FOCUS ON HOTELS AND HOSPITALITY

Are Floating-Rate Mortgages Best For Hotels?

Observations from the Recent Cyclical Peak-to-Trough

BY JOHN (JACK) B. CORGEL, PH.D AND SCOTT GIBSON, PH.D

INTRODUCTION

DURING JANUARY OF 2004, WE ATTENDED the American Lodging Investment Summit (ALIS), a large hotel industry investment conference held each year in Los Angeles. We sat through several sessions about financing hotel companies and properties at the conference. During literally every one of these sessions, fairly lengthy, and sometimes active, discussions erupted about the effective use of fixed-rate versus floating-rate debt for financing hotel investments. Our take away from the experience—floating-rate debt makes sense as a general proposition because hotels, unlike other commercial real estate, have pro-cyclical income streams unbridled by lease frictions that should resemble the time-series patterns of interest rates. However, we, like the panelists and other participants involved in these sessions, had views grounded in considerable ignorance because empirical work has never been done to confirm or refute the validity of financing strategies based on mixing fixed-rate and floating-rate mortgage debt.

As discussed below, one can quickly construct arguments that create reasonable doubt about the time-series relation between hotel revenues and debt-service obligations based on periodic movements of interest rates. Hence, certifying this relation is not obvious, but instead, should follow from a managed empirical exercise. During the past few months, we spent time assembling the necessary data to execute this empirical examination and help answer questions about how closely hotel RevPARs and interest rate series used in floating rate mortgage contracts behave over time.

This article reports on some of the findings from our larger study. Specifically, we carved out the past five years as an especially relevant period because hotel revenues rapidly went from their highest peak ever in 1999 and 2000 to a very deep trough in 2002 and 2003. These revenue

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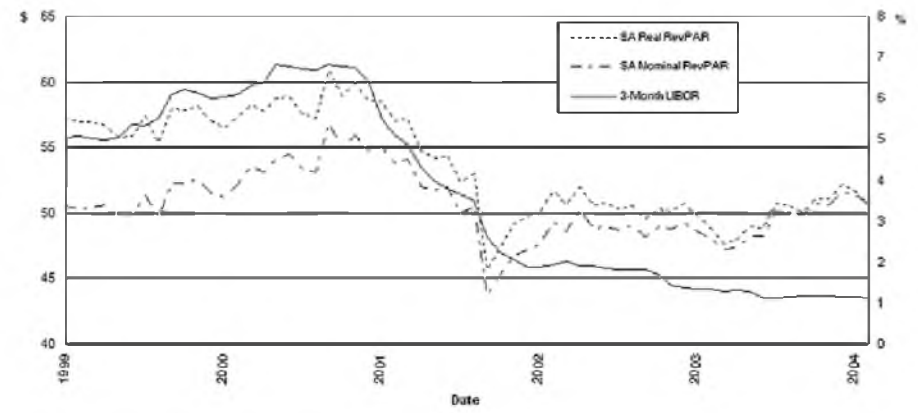
Exhibit 1—Hotel RevPAR and LIBOR from Recent Peak to Trough



Sources: Smith Travel Research and Federal Reserve

declines imposed sizeable financial distress costs on hotel investors and lenders as evidenced by the large increase in hotel delinquencies experienced during this part of the cycle.

FINANCIAL DISTRESS COSTS

Under the assumption that debt markets are efficient, debt is fairly priced regardless of whether it carries a fixed rate or floating rate. Thus, in a world without market frictions, the fixed-rate versus floating-rate decision has neutral valuation implications. In the real world, however, market frictions exist. Of particular importance when considering the fixed-rate versus floating-rate decision are issues relevant to managing financial distress costs, such as those directly related to mortgage delinquency and default.

Given the potential for these costs to arise, fixed-rate versus floating-rate financing decisions take on significant valuation implications. To maximize value, the objective is to structure interest payments such that financial distress costs are minimized. This objective is accomplished by aligning interest payments, to the extent possible, with operating cash flows produced by financed assets. When hotel operating cash flows decline, as they did during 2001 through 2003 1H, it is desirous to have interest payment obligations coincidently decrease, thus mitigating financial distress.

SHOULD HOTEL REVENUES TRACK WITH INTEREST RATES?

Hotel properties represent a special category of commercial real estate because the users of spaces agree to short-term (possibly daily) tenancy, as compared to long-term (possibly twenty-year) leases. The volatility of revenues is a defining characteristic of hotels, a feature often cited by investors as the primary reason why hotel properties are viewed as riskier investments than other types of real estate. Yet for hotels and other property types, long-term, fixed-rate mortgages with constant debt service payments are the common means of financing.

Evaluations of the financial performance of hotel markets often begin with presumptions about the close relationships between macroeconomic fluctuations (i.e., the business cycle) and the sales of hotel room nights. The procyclical nature of the hotel business has substantial support from historical data. It is not shocking therefore to posit a connection between interest rates and hotel revenues even though connections between the real and financial sectors of the economy are seldom direct. As economic downturns and recoveries occur, the pattern of interest rate changes and the pattern of hotel purchases may not be synchronized because different sets of consumption behaviors affect travel decisions and decisions about borrowing and lending. The connection is further clouded by the fact that the determinants of average daily rates and occupancies come from the supply side of the market, which is governed by investment considerations,

as well as the demand side. Thus, the underlying processes that drive the interest rate/RevPAR relation consists of a complicated set of consumption and investment influences.

METHOD AND DATA

The empirical analysis we performed involves a detailed examination of the time-series relation between short-term interest rate series commonly used to in hotel-debt finance (i.e., LIBOR) and RevPAR time series for all market segments and location subdivisions reported by Smith Travel Research (STR). In this article, we rely heavily on graphical presentations of the time-series and easy-to-understand statistical methods. All RevPAR data come from STR and, for this article, possess the characteristics described below.

1. Monthly observations from the beginning period of the STR time series, January 1999 (1999 M1) through February 2004 (2004 M2).

2. Aggregates hotel performance information for the U.S.; for each of STR's chain scales—luxury, upper upscale, upscale, midscale with food and beverage, midscale without food and beverage, economy, and independent; and for each of the STR location segments—urban, suburban, airport, highway, and resort.

3. Performance data during every month includes the number of properties, room revenue, number of rooms available, and number of rooms sold for each profile in (1) and (2) above. RevPARs come from dividing room revenue by rooms sold, then dividing rooms sold by rooms available, and then taking the product of these two results.

Due to the seasonal nature of the hotel business, we seasonally adjust RevPARs for this analysis. Also, due to the fact that inflation accumulates in ADRs over time, it is appropriate for time-series study to convert RevPARs from nominal to real terms. For completeness, we report results for both nominal and real RevPAR series.

Data on several short-term and long-term interest rate series were obtained from the Federal Reserve. Because hotel debt contracts normally include payment adjustment provisions based on short-term interest rate movements, only short-term interest rate series are used in this study. The analyses are performed with 3-month LIBOR, although several interest rate series were tested. All of the

Exhibit 2

This table shows Pearson correlations coefficients for U.S. RevPAR, market segments RevPARs, and location segments RevPARs with 3-month LIBOR. All data are in levels. The RevPAR data are (1) nominal, seasonally adjusted and (2) seasonally adjusted and in real dollars. The market segments are: Luxury, Upper Upscale, Upscale, Midscale with Food and Beverage, Midscale without Food and Beverage, Economy, and Independent. The location segments are: Urban, Suburban, Airport, Highway, and Resort.

	Pearson Coefficient	
Hotel Segment	Real	Nominal
RUS	.79*	.57*
RLUX	.73*	.60*
RUU	.78*	.65*
RUP	.89*	.78*
RMFB	.90*	.78*
RMID	.77*	.37**
RECO	.92*	.84*
RIND	.71*	.43*
RURB	.76*	.62*
RSUB	.85*	.66*
RAIR	.90*	.80*
RHW	.79*	.39**
RRES	.46**	.18

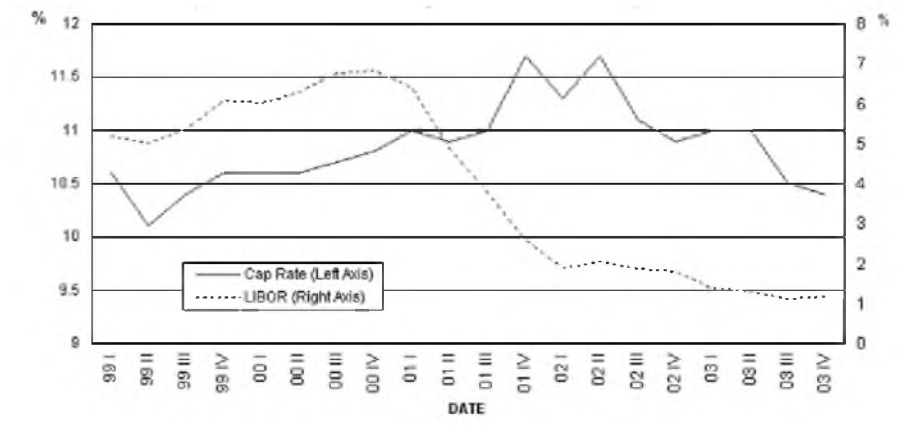
* Significant at .01

** Significant at .05

Sources: Smith Travel Research and Federal Reserve

LIBOR series commonly found in hotel debt contracts, 1-month LIBOR, 3-month LIBOR, and 1-year LIBOR, move in close synchronization with one another, and statistically are highly correlated.

Exhibit 3



Sources: Federal Reserve and Real Estate Research Corporation

RESULTS FROM RECENT PEAK TO TROUGH

Exhibit 1 presents a graphical view of hotel room revenue (RevPAR) and LIBOR movements from 1999 M1 through 2004 M2. Two measures of RevPAR appear in the exhibit—nominal, seasonally adjusted and real, seasonally adjusted. The co-movements in LIBOR and the RevPAR series are remarkably close until early 2002 when RevPAR began to recover from the trough while LIBOR continued to decline. From the perspective of financial distress costs, investors who selected floating-rate relative to fixed-rate contracts benefited significantly since 2001. For those investors, debt obligations declined coincidently with revenue declines and lag revenue recovery.

The correlations in Exhibit 2 indicate close statistical relations between LIBOR and all but one RevPAR series during the recent peak-to-trough in the hotel market cycle. The correlations are for data covering the fall from the peak in 2001 M1 through 2004 M2. These relations are uniformly strong when the accumulating effect of inflation on room rates is removed. The correlation coefficient between U.S. RevPAR and LIBOR during the period was a remarkable .79 in real terms and .57 nominal terms. In the single case of nominal resort RevPARs and LIBOR is the correlation coefficient not statistically significant. Resorts follow a different business model than other full-service hotels—one in which 50 percent of revenues come from non-room sales (i.e., RevPAR), such as food and beverage sales.

CONCLUSION: WHAT ABOUT VALUES AND LIBOR?

In a world of cash-flow borrowing and lending, the immediate concern of the parties is whether or not property cash flow will comfortably cover property debt-service obligations. The results presented above indicate that in a peak-to-trough business environment hotel borrowers minimize financial distress related to delinquency by utilizing generous amounts of floating-rate mortgage debt. From a mortgage default perspective, the major concern of lenders is what happens to the value of the hotel property collateral during a rollercoaster ride through the business cycle? Theory suggests that values will rise and fall along with cash flow. However, values will move in the opposite direction from cash flows when the effects of interest rate changes on capitalization rates dominate. Exhibit 3 shows how hotel capitalization rates and LIBOR behaved between early 1999 and late 2003. As the graph indicates, capitalization rates and LIBOR movements followed three different patterns.

1. From 1999 through the end of 2000, both series increased.

2. From 2001 through mid-2002, the capitalization rate was rising and LIBOR was falling.

3. From the second half of 2002 until the end of 2003, both series declined.

The most distressful period for hotel borrowers and lenders occurs when RevPARs experience a sudden and dramatic decline, as they did from 2001 through mid-2002. During these periods, it would be especially desirable if property values were rising due to declining interest rates. Rising property values then would serve as a hedge against financial distress costs related to delinquency. The recent experience, as shown in Exhibit 3, suggests that hotel capitalization rates are pro-cyclical except in the case when interest rates experience rapid changes. Countercyclicality in this instance may be due the sluggish nature of capitalization rates relative to short-term rates, such as LIBOR. The implication is that property values may fall along with RevPARs and LIBOR for some time during a cyclical downturn, which further amplifies the need for hotel owners to have floating-rate debt in place as a buffer to the shock of a peak-to-trough experience. □