

## What Does a Low Cap Rate Buy You?

- Investors pay a premium to acquire apartments in certain metro areas, particularly large coastal areas, as evidenced by their lower average cap rates.
- The theoretical arguments for lower cap rates include lower market risk and/or better future prospects for future income and value growth.
- Yet this analysis finds that low cap rate metro areas tend to offer only slightly better rent and value growth than high cap rate metros without any reduction, or even a slight increase, in volatility.

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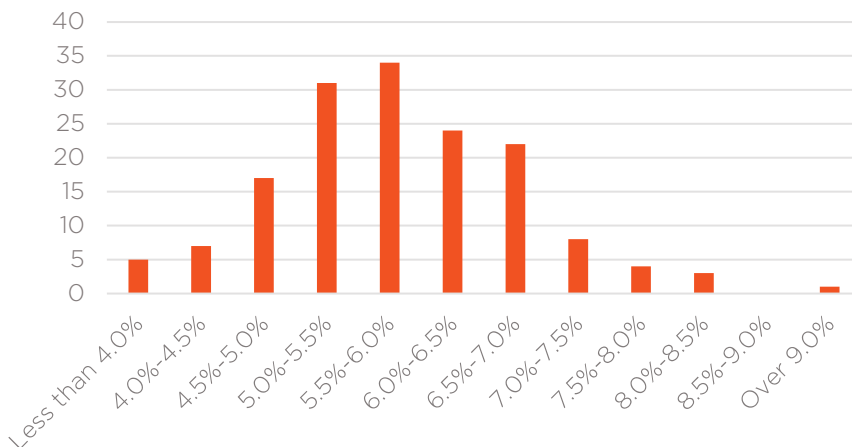
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### Class A Cap Rates Vary by Metro Area

Cap rates vary significantly by metro area. As of 2019, CoStar estimates that the average cap rate for a Class A property in the San Francisco metro area is just 3.5%. In Rockford, Illinois, however, the average Class A cap rate is estimated at 9.2%.<sup>1</sup> Figure 1 depicts the number of major US metro areas by their average class A cap rate category as of 2019.<sup>2</sup>

Figure 1: Major US Metros by Average Cap Rate (Source: CoStar)



Given the wide variation in cap rates, one might expect that the metro areas with low cap rates tend to offer some combination of higher returns and/or less risk than those with high cap rates. This paper analyzes whether that has been true based on historical data.

<sup>1</sup> Note the qualifications and challenges of measuring and estimating cap rates described in the methodology and sources section of this paper.

<sup>2</sup> For purposes of this analysis, major metro areas mean those with populations greater than 300,000 as of the year 2000. The conclusions of this paper may not apply to smaller metro areas.

## Cap Rates' Relationship to Rent Growth is Weak

Historical cap rates have had only a weak relationship to future rent growth, as shown in figures 2 and 3, where each dot represents a major US metro area. The x-axis represents the average Class A cap rate in 2008 and 2012 respectively and the y-axis represents the total rent growth over the next seven years. On average, a 100-basis point reduction in cap rate in 2008 is associated with a 2.2% increase in total rent growth through 2015.

The relationship becomes more significant over the period from 2012 to 2019, when each 100-basis point drop in cap rate is associated with a 3.3% increase in total rent growth over seven years but the strength of the correlation is still weak. Many metro areas with average Class A cap rates of 6.5% to 7.0% in 2012 saw substantially more rent growth over the next seven years than metros with sub 5.0% cap rates.

Figure 2: Average Class A Cap Rates and Total Rent Growth 2008 to 2015 by Metro Area (Source: CoStar)

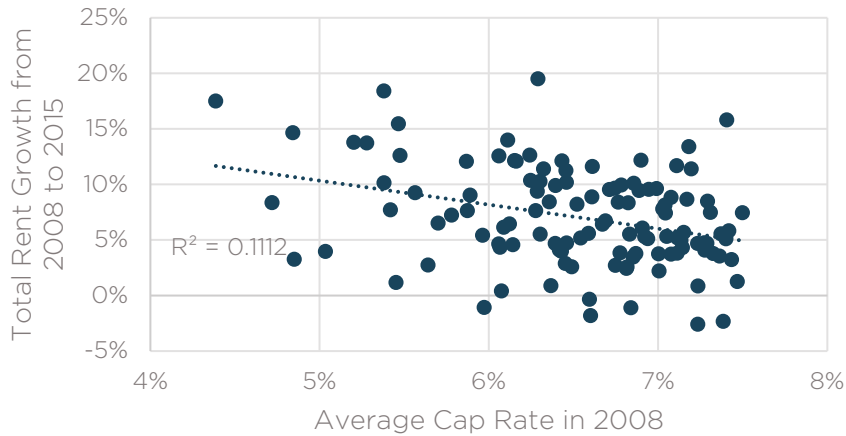
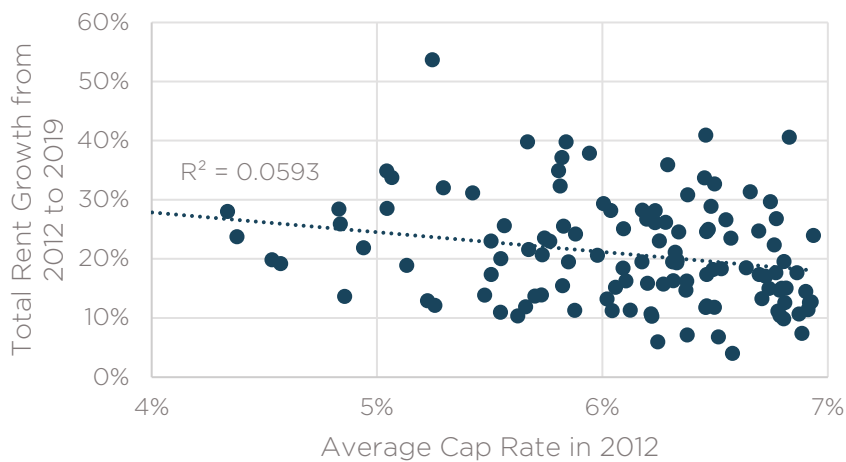


Figure 3: Average Class A Cap Rates and Total Rent Growth 2012 to 2019 by Metro Area (Source: CoStar)



Substituting revenue, (rent multiplied by occupancy), or CoStar's own NOI index for rent growth, does not meaningfully change the results. Cap rates are only very weak predictors of any of these metrics.

## Cap Rates are Not Correlated to Supply Growth

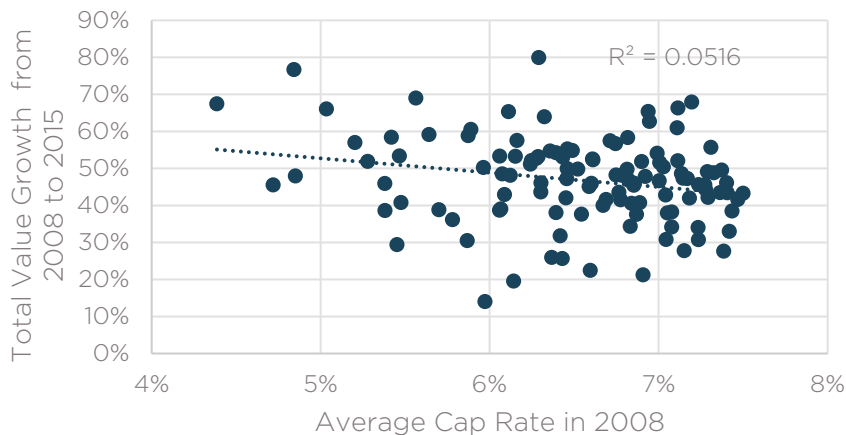
Sellers often justify low cap rates by noting the limited supply pipeline around their property or in the market generally. Theoretically, a limited supply pipeline could mean less future competition and therefore better rent growth. However, sellers also invoke rapid growth as an argument for low cap rates and, while both may be valid reasons to like a market, few metros can claim rapid growth and a limited pipeline at the same time. Moreover, low cap rates and high prices may actually stimulate new development.

In any case, at the metro level, the evidence shows no correlation between starting cap rates in 2008 and inventory growth from 2008 to 2015 or between starting cap rates in 2012 and inventory growth from 2012 to 2019.

## Cap Rates are Only Weakly Correlated to Value Growth

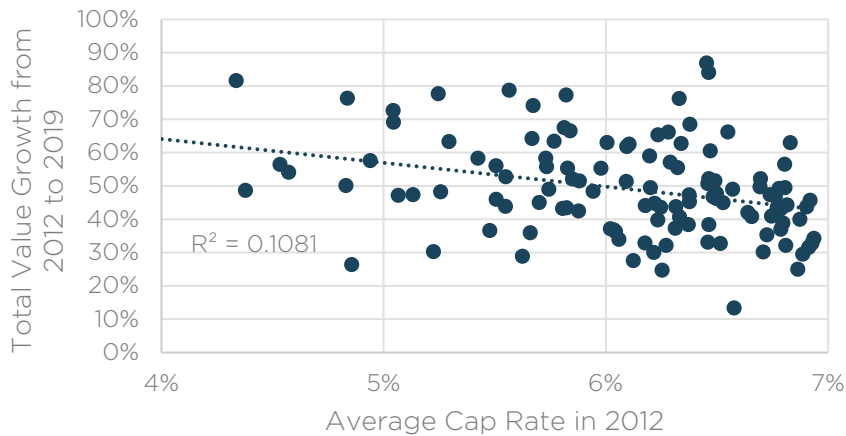
As figure 4 shows, 2008 metro average cap rates had only a very weak relationship to future metro average value growth through 2015. Given the weak correlation between cap rates and rent growth over the same period, this result does not surprise.

*Figure 4: 2008 Average Class A Cap Rates and Average Value Growth from 2008 to 2015 by Metro Area (Source: CoStar)*



However, 2012 cap rates perform better predicting value growth through 2019. A 100-basis point reduction in the 2012 cap rate is associated with a 7.2% increase in total value growth through 2019. The correlation between value growth and cap rates is stronger than the relationship between rent growth and cap rates because those metros with low cap rates in 2012 also saw slightly more compression in cap rates from 2012 to 2019.

Figure 5: 2012 Average Class A Cap Rates and Average Value Growth from 2012 to 2019 by Metro Area (Source: CoStar)

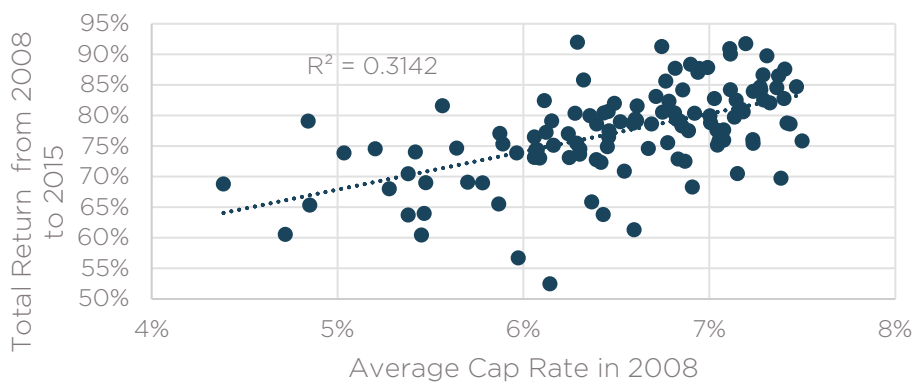


Still, the correlation is quite weak. For example, the two highest performing metros in terms of value growth from 2012 to 2019, Colorado Springs, CO and Fort Myers, FL both had average Class A cap rates of 6.5% in 2012. Washington, DC, which had an average Class A cap rate of 4.9% in 2012 saw values increase by just 30% over the same period.

### Low Cap Rates Do Not Promise Better Returns

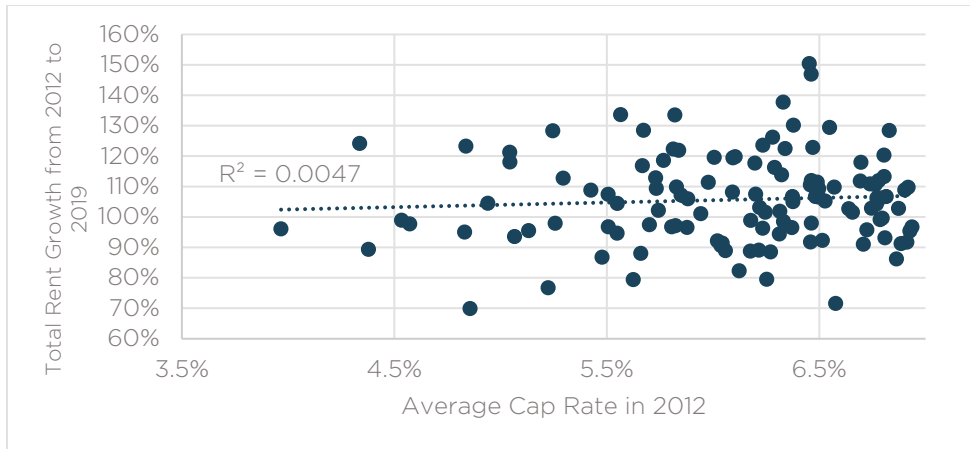
By definition, higher cap rate metros offer more yield from the start. When cash flow and sale values are combined for a total return, the highest cap rate metros actually generated, on average, slightly higher total returns from 2008 to 2015 and from 2012 to 2019.<sup>3</sup> As figures 6 and 7 illustrate, the correlation between total return and starting cap rate was surprisingly strong from 2008 to 2015. It weakens substantially from 2012 to 2019.

Figure 6: 2008 Average Class A Cap Rates and Total Return from 2008 to 2015 by Metro Area by Metro Area (Source: CoStar)



<sup>3</sup> The analysis assumes a purchase at the beginning of 2012 and a sale at the end of 2019, or eight years of cash flow.

Figure 7: 2012 Average Class A Cap Rates and Total Return from 2012 to 2019 by Metro Area (Source: CoStar)



### Low Cap Rates Associated with Higher Risk

Large, coastal metros are often claimed to be lower risk places than smaller, supposedly more volatile tertiary markets. To test this hypothesis, the author constructed measures of downside risk for rents, cap rates, and overall value growth for all of the major metro areas in the United States, based on data from 2005-2019. Metros that experienced more declines in rents, values, or expansion in cap rates during this period, regardless of the end point in 2019, score higher on this metric.

The comparison of cap rates in 2008 and 2012 to these long-term downside risk metrics results in a few clear findings:

- In terms of rents, the relationship between downside risk and cap rates in both 2008 and 2012 is very weak. The  $r^2$  values range from .15 in 2008 to .17 in 2012. If there is any relationship at all, it appears that higher cap rates are associated with slightly less downside risk.
- There is no relationship between the downside risk of cap rate expansion and starting cap rates in 2008 and 2012.
- There is a weak relationship between metro downside risk, in terms of property value declines, and cap rates. Higher cap rate metros are associated with slightly lower risk. Figures 8 and 9 show the relationship.

Figure 8: 2008 Average Class A Cap Rates and Value Downside Risk by Metro Area, 2005-2019 (Sources: CoStar, MREP)

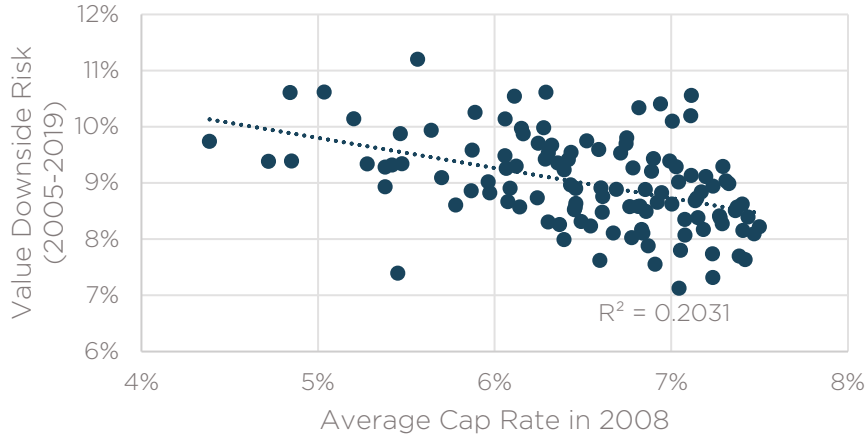
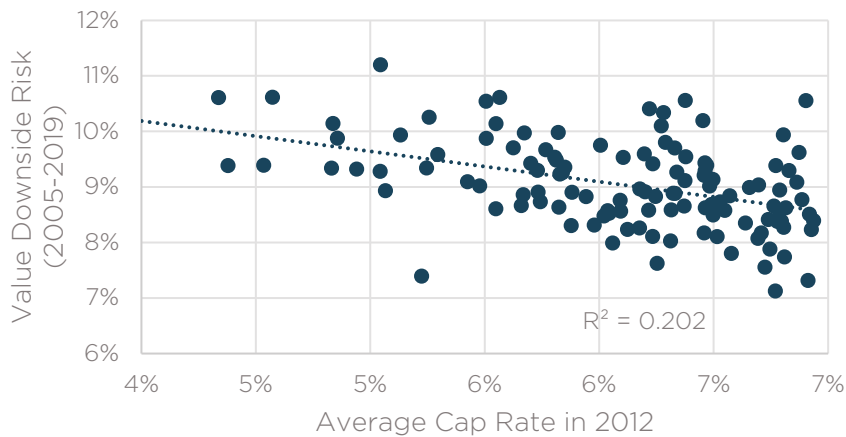


Figure 9: 2012 Average Class A Cap Rates and Value Downside Risk, 2005-2019 by Metro Area (Sources: Costar, MREP)



An explanation for the inverse correlation between cap rates and risk is that a small expansion in the average cap rate has a greater impact on value in markets where the starting cap rate is low. For example, a rise interest rates that causes cap rates to rise by 50 basis points across the country will have a greater impact on low cap rate metros because 50 basis points represents a greater share of the starting cap rate. Of course, sinking cap rates will also have a disproportionately positive impact on low cap rate metros. In effect, lower cap rate metros are the more high-risk, high-reward metros.

### Mid to Low Cap Rate Metros Offer the Best Liquidity

One argument often made in favor of large, low cap-rate metros is that they are more liquid. A frequently used metric to support this is the total sales volume. However, this metric is not very useful when comparing metros of different size. Moreover, cap rates are

themselves a key determinant of price. Lower cap rate metros will, almost by definition, be more liquid using this metric.

One way to assess liquidity independent of the cap rate, is to measure the share of units in the market that trade, on average, every year. A comparison between starting cap rates in 2008 and 2012 and this metric from 2008-2015 and 2012-2019 respectively, shows no linear correlation. However, there is a noticeable pattern. From 2008 to 2015 and from 2012 to 2019, the most liquidity by this metric, is found in metros with lower than median cap rates, but not the lowest. In rough terms, metros with starting average cap rates of between 5.5% and 7.0% had the highest liquidity.

## Conclusion

On balance, over the periods from 2008 to 2015 and 2012 to 2019, low cap rate metros tended to offer better liquidity but lower total returns, without a reduction in downside risk. This information suggests that the differences in cap rates among metro areas are not always rational. In fact, the evidence, summarized in the tables below, raises suspicions that low cap rate metros, in particular the extremely low cap rate metros, which include the major coastal metros of New York, San Francisco, Boston, and Seattle, among others, are overpriced.

That said, these findings must be qualified by the noisy nature of cap rate data, described more fully in the methodology section below. Questions over the accuracy of CoStar's cap rate estimates mean the conclusions presented here cannot be treated as definitive. Rather, they are an invitation to further investigation and a reminder to be skeptical of conventional wisdom.

*Figure 10: Summary Table for the Period from 2008 to 2015  
(Sources: CoStar, MREP)*

	2008	2008-2015	2008-2015	2008-2015	2008-2015	2008-2015	2008-2015	2005-2019	2005-2019	2005-2019
	Avg. Cap Rate	Avg. Rent Growth	Avg. NOI Growth	Avg. Value Growth	Avg. Inventory Growth	Liquidity	Total Return	Rent Downside Risk	Cap Rate Downside Risk	Value Downside Risk
Under 10th	7.3%	4.2%	12.2%	37.5%	11.3%	4.2%	78.1%	0.9%	3.6%	8.0%
10th to 20th	7.2%	5.6%	13.4%	43.9%	7.7%	4.4%	82.2%	0.7%	3.0%	8.4%
20th to 30th	7.1%	5.9%	14.9%	48.2%	10.2%	3.7%	82.2%	0.5%	3.0%	8.9%
30th to 40th	6.9%	6.6%	13.6%	47.1%	10.1%	6.1%	80.4%	0.8%	3.3%	8.9%
40th to 50th	6.8%	7.0%	12.7%	47.1%	7.6%	6.3%	82.2%	0.9%	3.4%	8.9%
50th to 60th	6.6%	5.8%	14.1%	47.4%	15.0%	6.4%	77.7%	0.9%	3.1%	8.9%
60th to 70th	6.4%	9.0%	13.5%	49.5%	12.0%	5.6%	77.2%	0.8%	3.4%	9.3%
70th to 80th	6.2%	8.2%	13.7%	48.2%	9.6%	5.8%	74.4%	1.0%	3.3%	9.4%
80th to 90th	5.8%	7.4%	12.6%	45.8%	5.5%	4.9%	71.8%	1.3%	3.3%	9.5%
90th and Above	5.1%	10.7%	14.4%	53.2%	10.7%	4.5%	68.6%	1.3%	2.9%	9.5%

Figure 11: Summary Table for the Period from 2012 to 2019  
 (Sources; CoStar, MREP)

	2012	2012-2019	2012-2019	2012-2019	2012-2019	2012-2019	2012-2019	2005-2019	2005-2019	2005-2019
	Avg. Cap Rate	Avg. Rent Growth	Avg. NOI Growth	Avg. Value Growth	Avg. Inventory Growth	Liquidity	Total Return	Rent Downside Risk	Cap Rate Downside Risk	Value Downside Risk
Under 10th	6.9%	6.2%	29.3%	47.2%	9.1%	6.8%	102.0%	0.8%	2.9%	8.7%
10th to 20th	6.8%	6.5%	32.4%	43.3%	12.3%	8.2%	104.9%	0.8%	3.3%	8.4%
20th to 30th	6.6%	6.1%	33.4%	45.0%	9.3%	6.2%	105.8%	0.7%	3.2%	8.6%
30th to 40th	6.4%	8.7%	37.2%	51.4%	17.3%	8.7%	114.8%	0.8%	3.3%	9.3%
40th to 50th	6.3%	6.3%	33.9%	46.3%	18.4%	9.2%	108.7%	0.9%	3.3%	9.1%
50th to 60th	6.2%	6.6%	32.4%	44.2%	11.4%	8.3%	101.6%	0.8%	3.2%	8.8%
60th to 70th	5.9%	8.2%	33.7%	44.1%	30.9%	9.4%	103.7%	1.0%	3.3%	8.8%
70th to 80th	5.7%	9.3%	37.1%	48.4%	17.2%	9.2%	108.8%	1.0%	3.2%	9.4%
80th to 90th	5.4%	9.8%	35.2%	51.9%	14.8%	7.0%	104.4%	1.1%	3.2%	9.5%
90th and Above	4.7%	12.0%	37.6%	56.7%	12.3%	5.7%	102.1%	1.3%	2.8%	9.8%

## Methodology and Sources

Cap rate data is noisy and somewhat unreliable. Cap rates can only be known when a property sells, meaning there are few data points to begin with compared to other metrics such as rent and occupancy. Moreover, cap rates are not publicly reported. Brokers or data providers such as CoStar must learn them from the transaction participants, who are not always willing to share the information. Even when a cap rate is shared, it may not be calculated consistently across transactions.

CoStar provides two estimates of cap rate data for metro areas. One is based on the average reported cap rate from transactions. The other is a modeled cap rate that estimates what cap rates should be for any given metro area given its historical performance and national trends in capital markets. Ideally, the modeled cap rates and averages from transactions would be similar but that is not true in all cases partly because the model is imperfect and also because the average of actual cap rates may not represent the true average cap rate of a metro area due to the complications described above. In smaller metro areas in particular, the averages are often based on only one or two transactions.

The foregoing analysis and conclusions are based on CoStar's modeled cap rates. Using the modeled cap rates allows for the inclusion of many metro areas where no cap rate data from actual transactions is reported and solves for the problem of noise and volatility due to low sample sizes where actual cap rate data is reported, as well as inconsistent calculation methodologies. However, CoStar's model produces estimates of average cap rates in excess of 7.0% for a handful of metros, which for Class A apartments, are not credible, even in metros with weak economies. For purposes of this paper, all metro areas with estimated cap rates higher than 7.5% in 2008 and 7.0% in 2012, were excluded.

To be clear, however, the author also ran the analysis using actual transaction averages and using the full modeled set of cap rates from CoStar. Neither change had a material impact on the results. The broad conclusions described above remained the same.