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SPECIAL COMMENT

Moody's/RCA CPPI: Apartments the Early Riser Among Properties with Beds, Outshining Homes and Hotels

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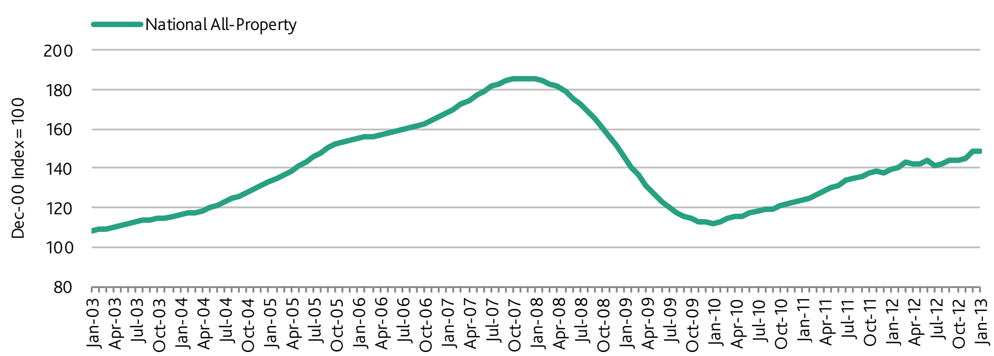
Highlights

The Moody's/RCA Commercial Property Price Indices (CPPI) national all-property composite index was effectively flat in January, consolidating gains that took place amid the surge of transaction activity during Q4 2012. The national composite index and its two components, apartment and core commercial, all declined by 0.1% in January.

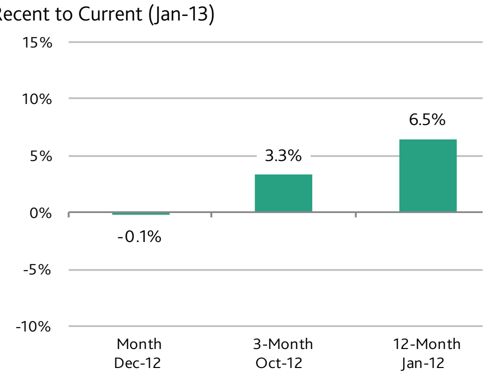
Of the major types of properties with beds, apartment has been the clear price performance leader over the last three years. Apartments have reversed approximately 80% of their peak to trough price decline, hotels, 19%, and homes, 17%.[1]

EXHIBIT 1

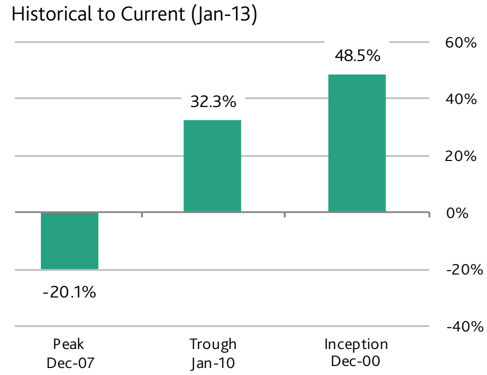
Moody's/RCA CPPI – National All-Property Composite Index



Recent to Current (Jan-13)



Historical to Current (Jan-13)



Based on data through the end of January 2013.
Source: RCA and Moody's Investors Service

[1] Sources: Apartment data from Moody's/RCA CPPI; Hotel data from RCA repeat-sale hotel index; Home data from S&P Case-Shiller National Composite Index.

The Moody's/RCA Commercial Property Price Indices measure price changes in US commercial real estate based on completed sales of the same commercial properties over time, known as the "repeat-sales"[2] methodology.

» The national all-property composite index decreased by 0.1% in January. Apartment and core commercial prices each declined by 0.1%, resulting in the national composite's relatively flat performance.

» Retail prices have increased by 6.9% over the past three months, exceeding the gains in suburban and CBD office by three or more percentage points.

» Industrial was the only core commercial sector to decline over the past three months, decreasing by 1.3%.

» Major market prices have gained 7.8% over the past 12 months, outpacing the gain in non-major markets by 2.5 percentage points. Major market prices have increased by 45.1% since the trough, more than twice the price appreciation of the non-major markets.

» Of the three major types of properties with beds, apartment has been the clear price performance leader over the last three years. Strong fundamentals and ample liquidity have propelled apartment prices to within 8.0% of their November 2007 peak.

» Hotels have been grinding out a price recovery, driven largely by three consecutive years of rising revenue per available room (RevPAR). Debt capital for hotels has improved with the resumption of CMBS based lending, with hotels constituting as much as 20% of recent conduits.

» Home prices are recovering, but at a slower pace than that of either apartment or hotel. Home prices have increased by 9.0% from their March 2012 trough, compared with 13.9% for hotel from its March 2010 trough and 50.3% for apartment from its December 2009 trough. Although homes have become more affordable due to price declines and historically low interest rates, home ownership has declined and borrowers are facing tightened lending standards.

2 More information about the index, including the 2012 Moody's/RCA CPPI announcement paper, is available in reports we cite in the "Moody's Related Research" section at the end of this report and at www.moodys.com/cmbs.

Moody's/RCA CPPI[3]

Overview

EXHIBIT 2

Price Changes by Sector and Market Type: Value-Weighted Composite Tiers

Tier	Index	Month	3-Month	12-Month	Higher Tier Composite*	Share of Higher Tier Composite**
1	National All-Property	-0.1%	3.3%	6.5%	N/A	100%
2	Apartment	-0.1%	3.0%	9.6%	National / T1	27.6%
2	Core Commercial	-0.1%	3.4%	5.3%	National / T1	72.4%
3	Retail	0.1%	6.9%	4.0%	Core Comm / T2	26.8%
3	Industrial	-0.9%	-1.3%	1.7%	Core Comm / T2	20.5%
3	Office CBD	1.5%	3.8%	18.5%	Core Comm / T2	26.7%
3	Office Suburban	-1.3%	3.5%	-3.8%	Core Comm / T2	26.7%
3	Office***	0.1%	3.6%	7.4%	Standalone	N/A
5	Major Markets****	-0.7%	4.0%	7.8%	Standalone	46.4%
5	Non-Major Markets	0.4%	2.7%	5.3%	Standalone	53.6%

Notes to exhibit:

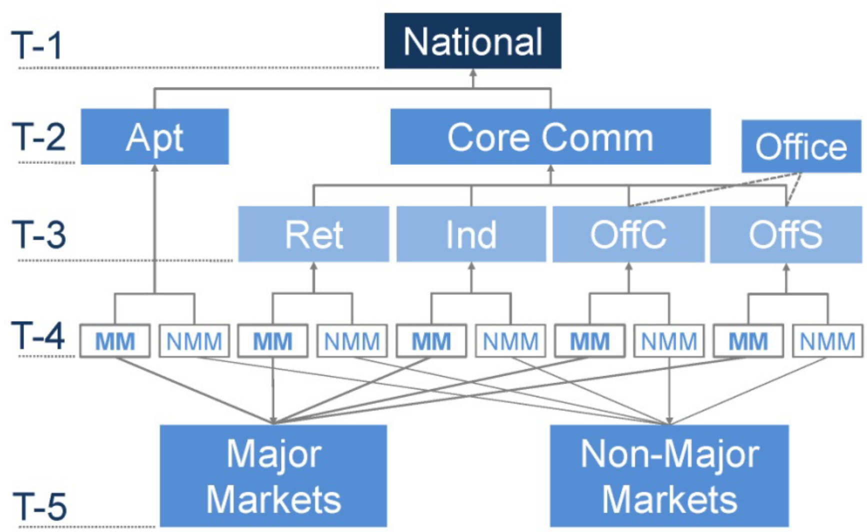
* The "tier" is the hierarchical level of the index, with the National All-Property CPPI defined as Tier 1. Tiers 1-3 and 5 are value-weighted composite indices. Tier 4 consists of the underlying, "building block" indices, which we estimate as equal-weighted regressions of sector repeat sales.

** We weigh composite indices in the Moody's/RCA CPPI system by value, based on the segments' long-term, 10-year rolling average dollar share of the defined composite market, similarly to typical stock market indices, which we weigh by the market capitalization of the constituent stocks. We adjust the weights monthly according to relative returns and rebalance them yearly. The weights here are the most recently rebalanced.

*** The office segmentation is a mezzanine level index tier; in other words, the core commercial composite comprises both CBD and suburban segments.

**** The major markets (MM) are the six gateway metropolitan areas: Boston, Chicago, Los Angeles, New York, San Francisco and Washington, DC. For composite Tier 5, we show major and non-major markets (NMM) as a percentage of national, for reference only. They do not contribute directly to the calculation of the National All-Property Composite Index; however, when combined at their weighted averages they produce the same Tier 1 result.

Source: RCA and Moody's Investors Service



3 Historical data for these indices are available in Excel format here. Data on the 10 building block indices are available to Moody's or RCA subscribers here. Repeat sales indices, including the CPPI, are subject to backwards revision, particularly for the most recent periods and for the indices with the fewest number of repeat sale observations. We have elected not to employ smoothing techniques in order to maximize information content. The most recent returns tend to be more volatile than earlier results and should be interpreted cautiously. Over time the range of reported returns for a given period tends to stabilize as more data bridging that period becomes available.

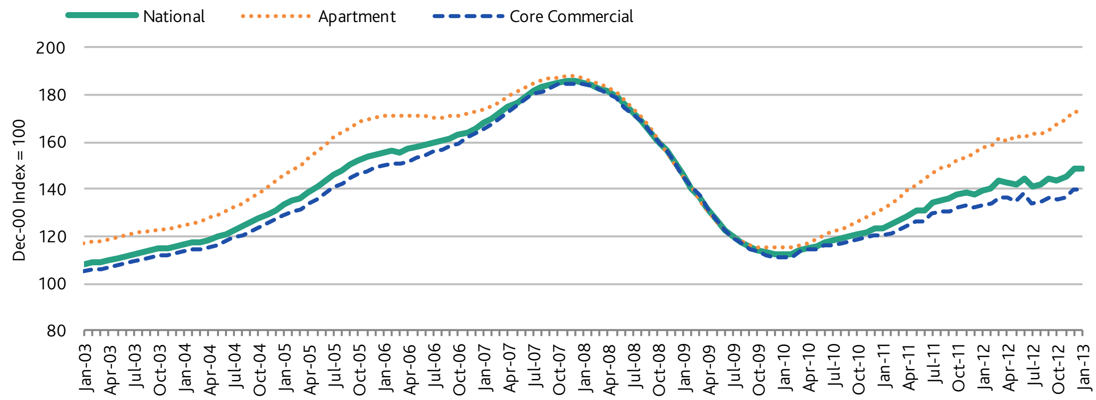
Tiers 1 & 2: National, Apartment and Core Commercial

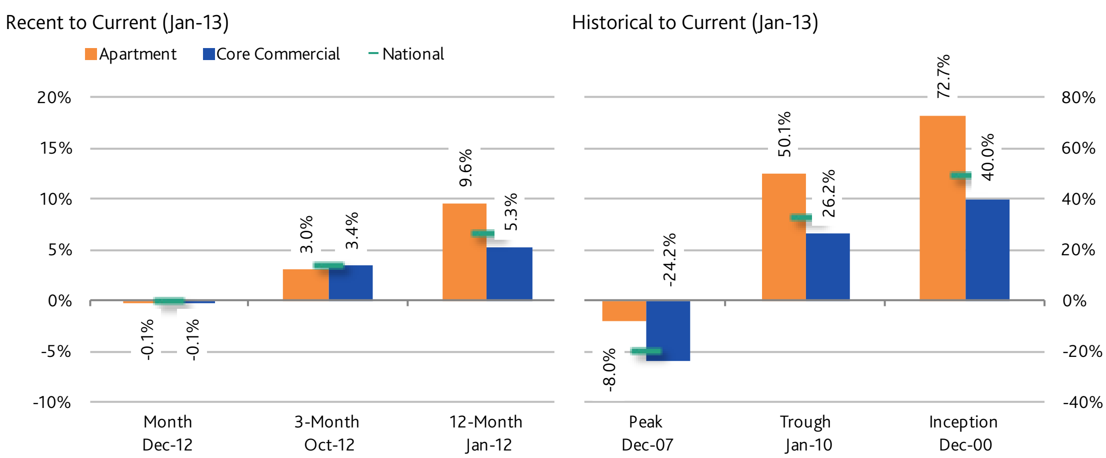
» Both apartment and core commercial prices declined by 0.1% in January, resulting in relatively flat performance of the National All-Property Composite index this month.

» Apartment prices increased by 9.6% over the last 12 months, nearly double the 5.3% year-over-year gain by Core Commercial.

EXHIBIT 3

Moody's/RCA CPPI – Apartment and Core Commercial Composite Indices*





* In this report, peaks are pre-financial crisis, and troughs, post-financial crisis, for the highest tier index in a given exhibit. For example, the peak and trough dates in Exhibit 3 refer to the peak and trough of the National All-Property index, not Apartment or Core Commercial.

Based on data through the end of January 2013.

Source: RCA and Moody's Investors Service

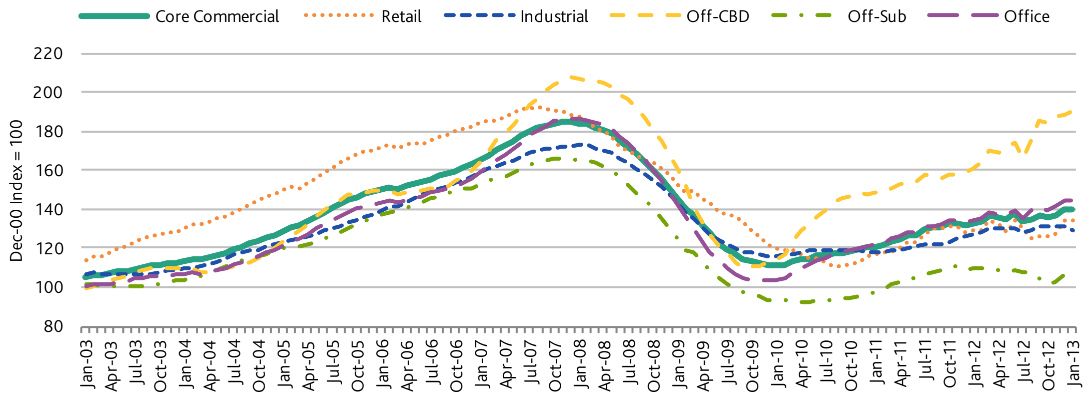
Tier 3: Core Commercial Sectors

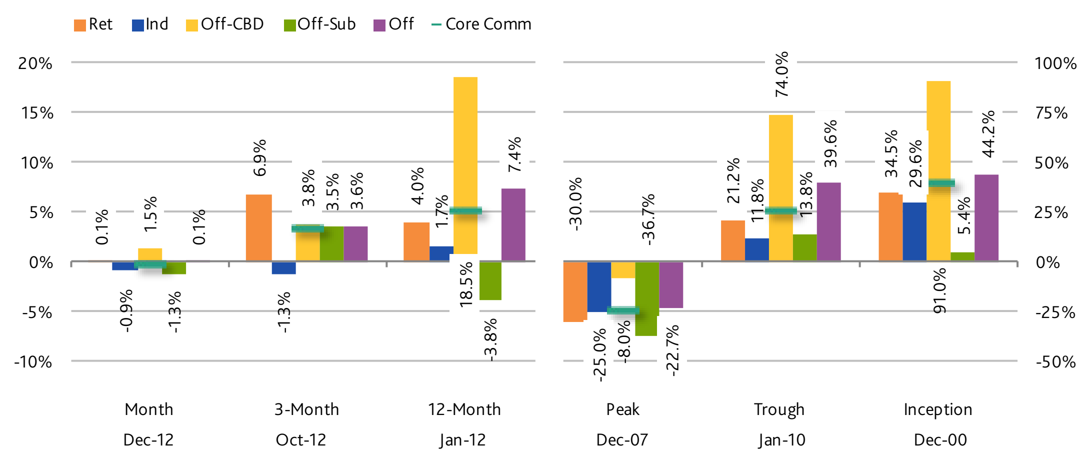
» Retail prices increased by 6.9% over the past three months, exceeding the gains in suburban and CBD office by 3 or more percentage points.

» Industrial was the only core commercial sector to post a decline over the past three months, falling by 1.3%.

EXHIBIT 4

Moody's/RCA CPPI - Core Commercial Sector Composite Indices





Based on data through the end of January 2013.

Source: RCA and Moody's Investors Service

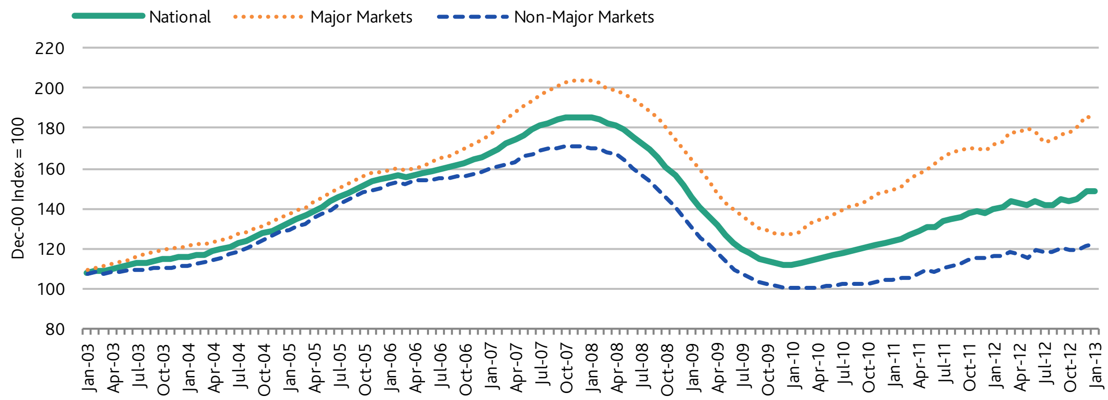
Tier 5: Major and Non-Major Markets

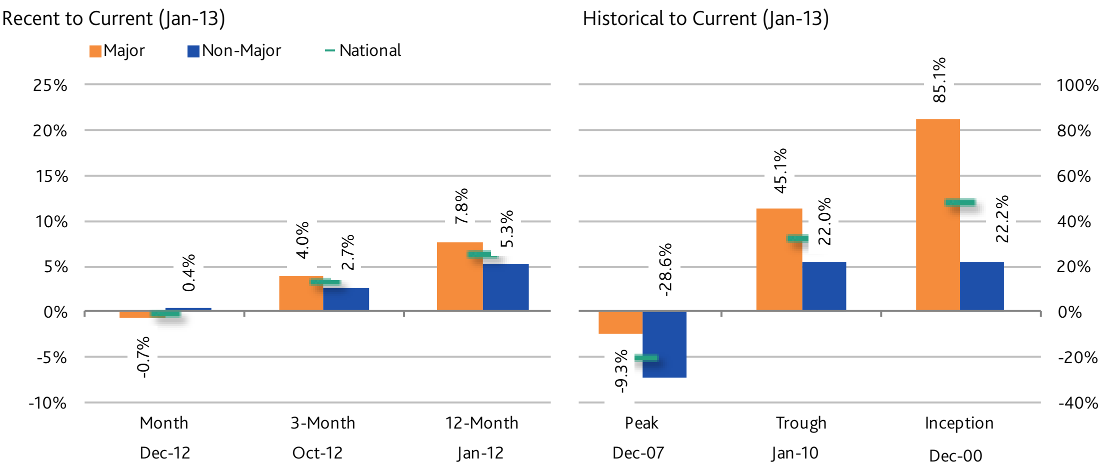
» Major market prices rose 7.8% over the prior 12 months, 2.5 percentage points higher than the rise in non-major markets.

» Major market prices have increased by 45.1% since the trough, more than twice as much as the price gain in non-major markets.

EXHIBIT 5

Moody's/RCA CPPI - Major Markets and Non-Majors Markets Composites





Based on data through the end of January 2013.

Source: RCA and Moody's Investors Service

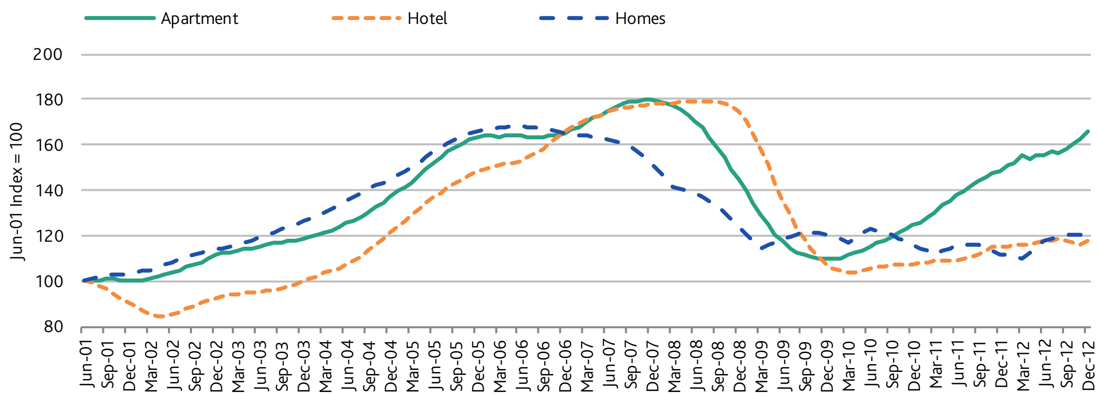
Spotlight: Properties with Beds

This month's Spotlight examines the price performance of three property types that have beds: apartments, hotels and homes. The apartment data come from the Moody's/RCA CPPI, the hotel price data, from the RCA CPPI, and the home price data, from S&P/Case-Shiller National Composite Index.

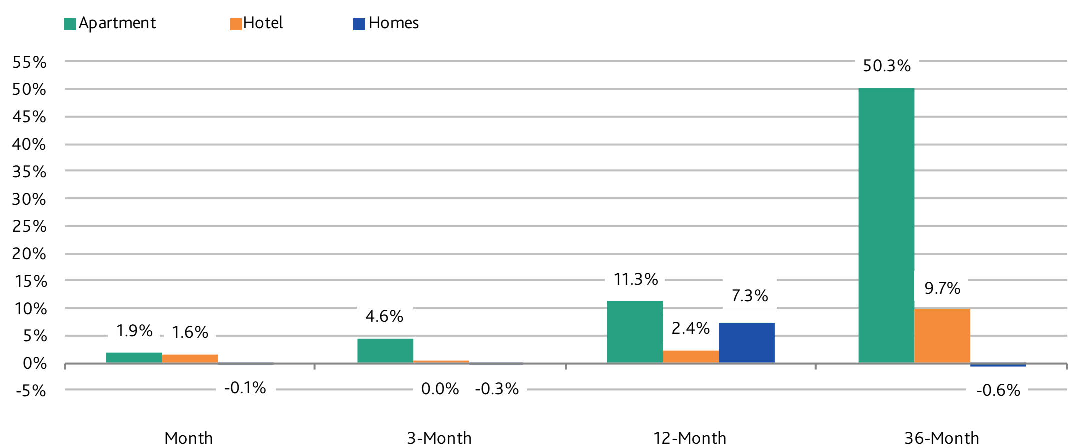
» Of the properties with beds, apartment has been the clear price performance leader over the last three years. Strong fundamentals and ample liquidity have propelled apartment prices to within 8.0% of their November 2007 peak. As Exhibit 8 shows, the supply of debt capital during the recession for apartment was steady, but contracted significantly for commercial.

EXHIBIT 6

Apartment, Hotel and Single Family Home Price Indexes



Change Over Recent Periods (To Dec-12)



Based on data through the end of December 2012.

Source: Moody's Investors Service, RCA, S&P/Case-Shiller

» The peaks for home and apartment prices preceded the Lehman Brothers September 2008 default by 27 and 10 months, respectively. In contrast, the sharp decline in hotel prices aligned more closely with the start of the financial crisis: Hotel prices peaked in August 2008, one month before the Lehman default.

EXHIBIT 7

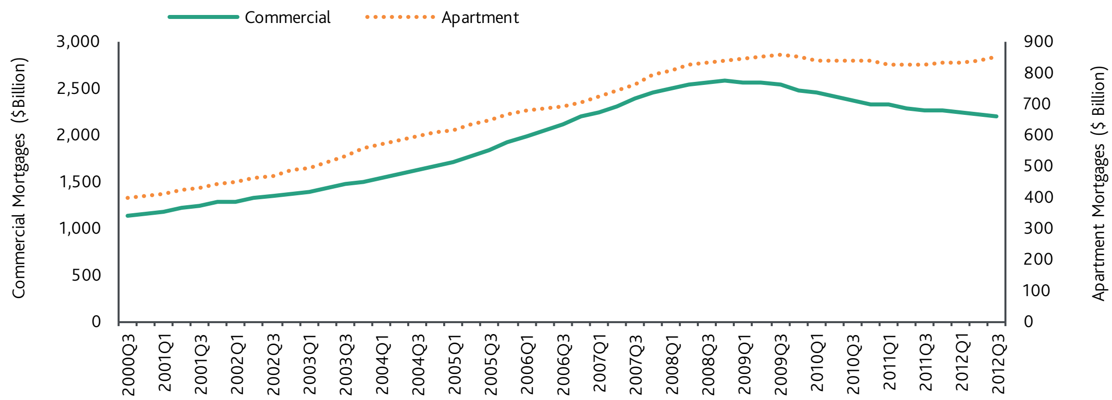
Recovery Profile of Bed Properties

	Peak Date	Trough Date	Peak-Trough Loss	Percentage of Post-Peak Loss Recovered
Apartment	Nov-07	Dec-09	-38.7%	79.4%
Hotel	Aug-08	Mar-10	-42.2%	19.0%
Homes	Jun-06	Mar-12	-34.7%	17.0%

Based on data through the end of December 2012. Apartment changes shown for data through January 2013 in this exhibit.
Source: Moody's Investors Service, RCA, S&P/Case-Shiller

EXHIBIT 8

Capital Available for Apartment Held Steady Through Crisis, Bolstered by GSEs



Based on data through the end of December 2012.
Source: Moody's Investors Service, FRB Flow of Funds

» The RCA hotel series, which commences in June 2001, had a rocky start with a 15.2% decline through April 2002, largely because of disruptions following September 11. Hotel prices subsequently rebounded and peaked at a level roughly comparable with that of apartment. However, they declined again sharply during the financial crisis because of the drop in both business and leisure travel. Of the three property types with beds, hotel suffered the sharpest peak to trough price decline, falling by 42.2% between the sector's August 2008 peak and March 2010 trough.

» Hotel prices have been grinding out a recovery, largely based on revenue per available room (RevPAR) growing over the past three years, as Exhibit 9 shows. Debt capital for hotels contracted during the financial crisis, but has picked up recently with the resumption of CMBS conduit-based lending. There have been a handful of single borrower hotel CMBS transactions, and the share of hotels in conduits has been rising, such that several recent deals have had shares of hotel collateral of 15% to 20%.

EXHIBIT 9

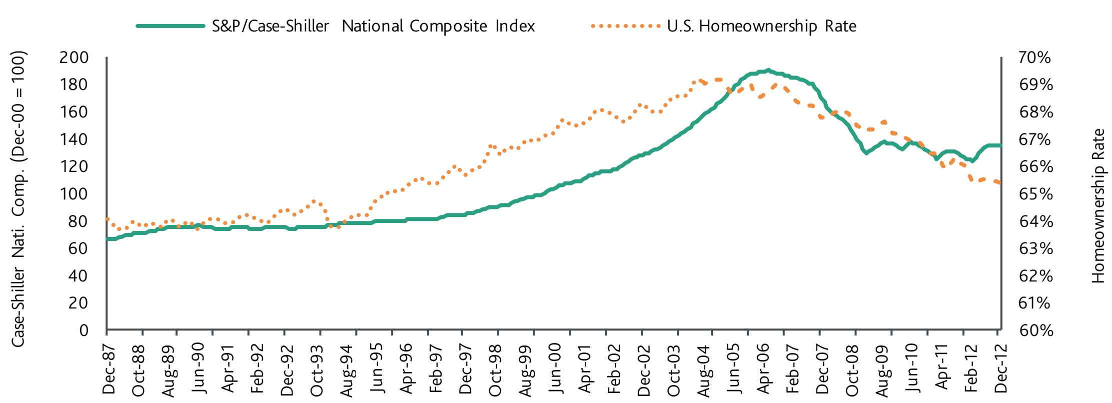
RevPAR Recovery Helped Drive Recent Hotel Price Growth

Based on data through the end of December 2012.
Source: Moody's Investors Service, Smith Travel

» Home prices have begun to recover, but at a less robust pace than that of either apartment or hotel. Home prices are 9.0% above their March 2012 trough, compared with gains of 13.9% for hotel prices from their March 2010 trough, and 50.3% for apartment prices from their December 2009 trough. Homes have become more affordable due to the decline in home prices from the peak and low interest rates, but, as Exhibit 10 shows, the home ownership rate has declined as borrowers face tougher lending guidelines.

EXHIBIT 10

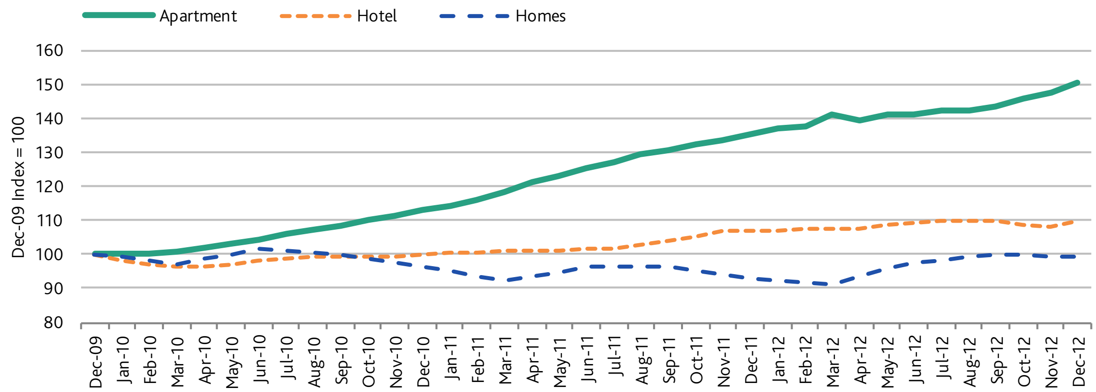
Home Ownership Rate Contracts Since Price Peak



Based on data through the end of December 2012.
Source: Moody's Investors Service, S&P Case-Shiller, USBOC

EXHIBIT 11

Properties with Beds, Price Trends over the Past Three Years



Based on data through the end of December 2012.

Source: Moody's Investors Service, RCA, S&P Case-Shiller,

Appendix I: Recovery Profile of 20 Sub-Indices

Exhibit 12 ranks all 20 CPPI sub-indices by the percentage of nominal peak-to-trough value loss recovered.

» Both Major Market Apartment and CBD Office have recovered more than 100% of their financial crisis losses.

» Post-crisis price performance of commercial real estate remains widely divergent: Seven of the 20 CPPI index suite have recovered less than 30% their post-crisis value loss, while five have recovered 70% or more.

» Most sectors have been recovering for two to three years. However, the recovery for suburban office started less than a year ago and has yet to fully take hold.

EXHIBIT 12

Summary – Moody's/RCA CPPI Sub-Indices Peak-to-Trough Detail*

Index	Peak to Trough	Peak to Current	Percentage Peak-to-Trough Loss Recovered**	Peak Month	Trough Month
CBD Office – Major	-46.5%	2.3%	105.0%	Dec-07	Sep-09
Apartment – Major	-23.5%	0.1%	100.4%	Jan-08	Dec-09
Office CBD	-47.1%	-8.0%	82.9%	Dec-07	Sep-09
Apartment	-38.7%	-8.0%	79.4%	Nov-07	Dec-09
Major Markets - Aggregate	-37.5%	-9.3%	75.3%	Dec-07	Jan-10
Apartment – Non-Major	-47.3%	-14.5%	69.4%	Sep-07	Feb-10
Retail – Major	-38.8%	-17.9%	53.8%	Aug-07	Jul-10
National All-Property	**-39.6%**	**-20.1%**	**49.3%**	**Dec-07**	**Jan-10**
Office	-44.6%	-22.7%	49.2%	Dec-07	Nov-09
Core Commercial	-39.9%	-24.2%	39.4%	Dec-07	Jan-10
Suburban Office – Major	-47.6%	-29.3%	38.3%	Oct-07	Apr-10
Industrial – Major	-34.0%	-21.4%	36.9%	Nov-07	Jan-10
Non-Major Markets - Aggregate	-41.5%	-28.6%	31.1%	Oct-07	Feb-10
Retail	-42.2%	-30.0%	29.0%	Aug-07	Sep-10
Industrial	-32.9%	-25.0%	24.1%	Feb-08	Jan-10
CBD Office – Non-Major	-51.7%	-39.5%	23.7%	Mar-08	May-12
Retail – Non-Major	-44.1%	-35.2%	20.2%	Jul-07	Oct-10
Industrial – Non-Major	-34.5%	-28.0%	18.8%	Mar-08	Feb-11
Office Suburban	-44.4%	-36.7%	17.3%	Oct-07	Apr-10
Suburban Office – Non-Major	-44.4%	-42.8%	3.5%	Dec-07	Nov-12

* In this table, peaks are pre-crisis (2007-2008), and troughs, post-crisis (2009-2010). Major market apartments reached a new peak in February 2012.

** "Percentage Peak-to-Trough Loss Regained" is the percentage of the nominal post-crisis loss of value that has since been recovered, which we calculate as Peak-to-Current divided by Peak-to-Trough, minus 1. For example, if the peak-to-trough loss was 50% and the price is currently 10% below peak values, the percentage regained is 80%.

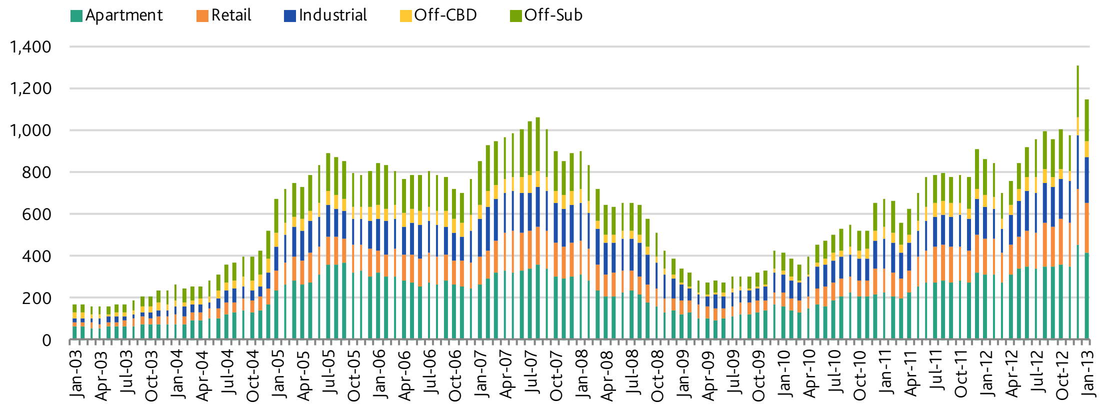
Based on data through the end of January 2013.

Source: RCA and Moody's Investors Service

Appendix II: Repeat-Sales Transaction Volume

EXHIBIT 13

Moody's/RCA CPPI - Three Month Rolling Volume by Count

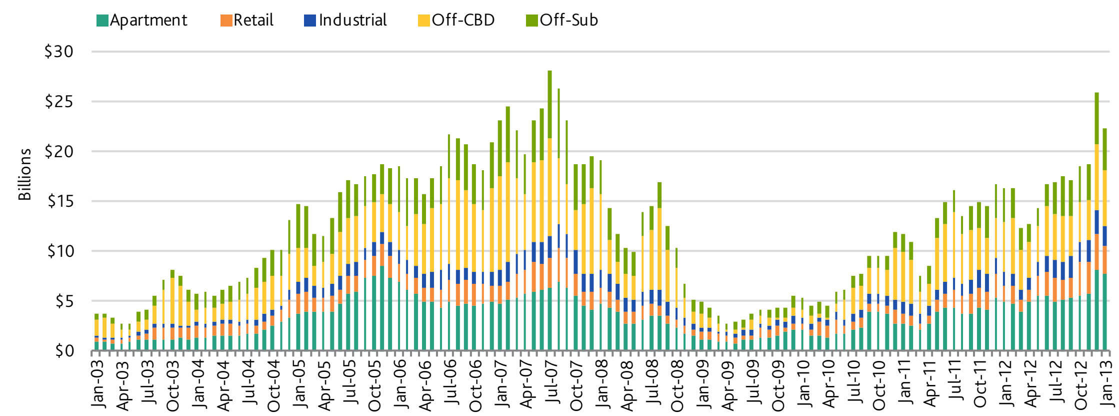


Based on data through the end of January 2013.

Source: RCA and Moody's Investors Service

EXHIBIT 14

Moody's/RCA CPPI - Three Month Rolling Volume by Dollar



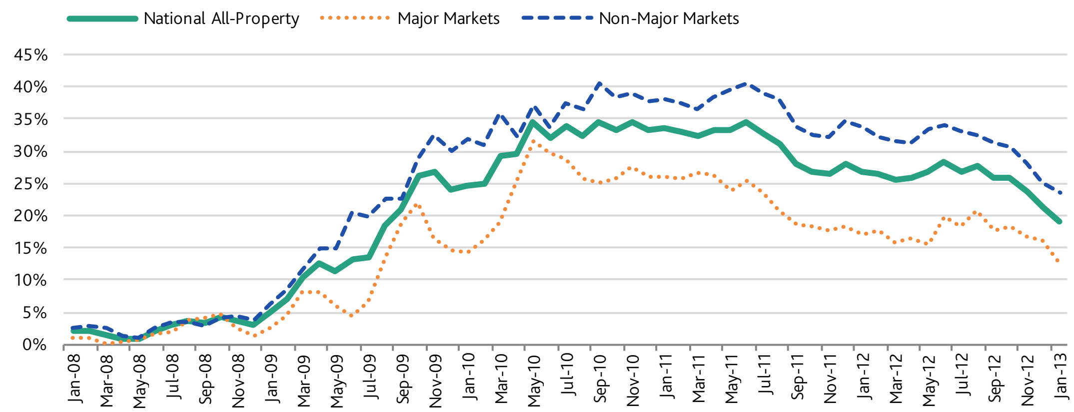
Based on data through the end of January 2013.

Source: RCA and Moody's Investors Service

Appendix III: Distressed Transaction Volume

EXHIBIT 15

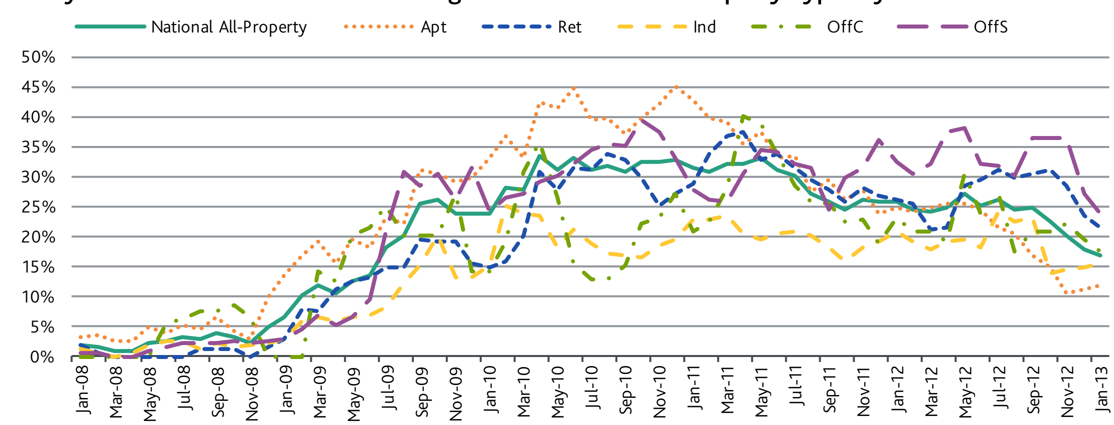
Moody's/RCA CPPI – Three Month Rolling Distressed Share of Market Types by Count



Based on data through the end of January 2013.
Source: RCA and Moody's Investors Service

EXHIBIT 16

Moody's/RCA CPPI – Three Month Rolling Distressed Share of Property Types by Count



Based on data through the end of January 2013.
Source: RCA and Moody's Investors Service

Appendix IV: Schedule of CPPI Report Releases

The Moody's/RCA CPPI is based on repeat-sales transactions that take place any time throughout the month, two calendar months prior to the current report. For example, the July CPPI report covers repeat sales on or before the final day of May; we process the data from these transactions through the end of June.

The CPPI allows for "backward" revisions and incorporates new data received subsequent to publishing; thus, future indices will reflect adjustments from additional transaction data.

CPPI releases take place the second week of each month. Reporting for the Tier 4 "building block" indices is quarterly; we include these data in the February, May, August and November reports.

Appendix V: CPPI Hierarchy

Construction of the CPPI Suite

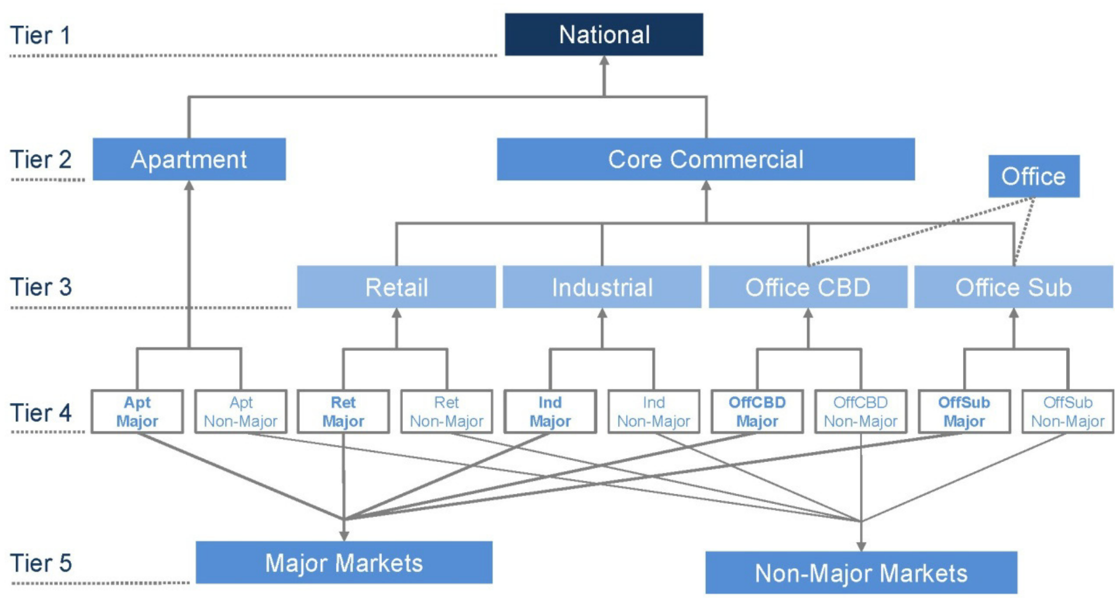
We calculate the CPPI suite with a repeat-sales regression methodology using a "two-stage annual to monthly frequency conversion" (ATM) technique.[4] ATM enhances accuracy and versatility, given the comparatively small datasets typical of commercial real estate transactions.

The first step in the process is to generate the most granular underlying indices in the index suite possible, which we have labeled Tier 4 in the exhibit below. Tier 4 indices are equal-weighted, meaning each verified repeat sale constitutes the same contribution to the index calculations. The higher-tier indices, Tiers 1 through 3, are based on value-weighted roll-ups of the underlying indices. The value weighting of Tiers 1 to 3 is similar to that in a buy-and-hold portfolio in which each component is weighted annually by the dollar share of total stock outstanding.[5]

The CPPI methodology makes advantageous use of both equal- and value-weighting. Equal-weighting at the underlying/Tier 4 level is important, primarily to prevent any singular property sale or small market segment from skewing the CRE market picture. The value-weighted roll-up of the underlying/Tier 4 indices to the higher Tier 1-3 levels appropriately allows a market segment to influence composite indices in correct proportion to its market share of dollar-based transaction volume.

EXHIBIT 17

Moody's/RCA CPPI Suite - Hierarchy of Composite Indices



Note: "Office" and Tier 5 is for information only and are not included in the national composite roll-up.
Source: RCA and Moody's Investors Service

[4] More information about the index, including the 2012 Moody's/RCA CPPI announcement paper, is available in the "Moody's Related Research" section at the end of this report and at www.moodys.com/cmbs.

[5] For the CPPI, the annual weighting of the index segments is based on a 10-year rolling average share. Most actively traded commercial properties typically turn over within 10 years; thus, we infer that the 10-year rolling average of total trading volume as Real Capital Analytics tracks it is an appropriate proxy for the relative value of the outstanding stock of the corresponding sub-index properties.

Moody's Related Research

Below are links to publications from Moody's related to the indices and underlying trends:

CPPI Related:

» "US CMBS: Moody's to Publish State-of-the-Art Commercial Property Price Indices", May 2012 (SF285594)

Supplemental data:

- Moody's/RCA CPPI - (Public Excel Supplement)
- Moody's/RCA CPPI - (Subscription Excel Supplement)

» Prior month report: "Moody's/RCA CPPI: CBD Office and Apartment Hot in 2012, Suburban Office Not - February 2013 - February 2013 (SF316893)

Commercial Real Estate Related:

» "US CMBS: Moody's Delinquency Tracker", February 2013 (SF318525)

» "US CMBS Q4 Review", January 2013 (SF315465)

» "CMBS: Red – Yellow – Green® Update, Q4 2012 Quarterly Assessment of U.S. Property Markets", January 2013 (SF315368)

» "US CMBS Loss Severities, Q4 2012 Update", March 2013 (SF317714)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Moody's publishes a weekly summary of structured finance credit, ratings and methodologies, available to all registered users of our website, at www.moodys.com/SFQuickCheck.

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Report Number: SF320185

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