

Cornell Hotel Indices: Fourth Quarter 2012

Price Growth Is Moderating: A Return to Normalcy?

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

EXECUTIVE SUMMARY

The Cornell Hotel Indices reveal that the hotel industry is continuing to experience positive price momentum for small hotels, with a moderating of prices for larger hotels. Consistent with this weakening in the price for larger hotels, construction costs for new 5-star hotels are now on par with the price of existing hotels. We also observe a lowering of expected growth in net operating income for full service hotels with anticipated NOI growth also moderating for limited service hotels. Hotel properties also exhibit a widening premium relative to other property types, signaling higher perceived default risk for hotel properties. Our index of business confidence suggests that we should continue to see a moderation in the prices for larger hotels. We expect a moderating of prices for smaller hotels going forward given the flattening of expected growth in NOI for limited service hotels and the worsening of consumer confidence in December. We also anticipate a continuous, slow growth in the hotel repeat sale index based on the NAREIT Lodging/Resort index and the Chemical Activity Barometer. This is paper number 5 of the index series.

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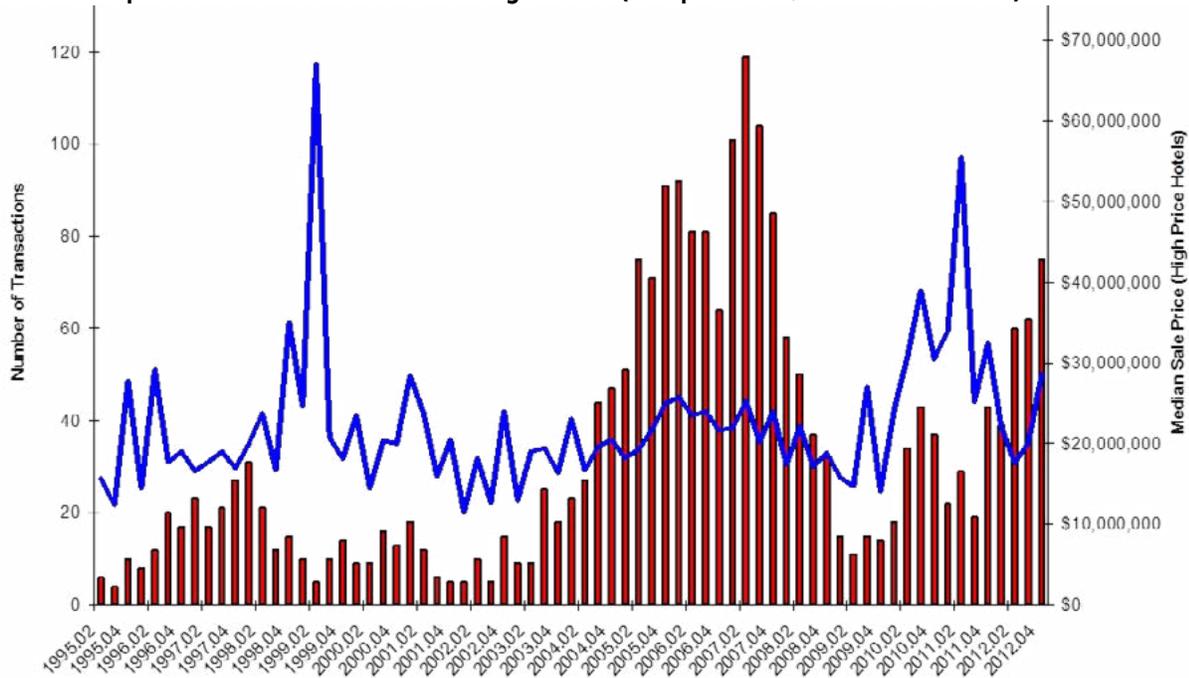
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Hotel Market Activity Continues to Increase

Hotel market activity continues to increase, as shown in Exhibits 1 and 2 (next page) with the number of recorded transactions of both large hotels and smaller hotels rising in the fourth quarter of 2012 over the fourth quarter of 2011. Large hotel transactions increased 74 percent, with 75 transactions for large hotels in 2012Q4 compared to 43 transactions a year earlier (2011Q4). Similarly, small hotel transactions also increased albeit by a smaller amount (21%) with 138 transactions for small hotels in the third quarter versus 114 transactions in 2011Q4. A slightly different pattern emerges in terms of prices with both the hedonic index for low price hotels (under \$10 million) and the repeat sale hotel index rising year over year. The hedonic index for low price hotels increased 10 percent—rising from 120.81 in 2011Q4 to 132.91 in 2012Q4—while the repeat sale hotel index rose slightly (.6%) increasing from 113.35 (2011Q4) to 114 (2012Q4). Both increases were slightly lower than those experienced in the third quarter. In contrast, the hedonic index for high price hotels (\$10 million or more) declined 7.2 percent year over year, decreasing from 160.71 in 2011Q4 to 149.01 in 2012Q4 (see Exhibit 3).

EXHIBIT 1

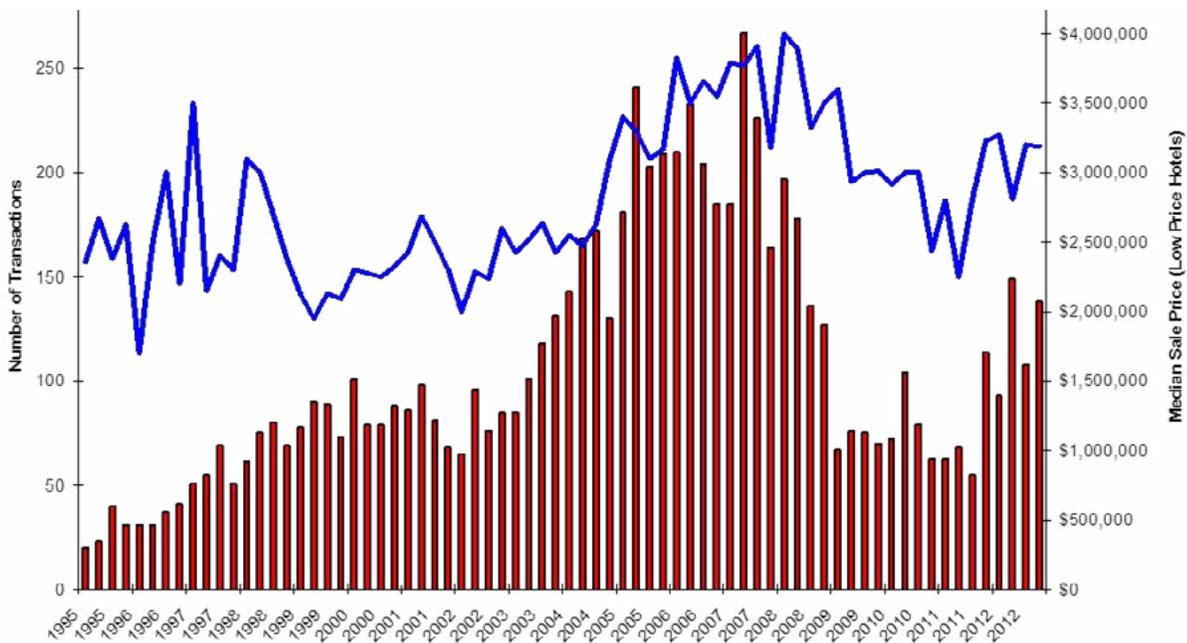
Median sale price and number of sales for large hotels (sale prices of \$10 million or more)



Sources: CoStar, Real Capital Analytics ■ High Priced Hotel Transactions — High Price Hotels Median Sale Price

EXHIBIT 2

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

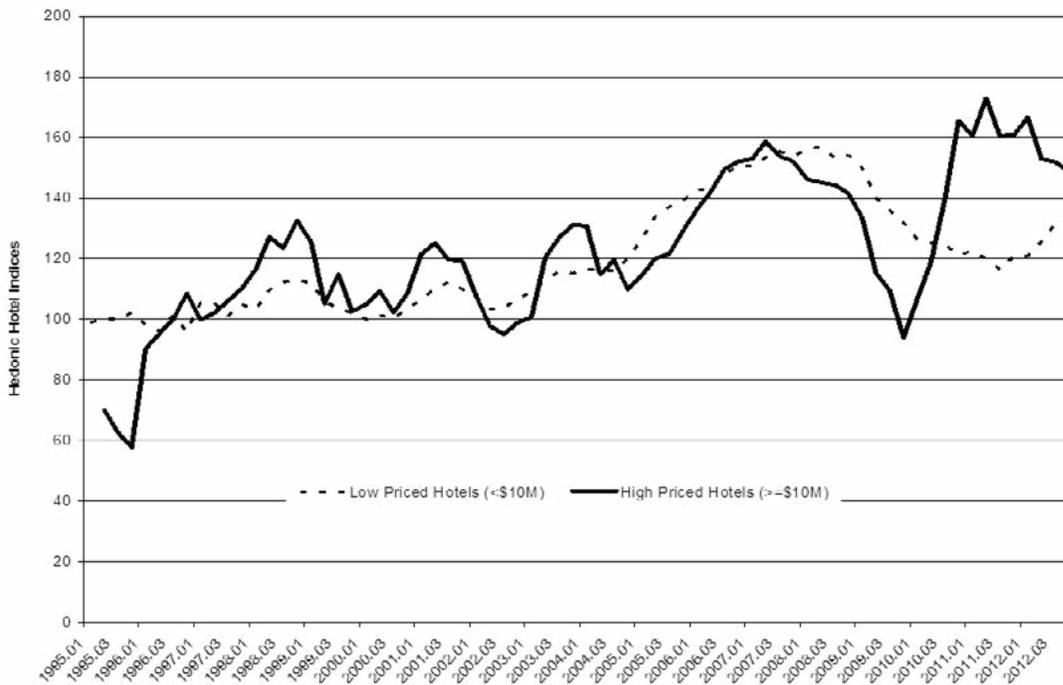


Sources: CoStar, Real Capital Analytics ■ Low Price Hotel Transactions — Low Price Hotels Median Sale Price

Hotel indices through 2012, quarter 4

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	Repeat Sales		Low Priced Hotels (<\$10M)	High Priced Hotels (>=\$10M)	Repeat Sales Index	Repeat Sales
1995.02	100.20	70.08	57.78	.	2004.02	116.13	114.76	99.51	114.40
1995.03	99.95	62.71	63.71	.	2004.03	116.13	119.65	102.67	116.83
1995.04	102.20	57.84	65.48	.	2004.04	119.91	109.83	103.53	102.36
1996.01	98.21	90.24	66.77	.	2005.01	126.58	114.43	109.33	130.08
1996.02	96.12	95.23	72.14	.	2005.02	134.13	120.17	113.85	130.84
1996.03	101.23	99.89	71.17	.	2005.03	137.20	121.59	119.97	146.30
1996.04	96.02	108.53	71.96	.	2005.04	139.31	129.23	127.39	135.13
1997.01	105.54	99.80	87.62	.	2006.01	142.53	136.27	133.11	146.79
1997.02	105.25	102.12	90.43	.	2006.02	143.53	142.07	135.61	145.82
1997.03	101.31	106.15	94.87	.	2006.03	147.88	149.53	135.96	149.61
1997.04	104.85	110.26	102.31	.	2006.04	150.56	152.15	139.42	150.89
1998.01	103.23	116.51	98.53	.	2007.01	150.57	152.85	141.15	151.22
1998.02	109.79	127.18	103.75	.	2007.02	153.47	158.73	144.78	157.52
1998.03	112.30	123.51	108.55	.	2007.03	155.45	153.97	150.15	168.38
1998.04	113.31	132.66	103.77	.	2007.04	153.88	152.11	149.07	162.13
1999.01	111.69	125.53	96.04	.	2008.01	156.16	146.31	146.47	170.35
1999.02	105.94	105.19	90.40	.	2008.02	157.06	145.14	146.62	167.91
1999.03	103.56	114.86	88.61	.	2008.03	153.34	144.43	144.62	157.05
1999.04	101.97	102.67	90.12	.	2008.04	154.20	141.56	146.39	157.45
2000.01	99.99	104.87	95.28	100.00	2009.01	150.09	133.53	144.46	143.35
2000.02	101.33	109.37	98.94	107.81	2009.02	140.00	115.19	145.15	147.70
2000.03	100.34	102.18	97.63	88.24	2009.03	136.00	109.53	131.00	96.21
2000.04	103.44	108.58	95.53	88.39	2009.04	131.86	93.88	119.05	102.41
2001.01	106.37	121.45	93.74	91.98	2010.01	126.39	106.64	114.31	112.52
2001.02	110.19	125.17	92.95	101.31	2010.02	125.20	119.01	102.66	102.71
2001.03	112.24	119.56	93.82	99.53	2010.03	124.70	139.53	103.34	102.11
2001.04	109.96	119.17	94.44	87.52	2010.04	121.17	165.56	109.95	127.47
2002.01	107.03	107.56	94.96	112.72	2011.01	122.55	160.65	109.36	113.47
2002.02	103.41	97.76	93.25	86.22	2011.02	120.10	173.06	112.32	112.03
2002.03	103.70	95.04	94.02	95.39	2011.03	116.43	160.43	113.79	107.00
2002.04	106.67	98.89	93.63	94.42	2011.04	120.81	160.71	113.35	125.93
2003.01	108.92	100.72	95.02	99.09	2012.01	120.91	166.63	114.76	112.52
2003.02	112.74	120.44	96.44	105.27	2012.02	125.58	152.95	106.66	70.11
2003.03	115.77	126.91	96.96	102.40	2012.03	131.59	151.96	112.33	126.39
2003.04	115.18	131.15	98.75	105.14	2012.04	132.92	149.01	114.00	132.08
2004.01	116.40	130.93	97.25	103.36					

Hedonic hotel indices for large and small hotel transactions



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

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.

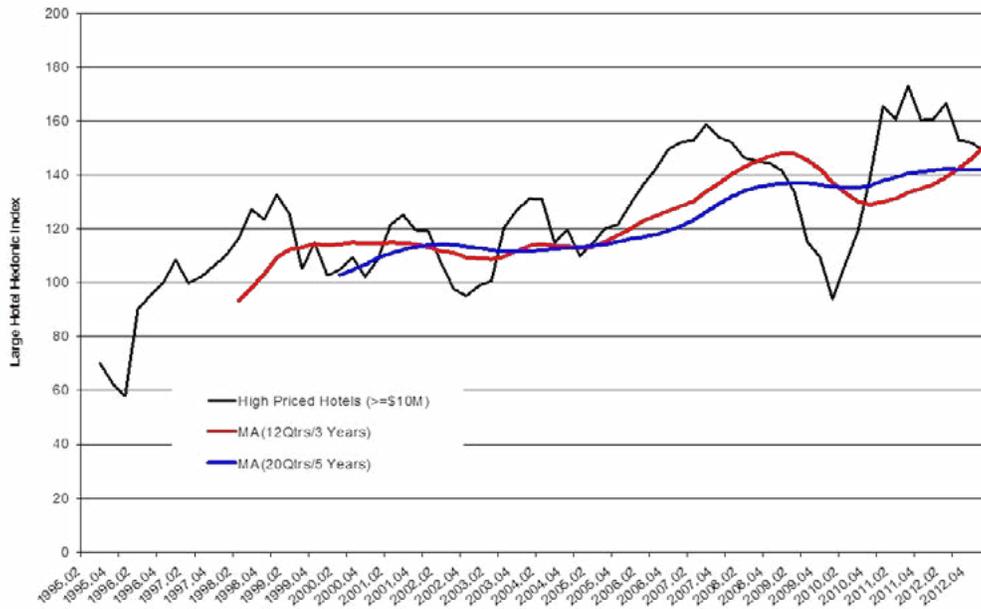
There continues to be a divergence in the trends for large and small hotels, with large hotels declining in price and small hotels increasing, as shown in Exhibit 4. This is a continuation of a trend showing that the market for smaller hotels has recovered.

Large Hotels Have Moderated in Price

As shown in Exhibit 5, which depicts the movements of the two averages for the large hotel index, this index has started to lose momentum. In particular, the index has crossed below its three-year moving average as of 2012Q4 (although it is still above its five-year moving average). This crossing signals a lateral to downward movement in the price trend for large hotels. Exhibit 6 offers confirmatory evidence that the large-hotel index continues to decline on a year over year basis. The index has experienced a -7.3-percent decrease in value from 2012Q4 to 2012Q4. On a quarter to quarter basis, the decline was much less, at -.11 percent (2012Q3 to 2012Q4).

EXHIBIT 5

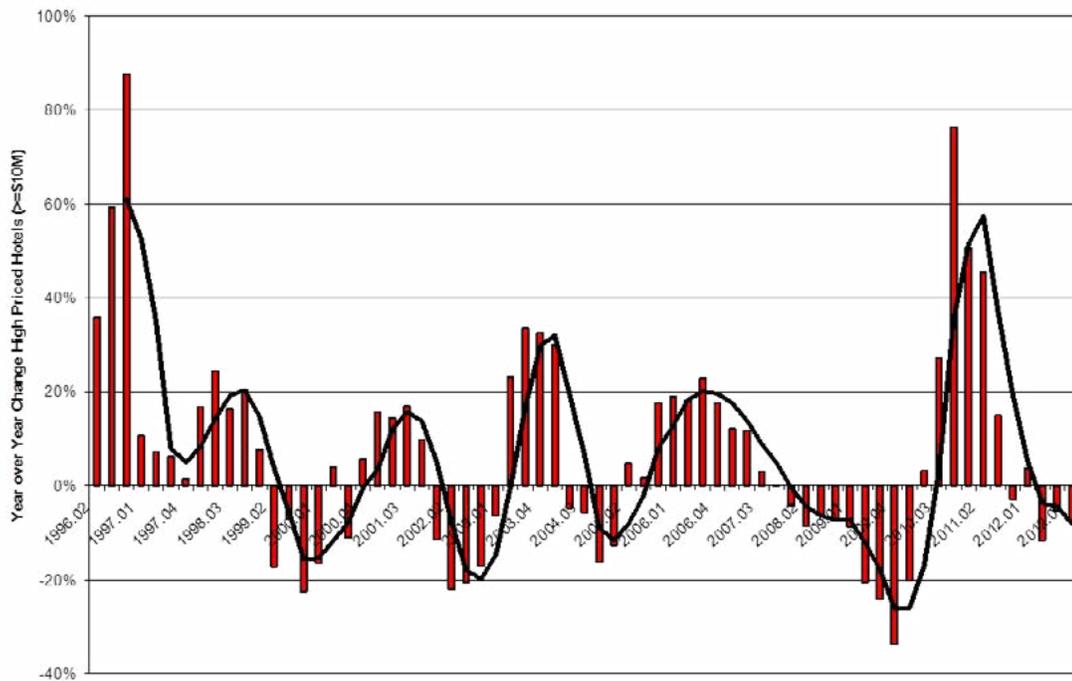
Large-hotel index, three-year moving average, and five-year moving average



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

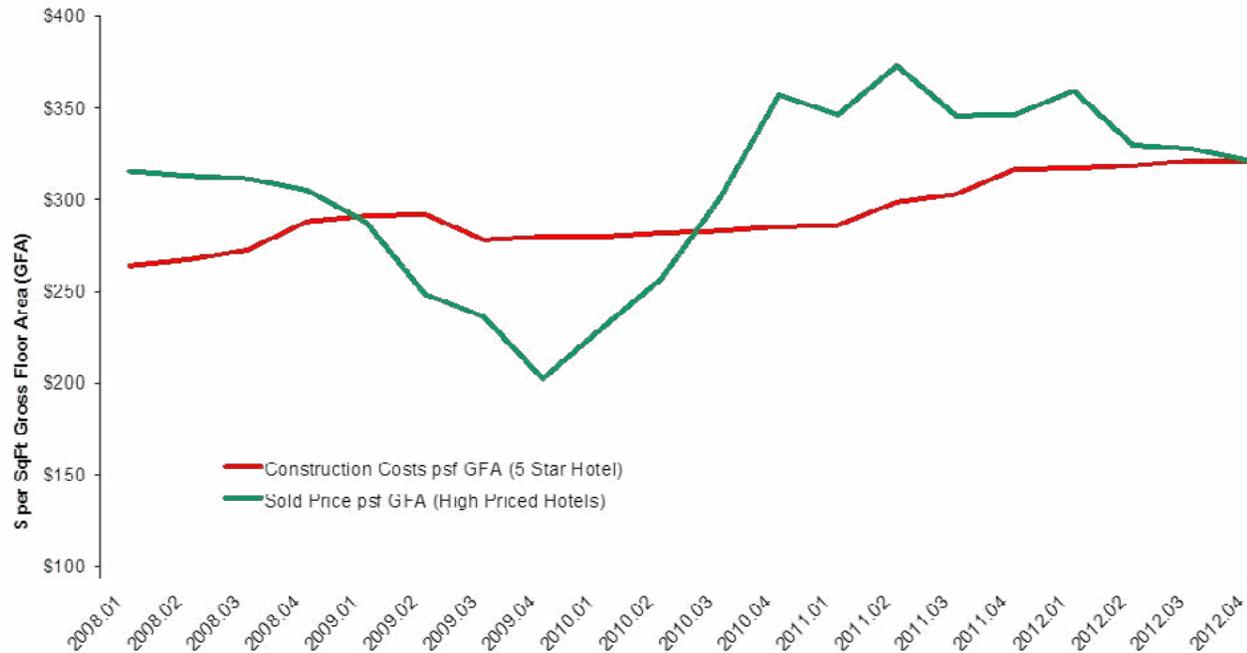
EXHIBIT 6

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



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

Hard costs for 5-star hotels versus price per square foot of gross floor area



Sources: Cornell Center for Real Estate and Finance, Rider Levett Bucknall

We have identified two sources of the moderating momentum for large hotels. Rising construction costs appear to be one factor that accounts for the dampening of investor enthusiasm for higher end hotels. Exhibit 7 shows the relationship between the hard costs (direct building cost excluding land) for constructing a 5-star hotel per square foot of gross floor area relative to the sold price per square foot of gross floor area.¹ The spread between construction costs to

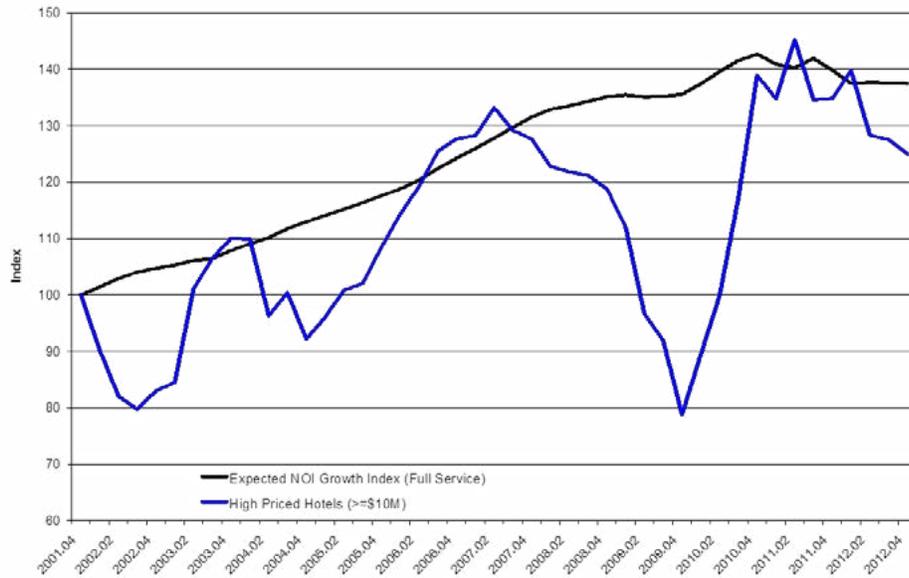
¹ We use Rider Levett Bucknall (<http://rlb.com/rlb.com/pdf/research/>) to obtain the current building costs of a 5 star hotel. RLB reports hard construction costs (building cost excluding land) based on U.S. dollars per square foot of gross floor area (GFA). Markets include Boston, Denver, Honolulu, Las Vegas, Los Angeles, New York, Phoenix, Portland, San Francisco, Seattle, and Washington, DC. We take an equally weighted average of the high and low building costs across all of these markets. To obtain the sold price per square foot of gross floor area, we use CoStar and collect all hotels sold in 2008Q1 that sold for at least \$10 million dollars and take the average price per square foot of GFA. Using this beginning value in 2008Q1, we increase or decrease this value in each subsequent time period using the hedonic index for large hotels.

the transaction price of high priced hotels has narrowed to the point that they are currently equal to one another. This tends to suggest that investors might be favoring building new hotels rather than investing in existing hotels at the upper end of the market. A more modest growth expectation of net operating income (NOI) for full service hotels is another factor mitigating price momentum. Exhibit 8 shows the movement of high priced hotels relative to the expected NOI growth associated with full service hotels.² Since the third quarter of 2011, the expected NOI growth for full service hotels has softened. In an efficient market, prices reflect expected NOI growth.

² To calculate the expected growth in net operating income (NOI) for full service hotels, we used quarterly survey data on IRRs and cap rates for full service and limited service hotels from Realtyrates.com. We subtract the cap rate from the IRR to obtain the expected NOI growth rate.

EXHIBIT 8

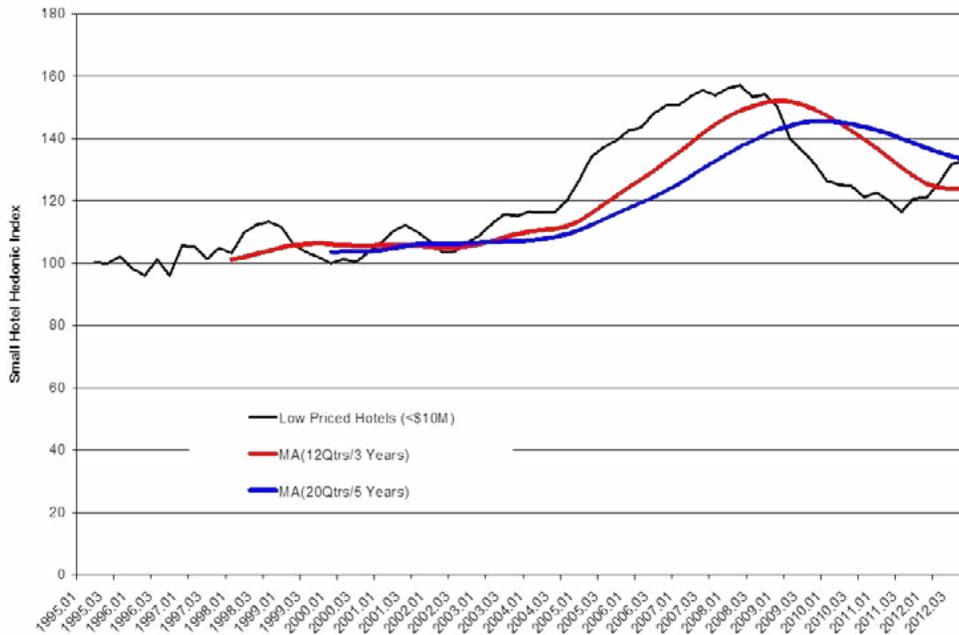
Large-hotel index and expected NOI growth in full-service hotels



Sources: Cornell Center for Real Estate and Finance, Realtyrates.com

EXHIBIT 9

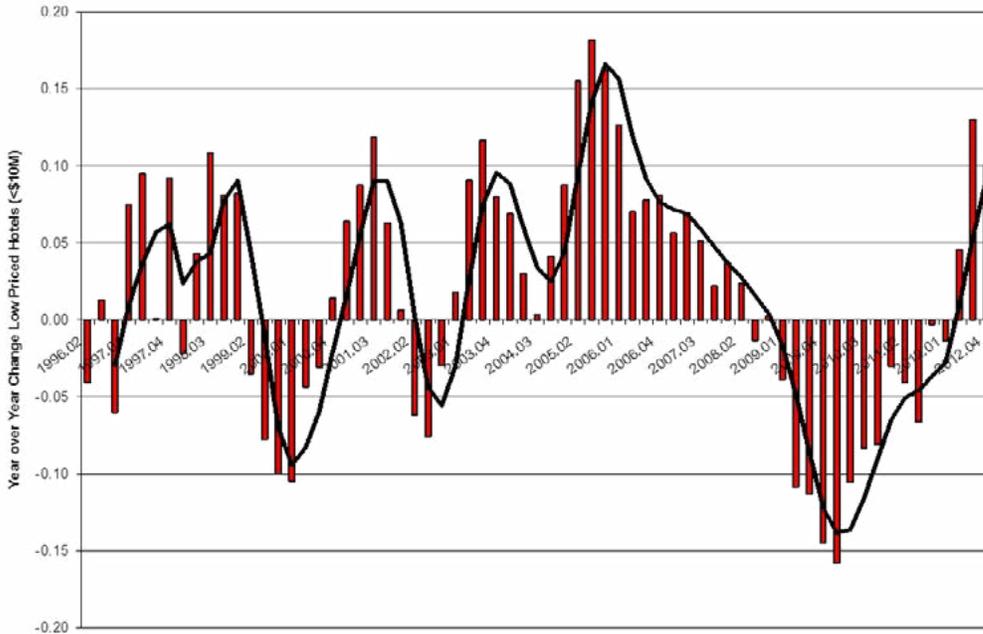
Small-hotel index, three-year moving average, five-year moving average



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

EXHIBIT 10

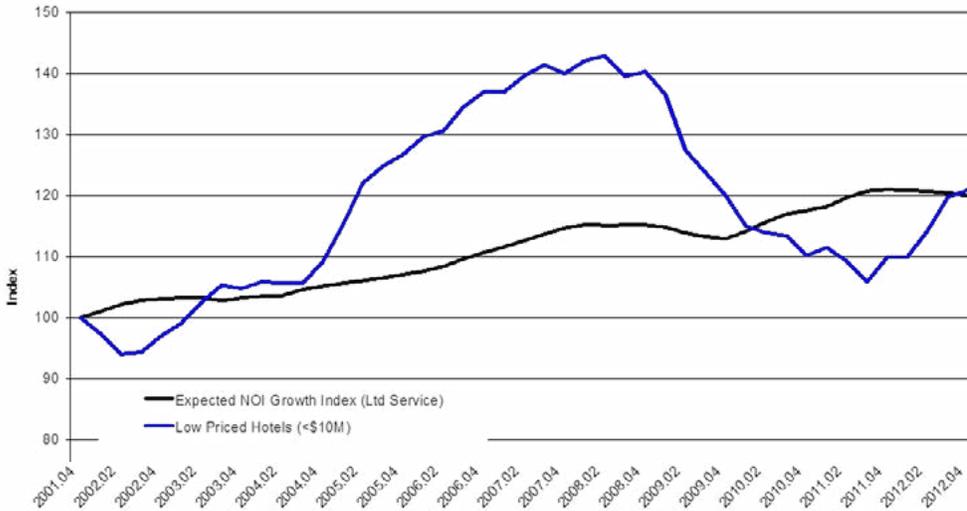
Year over year change in small-hotel index with a moving average trendline



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

EXHIBIT 11

Small-hotel index and expected NOI growth in limited-service hotels

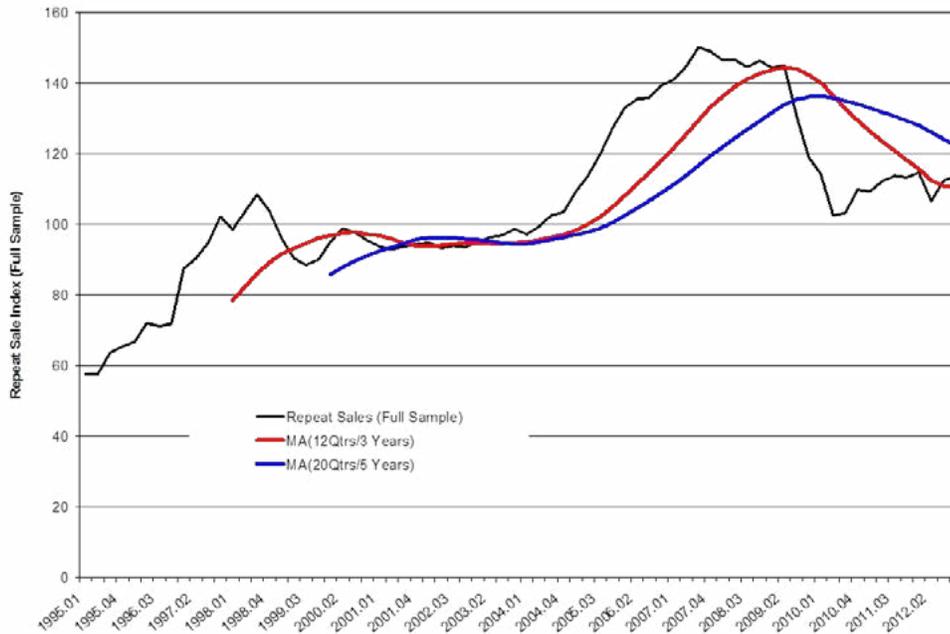


Sources: Cornell Center for Real Estate and Finance, Realtyrates.com

Smaller Hotels Continue to Increase

In contrast to larger hotels, the price of smaller hotels continues to exhibit positive momentum, as shown in Exhibit 9. Currently, the performance of smaller hotels is at their

five-year moving average. The year over year evidence in Exhibit 10 is consistent with our moving average analysis. The small-hotel index increased 10 percent over the 2011Q4 to 2012Q4 period and experienced a 1-percent increase on

EXHIBIT 12**Hotel repeat sale index (full sample), three-year moving average, five-year moving average**

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

a quarterly basis. In terms of NOI growth expectations for limited service hotels however, we expect the price growth in smaller hotels to slow and start to normalize based on the evidence in Exhibit 11.

Hotels Continue to Normalize in terms of Repeat Sales

The repeat sale of hotels in Exhibit 12 based on the full sample echoes a similar albeit weaker story to that for smaller hotels.³ Currently the repeat sale index (full sample) stands

³ 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

at 114 (2012Q4), which is approximately where it was as of the first quarter of 2010. The repeat hotel sale index rose .6 percent on a year over year basis (2011Q4 to 2012Q4) and 1.5 percent on a quarterly basis (2012Q3 to 2012Q4).

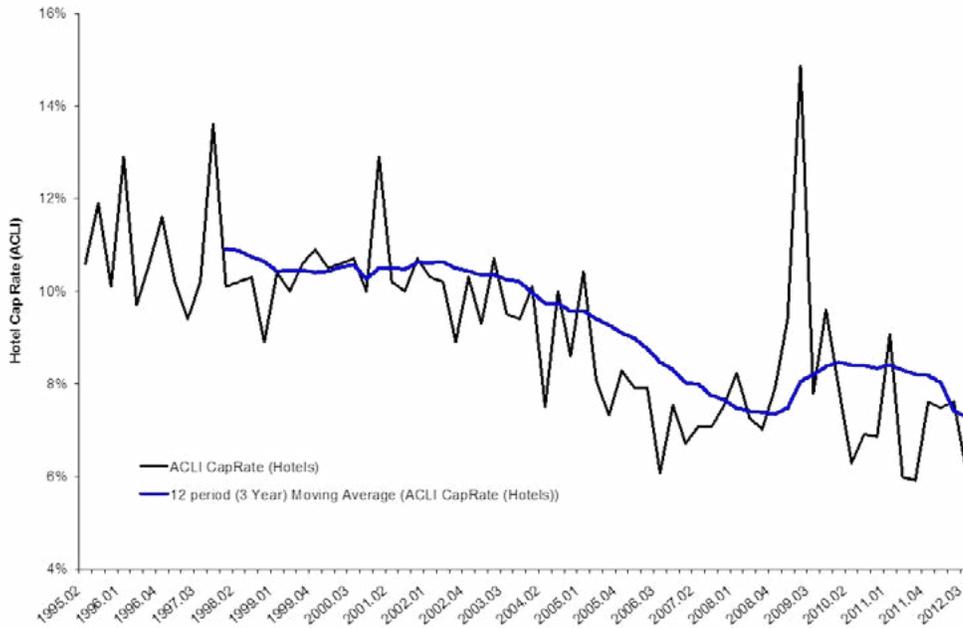
Cap Rates Have Compressed

For the third quarter of 2012, the latest quarter for which ACLI reports data on hotel cap rates, cap rates have declined

of 2000, and 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 only in the repeat sale full sample index but it would not be included in the repeat sale index for 2000 and beyond.

EXHIBIT 13

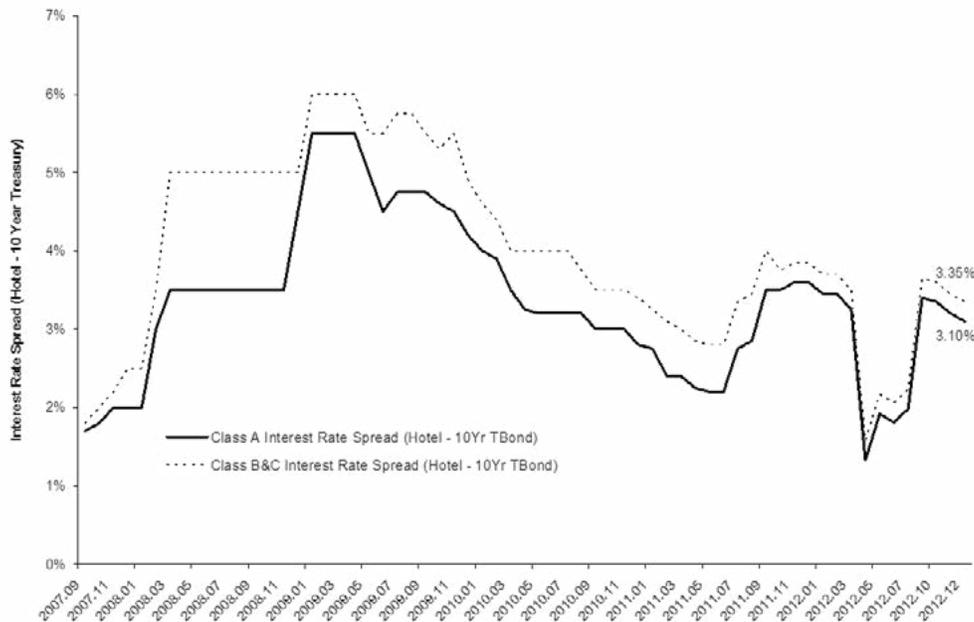
ACLI hotel capitalization rates



Sources: ACLI, Cornell Center for Real Estate and Finance

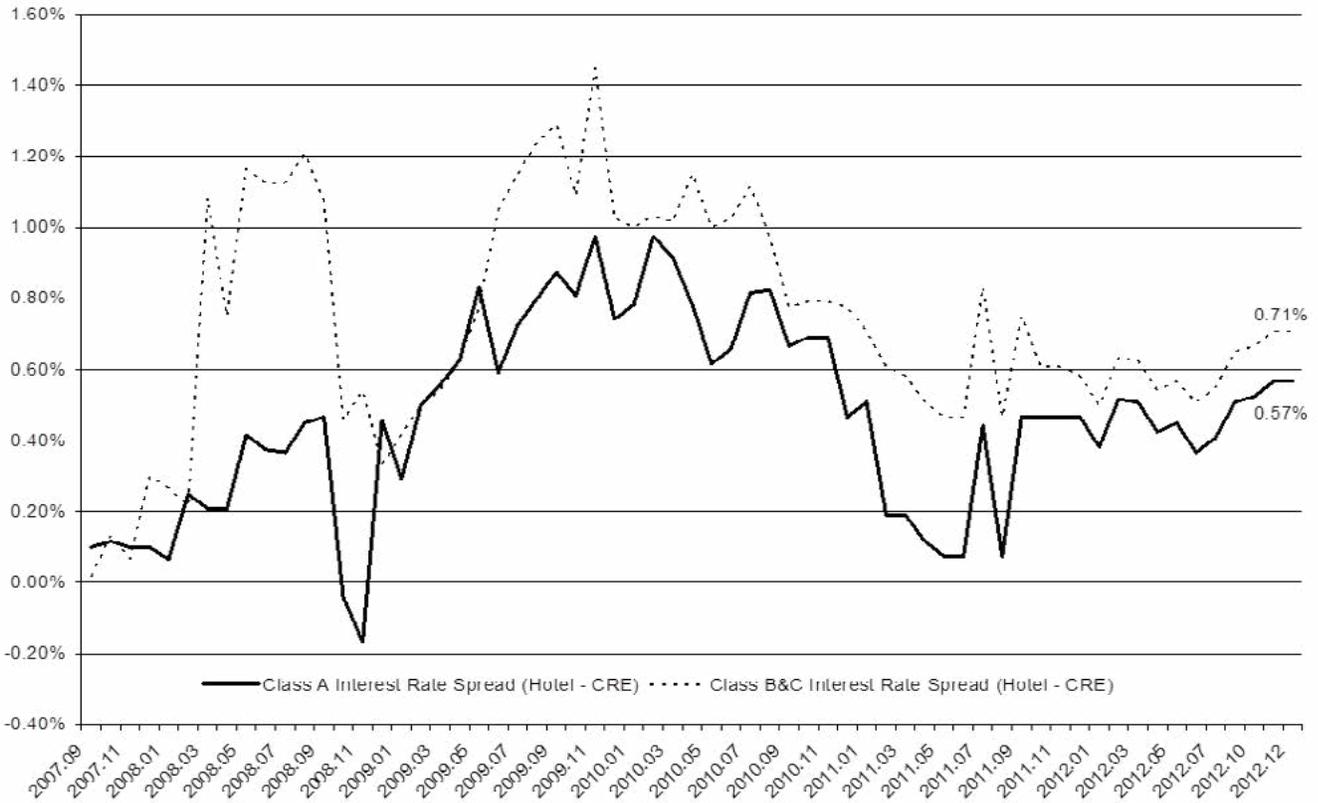
EXHIBIT 14

Interest rate spreads of hotels versus 10-year U.S. Treasury bonds



Source: Cushman Wakefield Sonnenblick Goldman

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



Source: Cushman Wakefield Sonnenblick Goldman

from 7.6 percent in 2012Q2 to 6.01 percent in 2012Q3 (see Exhibit 13).

Mortgage Financing Costs Are Rising due to Increased Default Risk

Exhibit 14 and Exhibit 15 depict interest rate spreads relative to different benchmarks. Exhibit 14 shows the spread between Class A and also Class B&C hotel interest rates over the ten-year Treasury bond. Exhibit 15 similarly shows the spread between the Class A and also Class B&C hotel interest rates over the interest rate corresponding to non-hotel commercial real estate which we hereafter call the hotel real estate premium.⁴ Although the spread associated with Class

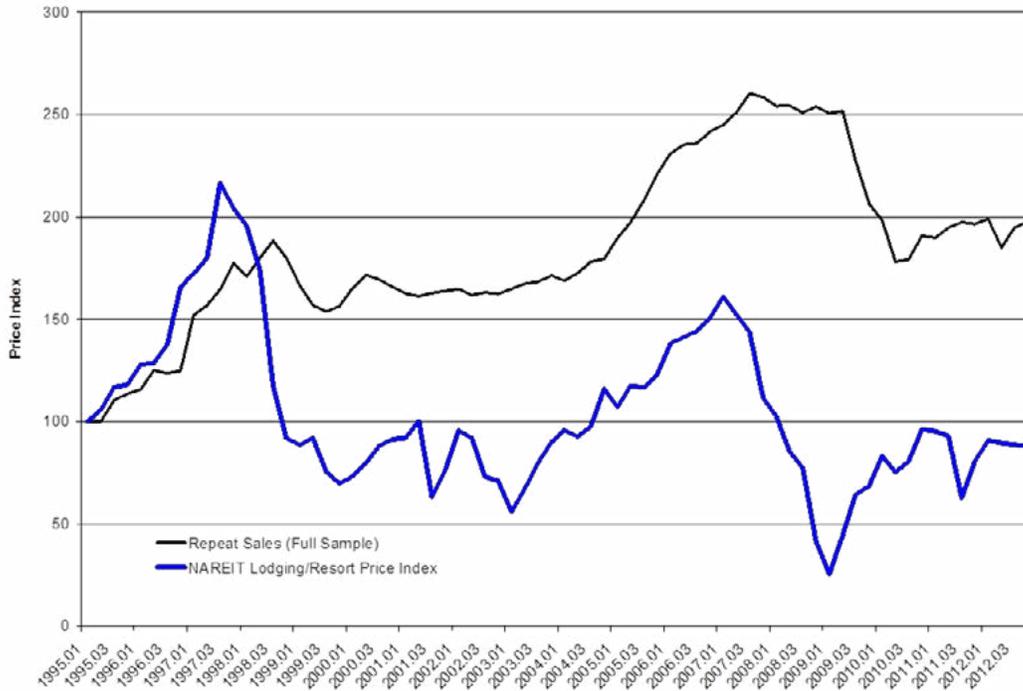
A hotels (3.35%) and Class B&C (3.10%) continues to narrow (Exhibit 14), Exhibit 15 shows that the hotel real estate premiums for both higher quality (.57%) and lower quality (.71%) hotels have increased over the previous quarter (high quality, .51%; lower quality, .65%). The hotel real estate premium for higher quality hotels is now larger than its historical median of .47 percent, while it is slightly lower than its historical median of .75 percent for Class B&C hotels. The increased premium in Exhibit 15 signal that the perceived default risk for hotel properties have increased relative to the four major commercial real estate property types.

⁴ 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.

EXHIBIT 16

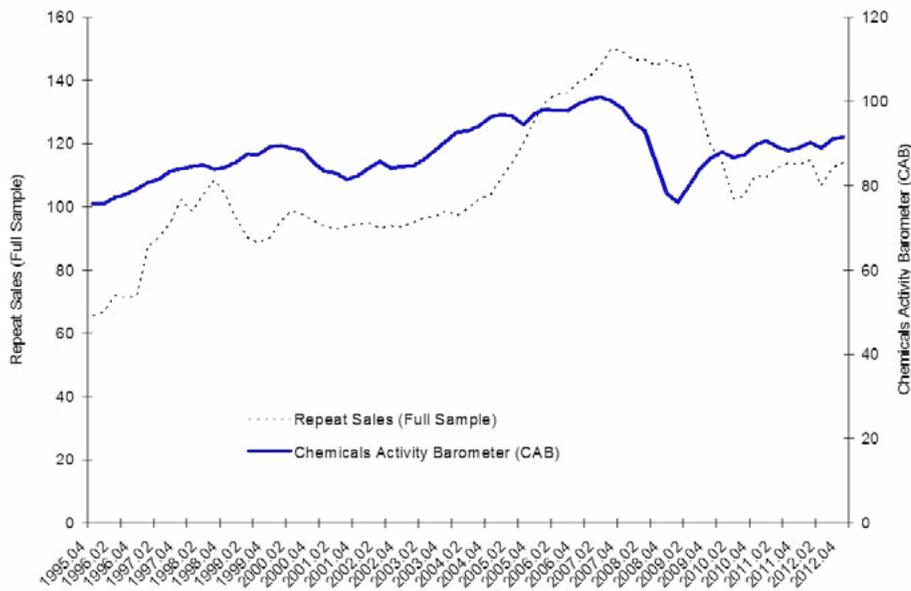
Repeat sales index versus NAREIT lodging/resort price index



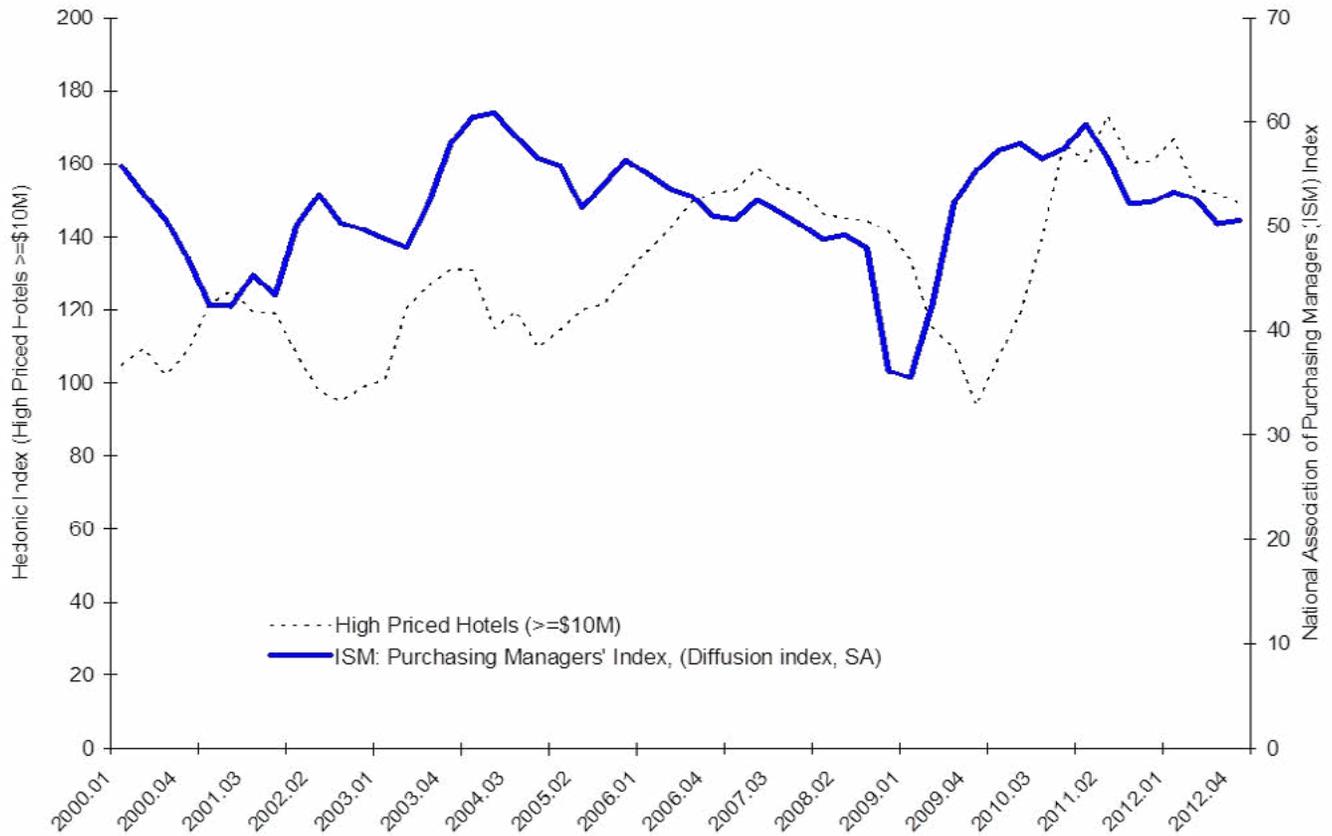
Sources: Cornell Center for Real Estate and Finance, NAREIT

EXHIBIT 17

Repeat sales index versus chemical activity barometer



Sources: American Chemistry Council, Cornell Center for Real Estate and Finance

Business confidence versus prices of high price hotels (\geq \$10 million)

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

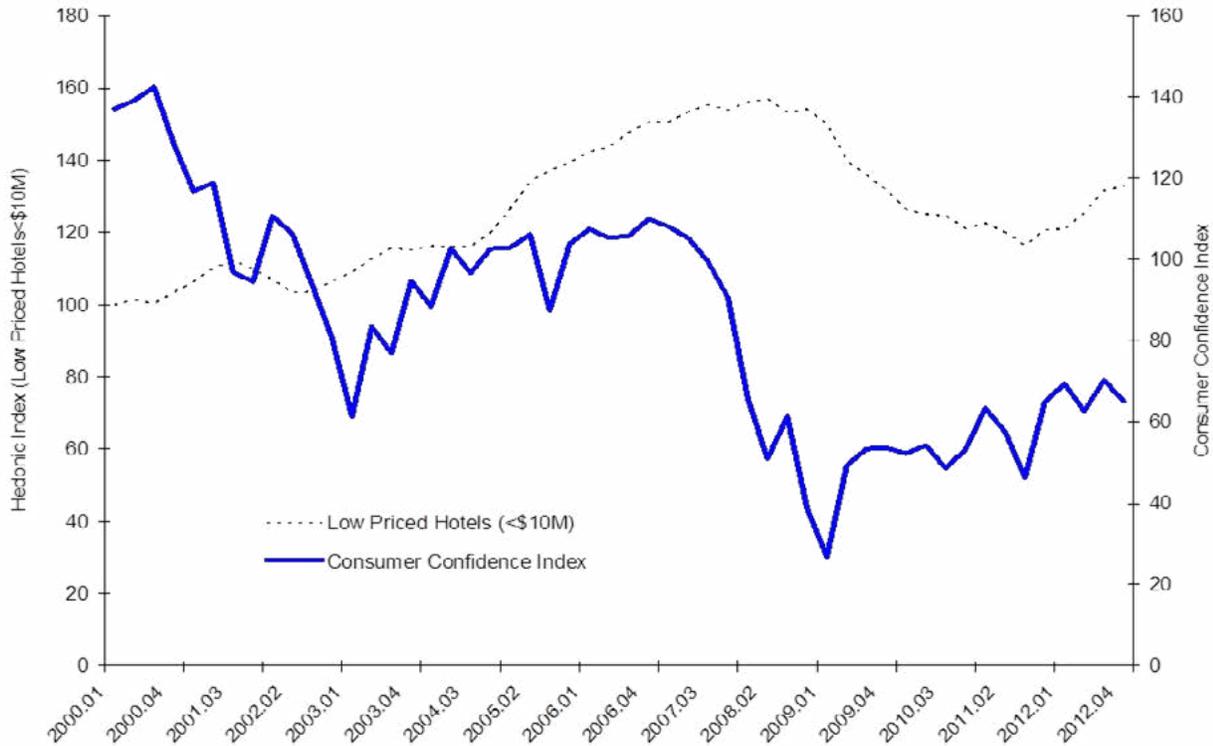
A Look Ahead: Reading the Tea Leaves

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 academic studies which find that securitized real estate is leading indicator of underlying real estate performance since the stock market is forward looking or efficient. Based on the NAREIT Lodging Price Index, we predicted a flattening of prices in the next quarter for our Cornell Repeat Sale Hotel Index (full sample). The repeat sale index's slight, .6-percent rise approximates this case. Another forward looking measure is the chemical activity barometer (CAB).⁵ The CAB anticipates peaks and troughs in the economy. According to material posted

⁵ <http://www.americanchemistry.com/cab>

on their website, "the CAB is a leading index of overall U.S. industrial production, and comprises many indicators including everything from chlorine production to rail-car loadings. It is constructed using a five-step procedure similar to the one used by the Conference Board to calculate composite indexes." Exhibit 17 offers a confirmatory view of a moderation in prices. Based on both the NAREIT and CAB indicators, we thus expect to see a continuous, slow growth in sale price of hotels. An additional forward looking measure is the ISM PMI (Purchasing Managers' Index) Diffusion SA (six months ahead). The ISM PMI (formerly known as the National Association of Purchasing Managers or 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

Consumer confidence versus prices of low price hotels (< \$10 million)



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

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.⁶ We use the ISM index in this study as a measure of business traveler demand and anticipated business confidence. Exhibit 18 shows that the ISM PMI is a leading indicator of the hedonic index for high priced hotels (≥\$10 million). The exhibit provides a confirmatory signal that we expect a continuing flattening in the transaction price of hotels equal to or greater than \$10 million.

Our final forward looking measure is the Consumer Confidence Index from the Conference Board which we use as a proxy for anticipated consumer demand for leisure

travel. Exhibit 19 shows that the consumer confidence index is a leading indicator of the hedonic index for low priced hotels (<\$10 million). Given the trendline, we anticipate a continuation of an upward trend in the transaction price for low priced hotels. However, a countervailing force is the impact of the new tax law which should act as a moderating factor.

Hotel Valuation Model (HOTVAL)

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 which is available for download from our [CREF website](#). ■

⁶ See: www.ism.ws/ismreport/mfgrob.cfm.

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Robert M. White, Jr., CRE, FRICS, is the founder and president of Real Capital Analytics, Inc., an international research firm that publishes the *Capital Trends Monthly*. Real Capital Analytics provides real time data concerning the capital markets for commercial real estate and the values of commercial properties. A noted authority on the real estate capital markets with credits in the *Wall Street Journal*, *Barron's*, *The Economist*, *Forbes*, *New York Times*, and *Financial Times*, he was named one of National Real Estate Investor's "Ten to Watch" in 2005, Institutional Investor's "20 Rising Stars of Real Estate" in 2006, and Real Estate Forum's "10 CEOs to Watch" in 2007. He spent 14 years in the real estate investment banking and brokerage industry and has orchestrated billions of commercial sales, acquisitions and recapitalizations. He was formerly a managing director and principal of Granite Partners LLC and spent nine years with Eastdil Realty in New York and London. White is a Counselor of Real Estate, a Fellow of the Royal Institution of Chartered Surveyors, and a Fellow of the Homer Hoyt Institute. A graduate of the McIntire School of Commerce at the University of Virginia, he is also a member of numerous industry organizations and a supporter of academic studies.

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