

Moody's/REAL Commercial Property Price Indices, October 2007

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OVERVIEW

The Moody's/REAL Commercial Property Price Indices (CPPI) measure the change in actual transaction prices for commercial real estate assets based on the realized repeat sales of the same assets at different points in time. This October report is based on data through the end of August. The all-property type aggregate is represented in Figure 1.

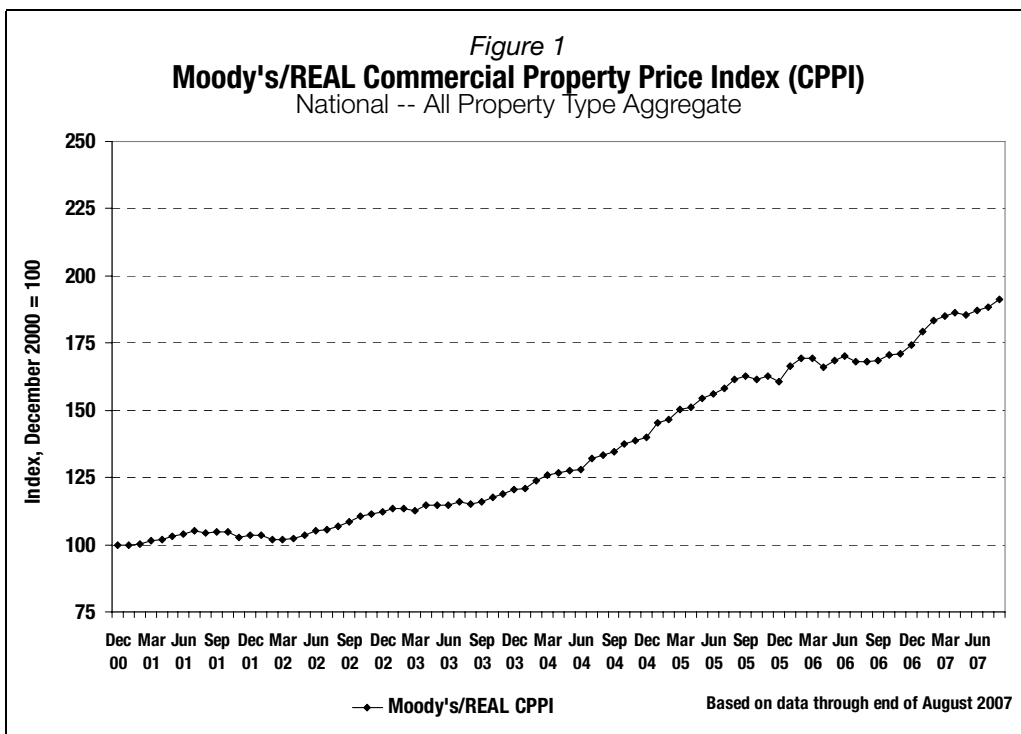


Figure 2 lists the current index measure for all 29 indices in the Moody's/REAL suite of indices. Moody's will customarily report all index measures in each report for investors' convenience. However, as noted in the initial report, not all indices are calculated each month. Any index that is based on new data is marked in bold and gray; all others are the same as last period. The schedule for updating each index is listed in the Appendix. Charts for the previously-published index measures are also included in the Appendix.



Figure 2
Current Moody's/REAL CPPI and Change from Earlier Periods

New This Period: National Aggregate

Repeated: National - Four Property Types
 Top 10 MSAs - Four Property Types
 West - Four Property Types
 Repeated: East - Four Property Types
 South - Four Property Types
 Southern California - Four Property Types
 MSA Office Markets - New York, San Francisco, and Washington DC
 MSA Apartment Market - Florida

	Current Index^M	1 Month Earlier	1 Year Earlier	2 Years Earlier
National Aggregate^M	191.11	1.6%	13.6%	18.2%

^M Monthly series. Most recent data is through August 31, 2007.

	Current Index^Q	1 Quarter Earlier	1 Year Earlier	2 Years Earlier
National - Apartments	194.37	-0.1%	12.6%	14.9%
National - Industrial	185.16	1.4	6.0	20.9
National - Office	177.58	3.9	11.4	27.2
National - Retail	190.20	2.1	5.4	14.1
Top 10 MSAs ¹ - Apartments	222.56	0.1	9.4	21.3
Top 10 MSAs - Industrial	193.39	0.9	4.7	20.4
Top 10 MSAs - Office	171.37	2.0	9.4	23.2
Top 10 MSAs - Retail	188.79	-1.6	-0.1	13.4
West - Apartments	196.45	2.0	15.0	23.7
West - Industrial	175.26	1.4	4.8	21.8
West - Office	166.08	6.4	9.2	33.5
West - Retail	192.48	0.1	-0.6	14.2

^Q Quarterly series. Most recent data is through the end of the 2nd quarter 2007. Analysis is based on data from that 2nd quarter.

¹ Top Ten MSAs refers to the ten MSAs with the most transactions, by dollar volume, in each property type.

	Current Index^A	1 Year Earlier	2 Years Earlier
East - Apartments	203.96	7.3%	5.7%
East - Industrial	175.50	7.1	10.4
East - Office	177.13	15.1	26.1
East - Retail	202.18	7.3	11.3
South - Apartments	161.57	2.3	0.1
South - Industrial	187.62	11.5	27.7
South - Office	175.34	-0.9	17.0
South - Retail	181.37	5.4	15.8
So. California - Apartments	214.74	1.7	10.6
So. California - Industrial	209.45	15.3	39.5
So. California - Office	184.74	6.5	20.9
So. California - Retail	243.79	7.1	30.5
New York - Office	224.54	18.8	37.2
San Francisco - Office	127.24	15.6	25.5
Washington DC - Office	172.70	5.3	16.5
Florida - Apartments	215.72	-2.9	11.9

^A Annual series. Most recent data is through the end of the 2nd quarter 2007. Analysis is based on data from four quarters (3Q06, 4Q06, 1Q07, and 2Q07). Given that the measure is of a rolling four-quarter period, data as of the end of the 2nd quarter can not be compared with that from the end of the previous quarter.

NOTABLE UP-TICK IN THE NATIONAL ALL-PROPERTY AGGREGATE INDEX

The August Moody's/REAL All-Property Type price index measures 191.1, an increase of 1.6% over the previous month, a 13.6% year-over-year increase, and an 18.2% increase over two years.

The 91.1% rise in the Moody's/REAL Index since its inception at the end of 2000 truly reflects the magnitude of the commercial property price boom. In contrast, adjusted to include the effect of capital expenditures, the NCREIF Index capital growth was 69% from the end of 2000 through the second quarter of this year. It is not surprising that a well-constructed price-based index would show more growth than the NCREIF Index during this time frame due to the well-known lag in the appraisal-based methodology.

This October report on the Moody's/REAL CPPI is based on data through the end of August, which accounts for the robust increase in prices. The credit squeeze arguably really took off in mid- to late-August,¹ and commercial real estate sales that were completed in August were likely negotiated and agreed on 30 or 60 days earlier.

Timing Is Everything

This raises the question of how current is "current," and how lagged is "lagged."

Any price series that incorporates data for a month or quarter captures the environment *up to* the final date (e.g., end of the month or end of the quarter). With that said, any mechanisms that maximize the timeliness of the data are welcome.

For example, using a trailing three-month average adds a lag to a monthly return measure, particularly if the volume of transactions were somewhat more heavily weighted toward the earlier part of the period, as could occur in an environment of declining transaction volume. Furthermore, appraisals that are themselves reliant on transactions potentially add yet another layer of delay in the ability of an index to represent the most current pricing environment possible.

The repeat sales regression (RSR) methodology developed at MIT and employed in the Moody's/REAL CPPI does not employ any trailing averages and uses a specification that avoids any temporal aggregation in the index. Nonetheless, deals that in fact close in one month might have been negotiated with financing arranged a month or so before.

The Robust Methodology of Moody's/REAL CPPI Is Particularly Valuable For Commercial Property In Times of Stress - Or When the Market Turns

The econometric techniques employed by the Moody's/REAL index have been refined in the academic literature over decades to optimize the accuracy of the index calculations and to maximize the precision of the index according to basic statistical principles. The repeat-sales approach is indeed rigorous, objective, and the "best way" to measure realized price changes in US commercial property.

It is even more important to use rigorous econometric techniques for commercial property indices than for housing *because* there is less data for commercial property, and the econometric techniques are designed to make the most efficient use of the available data. This is also true over time, or when data become scarce or at turning points in market trends - which could happen sooner rather than later.

The Moody's/REAL CPPI is more volatile and moves more quickly than some other measures of market changes because it is in fact reflective of real market movements. Indeed, ad hoc efforts to eliminate "spurious" volatility can also eliminate *real* volatility, a danger that rigorous econometric techniques are explicitly designed to avoid to the maximum degree possible.

At this time the database from Real Capital Analytics (RCA) has thousands of sales records, many of which now have a second, or paired, sale (and more than a few have third and fourth price points). As time passes, more and more properties for which data is available for a prior sale will roll over, creating the paired sale and the grist for the index. As a result, we expect that the number of transactions on which the analysis is performed will grow with time. Indeed, the number of sale pairs eventually will converge on the total number of sales, insofar as

¹ In a matter of less than two weeks, several events indicated the accelerating cascade of credit problems: August 9 - BNP Paribas froze deposits of some of its hedge funds; August 17 - the US Federal Reserve cut the discount rate for emergency lending to banks; and August 22 - the European Central Bank lent emergency funds for three months, as the asset-backed commercial paper market had effectively shut down.

a prior sale exists.² Importantly, this index methodology will only improve with time, as more and more pairs of transactions are captured.

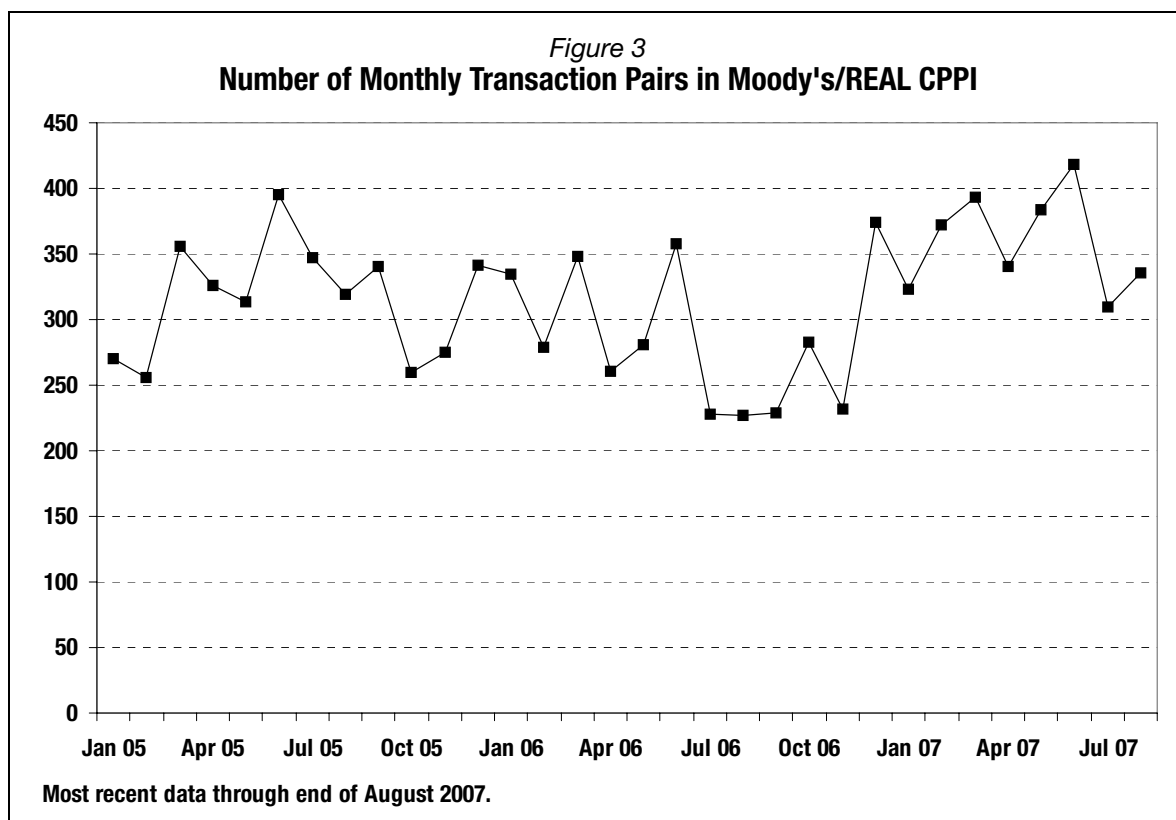
Finally, the RSR methodology engages several screens or filters to assure quality control on the data that form the basis for the index. For example:

- Transactions that are not arms-length can be identified and removed. In a distressed capital market environment, the potential for such sales-of-convenience is greater, but such transactions are not reliable indicators of the change in the actual market.
- A linking mechanism is in place to assure that a property is essentially the same at both sales points. For example, a property with 50% more square feet in the second sale as in the first certainly *should* see its value increase, but that clearly does not represent the change in the market. Such sales could skew the measure of *average* prices and therefore distort the impression of *market* trends; they would therefore be filtered out of the Moody's/REAL index regression database.
- Several sources of data are used that permit cross-checking of property quality and extension of data. For example, title data lists only the year when the property was built, but other sources that are captured by RCA provide additional data that support quality control and permit the data to extend beyond states with problematic title disclosures such as Texas.³

TRANSACTION VOLUME IS EXPECTED TO BE SUFFICIENT EVEN IF THE MARKET SLOWS DOWN

Disclosure and Transparency: Taking Stock of Sales Volume

The number of paired sales that make up the monthly August index is up 8% over the previous month, but that is lower than the peak level of two months earlier (see *Figure 3*).



² At any time some sales involve newly-developed properties so there is no prior sale. Sales by the developer constituted about 15% of all transactions in 2006.

³ Other sources utilized by RCA, in addition to title records, include SEC filings, other licensed databases, broker submissions, press releases, and feedback from subscribers. Whatever the source, the data is meticulously organized, standardized and reviewed internally according to strict guidelines and quality control measures, including statistical tests of the reliability of data compared to peers and prior sales. Most transaction records are confirmed by two or more reliable sources.

Many market participants expect that the number of commercial property transactions in the next few quarters might be smaller than in the recent past, as capital market conditions impinge on commercial real estate fundamentals and make access to capital somewhat more difficult.

Nonetheless, most of the Moody's/REAL indices should handily continue to incorporate enough sales pairs to meet the rigorous academic requirements of the repeat sales regression methodology. Most indices average a number of transactions that are multiples of the required thresholds. Those that are most at risk of falling short currently appear to be the indices for San Francisco Office, Washington DC Office, and Southern California Retail

In addition, should the number of transactions fall short of the required minimum, a detailed methodology is disclosed in the MIT White Paper to support the continued publication of the index. We expect these methods will sustain the repeat-sales index through any market downturns, short of catastrophic events that would cause difficulties for any type of index.

Figure 4 reports the number of second-sale transactions for each of the 29 indices as follows:

- The largest number of transactions in any single month/quarter/one-year period over the last three years.
- The fewest number of transactions in any single month/quarter/one-year period over the last three years.
- The average number of transactions for one month/quarter/one-year period over the last three years.
- That average as a multiple of the minimum number of transactions deemed sufficient for that series. Those minimum thresholds are as follows:
 - o 20 transaction pairs per *month* for the monthly series. This applies to:
National Aggregate
 - o 20 transaction pairs per *quarter* for the quarterly series. This applies to:
National - Four Property Types
Top 10 MSAs - Four Property Types
West - Four Property Types
 - o 40 transaction pairs per *year* for the annual series (these are recalibrated each quarter, although based on one year of data). This applies to:
East - Four Property Types
South - Four Property Types
Southern California - Four Property Types
MSA Office Markets - New York, San Francisco, and Washington DC
MSA Apartment Market - Florida

A summary or short version of the repeat sales methodology is available in a Moody's Special Report. US CMBS: [Moody's Publishes the First Commercial Property Price Indices Based on Commercial Real Estate Repeat Sales Data](#). Sept. 19, 2007. A very detailed and complete explanation of the methodology is available in a White Paper from MIT. David Geltner and Henry Pollakowski. A Set of Indexes for Trading Commercial Real Estate Based on the Real Capital Analytics Transaction Prices Database. MIT Center for Real Estate. Sept. 26, 2007. This is a newer version of the white paper than the one cited last month.

Figure 4

Number of Transactions Per Analytical Period

	Highest Month	Lowest Month	Average	Multiple of Average to Required ¹
National Aggregate	418	127	298	14.9
¹ Required number of transactions are 20 per month.				
	Highest Quarter	Lowest Quarter	Average	Multiple of Average to Required ²
National - Apartments	452	147	319	15.9
National - Industrial	231	65	164	8.2
National - Office	316	123	236	11.8
National - Retail	211	50	143	7.2
Top 10 MSAs - Apartments	325	92	215	10.7
Top 10 MSAs - Industrial	146	42	102	5.1
Top 10 MSAs - Office	191	87	151	7.5
Top 10 MSAs - Retail	95	30	72	3.6
West - Apartments	239	91	160	8.0
West - Industrial	120	28	76	3.8
West - Office	119	44	94	4.7
West - Retail	96	20	60	3.0
² Required number of transactions are 20 per quarter.				
	Highest 1-Year Period	Lowest 1-Year Period	Average	Multiple of Average to Required ³
East - Apartments	352	162	259	6.5
East - Industrial	208	129	158	4.0
East - Office	339	226	276	6.9
East - Retail	158	72	113	2.8
South - Apartments	425	229	323	8.1
South - Industrial	133	78	112	2.8
South - Office	230	155	195	4.9
South - Retail	238	131	180	4.5
So. California - Apartments	269	174	215	5.4
So. California - Industrial	162	125	141	3.5
So. California - Office	154	130	143	3.6
So. California - Retail	92	83	88	2.2
New York - Office	128	79	98	2.5
San Francisco - Office	66	60	62	1.6
Washington DC - Office	88	75	80	2.0
Florida - Apartments	217	103	149	3.7
³ Required number of transactions are 40 per year.				

Most/least/averages calculated over the previous three years.

APPENDIX

Figure 5
CPPI: Report Release Cycle

	JANUARY	FEBRUARY	MARCH
Report to be released:	Aggregate	Aggregate	Aggregate
For period:	November	December	January
Based on data through:	November 30	December 31	January 31
Report to be released:		12 Quarterly Indices (A)	16 Annual Indices (B)
For period:		4th Quarter	4th Quarter
Based on data through:		December 31	December 31
	APRIL	MAY	JUNE
Report to be released:	Aggregate	Aggregate	Aggregate
For period:	February	March	April
Based on data through:	February 28/29	March 31	April 30
Report to be released:		12 Quarterly Indices (A)	16 Annual Indices (B)
For period:		1st Quarter	1st Quarter
Based on data through:		March 31	March 31
	JULY	AUGUST	SEPTEMBER
Report to be released:	Aggregate	Aggregate	Aggregate
For period:	May	June	July
Based on data through:	May 31	June 30	July 31
Report to be released:		12 Quarterly Indices (A)	16 Annual Indices (B)
For period:		2nd Quarter	2nd Quarter
Based on data through:		June 30	June 30
	OCTOBER	NOVEMBER	DECEMBER
Report to be released:	Aggregate	Aggregate	Aggregate
For period:	August	September	October
Based on data through:	August 31	September 30	October 31
Report to be released:		12 Quarterly Indices (A)	16 Annual Indices (B)
For period:		3rd Quarter	3rd Quarter
Based on data through:		September 30	September 30

Figure 5, cont.

(A) 12 Quarterly Indices include the following:

APARTMENT	RETAIL	OFFICE	INDUSTRIAL
National Apartment	National Retail	National Office	National Industrial
Top 10 MSAs Apartment	Top 10 MSAs Retail	Top 10 MSAs Office	Top 10 MSAs Industrial
West Apartment	West Retail	West Office	West Industrial

Figure 5, cont.

(B) 16 Annual Indices with Quarterly Releases include the following:

APARTMENT	RETAIL	OFFICE	INDUSTRIAL
East Apartment	East Retail	East Office	East Industrial
South Apartment	South Retail	South Office	South Industrial
So. California Apartment	So. California Retail	So. California Office	So. California Industrial
Florida Apartment		New York Office	
		San Francisco Office	
		Washington DC Office	

Figures 6 - 13 represent previously-published indices and are included here for readers' convenience. All of these indices are based on data through the end of the second quarter 2007.

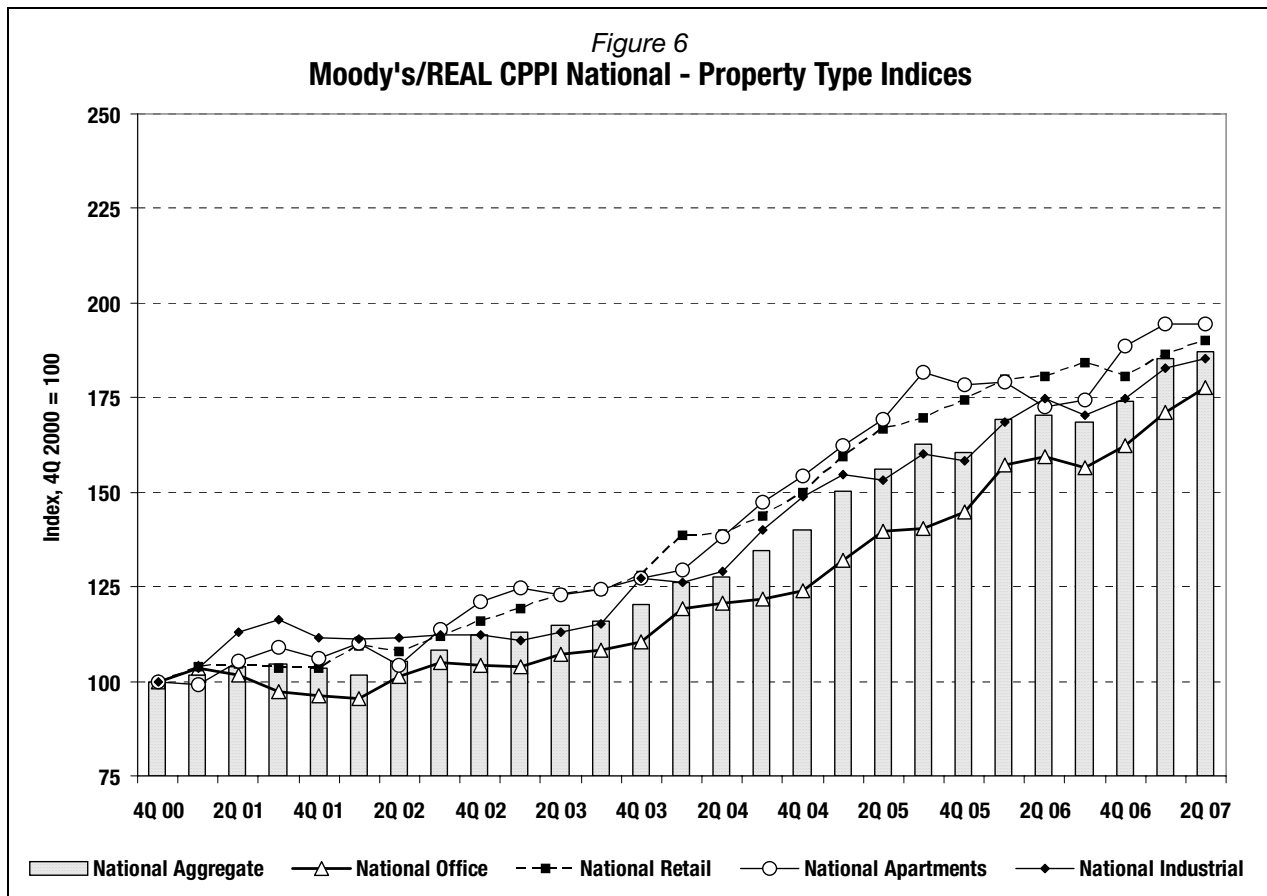


Figure 7
Moody's/REAL Top Ten MSAs - Property Type Indices

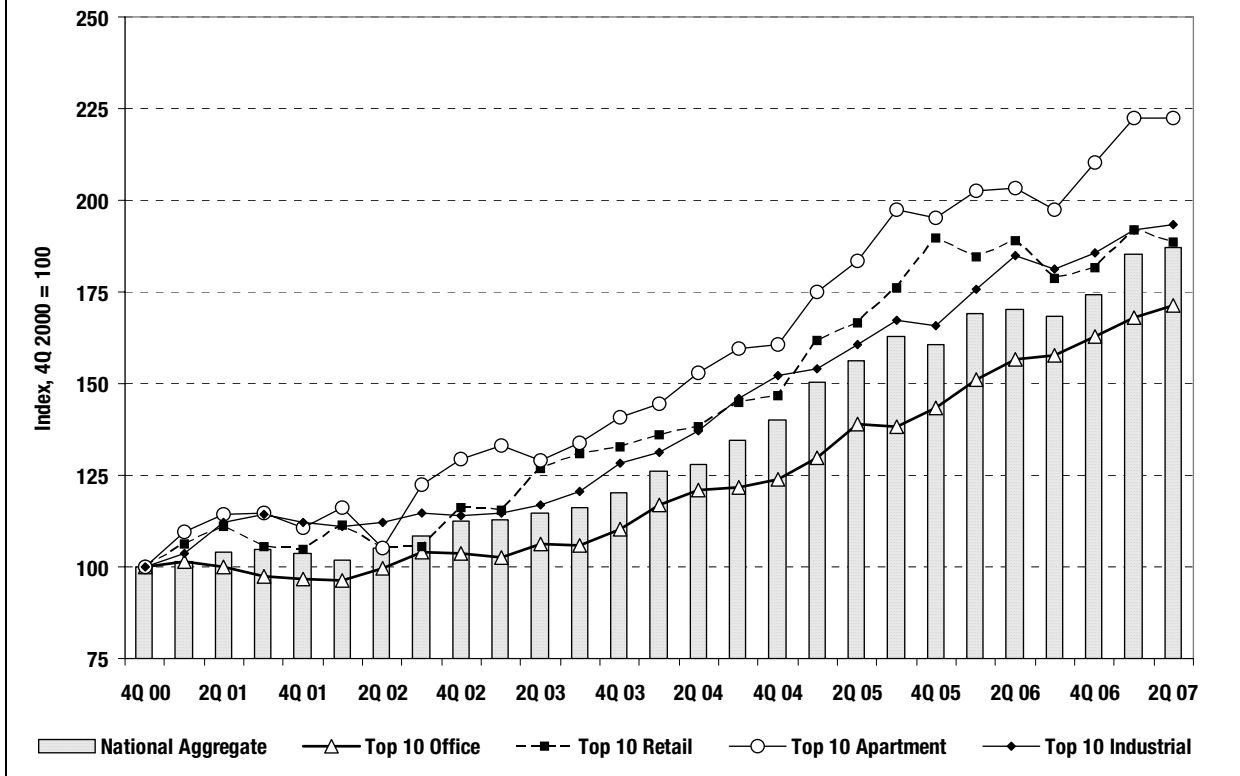


Figure 8
Moody's/REAL West - Property Type Indices

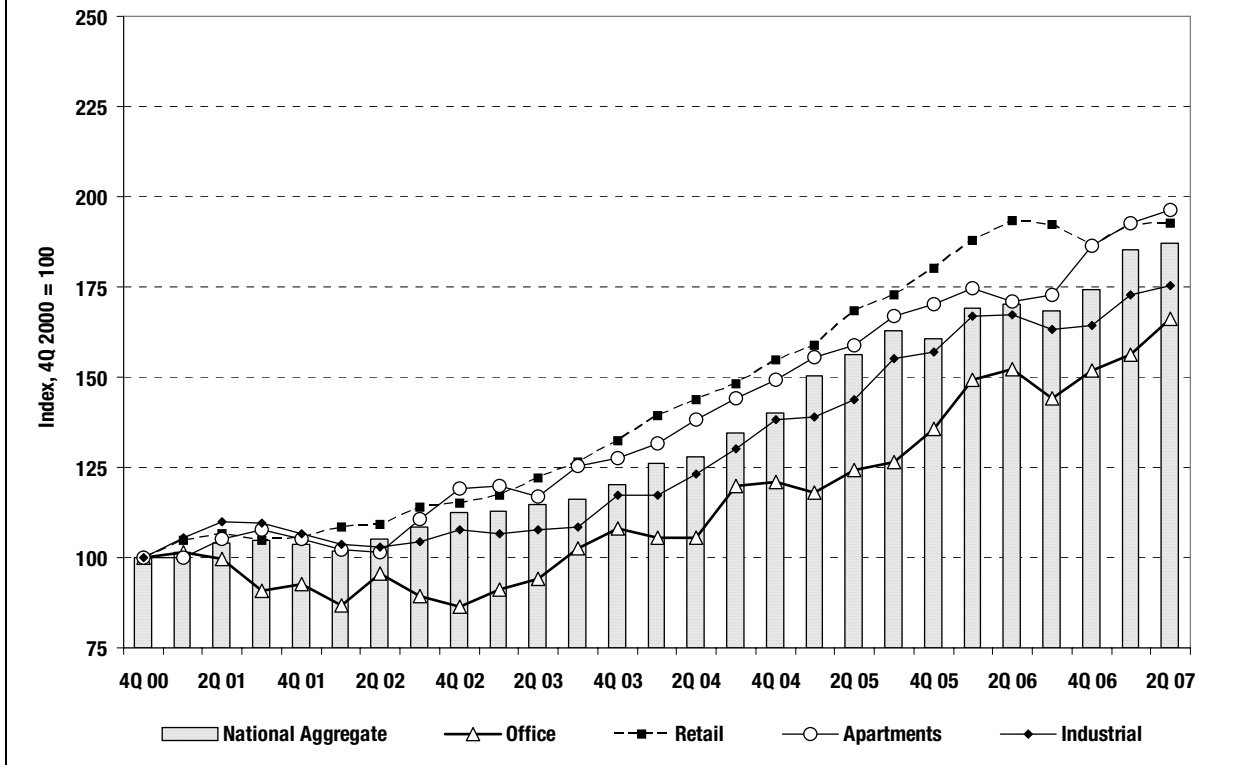
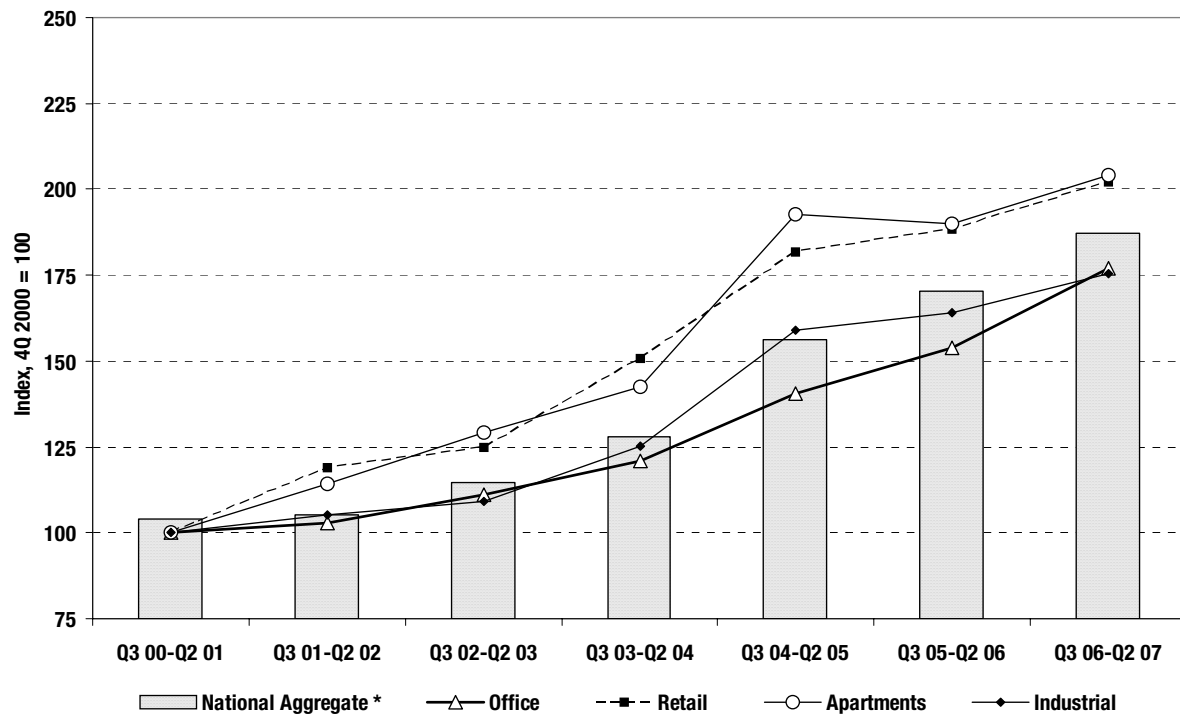
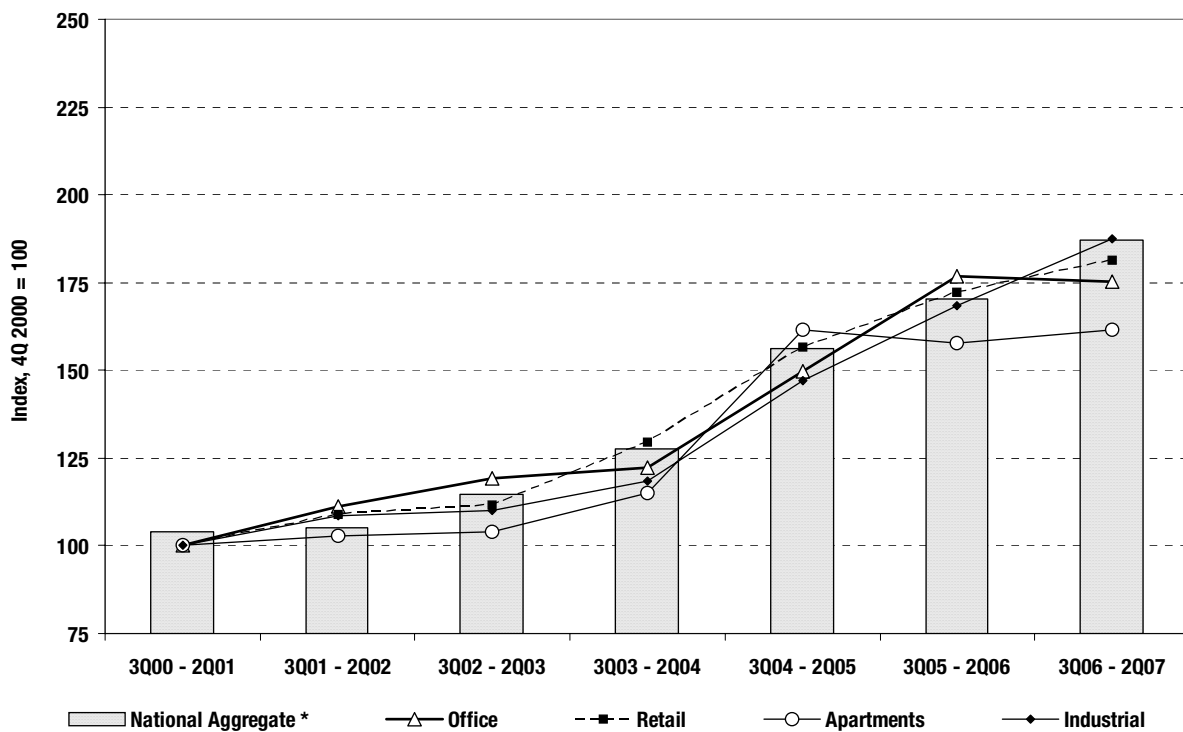


Figure 9
Moody's/REAL East - Property Type Indices



* National Aggregate index, like the other series, is as of end of 2Q of each one-year period

Figure 10
Moody's/REAL South - Property Type Indices



* National Aggregate index, like the other series, is as of end of 2Q of each one-year period.

Figure 11
Moody's/REAL Southern California - Property Type Indices

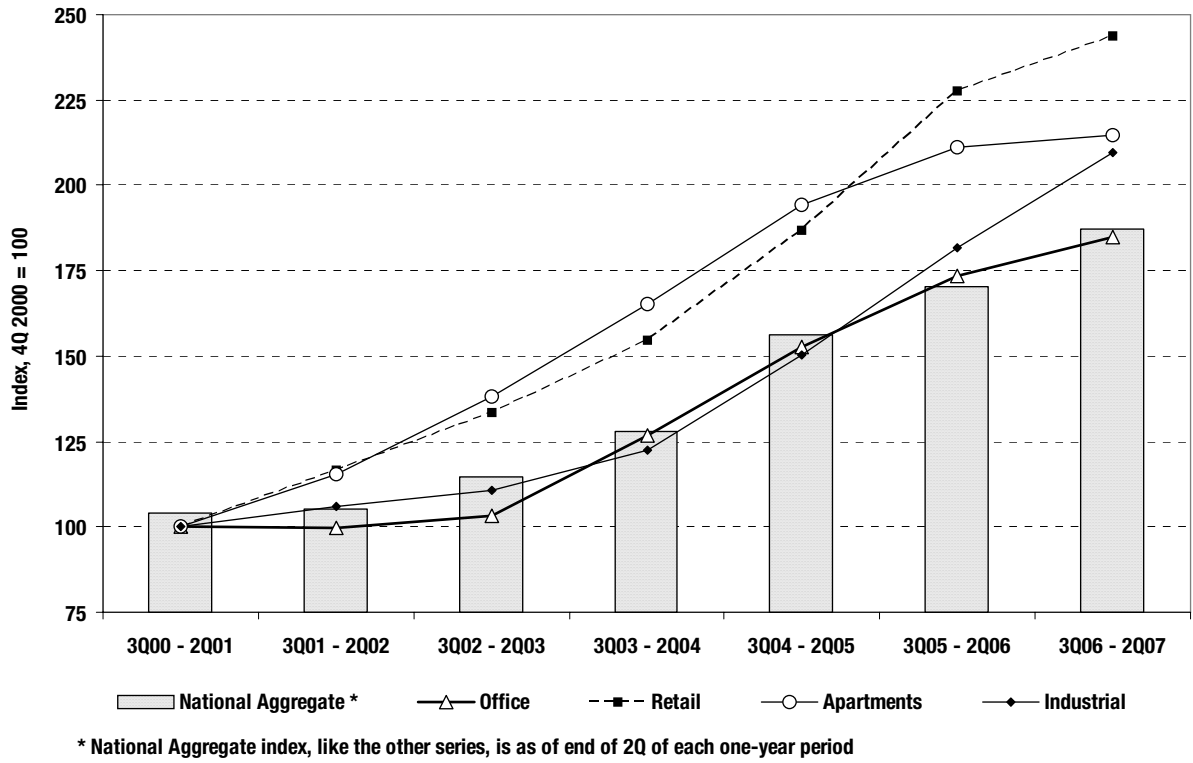


Figure 12
Moody's/REAL Major Markets - Office Indices

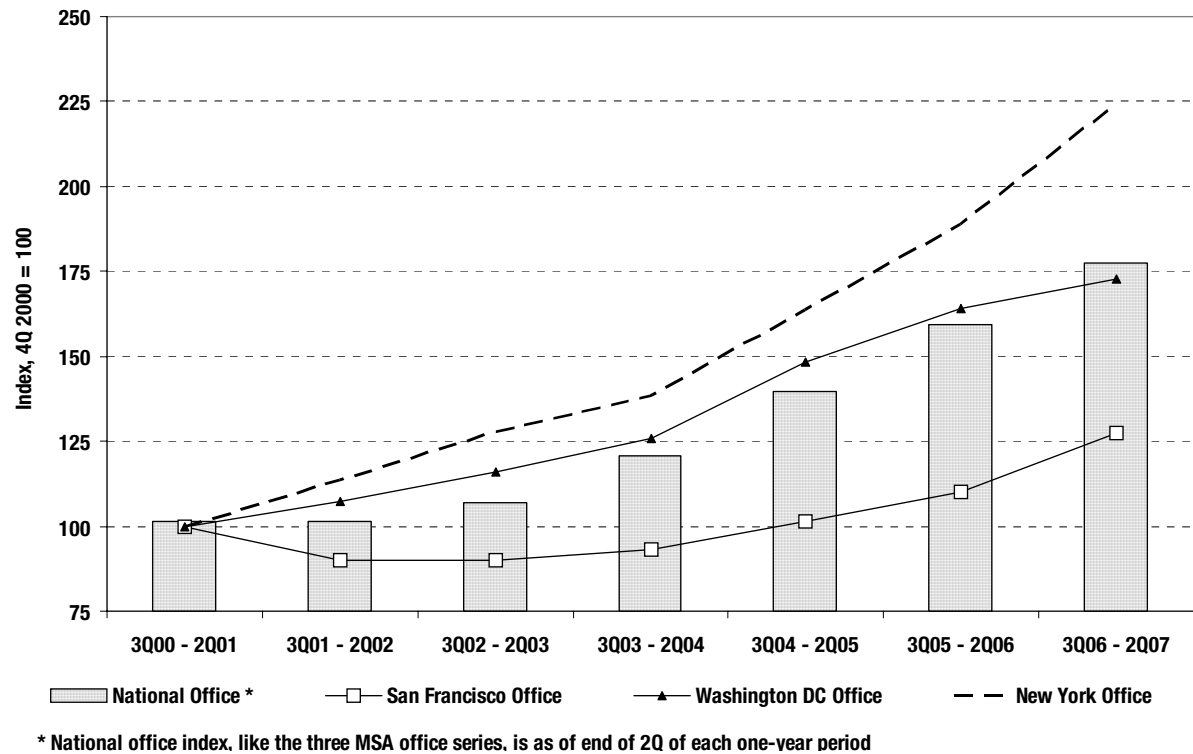
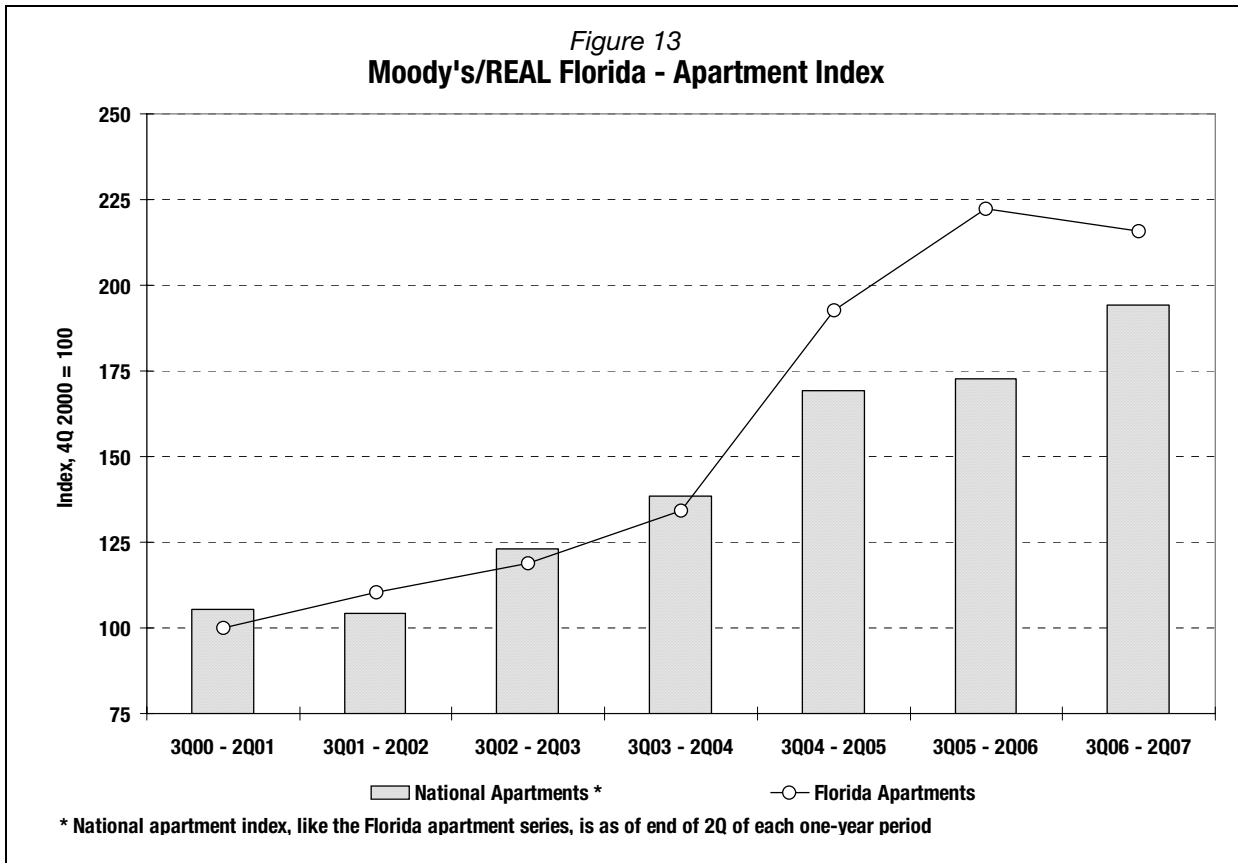


Figure 13
Moody's/REAL Florida - Apartment Index



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