

Cornell Hotel Indices: Second Quarter 2013

Where Are We in the Hotel Real Estate Cycle?

by Crocker H. Liu, Adam D. Nowak, and Robert M. White, Jr.

EXECUTIVE SUMMARY

We introduce a new tool in this issue to gauge where hotel prices are heading based on past hotel real estate cycles. Mixed signals exist and depend on the benchmark used. Cycle analysis based on the hedonic index indicates that we are approaching a peak in large hotel prices in contrast to the repeat sales approach, which indicates that we are still in the growth phase of the current hotel real estate cycle. In terms of the current quarter, a reversal has occurred in the Cornell Hotel Indices, with the price for larger hotels rising in the current quarter while small hotels have experienced a negative shock. Hotel properties also exhibit a slight rise in the premium relative to other property types, signaling slightly higher perceived default risk for hotel properties. Our business confidence metric, the NAREIT Lodging/Resort index, and the Architecture Billing Index all suggest that we should expect to see another reversal in the prices for larger hotels, and our repeat sales index in the near term with both anticipated to decline. We also expect rising prices for smaller hotels going forward based on the moving average trendline for the Consumer Confidence Index. This is paper number 7 of the index series.

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Analysis of Indices through Q2, 2013

Hotel Market Volume Has Declined. The volume of both large and smaller hotel transactions declined in the second quarter of 2013 relative to the first quarter of 2013 as shown in Exhibits 1 and 2, on the next page.¹ Large hotel transactions decreased approximately 16 percent with 69 transactions for large hotels in 2013Q2 compared to 82 transactions in the previous quarter. Similarly, small hotel transactions also fell, albeit by a smaller amount (6.3%) with 148 transactions for small hotels in the second quarter versus 158 transactions in the prior quarter. On a year over year basis, however, large hotel transactions increased 15 percent (69 versus 60 transactions), while smaller hotel transactions remained relatively constant (148 versus 149 transactions, see Exhibit 3).

Where We Are in the Hotel Real Estate Cycle Depends on the Benchmark. Since we began this series, analysts have used our indices to compare current hotel prices relative to prices in the previous hotel real estate cycle to get a sense of where we are in the hotel real estate cycle. Based on this type of analysis, the current position for large hotels

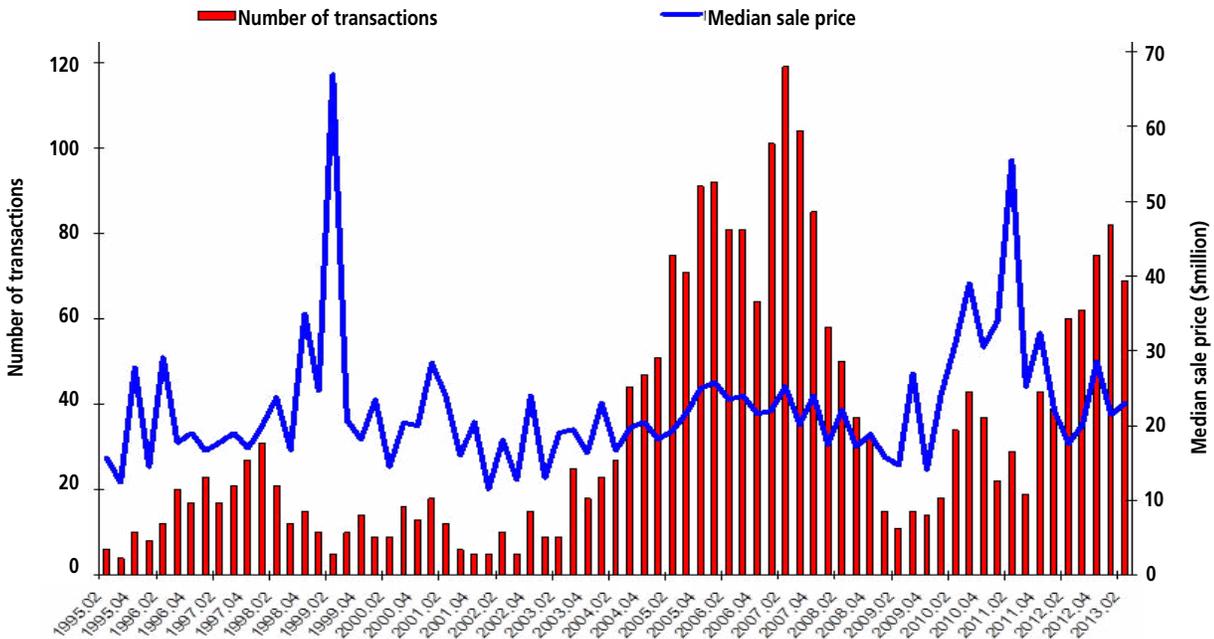
¹ Please note that the number of transactions is limited to the sales that are included in the hedonic index. As such, it should not be construed as being the total market activity.

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 1

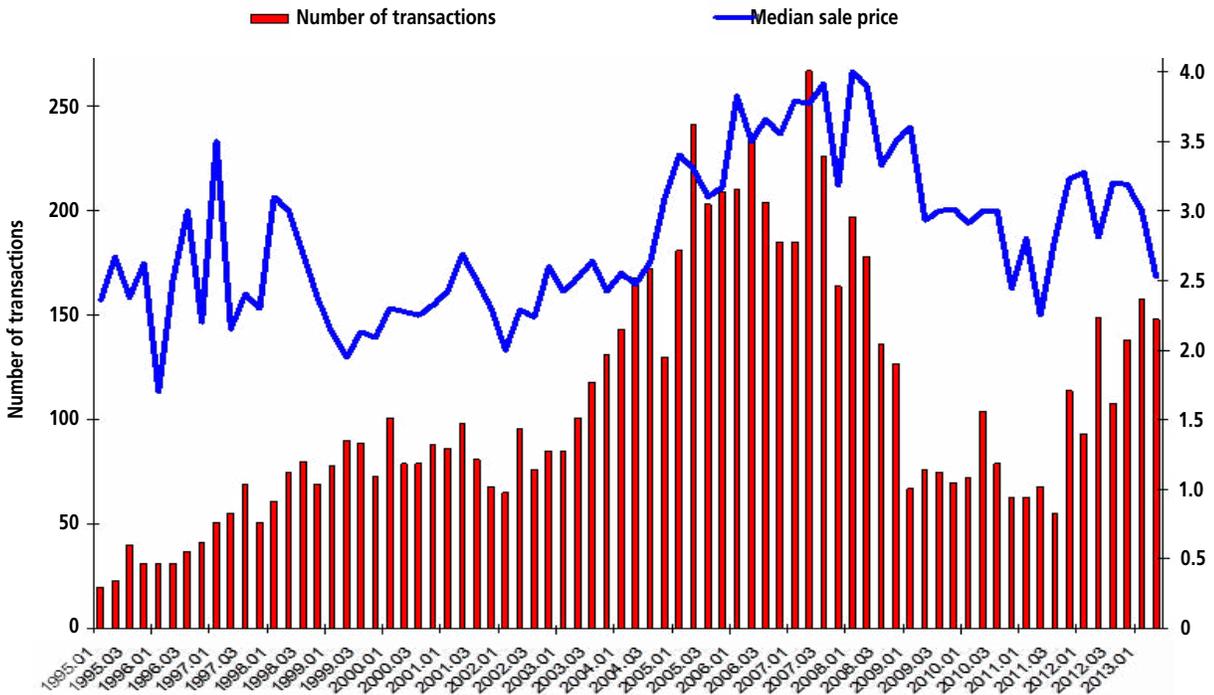
Median sale price and number of sales for large hotels (sale prices of \$10 million or more)



Sources: CoStar, Real Capital Analytics

EXHIBIT 2

Median sale price and number of sales for small hotels (sale prices of less than \$10 million)



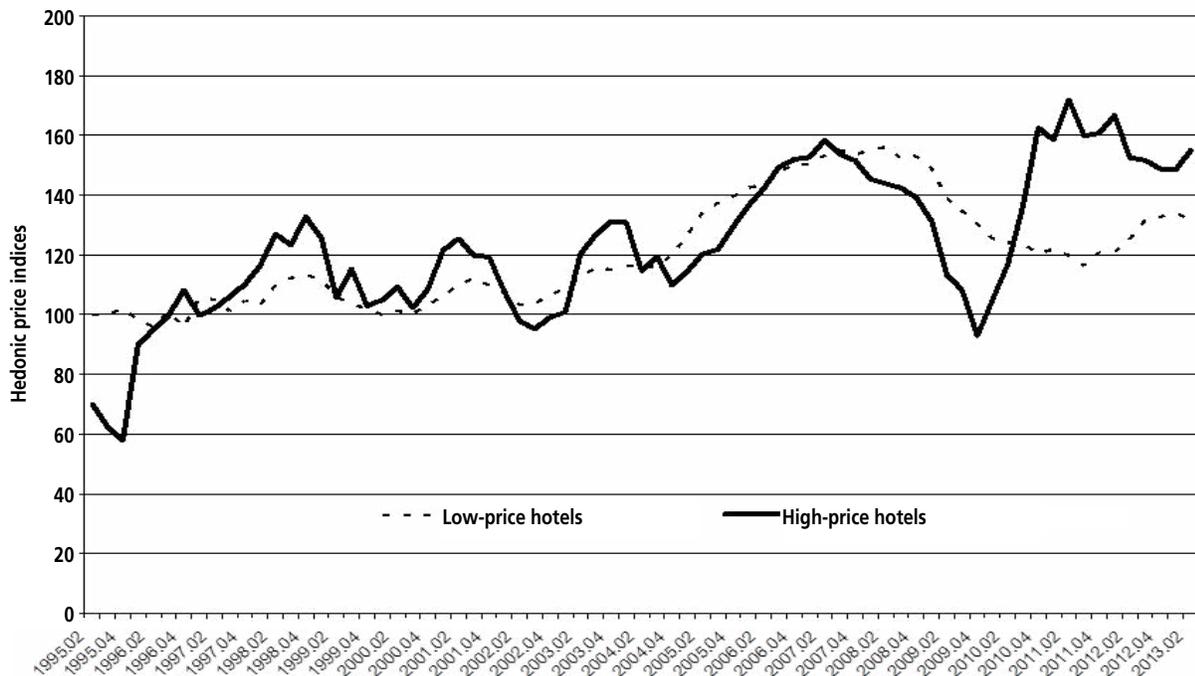
Sources: CoStar, Real Capital Analytics

EXHIBIT 3

Hotel indices through 2013, quarter 2

YrQtr	Index Value				YrQtr	Index Value			
	Hedonic	Hedonic	RSI	RSI		Hedonic	Hedonic	RSI	RSI
	Low Priced Hotels (<\$10M)	High Priced Hotels (>=\$10M)	Repeat Sales Index	Index Value Repeat Sales		Low Priced Hotels (<\$10M)	High Priced Hotels (>=\$10M)	Repeat Sales Index	Index Value Repeat Sales
1995.02	100.16	70.10	56.65	.	2004.03	116.13	119.53	101.22	116.73
1995.03	99.91	62.47	62.37	.	2004.04	119.93	109.85	102.38	102.94
1995.04	102.07	57.78	64.03	.	2005.01	126.63	114.51	108.27	129.39
1996.01	98.10	89.99	65.30	.	2005.02	134.23	120.33	112.58	128.31
1996.02	95.98	94.96	70.67	.	2005.03	137.34	121.82	118.34	145.21
1996.03	101.04	99.72	69.79	.	2005.04	139.44	129.41	125.18	133.44
1996.04	95.90	108.30	70.69	.	2006.01	142.58	136.46	130.62	145.74
1997.01	105.42	99.73	86.94	.	2006.02	143.55	142.16	133.14	142.42
1997.02	105.15	102.10	89.70	.	2006.03	147.82	149.37	133.62	148.13
1997.03	101.25	106.07	96.89	.	2006.04	150.41	151.99	137.53	150.99
1997.04	104.84	110.17	100.88	.	2007.01	150.41	152.65	140.05	155.44
1998.01	103.23	116.40	96.59	.	2007.02	153.26	158.36	143.86	156.28
1998.02	109.79	126.97	101.67	.	2007.03	155.13	153.66	148.11	161.89
1998.03	112.30	123.35	103.51	.	2007.04	153.38	151.55	146.86	162.47
1998.04	113.31	132.73	102.18	.	2008.01	155.36	145.33	143.66	167.75
1999.01	111.70	125.78	94.49	.	2008.02	156.10	143.77	143.94	166.35
1999.02	105.98	105.66	88.96	.	2008.03	152.33	142.46	142.25	152.77
1999.03	103.58	115.27	87.28	.	2008.04	153.13	139.17	143.65	157.06
1999.04	101.99	102.88	89.50	.	2009.01	148.94	131.39	141.34	140.70
2000.01	100.01	104.97	94.96	100.00	2009.02	138.85	113.37	141.31	144.59
2000.02	101.31	109.28	98.56	106.97	2009.03	134.69	108.42	128.12	95.70
2000.03	100.30	102.31	97.12	87.19	2009.04	130.49	92.94	116.25	100.32
2000.04	103.33	108.60	94.18	87.38	2010.01	125.47	104.97	112.07	112.38
2001.01	106.24	121.54	92.62	94.77	2010.02	124.13	116.82	100.92	100.76
2001.02	110.11	125.49	91.63	99.98	2010.03	123.67	136.55	101.46	101.50
2001.03	112.17	119.73	92.56	98.44	2010.04	120.50	162.52	107.70	123.98
2001.04	109.91	119.38	94.31	92.95	2011.01	121.89	158.57	106.09	111.29
2002.01	107.05	107.77	94.02	112.16	2011.02	119.81	171.97	109.46	111.47
2002.02	103.40	97.93	91.01	78.39	2011.03	116.43	159.85	110.75	105.08
2002.03	103.69	95.24	91.81	93.95	2011.04	120.85	160.74	111.01	124.71
2002.04	106.68	99.10	90.31	93.62	2012.01	120.91	166.63	113.16	111.46
2003.01	108.86	100.81	91.49	94.65	2012.02	125.43	152.50	106.24	82.63
2003.02	112.65	120.34	94.30	103.89	2012.03	131.47	151.71	111.96	125.00
2003.03	115.70	126.87	94.71	101.13	2012.04	132.74	148.73	113.23	129.69
2003.04	115.11	131.04	96.63	104.68	2013.01	134.00	148.45	115.84	121.04
2004.01	116.37	130.84	95.63	103.50	2013.02	131.70	155.01	127.38	137.06
2004.02	116.14	114.65	97.76	112.39					

Hedonic hotel indices for large and small hotel transactions



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

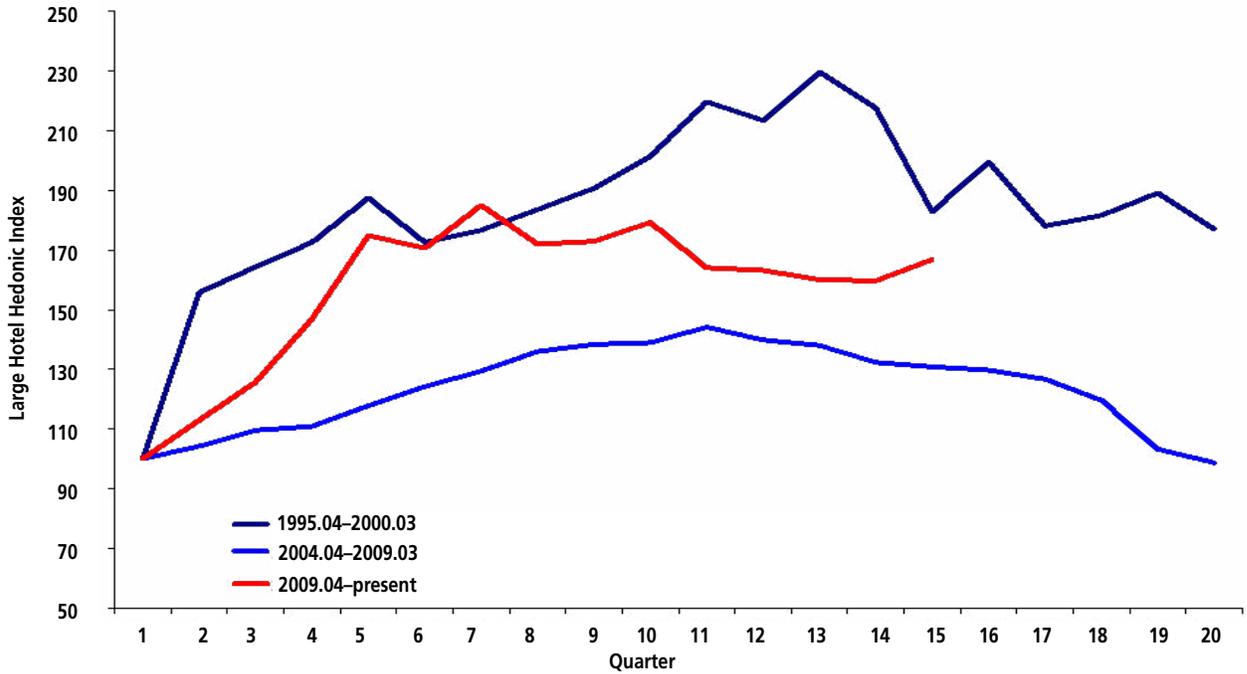
is similar to the third quarter of 2007, while the current position for smaller hotels is comparable to the third quarter of last year (2012), the fourth quarter of 2009, and the second quarter of 2005. Exhibit 4 shows that the price for larger hotels trended upwards relative to the prior quarter, rising 4.4 percent, while the converse is true for smaller hotels. The price for smaller hotels declined 1.7 percent relative to the prior quarter. However, prices for both larger and smaller hotels rose on a year over year basis, with larger hotels rising 1.6 percent and smaller hotels increasing by 5 percent. While the use of quarter over quarter and year over year comparisons provides important insights into where the prices of hotels might be heading, a complementary approach is to view the current movement in prices relative to prior periods based on the notion that history tends to repeat itself. Exhibit 5 provides a look at the current real estate cycle for large hotels, while Exhibit 6 shows the current hotel cycle based on repeat sales relative to prior hotel real estate cycles. Large hotel cycles tend to be 20 quarters (5 years) in dura-

tion, while hotel real estate cycles based on the repeat sales index tend to average 31 quarters (7 years, 3 months). The two exhibits differ in that the latter is based on both large hotels and small hotels. Although it appears that the price of large hotels continues to moderate relative to prior trends (see Exhibit 5), the hotel prices should continue to exhibit positive momentum (see Exhibit 6) if the current cycle continues to behave in a similar manner relative to prior cycles, based on repeat sales. From a quantitative perspective, the correlations are fairly high between the current real estate cycle (2009.04-present) compared to prior hotel real estate cycles (1995.04-2000.03 and 2004.04-2009.03), as shown in the table in Exhibit 7.² The reason that the current real estate cycle does not have a higher correlation with prior cycles

² From statistics, the correlation coefficient is a number between -1 and +1 which indicates the linear co-movement between two variables. The higher the number (i.e., the closer it is to -1 or +1), the higher the degree to which both variables move together in a positive manner (+1) or move inversely with one another (-1). In the inverse case, as one variable moves up the other variable moves down.

EXHIBIT 5

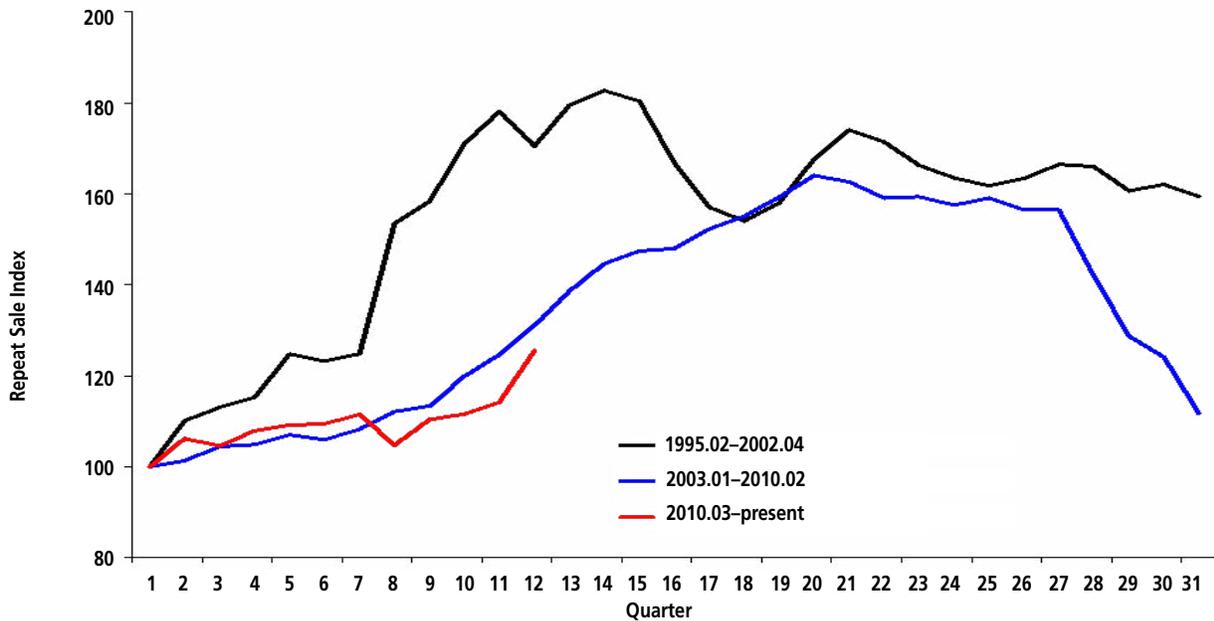
A comparison of hotel real estate cycles for large hotels (>\$10 million)



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

EXHIBIT 6

Comparison of hotel real estate cycle using repeat sales index (RSI)



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

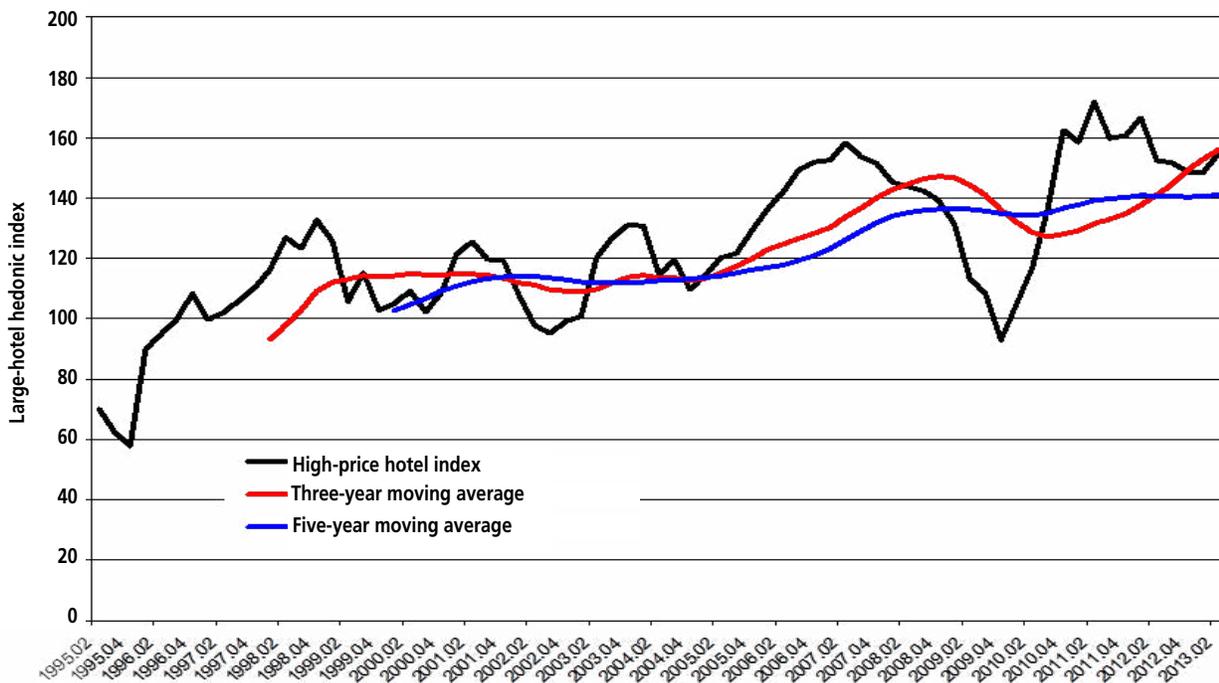
EXHIBIT 7

Correlation of hotel real estate cycles

	Hotel RE Cycle (Hedonic) 20 Quarters (5 years)			Hotel RE Cycle (Repeat Sales) 31 Quarters (7 years, 3 months)		
	1995.04-2000.03	2004.04-2009.03	2009.04-Present	1995.04-2000.03	2004.04-2009.03	2009.04-Present
1995.04-2000.03		.72	.68		.71	.69
2004.04-2009.03			.79			.86

EXHIBIT 8

Large hotel index, with three-year and five-year moving averages



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

is that it has not yet had a chance to run its course (that is, from peak to trough).³

Large Hotels Have Gained Positive Momentum. Exhibit 8 shows that there has been a positive reversal in the large-hotel index. Prices have turned upward this quarter reversing the downward price spiral of prior quarters. The index rose so that it is currently at its three year moving average. That is an improvement from the prior quarter when

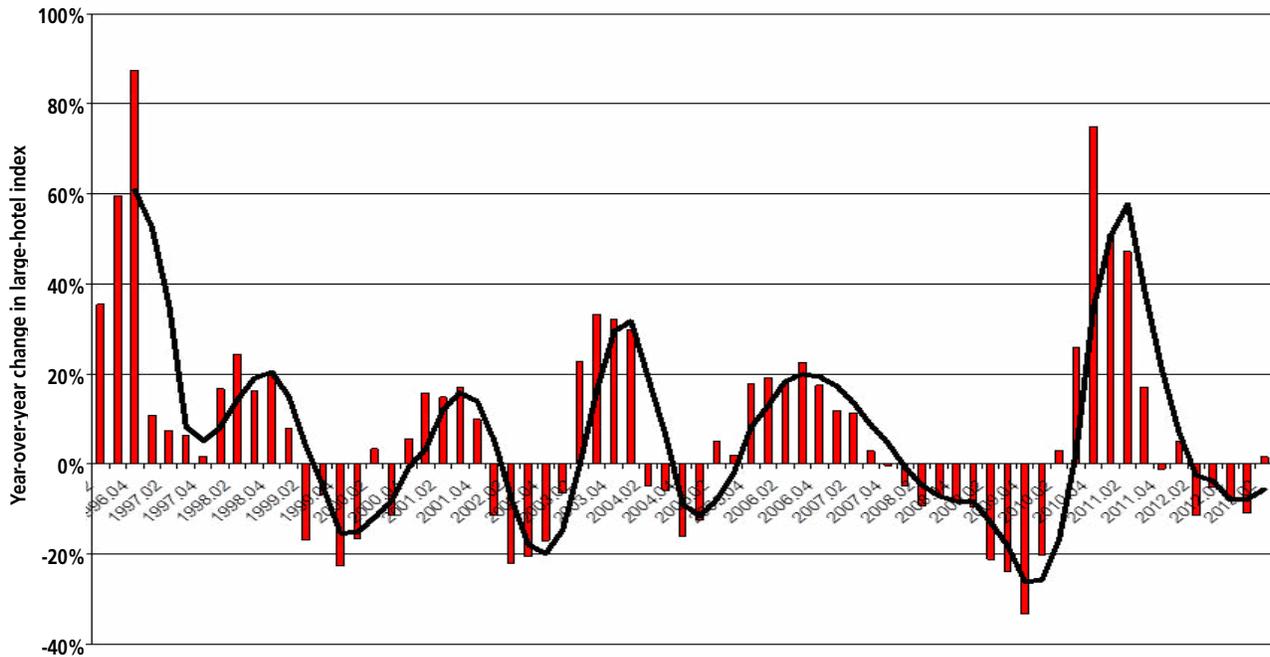
³ Specifically, the number of observations associated with each of the prior cycles is 20 for the hedonic cycle series and 31 observations for past cycles based on the repeat sales index. The current cycle only has 15 hedonic observations and just 12 observations for repeat sales.

it fell below the 3-year average, indicating a “sell” signal. The index is also above its five-year moving average. Exhibit 9 provides further evidence that the large-hotel index is rising at a faster rate on a year over year basis increasing from -10.9 percent (2012Q1 to 2013Q1) to 1.6 percent (2012Q2 to 2013Q2). In summary, the price trend of large hotels has reversed its downward spiral.

Smaller Hotels Have Lost their Positive Momentum. In contrast to larger hotels, Exhibit 10 shows that smaller hotels lost their positive price momentum in the second quarter, declining 1.7 percent from the prior quarter. The performance of smaller hotels is currently around their five-

EXHIBIT 9

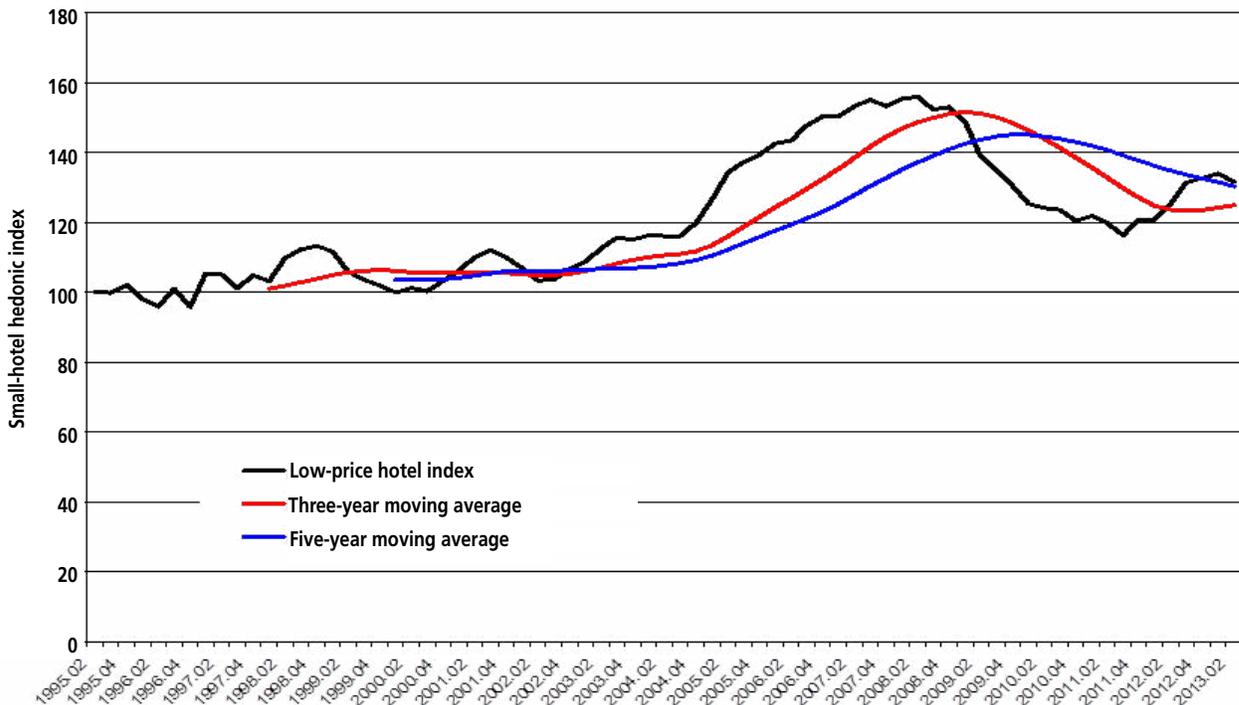
Year-over-year change in large-hotel index, with moving-average trendline



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

EXHIBIT 10

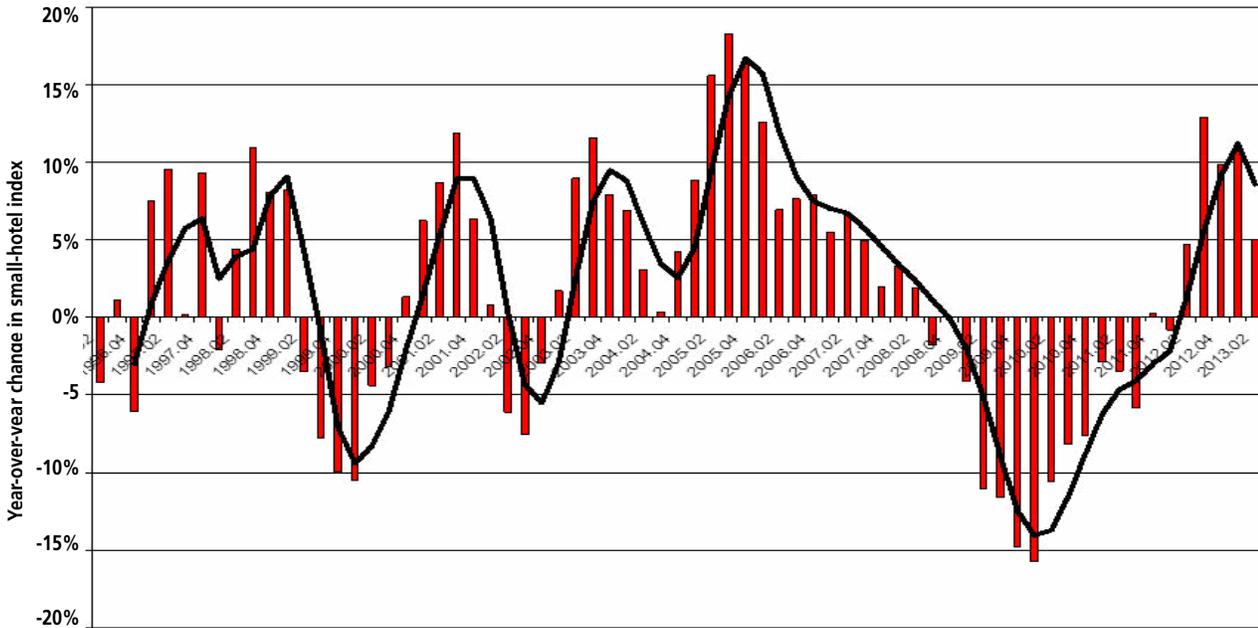
Small-hotel index, with three-year and five-year moving averages



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

EXHIBIT 11

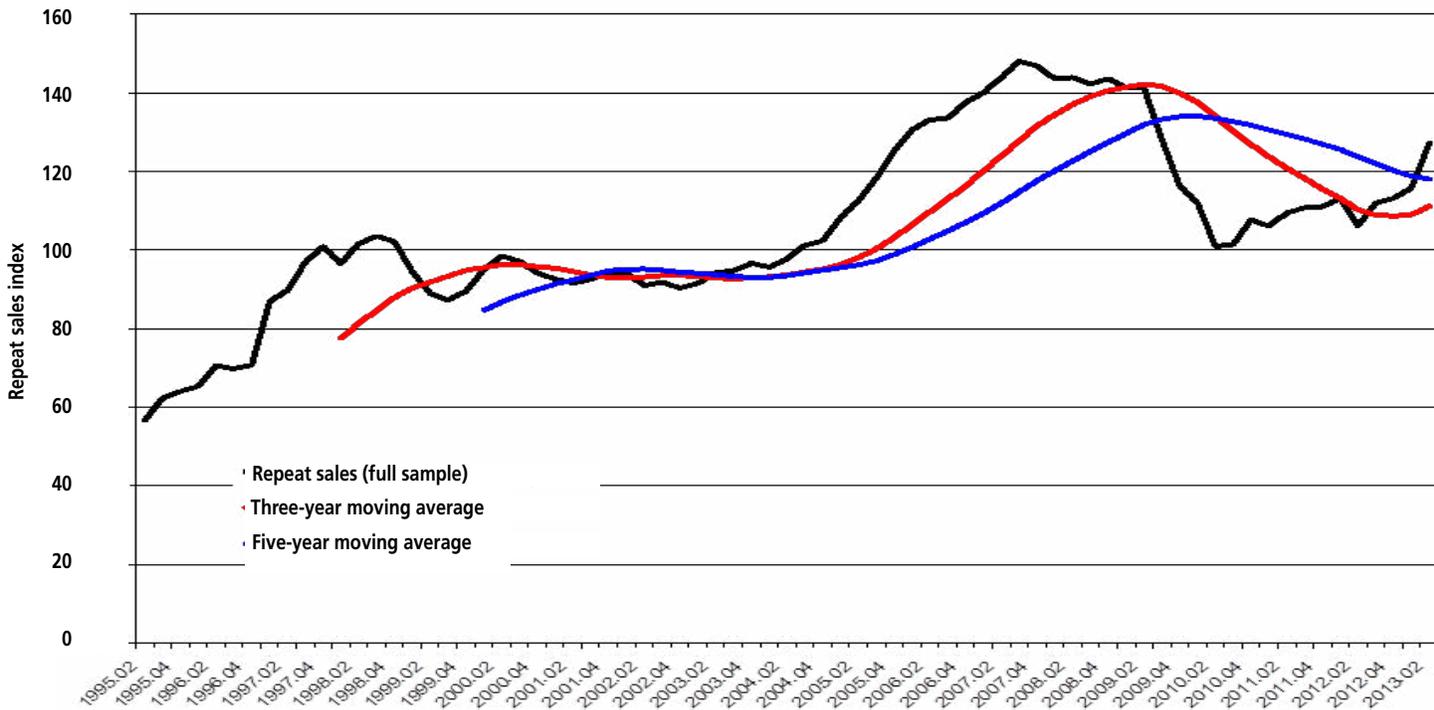
Year-over-year change in small-hotel index, with moving-average trendline



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

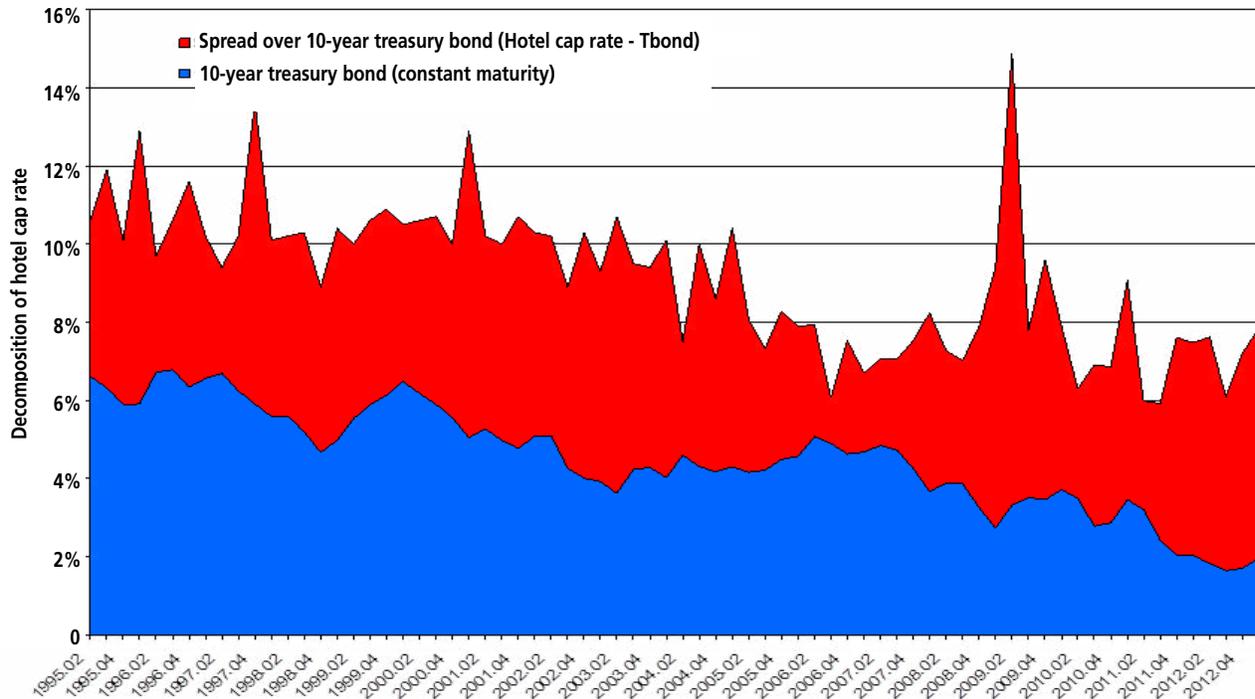
EXHIBIT 12

Hotel repeat-sale index (full sample), three-year moving average, and five-year moving average



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

Decomposition of ACLI hotel capitalization rates into risk premium and risk-free rate



Sources: ACLI, Cornell Center for Real Estate and Finance

year moving average. The year over year evidence in Exhibit 11 is consistent with our moving average analysis. Although the year over year performance continues to be positive (the good news), the relative magnitude of positive performance has declined. The current year over year increase in the small-hotel index of 5 percent (2012Q2 to 2013Q2) is 50 percent less than the 10.8-percent year over year increase (2012Q1 to 2013Q1) in the prior quarter.

Hotels Also Continue to Trend Upwards in Terms of Repeat Sales. The repeat sale of hotels in Exhibit 12 based on the full sample echoes a similar story to that for larger hotels.⁴ Currently the repeat sale index (full sample) stands

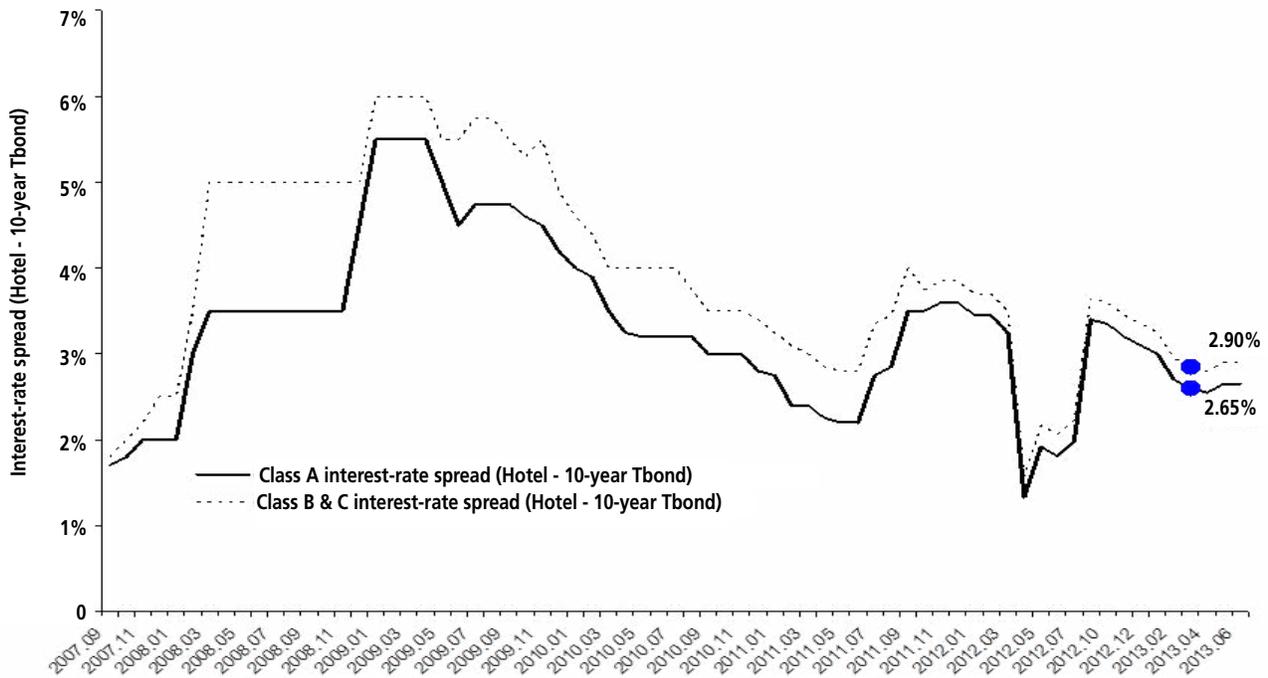
⁴ We report two repeat sale indices. The repeat sale full sample index uses all repeat sale pairs, whereas the repeat sale index with a base of 100 at 2000Q1 uses only those sales that occurred on or after the first quarter of 2000. In other words, the latter repeat sale index thus doesn't use information on sales prior to the first quarter of 2000. As such, if a hotel sold in 1995 and then sold again in 2012, it would be included in the first repeat sale index (i.e., repeat sale full sample index) but it would not be included in the smaller repeat sale index.

at 127.38 (2013Q2) which is above where it was as of the first quarter of 2013 (115.84) as well as the second quarter of 2012 (106.24). The repeat hotel sale index rose 19.9 percent on a year over year basis (2012Q2 to 2013Q2) and 10 percent on a quarterly basis (2013Q1 to 2013Q2).

Cap Rates Have Continued to Inch Higher. For the first quarter of 2013, the latest quarter for which ACLI reports data on hotel cap rates, cap rates have increased from 7.2 percent in 2012Q4 to 7.8 percent in 2013Q1. This is a continuation of the trend that we reported in the previous edition of this series. Exhibit 13 shows that this is not only due to a continued rise in the rate on the 10-year Treasury bond (constant maturity) from 1.71 percent to 1.96 percent but also an increase in the hotel cap rate spread over the 10-year treasury, which rose from 5.49 percent to 5.89 percent. This is also similar to the situation that we reported in the prior period. This suggests that investors are demanding a higher premium due to higher anticipated risk from investing in this asset class. Since the ACLI cap rates tend

EXHIBIT 14

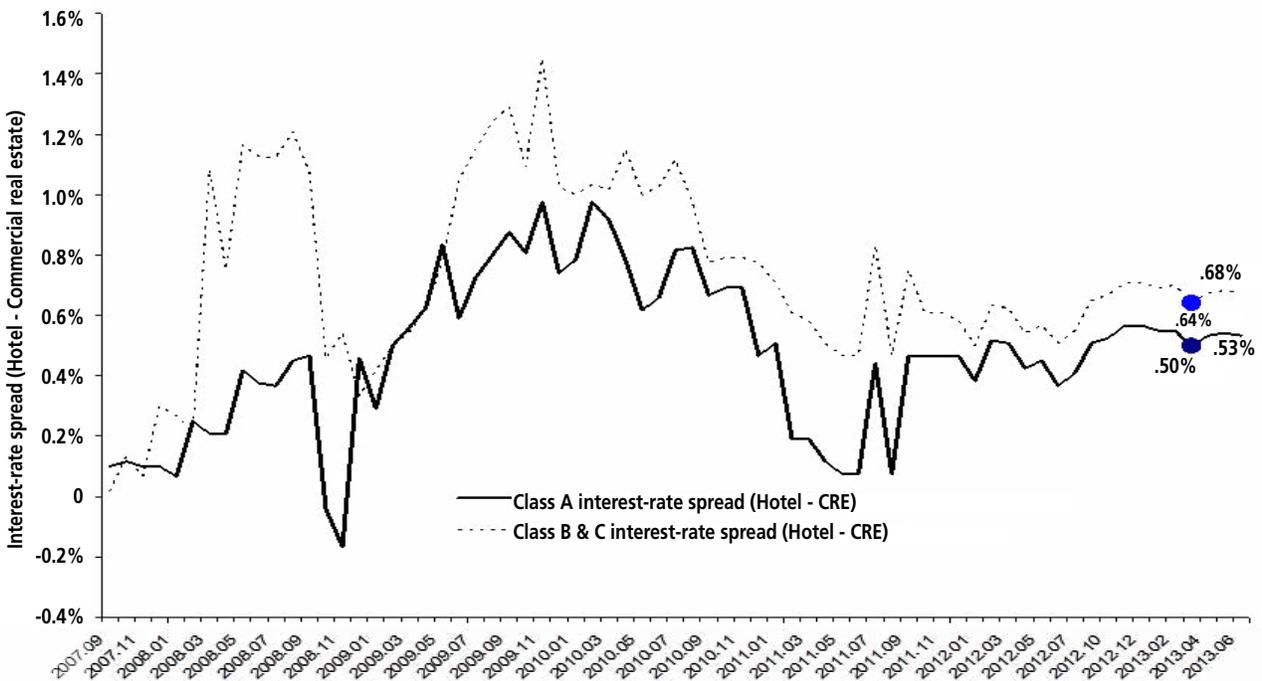
Interest-rate spreads of hotels versus U.S. Treasury ten-year bonds



Source: Cushman Wakefield Sonnenblick Goldman

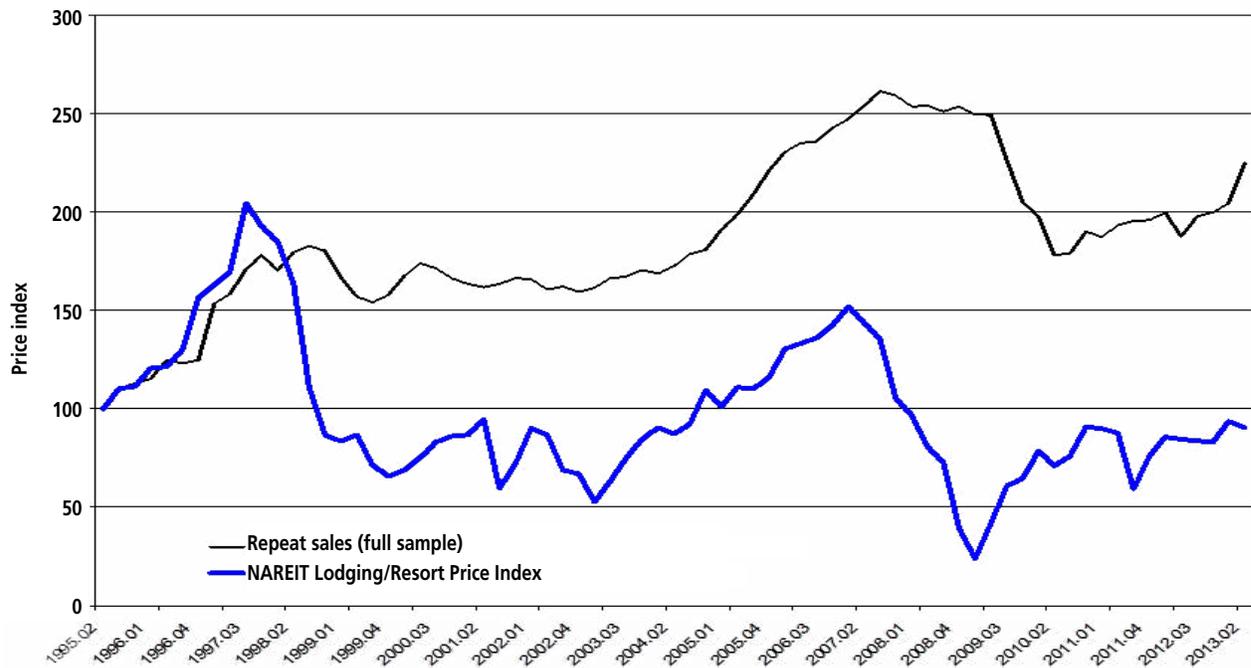
EXHIBIT 15

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



Source: Cushman Wakefield Sonnenblick Goldman

Hotel repeat sales index versus NAREIT lodging/resort price index



Source: Cornell Center for Real Estate and Finance, NAREIT

to be associated with large hotel deals, the increase in hotel cap rate is consistent with our previous observation that the price of large hotels continue to decline in the first quarter of 2013. We expect the ACLI cap rate to decline in 2013Q2 (recall that ACLI reports cap rates one quarter behind our report) since the price of large hotels has increased in the current period.

Mortgage Financing Costs Have Risen. The cost of obtaining hotel financing has risen relative to the last quarter. The interest rate on Class A full service hotels which was 4.5 percent in March 2013 (2013Q1) is currently at 4.81 percent as of June 2013 (2013Q2). For Class B properties, those figures rose from 4.75 percent in March 2013 to 5.06 percent in June. Exhibits 14 and 15 depict interest rate spreads relative to different benchmarks. Exhibit 14 shows the spread between Class A (B&C) interest rates for full service hotels over the ten-year Treasury bond. Exhibit 15 shows the spread between the interest rate on Class A (B&C) full service hotels over the interest rate corresponding to non-hotel commercial real estate. This is the hotel real estate premium.⁵ Not only has the spread associated with Class A

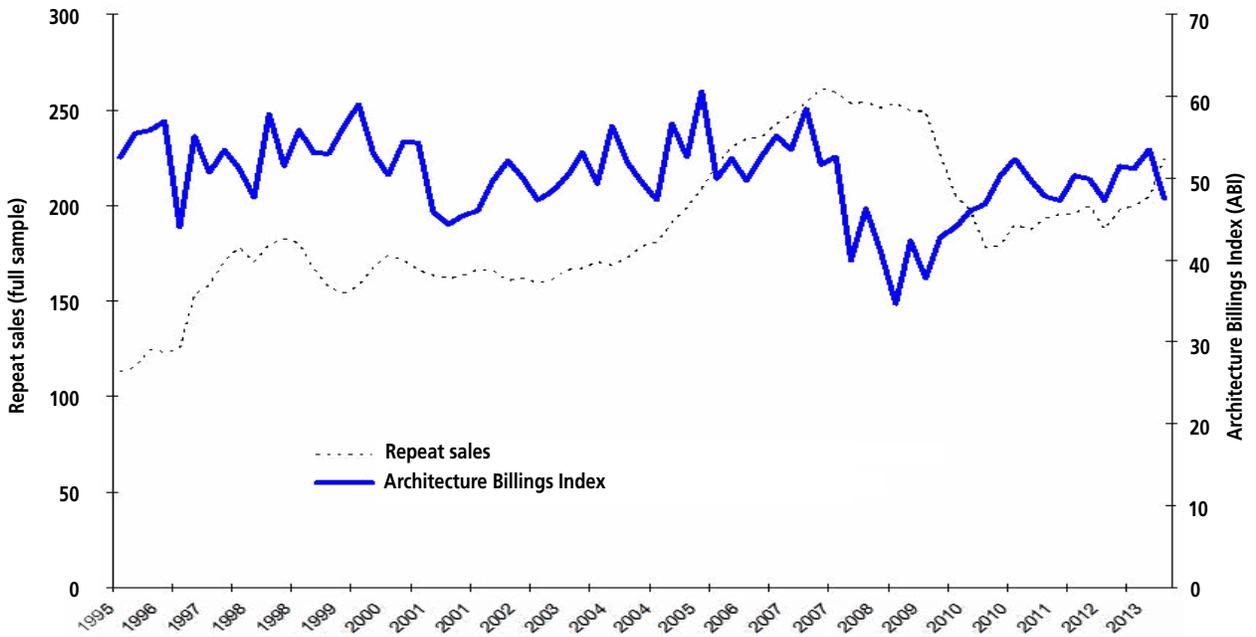
⁵ The interest rate on hotel properties is generally higher than that for apartment, industrial, office, and retail properties, in part because hotels' cash flow is commonly more volatile than that of other commercial properties.

hotels and Class B&C (2.90%) widened slightly (i.e., 2.65 percent versus 2.60 percent for Class A, and 2.90 percent versus 2.85 percent for Class B, as shown in Exhibit 14), but also the hotel real estate premiums for both higher quality (.53%) and lower quality (.68%) hotels have also increased slightly relative to the previous quarter (which was .50% for high quality properties and .64% for lower quality hotels) (Exhibit 15). The slight increase in the premium in Exhibit 15 is a signal that the perceived default risk for hotel properties has increased relative to the four major commercial real estate property types in the second quarter of 2013.

Expect a Reversal in Prices, According to the Tea Leaves. Exhibit 16 compares the performance of the repeat sales index relative to the NAREIT Lodging/Resort Price Index. The hotel repeat sales index tends to lag the NAREIT index by several quarters. This is consistent with prior academic studies which find that securitized real estate is a leading indicator of underlying real estate performance, since the stock market is forward looking or efficient. In the prior issue, we had forecasted that our Cornell Repeat Sale Hotel Index should rise in this quarter based on the NAREIT lodging index. As previously mentioned, our repeat sales index did rise this quarter, thus confirming this prediction. Looking ahead, the NAREIT lodging index has turned

EXHIBIT 17

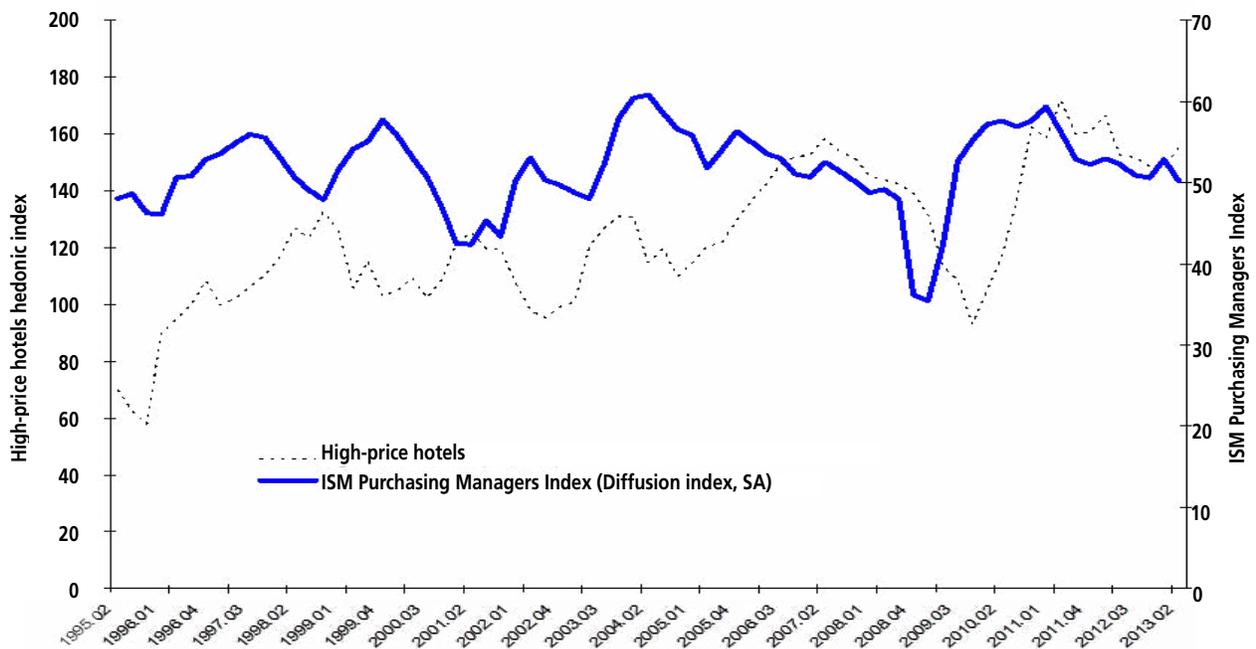
Hotel repeat sales index versus architecture billings index



Source: Cornell Center for Real Estate and Finance, American Institute of Architects

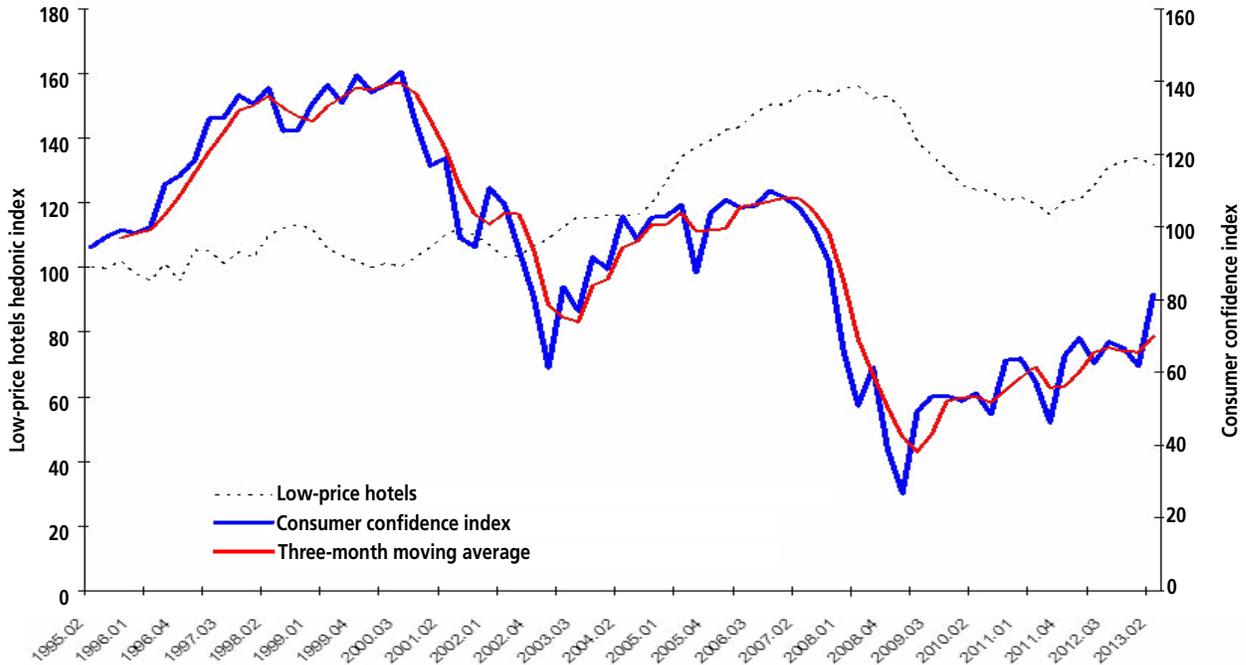
EXHIBIT 18

Business confidence and high-price hotel index



Sources: Cornell Center for Real Estate and Finance, Institute for Supply Management (ISM)

Consumer confidence and low-price hotel index



Sources: Cornell Center for Real Estate and Finance, Conference Board

downwards (-3.6%). The architecture billings index (ABI) for commercial and industrial property,⁶ which represents another forward looking metric, has also turned down (-11.21%), as shown in Exhibit 17.⁷ A third forward looking measure, the National Association of Purchasing Managers (NAPM)⁸ index, which is an indicator of anticipated business confidence (and thus business traveler demand), also turned down this quarter (-5%), which suggests that the

⁶ <http://www.aia.org/practicing/economics/aiaas076265>.

⁷ We used the May ABI index as reported on June 19, 2013, since the June ABI index as not yet available as we wrote this report. The ABI anticipates non-residential construction activity by approximately 9 to 12 months. According to material posted on their website, “The indexes are developed from the monthly Work-on-the-Boards survey panel where participants are asked whether their billings increased, decreased, or stayed the same in the month that just ended. According to the proportion of respondents choosing each option, a score is generated, which represents an index value for each month.”

⁸ The ISM: Purchasing Managers’ Index, (Diffusion index, SA), also known as the National Association of Purchasing Managers (NAPM) index, is based on a survey of over 250 companies within twenty-one industries covering all 50 states. It not only measures the health of the manufacturing sector but is a proxy for the overall economy. It is calculated by surveying purchasing managers for data about new orders, production, employment, deliveries, and inventory, in descending order of importance. A reading over 50 percent indicates that manufacturing is growing, while a reading below 50 percent means it is shrinking.

price of large hotels should experience some softness in the near future, if the trend in Exhibit 18 persists.

We thus anticipate a decline in the price of large hotels and in our repeat sales index based on all three of our leading indicators—NAREIT, ABI, and NAPM. In contrast to other leading indicators, the Consumer Confidence Index from the Conference Board, which we use as a proxy for anticipated consumer demand for leisure travel and a leading indicator of the hedonic index for low priced hotels (<\$10 million), rose in June (blue line). Based on the three month moving average trendline (in red) in Exhibit 19 and an increase in the consumer confidence index for June (31.5%), we anticipate a continuation of an upward trend in the transaction price for low priced hotels.

HOTVAL Update

Hotel Valuation Model (HOTVAL) Has Been Updated.

We have updated our hotel valuation regression model to include the transaction data used to generate this report. We provide this user friendly hotel valuation model in an Excel spreadsheet entitled HOTVAL Toolkit as a complement to this report. HOTVAL is available for download from our [CREF website](#). ■

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