# Equity Returns and Refinancing

Elaine Sahlins, Senior Vice President
HVS International San Francisco

**HVS INTERNATIONAL SAN FRANCISCO**
116 New Montgomery Street
Suite 620
San Francisco, CA 94105
(415) 896.0868
(415) 896.0516 (fax)
esahlins@hvsinternational.com

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By Elaine Sahlins, Senior Vice President
HVS San Francisco

As many hotel markets recover and low interest rates continue, hotel investments are once again attracting seasoned and first-time hotel buyers and lenders. For many buyers, hotel real estate is generating stronger returns than those currently available on other investments. Investing in hotels, however, requires more skill than ever, and many owners are arbitraging their financing for even greater returns. Some hotel investors are entering the hotel market to play the timing game, holding the investment for short- to mid-term periods and then flipping the asset when the net operating income is maximized. This strategy is possible with the short-term variable rate debt offered by many lenders. The different strategies have different levels of risk. What then is the differential return on equity using this strategy compared with the long-term hold often associated with hotel investments?

Traditionally, real estate investment was regarded as an illiquid long-term investment. Properties were purchased for their cash flow and appreciation, as the real estate investment would take longer to provide the returns than more liquid assets (such as securities). The reality is that, even though many investors still hold property for the long-term, a great deal of hotel investment today is managed to maximize its liquidity. In the current market, that means short-term debt at low variable rates. The variety of financing structures and willing lenders allows some investors to negotiate higher loan-to-value ratios (LTVs) and use short-term variable rate financing, often pegged to the London Interbank Offer Rate (LIBOR).

While free and clear discount rates are inevitably lower with lower interest rates and higher LTVs, the return on equity is significantly higher. The scenarios that follow demonstrate the potential of increased return on the equity investment when a hotel is refinanced.

The cash flow of a hotel in a recovering market with the following net income has been modeled for demonstration purposes.

**Hypothetical Cash Flow – Hotel in a Recovering Market**

| Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Net income | $1,000,000 | $1,200,000 | $1,344,000 | $1,411,200 | $1,453,536 | $1,497,142 | $1,542,056 | $1,588,318 | $1,635,968 | $1,685,047 |
| Percentage Change | | 20% | 12% | 5% | 3% | 3% | 3% | 3% | 3% | 3% |

The property was valued using two methods: 1) a direct capitalization rate of 8.0% on the first year's cash flow, and 2) a weighted mortgage-equity 10-year discounted cash flow analysis. As shown in the following table, the first method resulted in a $12.250 million value.

**Direct Capitalization Value**

| | | |
|---|---|---|
| Net Operating Income - Year One | $1,000,000 | |
| Overall Capitalization Rate | 8.00% | |
| Indicated Value | $12,500,000 | |
| less Sales Expense | 250,000 | 2.00% |
| Value | $12,250,000 | |
| Rounded | $12,250,000 | |

Using the second method, the following inputs yielded the same value:

## Valuation Variables – Ten-Year Fixed Rate Mortgage Financing

| | |
|---|---|
| Stabilized year: | 3 |
| Inflation: | 3.0 % |
| Loan-to-value: | 75 % |
| Amortization: | 25 years |
| Term: | 10 years |
| Interest rate: | 6.50 % |
| Terminal cap rate: | 10.5 % |
| Transaction costs: | 2.0 % |
| Equity yield: | 24.7 % |
| Mortgage constant: | 0.081025 |
| Income value: | $12,250,000 |
| Free & clear discount rate | 12.92% |
| Interest: | Monthly |

Based on conversations with lenders who offer 10-year mortgages for hotels, LTVs range from 70% to 75% with interest-rate spreads of 150 to 250 over 10 year t-bills. As illustrated in the following chart, assuming a 75% LTV and 6.50% interest rate on a conventional fixed-rate mortgage, a 10-year hold would generate a 24.6% internal rate of return on the investor's equity.

## Investment Yields – Fixed Rate Mortgage Financing

| Estimated Yields | | |
|---|---|---|
| Total value: | 12,254 | |
| Debt: | 9,191 | |
| Equity: | 3,064 | |
| Net income | Debt service | Net income to equity |
| (12,254) | (9,191) | (3,064) |
| 1,000 | 745 | 255 |
| 1,200 | 745 | 455 |
| 1,344 | 745 | 599 |
| 1,411 | 745 | 666 |
| 1,454 | 745 | 709 |
| 1,497 | 745 | 752 |
| 1,542 | 745 | 797 |
| 1,588 | 745 | 843 |
| 1,636 | 745 | 891 |
| 17,884 | 7,868 | 10,016 |
| 12.9% | 6.4% | 24.6% |

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## Scenario One – Ten-Year Hold with Refinance at the end of Year Three

What happens when the investor holds the property for the same 10 years but opts, initially, for a three-year loan? Lenders report that short-term variable rate loans are currently pricing at 225 to 250 basis points over the three-month LIBOR rates. Our analysis uses the same 75% LTV but models a 4.8% interest rate in the first three years. Initially, the debt service is roundly 14% lower. When the investor refinances the short-term debt in the fourth year, the positive gains in value with the property's improved net operating income (NOI) accelerates the investor's equity return. Valuing the property at the end of the third year yields a higher value as shown in the following chart.

### Direct Capitalization Value - Year Three NOI

| | | |
|---|---|---|
| Net Operating Income - Year Three | $1,344,000 | |
| Overall Capitalization Rate | 10.00% | |
| Indicated Value | $13,440,000 | |
| less Sales Expense | 268,800 | 2.00% |
| Value | $13,171,200 | |
| | | |
| Rounded | $13,171,200 | |

Refinancing the property at the higher value yields the following proceeds to equity.

### Proceed to Equity – Refinance at the End of Year Three

| | | |
|---|---|---|
| 4th-year value | $13,171,200 | |
| New loan | 9,878,400 | 75% |
| Points/fees | 148,176 | 1.5% |
| Less balance - 1st loan | 8,564,940 | |
| Net proceeds to equity | $1,165,284 | |

In this scenario, the 10-year hold analysis with a refinance at the end of year three yields a return on equity of 26.9% as compared to the 24.6% equity yield without refinancing.

### Cash Flow with Refinance at the end of the Third Year

| Year | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Net income | | $1,000,000 | $1,200,000 | $1,344,000 | $1,411,200 | $1,453,536 | $1,497,142 | $1,542,056 | $1,588,318 | $1,635,968 | $1,685,047 |
| Debt service | | 638,870 | 638,870 | 638,870 | 971,666 | 971,666 | 971,666 | 971,666 | 971,666 | 971,666 | 971,666 |
| Cash flow to equity | | 361,130 | 561,130 | 705,130 | 439,534 | 481,870 | 525,476 | 570,390 | 616,652 | 664,301 | 713,380 |
| Refinance proceeds | | | | 1,165,284 | | | | | | | 7,902,514 |
| Net proceeds to equity | | $361,130 | $561,130 | $1,870,414 | $439,534 | $481,870 | $525,476 | $570,390 | $616,652 | $664,301 | $8,615,894 |
| Equity IRR | 26.9% | | | | | | | | | | |

And, as seen in the following chart, the debt coverage ratio of the 75% LTV financing results in debt coverage ratios that are proximate to the roundly 1.3 to 1.4 range required by lenders.

### Debt Coverage Ratios

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Cash Flow | $1,000,000 | $1,200,000 | $1,344,000 | $1,411,200 | $1,453,536 | $1,497,142 | $1,542,056 | $1,588,318 | $1,635,968 | $1,685,047 |
| Debt Service | 638,870 | 638,870 | 638,870 | 971,666 | 971,666 | 971,666 | 971,666 | 971,666 | 971,666 | 971,666 |
| DCR | 1.57 | 1.88 | 2.10 | 1.45 | 1.50 | 1.54 | 1.59 | 1.63 | 1.68 | 1.73 |

While the equity returns of this scenario are riskier than locking in a conventional fixed-rate financing, the returns are greater. Based on this scenario, the interest rate would have to increase to roundly 10.0% upon refinancing for the equity yield return to be the same as the fixed mortgage scenario. Alternatively, the equity yield would be 21.0% if the refinancing interest rate is 8.0% but the net operating income was only inflationary for the entire 10 years.

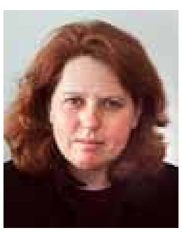
### Scenario Two – Three-Year Hold

Illustrating a more aggressive investment scenario, the same cash flows and values were used to estimate the equity yield if the investor sold the property at the end of year three after financing the property with the lower interest variable rate mortgage. The following chart shows the proceeds to equity upon sale.

### Sale at the end of Year 3 – Proceeds to Equity

| Year | | 1 | 2 | 3 |
|---|---|---|---|---|
| Net income | | $1,000,000 | $1,200,000 | $1,344,000 |
| Debt service | | 638,870 | 638,870 | 638,870 |
| Add proceeds from sale | | | | $4,606,260 |
| Net proceeds to equity | | $361,130 | $561,130 | $5,311,390 |
| Equity IRR | 29.4% | | | |

The equity investor's yield is exponentially increased with the shorter hold. For many investors, the riskiest issue is the question of the next investment if the hotel is sold. Many hotel owners are reluctant to sell, perceiving a lack of alternatively profitable investments. The financial returns on an actively managed 10-year hold still remain attractive to many hotel owners. The refinancing risks are palpable for many hotel investors, demonstrating that in today's financing environment, effective management of the hotel investment can be more profitable than ever. ③



**About the Author:**

Elaine Sahlins is Senior Vice President with HVS International's office in San Francisco, California. She holds an undergraduate degree from Barnard College, Columbia University in New York City and an MPS degree in Hotel Administration from Cornell University. After graduating from Cornell she worked for VMS Realty in Chicago analyzing hotel investments, and then went on to join Security Pacific in San Francisco, which was subsequently acquired by Bank of America. She joined HVS International in 1987 as a Director in the San Francisco office. Ms. Sahlins alko, with Suzanne Mellen, directs HVS Gaming Services.

Ms. Sahlins may be contacted at:
HVS INTERNATIONAL SAN FRANCISCO
116 New Montgomery Street, Suite 620
San Francisco, CA 94105
+1 (415) 268-0347 tel.
+1 (415) 896-0516 fax
esahlins@hvsinternational.com

**About HVS International:**

Since 1980, HVS International has provided hospitality services to more than 10,000 hotels throughout the world. Principals and associates of the firm have written textbooks and thousands of articles regarding all aspects of the hospitality industry, and literally "wrote the book" on how hotels should be valued.