average of 10.8%. Assuming mean reverting behavior, further decline in hotel cap rate of more than a few bps may not occur until the next expansion of the economy is well underway. Notwithstanding, the wide spreads between hotel cap rates and capital market benchmarks indicates that these rates could fall by more than a few bps to bring spreads back in line with historical average spreads.

JUDGING THE DIRECTION
OF HOTEL CAP RATES

Guidance about the direction of hotel cap rates may come from two sources. First, it is often useful to return to basic principles. The review that follows begins with an identification of cap rate components, then continues with an examination of how the components should behave given current macroeconomic forecasts and forecast of lodging demand and supply conditions. Second, the future direction of hotel cap rates may be econometrically modeled using a set of variables that both demonstrate statistically significant relationships with hotel cap rates and for which objective forecasts are available.

The current article is the first of a two-part series on the future direction of hotel cap rates. The emphasis here is on the expected rate movements based on conceptualization. The second article will appear in a future edition of Real Estate Issues and will present an econometric model of hotel cap rates and model forecasts. This article continues with a presentation of real estate cap rate theory.

REAL ESTATE CAP RATES

The real estate cap rate (R) converts the net operating income of a property to an estimate of the property's value by simple division. If the income is assumed to grow at a constant rate, then R equals the discount rate (r) minus the assumed growth rate (g).3 Stated symbolically,
$$R = r - g. \quad (1)$$
This means that relatively slow (fast) income growth rates result in higher (lower) capitalization rates, and consequently lower (higher) real estate values.

Exhibit 3

Discount and Capitalization Rate Directional Movements
Given Alternate Market Conditions
Data Source: The Hospitality Research Group

Panel A - Discount Rates						Panel B - Capitalization Rates				
Market Condition	r	$=$	r_f	$+$	r_p	Market Condition	R	$=$	r	$-$	g
1	↑		↑ or ↔		↑ or ↔	A	↓		↓		↑
2	↓		↓ or ↔		↓ or ↔	B	?		↓		↓
3	?		↑		↓	C	↓		↔		↑
4	?		↓		↑	D	↑		↔		↓
						E	↓		↓		↔
						F	↑		↑		↔

The discount rate equals a risk-free rate, such as the return on T-notes, plus a premium return for risk, which represents the expected volatility of the income stream(s). In equation form,

$$r = rf + rp. \quad (2)$$

Equation (3) presents the capitalization rate in "full view."

$$R = (rf + rp) - g. \quad (3)$$

Simultaneous changes in its components cause R to change, sometimes in unpredictable ways. This problem is exacerbated during unstable times, such as the recent past and now, characterized by recession, catastrophic events, war, and human viruses. Tracking the directional pattern of R, and attempting to judge turning points, requires an understanding of how and why the components of R change.

COMPONENT ANALYSIS

Panels A and B of Exhibit 3 show alternative scenarios under which changes in R could occur from one period to the next. As presented in Panel A, the discount rate (r) changes in accordance with the direction and magnitudes of changes in its two components, rf and rp. Under Market Condition 1, r increases because one or both components increase and neither decrease. Similarly, Market Condition 2 has r decreasing because one or both components decline and neither increase. Ambiguous changes in discount rates may occur under Market Conditions 3 and 4 because of the opposite directional changes of the components. During times when such conditions exist, knowing the prevailing direction of changes in the components of r is not enough information because the relative magnitude of the changes in rf and rp must be known to predict the future direction of r.

Is it likely for rf and rp to move in opposite directions? The answer to this question is a *qualified* yes. Component rf changes with macroeconomic movements, including fiscal and monetary policy changes. Component rp adjusts as the risk of the specific asset class adjusts. Some of this risk adjustment is undoubtedly systematic in nature, but a substantial portion occurs because of asset class re-pricing due to changes in the risk relative to other asset classes. Consequently, interest rates may fall while the *relative* risks of a particular asset class increase, as long as the assets' incomes are not entirely fixed over the long run (*i.e.*, a pure bond). Hotel asset income streams are the least similar to

bond incomes among property types. Thus, the pricing of hotel assets should be less interest-rate sensitive than office, retail, and other unsecuritized real estate investments. Before taking a closer look at recent historical movements of hotel cap rate components, let us see how all real estate cap rates behaved over the last five years.

REAL ESTATE CAPITALIZATION RATE COMPONENT TRENDS

From 1996 through 2002, returns on 10-year T-notes (i.e., rf) steadily declined from 6.6% to 4.7%. According to RERC survey results, the average pre-tax yield for the nine property segments covered in the survey stood at 11.62% during the second quarter of 1996 and 11.40% at the beginning of 2003.4 Thus, the bp increase in rp during this period was enough to almost neutralize the effect of the declining interest rates on r. The net result was only a slight drop in r. This evidence suggests that real estate discount rates from 1996 until now behaved like Market Condition 4 in Exhibit 3 (Panel A).

Exhibit 3 - Panel B shows outcomes for R assuming market conditions that produced alternative changes in r. Real estate analysts would probably agree that g is equal to or slower today than in the mid-1990s. Thus, the only feasible alternatives in Panel B are Conditions B, D, E, and F. If r decreased slightly and g also decreased, as in Condition B, then the change in R depends on the magnitude of the decline in g relative to r. If g declined and the change in r is inconsequential, as in Condition D, then R should have increased by roughly the same number of bps as g declined. Conditions E and F are self-explanatory.

The RERC data for R computed in the same manner as above show that the average R for all properties decreased insignificantly during the period 1996 through 2002 from 9.3% to 9.2%. This means that the decrease in r and the decline in g since 1996 nearly cancelled each other with respect to how they influenced R across all real estate property types.

HOTEL CAP RATE COMPONENT MOVEMENTS:
Past and Future
During the first quarter of 1996, the pre-tax yield for full-service hotel investments equaled 13.1%. In the last quarter of 2002, the yield was 13.6% - an

increase of 50 bps above the 1996 I level. Unlike all real estate investments, hotel yields increased by a noticeable amount, thus indicating that the unobservable rp increased by more than the rf declined. Hotel R also experienced a 50 bp increase from the beginning of 1996 to the end of 2002. This increase is solely due to the increase in r. Surprisingly, g remains at the same level in 2002 IV as in 1996 I.

FORECAST OF HOTEL CAP RATES BASED ON CONCEPTS

Econometric models can generate objective, point estimates of future real estate cap rates and other market indicators.5 Sometimes only the future direction of market indicators is needed. In these instances, breaking down the performance measure into its component parts may form the basis for conclusions about which way the market will likely move. Several insights came from the decomposition of hotel cap rates. These are:

The r for hotel investment, as for other real estate investments, equals an observable rf plus an unobservable rp. While rf declined over the past few years, the r for hotel investments has risen somewhat. This indicates that the increase of r has been due to a sizeable increase in rp, sizeable enough to offset the declines in rf - and then some!

The hotel R is comprised of r minus g. Hotel R moved upward by the same number of bps as r during the past few years suggesting that g remained stable. The reason for the stability is that g refers to the change in NOI and not the change in revenues. NOI has been much more stable during this recession than previous ones due to hotel managements' ability to reduce costs quickly in response to falling revenues.

The future direction of the hotel R partially depends on the forecast of general interest rate movements that would cause rf to change. Most macroeconomic forecasting firms envision a fairly level near-term interest rate pattern. Thus, movements in r will depend on how rp behaves.

The rise in hotel investment risk premiums has been dramatic in recent years. This is likely due to investor perceptions about hotel performance during economic downturns relative to safer investments. As indicated in Exhibit 1, hotel R now stands slightly above the historical average. As indicated in Exhibit 2, the spreads in 2002 between hotel rates and other capital market rates reached the highest levels recorded since 1992. These

spreads should narrow as the hotel markets climb back out of the trough. With g remaining somewhat stable over the last several years, expected income growth rates may not improve much during recovery, as some anticipate.

In conclusion, the hotel R should experience a modest decline over the next year. This will be due to a decline in rp as the level returns to the historical average. Even if rf increases, the movement should not offset the decline in rp as hotel investments are not highly interest rate sensitive. Changes in the expected growth of hotel NOI are not expected to be a major factor in the near-term determination of R. Returning to Exhibit 3, the market will likely behave as in Market Condition E of Panel B.

1   The ratio has little meaning to others. During a recent discussion, the CEO of a prominent hotel company told me, "We never consider capitalization rates."
2   Several organizations and firms such as American Council of Life Insurers, Cushman & Wakefield, CB Richard Ellis, PricewaterhouseCoopers, and Hospitality Valuation Services report hotel cap rates. None of the series available from these sources extend back as far in time as the RERC series.
3   Real estate capitalization rates also contain a component for return of capital to account for the economic depreciation of long-lived, non-land assets. This component is relatively small, given the long life of buildings, and thus often ignored.
4   RERC, Real Estate Report, Real Estate Investment Survey.
5   See, for example, Petros Sivitanides, Jon Southard, Raymond G. Torto, and William C. Wheaton, "The Determinants of Appraisal-Based Capitalization Rates," *Real Estate Finance* (Summer 2001): 27-37.

ABOUT OUR FEATURED COLUMNIST

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