Hospitality Review

Volume 19
Issue 2 *Hospitality Review Volume 19/Issue 2*

Article 11

January 2001

Making Alan Greenspan Your Hotel Investment Partner

Steve Rushmore
HVS International

Making Alan Greenspan Your Hotel Investment Partner

Abstract
The author presents a capitalization model applied in hotel valuation which is then used to illustrate how an increase in interest rates result in a lower valuation for hotels. It is demonstrated that changes in hotel valuations of up to 20 percent can be directly attributed to changes in interest rates.

In my opinion...

Making Alan Greenspan your hotel investment partner

by Steve Rushmore

The author presents a capitalization model applied in hotel valuation which is then used to illustrate how an increase in interest rates results in a lower valuation for hotels. It is demonstrated that changes in hotel valuations of up to 20 percent can be directly attributed to changes in interest rates.

Between November 1998 and May 2000, the value of a typical hotel in the United States was adversely affected by the federal government by approximately 10 percent. While Alan Greenspan and the Federal Reserve were controlling inflation through monetary policy, he was indirectly reducing a hotel's cash flow by increasing mortgage interest rates. Assuming hotel owners were unable to offset this erosion of profits by either raising revenues or lowering expenses, it was likely their hotel's overall value declined over this period.

Starting in January 2001, the Federal Reserve started lowering interest rates in an attempt to stimulate the sagging economy; this benefited hotel owners by lowering their mortgage interest rates. Between January 2001 and July 2001, hotel values increased an estimated 2 percent because of these actions.

One of the ways the Federal Reserve System in the United States controls the economy and inflation is by adjusting the interest rates. As these rates go up, borrowing goes down, and there is less money available to buy commodities; this, in turn, keeps prices from rising. While interest rates are somewhat market driven, the Federal Reserve does control what is called the "Federal Funds Rate," the rate at which depository institutions lend balances at the Federal Reserve to other depository institutions overnight. Beginning in 1995, the Federal Open Market Committee began announcing its target level for the Federal Funds Rate.

A similar rate is the Federal Discount Rate, which is the interest rate charged by the reserve banks when they extend credit to depository institutions either through advances or through the discount of certain types of paper, including 90-day commercial paper. When those in the stock market anxiously await the results of the monthly Federal Open Market Committee meeting, they want to know whether these rates have been raised or lowered.

Rates affect others

In most instances, all financial interest rates tend to rise and fall in tandem with the discount rate. Table I shows each time the Federal Funds Rate has changed since July 1992, along with the resulting interest rates for the Federal Discount Rate and the Prime Rate.

Between 1994 and 1995 the Federal Reserve increased the Federal Funds Rate seven times, going from 3 percent to 6 percent. It was then lowered three times during 1995 and 1996, ending at 5.25 percent. The rate was raised once in 1997, to 5.5 percent, and lowered three times in 1998, ending at 4.75 percent. Because of the overheated economy during 1999, the Federal Funds Rate was raised six times to 6.5 percent where it stayed until it was lowered in 2001.

During 2001, the Federal Open Market Committee has continuously dropped the Federal Funds Rate in an effort to keep the economy out of recession. At the same time, the Federal Discount and the Prime Rates practically mirrored these changes.

The hotel mortgage interest rates as reported by the American Council of Life Insurance followed a somewhat similar track, rising during the early 1990s as the Fed moved interest rates higher, falling in the mid-90s when credit loosened, then rising again at the end of the decade when the Fed started increasing the Federal Funds Rate. Today, hotel mortgage interest rates are declining as the lender's cost of capital is reduced by the Federal Reserve lowering interest rates on their borrowed funds.

Hotel values controlled

So how does the Federal Reserve control the value of a hotel? The following example demonstrates the impact of interest rate changes on hotel values.

Hotels are generally valued by buyers and sellers using a valuation method known as the income approach. In simple terms, value can be estimated by projecting a hotel's future profit level and dividing the resulting dollar amount by a percentage rate called a capitalization rate. The capitalization rate is essentially the cost of the capital components used to acquire the hotel, which is usually comprised of mortgage financing and equity capital. Assuming identical projected profit levels, value will increase as a capitalization rate decreases, and value will decrease as capitalization rate increases. Therefore, if the required equity

Table 1
Money market rates (percentage)

Date	Federal Funds Target Rate	Federal Discount Rate	Prime Rate	Hotel Mortgage Interest Rate
07/02/1992	3.25	3.00	6.00	9.47
09/04/1992	3.00	3.00	6.00	9.43
02/24/1994	3.25	3.00	6.00	9.38
03/22/1994	3.50	3.00	6.25	9.40
04/18/1994	3.75	3.00	6.75	9.45
05/17/1994	4.25	3.50	7.25	9.47
08/18/1994	4.75	4.00	7.75	9.50
11/16/1994	5.50	4.75	8.50	9.64
02/02/1995	6.00	5.25	9.00	9.14
07/06/1995	5.75	5.25	8.75	8.61
12/19/1995	5.50	5.25	8.50	8.44
01/31/1996	5.25	5.00	8.25	7.79
03/25/1997	5.50	5.00	8.50	8.25
09/29/1998	5.25	5.00	8.25	7.12
10/15/1998	5.00	4.75	8.00	7.47
11/19/1998	4.75	4.50	7.75	7.47
06/03/1999	5.00	4.50	8.00	8.05
08/25/1999	5.25	4.75	8.25	8.19
11/18/1999	5.50	5.00	8.50	8.65
02/03/2000	5.75	5.25	8.75	8.88
03/21/2000	6.00	5.50	9.00	8.88
05/18/2000	6.50	6.00	9.50	8.87
01/04/2001	6.00	5.50	8.50	8.68
01/31/2001	5.50	5.00	8.50	8.68
03/20/2001	5.00	4.50	8.00	8.57
04/18/2001	4.50	4.00	7.50	8.74
05/17/2001	4.00	3.50	7.00	8.79
06/28/2001	3.75	3.25	6.75	8.67
08/21/2001	3.50	3.00	6.50	8.60
09/17/2001	3.00	2.50	6.00	8.71

return remains constant and mortgage interest rates decline, the capitalization rate decreases and value increases. The reverse holds true: if mortgage interest rates increase, the capitalization rate increases and value decreases.

An example would be if an investor wanted to buy a hotel in November 1998, with the property experiencing stable profits projected to be $1 million annually. The current interest rate for hotel loans is 7.47 percent, a mortgage lender will finance 65 percent of the purchase price. This example assumes an interest-only loan. If the lender requires amortization, a

mortgage constant would be used instead of the interest rate. The 35 percent equity component comes from the investor who is looking for an 11 percent cash on cash return (equity dividend) on invested equity capital. The capitalization rate is the weighted cost of the two capital components (mortgage and equity) used to purchase the hotel:

Mortgage:	65%	x 7.47%	=	.0486
Equity:	35%	x 11.0%	=	.0385
Capitalization Rate:				.0871

Dividing the projected profit by the capitalization rate yields the value.

$$\frac{\$1,000,000}{.0871} = \$11,500,000$$

Between November 1998 and May 2000, the Federal Reserve increased the Federal Funds Rate six times, which raised the cost of hotel mortgages to 8.87 percent. When this interest rate is inserted into the formula and the other variables are held constant, the hotel's value falls $1.1 million or approximately 10 percent.

Mortgage:	65%	x 8.87%	=	.0577
Equity:	35%	x 11.0%	=	.0385
Capitalization Rate				.0962

Dividing the projected profit by the capitalization rate yields the value.

$$\frac{\$1,000,000}{.0962} = \$10,400,000$$

Cash flow demonstrated

The reduction in cash flow to the equity investor caused by higher mortgage interest rates is demonstrated with another example.

If the hotel was purchased in November 1998 for the $11,500,000 in the previous example, the financial structure would be as follows:

Mortgage:
65% x $11,500,000
= $7,475,000 x 7.47% = $558,000
Equity:
35% x $11,500,000
= $4,025,000 x 11.0% = $442,000
Total $1,000,000

The $11,500,000 purchase price would be funded with a $7,475,000 mortgage and a $4,025,000 equity contribution. The debt service would be calculated by multiplying the mortgage amount by the 7.47 percent interest rate, which amounts to $558,000. The equity cash-on-cash return is calculated in a similar manner by multiplying the equity contribution by 11 percent, producing $442,000 cash flow to equity. This financial structure is proved by totaling the mortgage and equity returns and seeing that they equate to the $1,000,000 projected profit.

If the same hotel was purchased in May 2000 for the $10,400,000 in the previous example, the financial structure would be as follows:

Mortgage:
65% x $10,400,000
= $6,760,000 x 8.87% = $600,000
Equity:
35% x $10,400,000
= $3,640,000 x 11.0% = $400,000
Total $1,000,000

This proof shows that because a greater portion of the profit must go

Table 2

Calculated value			
Date	**Hotel Value**	**Date**	**Hotel Value**
07/2/1992	$9,994,000	11/19/1998	$11,487,000
09/04/1992	$10,021,000	06/03/1999	$11,010,000
02/24/1994	$10,053,000	08/25/1999	$10,901,000
03/22/1994	$10,040,000	11/18/1999	$10,557,000
04/18/1994	$10,008,000	02/03/2000	$10,393,000
05/17/1994	$9,994,000	03/21/2000	$10,393,000
08/18/1994	$9,975,000	05/18/2000	$10,400,000
11/16/1994	$9,885,000	01/04/2001	$10,535,000
02/02/1995	$10,213,000	01/31/2001	$10,535,000
07/06/1995	$10,586,000	03/20/2001	$10,615,000
12/19/1995	$10,711,000	04/18/2001	$10,492,000
01/31/1996	$11,219,000	05/17/2001	$10,456,000
03/25/1997	$10,855,000	06/28/2001	$10,542,000
09/29/1998	$11,795,000	08/21/2001	$10,593,000
10/15/1998	$11,487,000	09/17/2001	$10,513,000

to pay the debt service ($600,000 vs. $558,000), the cash-on-cash to the equity dividend is less and the overall value is reduced in order to keep each component in balance.

Table 2 shows the resulting movement in value brought about by changes in the mortgage interest rate.

Table 2 also shows a value range of $9,885,000 to $11,795,000, or a difference of approximately $1,900,000 (almost 20 percent) attributed to the changing cost of mortgage capital. Of course, there are many offsetting factors that also impact value, such as increasing profits, changing the equity return requirements and lender liquidity, and general interest in making hotel loans. But the fact remains, and this example demonstrates, part of a hotel's value is controlled by the Federal Reserve which can raise or lower the sales price of a hotel investment at its whim through the control over interest rates.

Steve Rushmore *is president and founder of HVS International, a global hospitality consulting organization with offices in New York, San Francisco, Miami, Boulder, Vancouver, Toronto, Sao Paulo, Buenos Aires, Mexico City, London, New Delhi, and Singapore.*