

“Professor’s Corner”

(For the October 2010 Moody’s/REAL Index returns.)

This is a periodic commentary which will generally be posted monthly on the “RealIndices” web site, offering the perspective on the indexes of Professor David Geltner (or occasional guest commentators). Geltner was a leader of the team at MIT that developed the methodology for the Moody’s/REAL Indexes in 2006.

CPPI posts second consecutive positive month amid soaring distress prices and flattening trophy prices on the 1-year anniversary of the end of the price crash...

In October 2009, one year ago in the index, the CPPI posted what proved to be its last of 13 consecutive negative months that recorded the greatest crash in U.S. commercial property prices since at least the Great Depression. In the year since then the broad institutional market has been rocky and mixed, but it has not broken significantly through the price floor established last fall. At first, through last spring, there was a general if tentative upward trend. But last summer saw a backsliding in average prices (measured on an equal-weighted basis) as lenders and special servicers began taking advantage of greater liquidity to sell more distressed assets.

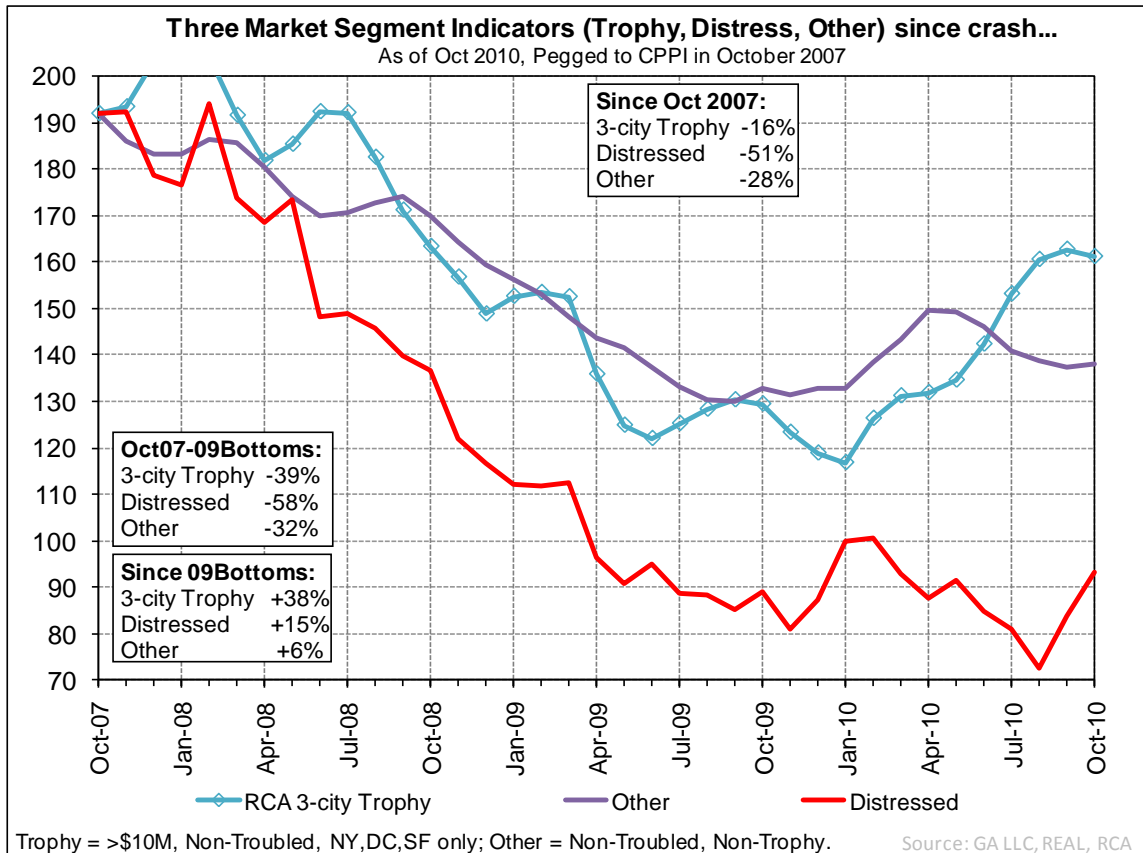
Now, this October’s +1.3% price change in the CPPI, following on the heels of September’s record 4.3% gain, is good news for the market, especially as the pricing result is strongly buttressed by the continued trend in trading volume. Real Capital Analytics recorded over \$12.6 billion of major asset (\$5M+) sales in over 1000 individual asset transactions closed in the month of October. Both of these measures of volume are the highest monthly levels since early/mid-2008. Volume usually leads pricing in private real estate markets, and volume has been on the upswing pretty consistently since it bottomed in the spring of 2009. The recent pricing and volume results taken together suggest solidly rising investment demand for institutional commercial real estate in the U.S., especially as these results don’t seem to be one-month-only blips, but a continuation of a persistent trend.*

The picture becomes even more intriguing when we drill down into the three major segments of the trifurcated market that we have been tracking in recent months, as shown in Exhibit 1 (on the next page). I have been noting in recent issues of this commentary that the unusually large pricing gap that opened up in 2010 between narrowly-targeted “trophy” properties at one extreme and distressed properties at the other extreme, with a broad but weak middle segment in between those two (labeled “Other” in Exhibit 1), would not be sustainable. October’s results provide some evidence that buyers on the lower end of the pricing spectrum may have “blinked”. The distressed property price index rose a huge 11.6% in October, its second very large rise in a row after September’s

* Real Capital Analytics reports over \$9 billion of major-asset deals in November with over \$25 billion under contract awaiting closing extending into early 2011, indicating CY 2010 transactions will surely exceed \$100 billion, more than double 2009’s extremely low volume.

+15%, giving that index a 28% price bounce in only two months!^{*} At the other extreme, October reinforces the indication begun in September that the trophy end of the market may be reaching a pricing plateau. The trophy price index turned negative in October for the first time in nine months.[†] Perhaps most significant, the “Other” index, tracking properties that are neither distressed nor trophy, posted its first positive price change in six months (although a small gain, at +0.6%).

Exhibit 1



The overall indication from these pricing results is that the institutional commercial property market may have begun the process of “re-integration”, the beginning of the closing of the pricing gap, and this is being revealed and quantified by the transactions closed this past autumn. This view is supported by anecdotal evidence of large well-priced deals spilling out beyond the half-dozen top-tier “gateway” cities to include places like Seattle, San Diego, Denver, Minneapolis, and Houston, among others (deals that would be registered in the “Other” index of Exhibit 1).

^{*} Caution: the distressed property price index is based on a relatively small transaction sample and displays more noise than the larger indices. Distressed property sales, which are often controlled by creditors, may also be more managed from one month to the next in terms of the timing of their closings and the types of assets that are put on the market, compared to more normal situations. Nevertheless, two big positives in a row is a strong signal, and it comes also this month with an increase in the proportion of distressed sales in the overall CPPI from 26% last month to 30% in October.

[†] The 3-city trophy index based on New York, DC, and San Fran Bay posted negative 1%; the 6-city index (adding LA, Chi, & Bos) was negative 0.6% in October.

Continued bullish indications from the REIT market...

To be sure, the U.S. commercial property market is still fragile, and serious problems remain, especially in the broad middle segment of the market (the purple line in Exhibit 1). The segment of the market that is neither trophy nor officially distressed (that is, not tagged with the RCA “troubled asset” flag) is still struggling with too many under-water borrowers and over-leveraged banks and a too-nascent rebirth of the CMBS conduit industry. And all the market segments are vulnerable to potential pitfalls in the underlying economy. (I’m less worried about inflation than I am about anemic job growth and potential real interest rate spikes.) But Exhibit 2 (below) suggests some reason for optimism. The stock market, where REIT shares trade, is a powerful information aggregator. And the REIT market is telling us that it thinks the property market will be headed up in the near-to-medium term future.

Exhibit 2

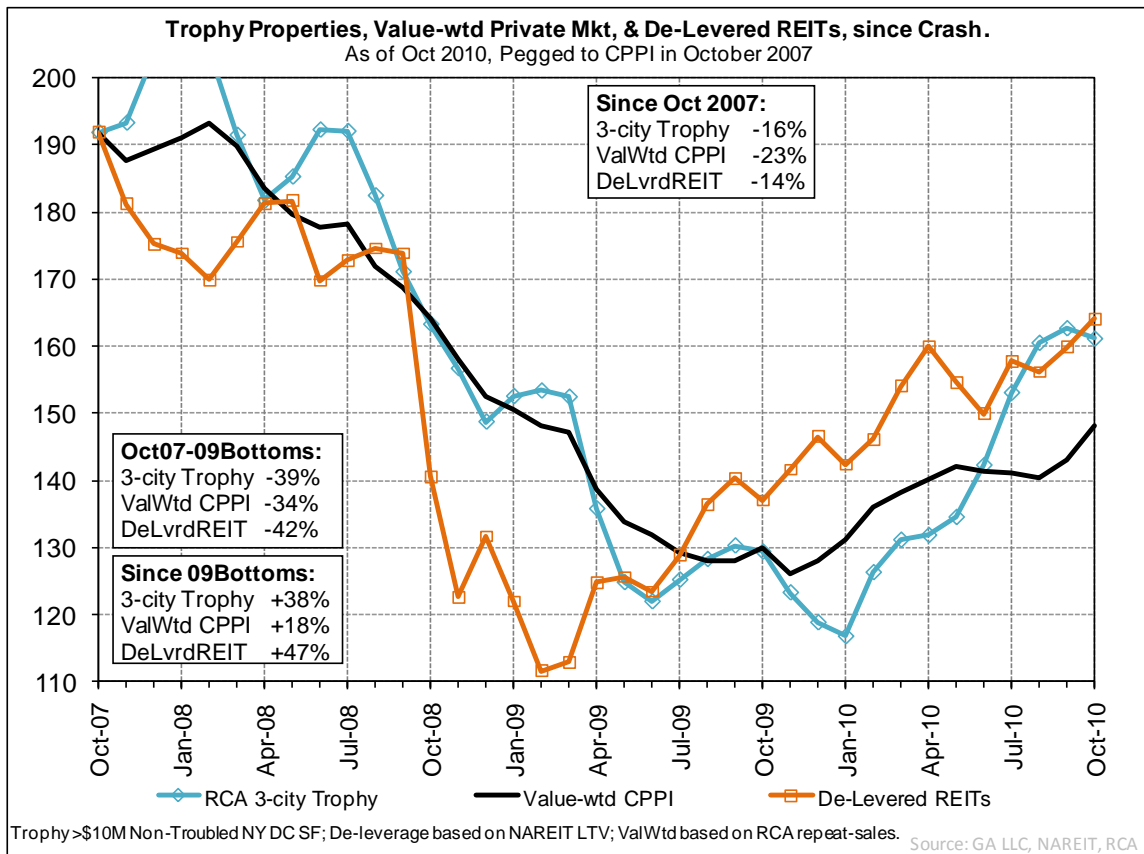


Exhibit 2 repeats the 3-city trophy-property price index of Exhibit 1 and adds two other broader indices: one is simply a value-weighted version of the Moody’s/REAL CPPI; and the other is a de-levered version of the NAREIT Equity-REIT share price index (capital returns only, excluding dividends), with all three indices pegged to the value of the Moody’s/REAL CPPI as of that index’s peak in October 2007.* The value-weighted

* The “value-weighted CPPI” index in Exhibit 2 is derived by weighting the monthly returns of the three market segment indices of Exhibit 1 (trophy, distress, & other) by their respective dollar-valued shares of the total repeat-sales transactions in the Moody’s/REAL CPPI each month. The “de-levered REIT” index in

version of the CPPI has bounced back much more strongly and definitively than the official CPPI which is equal-weighted. This is because trophy properties are much larger on average than the distressed properties that have been selling in the CPPI, which means that the trophies are under-represented in the equal-weighted version of the CPPI. The value-weighted CPPI in Exhibit 2 is up 18% since it bottomed last November (including +3.6% in October). The 3-city trophy index is up 38% from its bottom last January.

Of course REITs tend to lead the private market, and they bottomed on a monthly basis back in February 2009, and have since risen remarkably steadily to some 47% above their monthly low point, measured after de-leveraging. However, index levels are not directly comparable, and in particular we need to consider that the REIT peak occurred before October 2007 (and may have been effectively lower than the private market peak^{*}), and the forward-looking stock market may be pricing into current REIT share values some anticipated future positive-NPV acquisitions by REITs (buying what the stock market apparently perceives as “bargains” in the private market).[†] Nevertheless, the De-levered REIT Index in Exhibit 2, when juxtaposed as it is here with the value-weighted CPPI seems to suggest that the private market still has some up-side potential in store in the coming months, if not for the trophy properties then at least for the distressed and middle market segments.[‡]

I hate to say “I told you so,” but...

Just under a year ago, last December, with October 2009 CPPI results available, I wrote an article for the *PREA Quarterly*, in response to PREA asking me where I thought the U.S. institutional property market would be headed in 2010. If I may quote from that article (which was published in the Winter 2010 issue of the *PQ*), I said:

Exhibit 2 is constructed by multiplying the NAREIT Equity REIT Index capital return each month by the ratio one-minus-LTV, where “LTV” is the NAREIT value-weighted industry average leverage ratio for all equity REITs as of the end of the prior month as reported in the NAREIT publication, *REITWatch*. (In effect, this procedure simply applies the classical weighted average cost of capital – WACC – formula to derive asset returns from equity returns, assuming zero capital return to REIT debt investors.) It should be noted that the Equity REITs peaked in January 2007, so their total drop from their peak to trough was greater than the 42% indicated in Exhibit 2.

^{*} Remember all the REIT privatizations that were occurring in 2006 and early 2007?... This suggests REIT share prices were effectively below private market prices as of that time.

[†] REIT share price appreciation also reflects the effect of retained earnings plowed back into investment in the firm, and so does not *only* represent property asset value growth per share. Many REITs curtailed their dividends during the financial crisis.

[‡] Consider some other evidence regarding relative valuations. As of October, the Green Street CPPI was up 28% from its bottom in spring 2009, and Green Street’s REIT share price/NAV ratio was also still high in positive territory suggesting an additional premium of share prices over NAV by perhaps at least 10% on a de-levered basis. (Green Street’s “CPPI” – not to be confused with the Moody’s/REAL CPPI – represents Green Street’s estimates of values of REIT-owned properties based on deals in the negotiation stage, and is meant to be a leading indicator of subsequently closed sales prices for such properties.) Adding the de-levered Green Street P/NAV premium to the Green Street CPPI bounce gives an indication from the REIT market of potential REIT property valuations currently some 38% above their trough on a de-levered basis, a bounce magnitude very similar to what we have already recorded in closed transactions for the top trophy properties in the RCA repeat-sales database. But as Exhibit 1 suggests, the 3-city trophy index is presently some 15% to 20% above the “Other” index and over 70% above the “Distressed” index (measured as a fraction of each of those index’s current values assuming equal pricing at the October 2007 market peak).

I will now do what no academic economist should ever do. I'm going to go out on a limb and make a quantitative prediction with a specified date! (Whenever I've done this in the past I've been proved wrong.) My prediction is that 2010 will witness [...] trading volume in the neighborhood of \$100 billion or more [and] that a price bottom as tracked by the CPPI will occur sometime near the end of 2009 or beginning of 2010, with some bouncing along that bottom, but leaving the CPPI by the end of 2010 somewhere in the range of 0% to 15% above its bottom (my best guess is +10%). Look for the apartment sector to be the best performer...

... I believe the investors will "blink" a bit more than the property owners in 2010. The best time to buy might prove to be right now!

I'm touting this prognostication now because *for once I was right!* And I made that prediction last year in no small part based on what the REIT market had done in the previous nine months. Can REITs be right two years in a row?... (Stranger things have happened.)

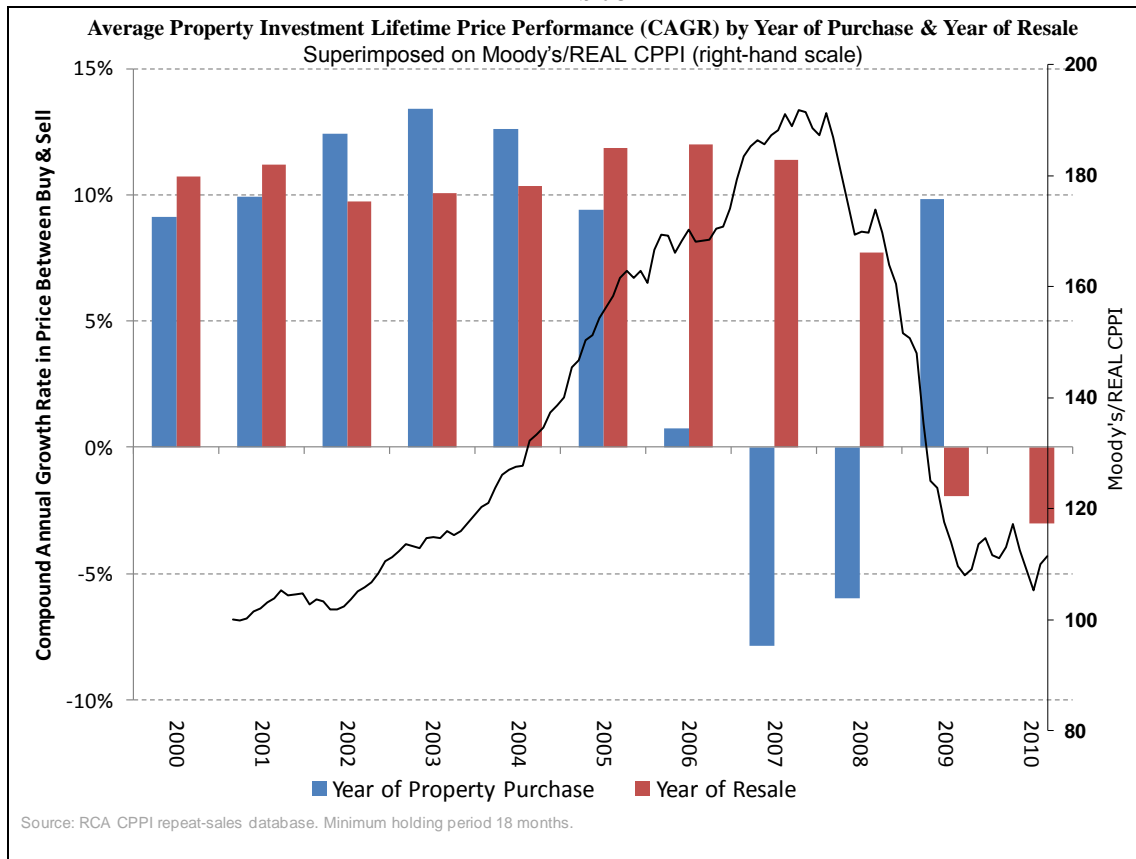
Pricing performance by investment vintage year cohort...

The RCA institutional property repeat-sales database that underlies the Moody's/REAL CPPI can provide interesting insights into real estate investment in various ways, not just limited to the production of transaction price indices *per se*. In this section I would like to present one such glimpse, both for the insight it may provide about investment and also to help build intuition about the nature and meaning of repeat-sales price indices such as the Moody's/REAL CPPI.

The colored bars in Exhibit 3 (on the next page) are based on the same repeat-sales database as the CPPI. The bars in the chart therefore represent, like the CPPI (which is also superimposed on the chart), the actually realized round-trip investment experiences of investors who have bought and sold properties in the commercial property market. In this sense, a repeat-sales index is very analogous to a stock market price index, which also represents the actual price experiences of investors who have traded in the stock market. While the CPPI parses out these price-change experiences into implied price changes in *each* period of time covered by the index (e.g., each month for the National All-property Index), property investors actually experience "lifetime" returns that are multi-period in nature, often measured by IRRs, spanning the entire period between the initial purchase of the property (the "buy") and its ultimate resale (the "sell"). Exhibit 3 seeks to represent this type of lifetime multi-period return experience, and is therefore somewhat comparable to charts of closed-end fund performance by inception year cohort, which one often sees in the literature on private equity fund investment performance. However, the returns in Exhibit 3 are limited to only the price-change component of the overall investment return.*

* To clarify, note that a true investment IRR would differ from the price-change CAGRs shown in Exhibit 3 in several respects. Most importantly, a complete IRR would reflect the effect of net cash flow received by the investor between the buy and the sell. Such intermediate cash flows are not included in the price-change CAGRs in Exhibit 3 and this causes the Exhibit 3 returns to be below the average investor-realized IRRs.

Exhibit 3



The blue bars in Exhibit 3 show the average annual realized lifetime price-change performance (CAGR – on the left-hand scale) among all investments *bought* in the given year, no matter when they are subsequently sold (up to the present). The blue bars are thus similar to a “vintage year” performance result. For example, we see that this performance peaked in the 2003 cohort of property investments. All the properties purchased in 2003 that have been sold by the end of October 2010 have achieved an average price change performance of approximately +13% per annum (unweighted or equal-weighted). This stellar performance may not be too surprising for that vintage year since many of these investments were sold at or near the market peak during the 2005-07 period. On the other hand, the bottom-performing cohort of investments (so far) is the properties purchased in 2007, which have achieved an average price-change performance

On the other hand, the net cash flow in an investment IRR would be net of routine capital improvement expenditures made by the property owners. While the CPPI contains filters to eliminate major redevelopment or rehab projects, the price-change CAGRs in Exhibit 3 are not net of routine capital expenditures such as leasing commissions, TIs, and capital reserves. This causes the Exhibit 3 CAGRs to over-state investment returns. As net operating income generally exceeds routine capital expenditures at the property level, the result is probably that the returns in Exhibit 3 tend to under-state the complete investment lifetime IRRs achieved by the investors represented by the CPPI. However, it should be noted that the price-change based returns depicted in Exhibit 3 are probably the primary source of most of the *variation* in realized IRRs for most real estate investments.

of *negative* 8% per annum among those properties that have been sold by October 2010.* The CPPI database contains a minimum holding period cutoff of 18 months (to exclude “flips”), but among properties bought early in 2009 and sold by October 2010 after being held at least 18 months the average realized price return performance has been nearly +10% per annum, showing the effect of the 2010 price recovery in the market.†

The red bars in Exhibit 3 show the realized lifetime investment price-change performance of all the properties *sold* within the year indicated on the horizontal axis, no matter when the properties were previously bought. This performance peaks in the 2006 resale cohort at around +12%/year price growth (among properties in the database held at least 18 months by the end of that year). This reflects the fact that 2006 was near the market cycle peak after a long generally upward trend in the U.S. commercial property market spanning over a decade. Properties sold more recently have realized much lower lifetime price growth, including negative per annum price growth for properties sold in 2009 and 2010. The lowest growth sale cohort so far is 2010 with negative 3% per annum, reflecting the large proportion of distressed property sales this year as well as the steep cyclical downturn bringing the prices of many cohorts of purchases down to levels below their purchase prices (even after the enhancing effects of routine capital expenditures).

A repeat-sales index essentially takes the kind of lifetime realized price-change performance results shown in the colored bars in Exhibit 3 and mathematically parses out the implied price changes between the various buy and sell dates into single-period price-change increments corresponding to each calendar period. You can probably see how the pattern of ups and downs in the average realized forward and backward lifetime price-change performances shown in the bars in Exhibit 3 suggests the type of price evolution history depicted in the Moody’s/REAL CPPI which is superimposed on the chart (related to the right-hand scale).

Latest quarterly results for the CPPI annual indices (ATQ)...

Finally, December is one of the four months of the year in which the CPPI annual indices are updated. While the official CPPI annual indices are still published only at the annual frequency (with the four quarterly staggered starting dates for the indices), we are able to publish quarterly frequency returns for these indices based on the ATQ procedure described in the June issue of “Professor’s Corner”. Exhibit 6 at the end of this article shows the ATQ quarterly indices (along with the corresponding official CPPI annual indices) for the eight MSA-level indices, and Exhibit 7 shows the eight East and South

* The properties actually bought during 2007 and which have subsequently been sold do not represent the full extent of the average price drop after 2007. Loss aversion among property owners has kept many of these properties off the market, with the exception of only the best performing such properties being sold relatively recently (e.g., some of the trophy properties noted previously). The mathematics of the repeat-sale regression is able to use evidence from other cohorts of properties purchased prior to 2007 and sold subsequent to 2007 (along with other evidence from other cohorts) to sort out the best estimate of the actual price-change experience in each period of time.

† Such properties purchased after the crash would presumably not fall in the “distressed” category, so this early 2009 cohort probably largely reflects the performance of properties represented by the “trophy” and “other” price indices in Exhibit 1.

regional indices.* The tables in Exhibits 4 and 5 (on the following page) summarize the current quarterly indications (based on 3Q2010).

Exhibit 4: MSA-level Indices (through 3Q2010):

MSA Index:	3Q2010	Last 4 qtrs	Peak	Pk-Bottom	Bottom	Bottom-3Q10	Qtrly Volatility	Qtrly AC1
S FL Apts	13.66%	33.47%	2Q06	-52.21%	3Q09	33.47%	8.07%	47.78%
S CA Apts	-3.25%	-0.62%	3Q07	-23.09%	3Q09	NA	3.71%	48.70%
S CA Ind	3.88%	3.92%	4Q07	-37.79%	1Q10	18.03%	4.80%	47.30%
S CA Ret	-2.05%	-10.21%	2Q08	-37.17%	1Q10	0.49%	6.49%	-14.88%
S CA Off	0.41%	8.37%	1Q08	-35.14%	4Q09	12.10%	4.44%	67.48%
SF Off	-18.33%	-16.82%	2Q08	-36.77%	4Q09	NA	5.61%	0.35%
NY Off	-2.50%	9.09%	3Q07	-39.27%	3Q09	9.09%	5.39%	51.02%
DC Off	6.89%	17.33%	3Q07	-34.44%	4Q09	27.75%	5.52%	27.01%

Exhibit 5: Regional-level Indices (through 3Q2010):

Regional Index:	3Q2010	Last 4 qtrs	Peak	Pk-Bottom	Bottom	Bottom-3Q10	Qtrly Volatility	Qtrly AC1
East Apts	-6.10%	5.85%	3Q07	-31.61%	1Q10	20.55%	6.51%	-4.13%
South Apts	22.73%	41.35%	4Q05	-57.38%	4Q09	43.78%	8.33%	69.20%
East Ind	-2.36%	-11.09%	1Q08	-33.83%	2Q10	NA	5.20%	5.89%
South Ind	-4.15%	39.19%	1Q08	-48.55%	1Q10	39.19%	8.12%	-6.28%
East Off	3.28%	21.60%	1Q08	-43.68%	1Q10	24.99%	6.06%	24.20%
South Off	-2.69%	-5.71%	4Q07	-40.41%	2Q10	NA	5.31%	56.67%
East Ret	1.83%	16.06%	4Q07	-36.33%	3Q09	16.06%	6.34%	31.84%
South Ret	7.47%	-29.47%	4Q07	-44.78%	2Q10	7.47%	6.50%	-9.28%

The implied results for the third quarter are much more mixed than were the results in the previous quarter. Only half of the 16 markets tracked posted positive returns for the third quarter, whereas 12 out of 16 (including all of the MSA-level indices) were positive in the 2nd quarter. This is consistent with last summer being a period of some backsliding in commercial property prices, due largely to increased quantities of distressed properties being sold. On the positive side, most outstanding is the strong bounce in southern apartments, both in the South Region as a whole and in the South Florida MSA.[†] These indices are now up 44% and 33% respectively from their troughs on a quarterly frequency. The average (unweighted) returns for the third quarter across the eight MSA-level indices was essentially flat[‡], and averaging across the sectors (equal weighted) the East Region was down 0.8% while the South was up 5.8%.

-David Geltner, December 2010.

(See www.realindices.com for an archive of past issues of "Professor's Corner".)

* In Exhibits 6 & 7 the charts within each exhibit all have the same vertical scale, allowing immediate comparisons across the markets by visual inspection. The ATQ quarterly returns histories may be downloaded from the realindices.com website or the MIT/CRE website.

[†] The South Florida MSA includes Miami, Ft.Lauderdale, W.Palm Beach, Tampa-St.Pete, and Orlando.

[‡] The particularly large negative return for San Francisco offices was due to a very few very negative distressed property sales.

Exhibit 6: MSA-level CPPI Annual Indices with ATQ™ Implied Quarterly Indices

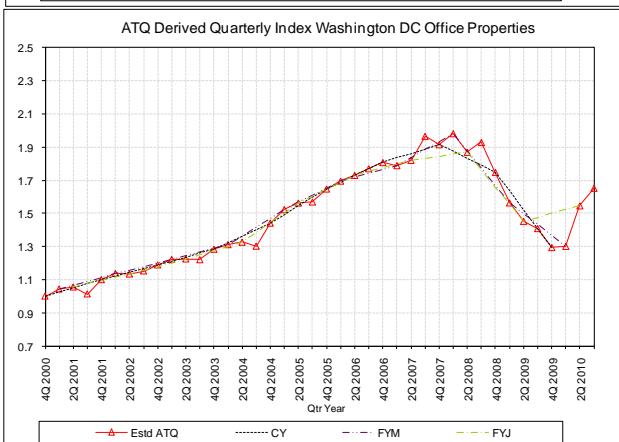
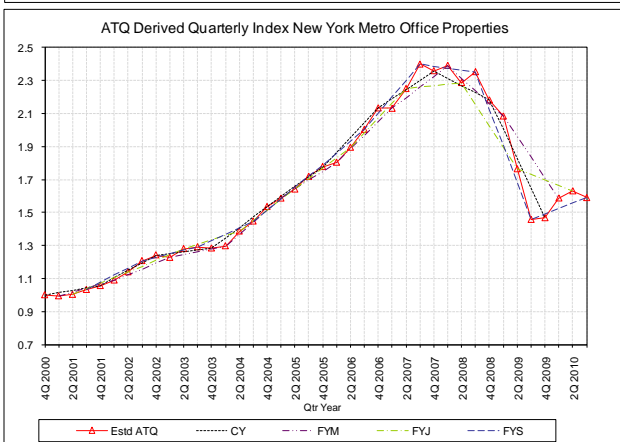
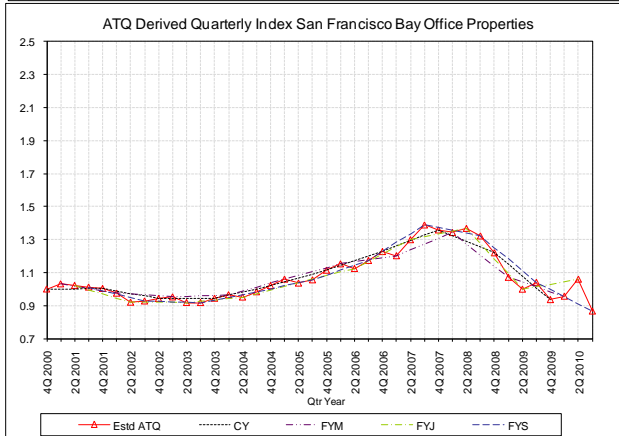
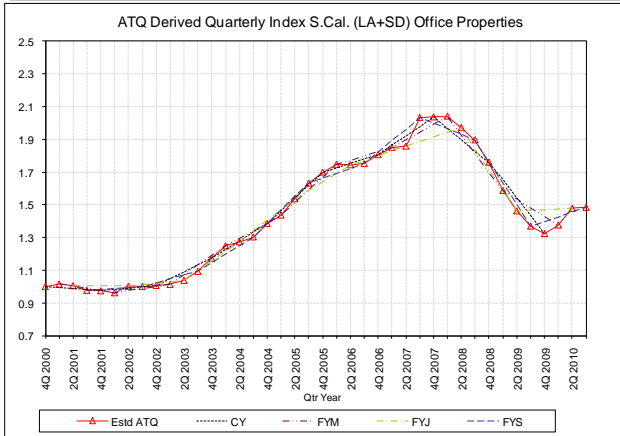
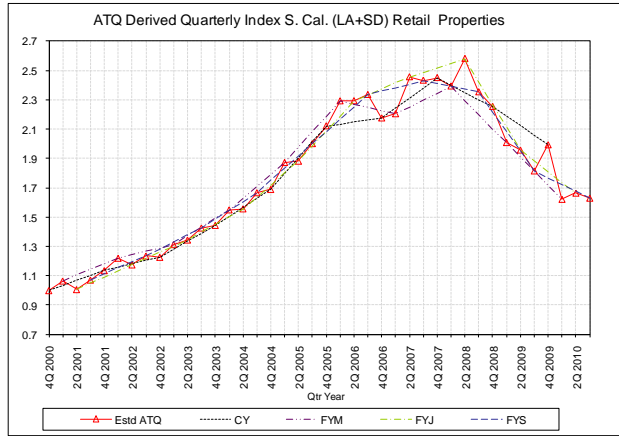
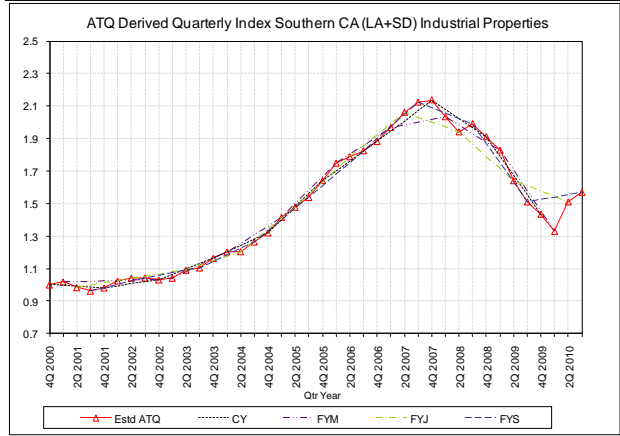
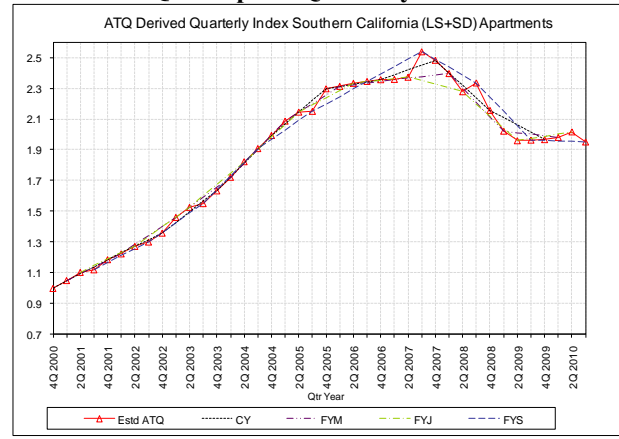
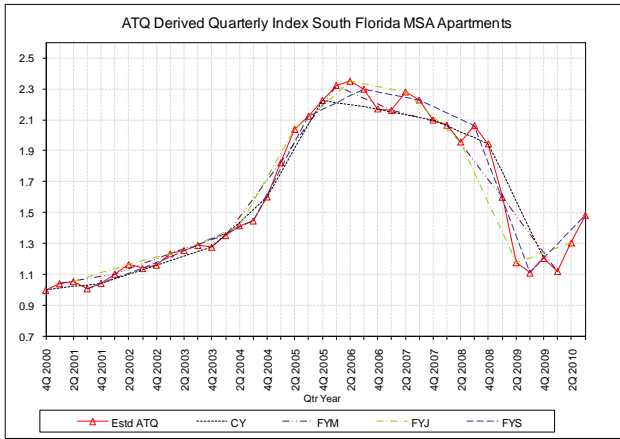


Exhibit 7: East & South Regions CPPI Annual Indices with ATQ™ Implied Quarterly Indices

