Second Quarter 2012: The Trend Is Our Friend

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Second Quarter 2012: The Trend Is Our Friend

Abstract
The Cornell Hotel Indices reveal that the hotel industry has finally turned the corner with both large and small hotels participating in the price recovery. In our previous publication, we noted that prices for large hotel transactions ($10 million or more) began their recovery several quarters ago, indicating a flight to quality. What's new this quarter is that small hotels (under $10 million) have also turned the corner, while sales of high-price properties have actually faded a bit. Our repeat sales hotel index (RSHI) likewise confirms this trend. In this paper, number 3 in our series, we also introduce the Hotel Valuation Model.

Keywords
Cornell, hotel valuation models, interest rate spread, commercial real estate, HOTVal

Disciplines
Real Estate

Comments
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Supplemental File:
Hotel Valuation Model (HOTVAL) We provide this user friendly hotel valuation model in an excel spreadsheet entitled HOTVAL Toolkit as a complement to this report which is available for download from http://scholarship.sha.cornell.edu/creftools/1/
EXECUTIVE SUMMARY

The Cornell Hotel Indices reveal that the hotel industry has finally turned the corner with both large and small hotels participating in the price recovery. In our previous publication, we noted that prices for large hotel transactions ($10 million or more) began their recovery several quarters ago, indicating a flight to quality. What’s new this quarter is that small hotels (under $10 million) have also turned the corner, while sales of high-price properties have actually faded a bit. Our repeat sales hotel index (RSHI) likewise confirms this trend. In this paper, number 3 in our series, we also introduce the Hotel Valuation Model.
In our previous article in this series, analyzing the first quarter of 2012, we noted the hopeful sign that market activity had picked up for high price (large) properties, indicating the possibility of a more general market recovery. As we detail in this report, the second quarter found that activity surrounding low price (small) properties has also turned the corner.

Increase in hotel market activity. Exhibits 1 and 2 show that hotel market activity has increased, with the number of transactions of both large hotels and smaller hotels rising in the second quarter of 2012 over the second quarter of 2011.¹ Large hotel transactions (as delineated by prices over $10 million) approximately doubled, with 60 transactions in 2012Q2 compared to 29 transactions for the same period in 2011. Similarly, small hotel transactions more than doubled, with 149 transactions for small hotels in the second quarter of 2012 versus 68 transactions in 2011Q2. Prices for these two groups of hotels went in opposite directions in this quarter, however. The hedonic index for low price hotels increased more than 7 percent, rising from 115.11 in 2011Q2

¹ Please note that the number of transactions is limited to the sales that are included in the hedonic index. As such, it should not be construed as being the total market activity.
Exhibit 1

Median sale price and number of sales (hotels with sale prices of $10 million or more)

Exhibit 2

Median sale price and number of sales (hotels with sale prices less than $10 million)
to 123.25 in 2012Q2, but prices for high-price properties eased considerably in that same time period, declining from 166 in 2011Q2 to 147.57 in 2012, about an 11-percent drop.

Our third metric, the repeat sale hotel index, rose 23 percent in that twelve month period, increasing from 110.80 to 136.68 (see Exhibit 3).

We take these statistics to indicate that the market for smaller hotels has recovered. In our last report large and
small hotels prices moved in the same direction, but this quarter’s divergence between the trends for large and small hotels shows recovery for the small properties (as shown in Exhibit 4).

Large hotels begin to soften. Let’s look further at the market for high-price hotels. Exhibit 5 depicts large hotel prices against both the three- and five-year moving averages. The index is still above both moving averages, which shows positive momentum. That said, we do see the 11.1-percent year-to-year decline of the index that we just mentioned (Exhibit 6). On a quarter to quarter basis, the decline was -7.8 percent from this year’s first quarter to the second. In summary, the market for large hotels appears to be softening even though it remains above the two moving average benchmarks.

Smaller hotels have recovered. A different situation exists for smaller hotels. As evidenced in Exhibit 7, the performance index of smaller hotels has crossed its three-year moving average in 2012Q2, although it has yet to cross the five-year moving average. The year over year evidence in Exhibit 8 shows a similar picture, highlighted by the 7.1-percent increase that we discussed above. This represents

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**About the Cornell Hotel Indices**

In our inaugural issue of the Cornell Hotel Index series, we introduced three new quarterly metrics to monitor real estate activity in the hotel market. These are a large hotel index (hotel transactions of $10 million or more), a small hotel index (hotels under $10 million), and a repeat sales index (RSI) that tracks actual hotel transactions. These indices are constructed using the CoStar and Real Capital Analytics (RCA) commercial real estate databases. For the repeat-sale index, we compare the sales and resales of the same hotel over time. All three measures provide a more accurate representation of the current hotel real estate market conditions than does reporting average transaction prices, because the average-price index doesn’t account for differences in the quality of the hotels, which also is averaged. A more detailed description of these indices is found in the first edition of this series, “Cornell Real Estate Market Indices,” which is available at no charge from the Cornell Center for Real Estate and Finance (CREF). In this and subsequent issues, we present updates and revisions to our three hotel indices along with commentary and supporting evidence from the real estate market.
**Exhibit 5**

Large-hotel index, three-year moving average, and five-year moving average

Sources: Cornell Center for Real Estate and Finance, CoStar, Real Capital Analytics

**Exhibit 6**

Year over year change in large-hotel index, with a moving average trend line

Sources: Cornell Center for Real Estate and Finance, CoStar, Real Capital Analytics
Exhibit 7

Small-hotel index, three-year moving average, and five-year moving average

Exhibit 8

Year over year change in small-hotel index, with a moving average trend line

Sources: Cornell Center for Real Estate and Finance, CoStar, Real Capital Analytics
In addition to its 23-percent year over year increase, the index also rose by that percentage for the quarter (2012Q1 to 2012Q2). Smaller hotels and the repeat sale of hotels have thus both gained positive momentum. Exhibit 10 shows the trend in the year over year repeat sale index.

a 4.4-percent increase on a quarterly basis. The repeat sale index in Exhibit 9 echoes a similar albeit stronger story for smaller hotels. The repeat hotel sale index crossed both its three-year and five-year moving averages in 2012Q2, recovering almost to its 2009Q2 level. The current 136.68 value is just a shade lower than the 140.46 level the index achieved in 2009Q2. In addition to its 23-percent year over year increase, the index also rose by that percentage for the quarter (2012Q1 to 2012Q2). Smaller hotels and the repeat sale of hotels have thus both gained positive momentum. Exhibit 10 shows the trend in the year over year repeat sale index.
Cap rates remain stable. For the first quarter of 2012, the latest quarter for which ACLI reports data on hotel cap rates, cap rates have remained relatively stable. We saw only a slight decline, from 7.6 percent in 2011Q4 to 7.48 percent in 2012Q1. Exhibit 11 shows the hotel cap rate relative to the three-year and five-year moving averages, while Exhibit 12 graphs the year over year change in the hotel cap rate with a moving average trendline. This is consistent with the find-
ings of Real Capital Analytics (RCA) which also reports an overall stable cap rate trend for all hotels nationally. However, RCA notes a rise in the cap rate for full-service hotels, but a decline in the cap rate for limited-service hotels. The rise in full-service yields is consistent with our finding that our large hotel index is softening, given that these are typically the full-service properties. The cap rate compression corresponding to limited-service hotels also supports our finding of a rise in our small hotel index.

Mortgage financing availability and costs remain favorable. The second quarter of 2012 saw an increase in hotel mortgage originations (Exhibit 13), according to the Mort-

### Exhibit 13

**Availability of hotel financing**

![Graph showing hotel mortgage originations](image)

*Source: Mortgage Bankers Association*

### Exhibit 14

**Interest rate spreads of hotels versus U.S. Treasury ten-year bonds**

![Graph showing interest rate spreads](image)

*Source: Cushman Wakefield Sonnenblick Goldman*
Exhibit 15

Interest rate spreads of hotels versus non-hotel commercial real estate

Source: Cushman Wakefield Sonnenblick Goldman

Exhibit 16

Interest rate spreads of hotels versus non-hotel commercial real estate

Sources: Cornell Center for Real Estate and Finance, NAREIT

gage Bankers Association’s Quarterly Survey of Commercial/Multifamily Mortgage Bankers Originations, Q2 2012. Loan originations for hotels rose 22 percent year over year, and increased 149 percent from the first quarter. The last time that the volume of hotel originations was at this level was during the first half of 2005. Looking at interest rate spreads, Exhibit 14 shows the spread between Class A (B&C) hotel interest rates over the ten-year U.S. Treasury bond. The risk premiums associated with Class A hotels (1.81%) and Class B&C (2.06%) are now smaller than their corresponding historical medians of 3.48 percent and 4 percent (September 2007 through June 2012). The last time that the risk premiums were at this level was in September 2007, when the spread was 1.80 percent for Class A and 2 percent for Class B&C hotels. Exhibit 15 shows the spread between the Class A (B&C) hotel interest rate over the interest rate correspond-
ing to non-hotel commercial real estate. This depicts what we call the hotel real estate premium,2 which is .37 percent for high quality hotels and .51 for lower quality hotels. Both of these figures are lower than their historical medians (.47% for Class A and .73% for Class B&C). These numbers show that mortgage financing costs have not only improved but also continue to remain favorable.

Hotel index related to NAREIT index. Exhibit 16 compares the performance of the repeat sales index relative to the NAREIT Lodging/Resort Price Index. The repeat sales index tends to lag the NAREIT index by several quarters. This is consistent with studies which find that securitized real estate is leading indicator of underlying real estate performance, since the stock market is forward looking or efficient. What is surprising, however, is the correlation between the two indices. They tend to move together and are statistically moderately related to each other (.436).

Hotel Valuation Model (HOTVAL)

In this report, we introduce the first iteration of our hotel valuation regression model. 3 We provide this user friendly hotel valuation model in an excel spreadsheet entitled HOTVAL Toolkit as a complement to this report. The tool is available for download from our CREF website. Our goal is to capture the effects of a wide variety of variable on hotel value. Eventually we will include such factors as limited-service versus full-service hotel, distance from central business district, airport, and amenities. At the moment, the model includes the following characteristic variables: Time (which reflects the change in market conditions), Number of Rooms (Units), Number of Floors (Floors), Land area in square feet (Land Area SQF), and Actual Age of the Hotel in Years (Age in Years). We also include Gateway City, also a dummy variable which takes a value of 1 if the hotel is located in Boston, Chicago, Honolulu, Los Angeles, Miami, New York, San Francisco, or Washington, D.C. (otherwise, 0).4 The final independent variable in the regression model is a set of location dummy variables, which equal 1 if the hotel is in the region in question or 0 otherwise. The regions are New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island or Vermont); Middle Atlantic (New Jersey, New York, or Pennsylvania); East North Central (Indiana, Illinois, Michigan, Ohio, or Wisconsin); West North Central (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, or South Dakota); South Atlantic (Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, or West Virginia); West South Central (Arkansas, Louisiana, Oklahoma, or Texas); Mountain (Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Nevada, or Wyoming); and Pacific (Alaska, California, Hawaii, Oregon, or Washington). Since we model regions as a dummy variable, we must exclude a region (South East Central Region, including Alabama, Kentucky, Mississippi, and Tennessee).

For purposes of illustration, assume that we wish to determine the expected log price of a small hotel sold in the first quarter of 1995 located in New England. The subject hotel has 100 rooms on one floor and sits on 10,000 square feet of land. The hotel is 50 years old and is located in a gateway city. Exhibit 17, on the next page, reports the regression output from regressing log price on our chosen variables. The expected value of the log of price, M, is computed using the estimates.

\[
\text{Expected Log Value (M)} = 14.720901
\]

If log price is normally distributed with mean M and variance V, then the expected price is equal to \(\exp(M + V/2) = \exp(M)\exp(V/2)\). Exp stands for exponential and is the EXP function in Excel and the ex function on your calculator. In this regression equation, the estimate of the variance V is 0.281971 so the expected price of a hotel should correct for \(\exp(V/2) = \exp(0.287296/2) = 1.1514\). Therefore, the expected price of the hotel is \(\exp(14.720901)\times1.1514 = \$2,847.293\).
### Hotel Valuation Model (HOTVAL)

<table>
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<th>Year</th>
<th>Quarter</th>
<th>Big Hotel</th>
<th>Small Hotel</th>
<th>Year</th>
<th>Quarter</th>
<th>Big Hotel</th>
<th>Small Hotel</th>
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</tbody>
</table>

Continued on next page
Gateway cities, defined in Jack Corgel's CREF report, include Boston, Chicago, Honolulu, Los Angeles, Miami, New York, San Francisco, and Washington, DC.

New England: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont; Middle Atlantic: New Jersey, New York, and Pennsylvania; East North Central: Indiana, Illinois, Michigan, Ohio, and Wisconsin; West North Central: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota; South Atlantic: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia; West South Central: Arkansas, Louisiana, Oklahoma, and Texas; Mountain: Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Nevada, and Wyoming; Pacific: Alaska, California, Hawaii, Oregon, Washington. Since we model regions as a dummy variable, we must exclude a region. The excluded region is the South East Central Region which includes Alabama, Kentucky, Mississippi, and Tennessee.

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<table>
<thead>
<tr>
<th>Physical Attributes</th>
<th>Locational Dummies</th>
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<tbody>
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<td>Units</td>
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<td>Gateway</td>
<td>S Atlantic</td>
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Regression Variance: 0.281971261031152
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