Investment Focus

The Odyssey: Navigating real estate risk and reward in a low yield world

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Introduction

Once he hears to his heart's content, sails on, a wiser man.[1]

While the turbulence of the Global Financial Crisis drove investors into the safety of core markets, the recent calm once again has them looking to venture away from these markets. Persistently low U.S. Treasury yields, historically low near-term volatility in commercial real estate returns, and low capitalization rates (cap rates)[2] in primary markets are leading investors to hear the faint sound of a beautiful song of higher yields coming from non-core markets. Thus, one of the biggest questions facing core investors today is whether they should move up the risk curve and deploy capital into secondary markets.

Homer's epic poem, *The Odyssey*, tells of the adventure of Odysseus as he attempts to return from the Trojan War to his home in Ithaca. Of the many dangers Odysseus and his crew confront, one of the most iconic is with the Sirens, who lured sailors with beautiful songs towards the rocky coastline of their islands. However, once these ships approached, tempted by the enchanting hymns, they shipwrecked on the rocks. On the advice of Circe, Odysseus has his crew plug their ears with beeswax, so they will not be tempted by the Sirens' song. Odysseus has his crew tie him to the ship's mast so he can hear, but not be tempted by the Sirens. While the Sirens are mythological creatures, today we use the phrase, "Sirens' song" which refers to something that tempts us but ultimately will cause harm. In this paper, we evaluate whether "chasing yield" in a low yield environment is a Siren's song leading investors into a rocky coastline.

[1] *Odyssey* 12.188, Fagles' translation.

[2] Capitalization Rate = Net Operating Income/Property Value

We will analyze the historical track record among properties in the NCREIF National Property Index (NPI) in various markets. We will begin by analyzing institutional properties' historical appreciation returns, and then argue that the performance of apartment and retail assets is more dependent on the property than the market. Next, we will focus on the office sector, which has historically witnessed a large degree of dispersion of appreciation returns by markets. Finally, in our analysis of office markets, we will identify three defining characteristics of markets that have historically been more likely to provide appreciating property values.

Historical Perspectives

Core real estate returns come from two sources—income and appreciation. Rent is the primary source of income returns, while appreciation is driven by movements in cap rates and changes in Net Operating Income (NOI).[3] While cap rate movement is difficult to predict and is largely outside the investor's control, investors have some ability to identify and project NOI growth through asset selection. Therefore, investors can influence appreciation return expectations in two ways: through market timing (cap rates) or asset selection (NOI growth).

Market timing, however, is difficult to execute consistently and is not usually part of a core strategy, which is typically characterized by a long-term investment horizon. Asset selection, on the other hand, impacts NOI growth and is an important part of any core strategy. It is important to understand how NOI growth is generated. In general, NOI growth can come from either increasing rents or occupancy, or both. Core strategies, however, generally concentrate on owning stabilized properties for the long-term, with NOI growth primarily coming from market growth as opposed to large occupancy gains.

While many core strategies are focused on durability of income, investors often mistakenly ignore NOI growth and its impact on appreciation returns. Despite appreciation historically accounting for approximately 17 percent of total returns[4], appreciation returns explain nearly all of the deviation of real estate's total return.

Furthermore, many real estate professionals subscribe to the notion that "all" real estate will appreciate when held over a long horizon. To test this notion, we analyzed the appreciation returns in 88 ten-year periods (over 1979 to 2014). We find that the NPI has positive appreciation in approximately 56 percent of these 10-year periods. Meanwhile, the ODCE index, which tracks properties held by core funds, had positive appreciation in 48 percent of the 10-year periods analyzed.[5] Thus, these broad indices of institutional properties suggest that real estate has historically only appreciated in approximately half of all 10-year periods. However, our analysis shows that the frequency of appreciation varies dramatically by property type and market. Therefore, an opportunity does exist for skillful managers to differentiate themselves through careful asset and market selection.

Today's Market

Persistently low government bond yields since 2010 have caused investors to increase allocations to alternatives and real estate, and in particular, core real estate. With the strong inflows of capital into core real estate, cap rates have been driven to low levels and property prices up. Over the past three years appreciation has provided an annualized return of 5.4 percent which is well above the historical average of 1.6 percent.[6] At the same time, the dispersion of returns has fallen to an historic low. With cap rates at historically low levels, many investors are fearful of rising rates. This is driving the temptation among investors to chase yield in secondary markets.

We believe, however, that current market conditions warrant strict discipline for three reasons. First, as stated earlier, one must not solely focus on yield/cap rates because doing so could lead them to forget about the equally important source of returns from appreciation. Second, core is not a timing strategy but rather a long-term hold strategy. Over the longer term, cap rate movements have less influence on returns, and NOI growth becomes more important. Third, most high cap rate markets historically have not experienced strong NOI growth given more limited demand drivers and lower barriers to new supply. Thus, investors should be less focused on trying to time the market and avoid the temptation to invest in higher yielding but lower NOI growth assets. Instead, the true defense against an increase in cap rates is a long term outlook with a high quality asset in a preferred market capable of above average growth leading to enhanced appreciation offsetting higher cap rates.

Additionally, we believe that increased discipline is necessary in the current market as volatility will eventually return to markets, and when it does investors will again want the safety and liquidity of high quality assets in core markets. As stated above, return volatility over the past three-years is at an all-time low. Volatility, represented by the annualized standard deviation in total returns over the past three years, was 0.4 percent as of 3Q 2014, compared to an historical average of 4.3 percent.[7] While we do not claim to know when or why volatility will

[3] Net Operating Income = Property Income – Operating Expenses

[4] NCREIF-NPI Index, 1Q 1979 – 3Q 2014

[5] The ODCE index, or Open End Diversified Core Equity Index, tracks properties held in core funds whereas the NPI index tracks all properties held by NCREIF member funds, 1Q 1983 – 3Q 2014

[6] NCREIF- NPI 1Q 1979 – 3Q 2014

[7] NCREIF- NPI 1Q 1979 – 3Q 2014

return, we doubt, like low interest rates, that historically low volatility is here to stay. Thus, investors should be prepared for volatility when it does return, as the catalyst will likely remain unknown until it is too late. Potential causes for volatility could stem from a geo-political event, natural disaster, an equity market sell-off, frothy credit markets, rising bond yields or overbuilding in the real estate sector.

Appreciation for the Long Haul

As shown above, appreciation returns are very often the difference between above and below average performance. Since 2000, the NPI has seen annualized appreciation returns of 2.0 percent, while NOI growth increased by 1.2 percent annually. However, despite this tendency for real estate to modestly appreciate over the long-run, values do not increase in a straight upward line as conventional wisdom might expect.

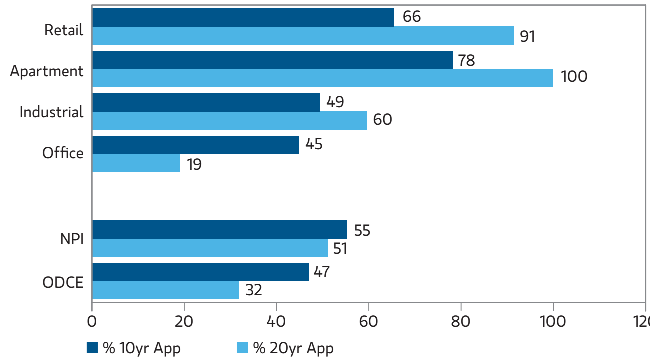
In looking at the 88 ten-year periods, the NPI has historically appreciated only 56 percent of the time and in half of the 48 twenty-year periods. However, it is important to note the sharp differences in the tendency to appreciate among different property types and markets.

Property Types vs. Market Types

Historically, the two property types intuitively linked most closely to inflation and the consumer—retail and apartment—have shown the greatest tendency to steadily appreciate over long time frames. Since 1983, retail property has appreciated in 66 percent of ten-year periods and 92 percent of 20-year periods. Meanwhile, apartments increased in value in 78 percent of ten-year time frames and have appreciated in every twenty-year period since 1983. Thus, for these two property types, property characteristics may trump market selection to some degree. Additionally, successful managers can more favorably impact value on the operational side of the retail and multifamily businesses.

As shown in *Display 1*, industrial and office properties, however, which are more closely linked to the business cycle, have shown less of a tendency towards long-term appreciation and have displayed higher volatility. Industrial properties have appreciated 50 percent of the time over ten-years, and 60 percent of the time over twenty-years. Finally, office properties have depreciated more often than appreciated. Over ten-year periods, office properties have increased in value 45 percent of time, and just 21 percent of the time over twenty-years.

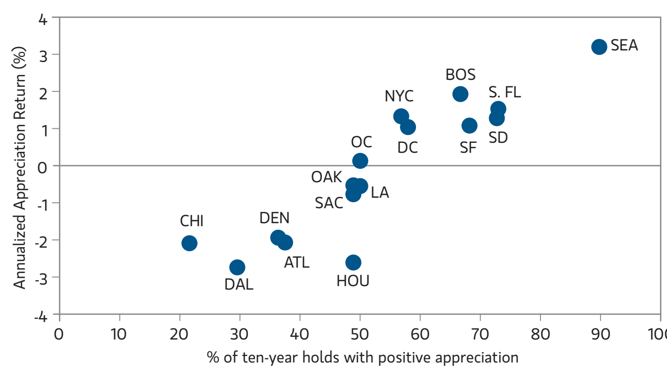
Display 1: **% of Holding Periods with Positive Appreciation**



Source: NCREIF. Data as of 3Q 2014.

Since office properties account for approximately 36 percent of the NPI[8] and typically constitute a significant portion of institutional portfolios, the sector's tendency towards higher return volatility is worrisome. However, as illustrated on *Display 2*, the tendency of individual office markets to appreciate is not tightly centered near the average, but rather widely dispersed. Thus, office market selection warrants a closer examination in order to be best positioned to invest successfully over the long-term.

Display 2: **Office Markets - Percentage of Ten-Year Holds with Positive Appreciation**



Source: NCREIF. Data as of 3Q 2014.

Market Selection

On the surface, office properties have been about 10 percentage points less likely to appreciate than the NPI index as a whole over ten-years and approximately 30 percentage points less likely over twenty-years.[9] However, the first distinction we need to make is between a central business district (CBD), or the "downtown" of a city, and suburban office. Over ten-year

[8] As of 3Q 2014.

[9] Source: NCREIF. Data as of 3Q 2014

periods, CBD offices have appreciated 55 percent of the time, which is roughly in-line with the NPI index, while suburban offices increased in value 39 percent of the time. Furthermore, suburban offices appreciated in just 17 percent of twenty-year periods compared to 38 percent for the CBDs.[10]

Taking this analysis further into the individual market level shown in *Display 2*, we see that many of the traditional gateway markets, such as New York, Boston and Washington DC, have all exhibited significantly higher tendencies to appreciate than the overall office and NPI index, while higher cap rate markets including Atlanta, Dallas and Houston have seen below-average tendencies to appreciate.

Armed with these insights, the next question becomes "what characterizes a market with an historical tendency to appreciate?" We propose three factors driving long-run appreciation—high liquidity, market depth and supply constraints. To evaluate these three criteria, we will next examine the 50 largest office markets in the U.S.

The Building Blocks of Appreciation

Liquidity[11]

The first criterion that a core investor should consider is market liquidity, or how easily they can exit the market. When evaluating liquidity for a given market, core investors should stick to the markets that see high liquidity in both good times and bad. While there are many ways to evaluate this, we constructed a simple filter to analyze market liquidity. We first eliminated markets that did not meet a given level of liquidity during normal market periods. Next, however, we weighed how liquid the market remained under stressed conditions. For example, Austin and San Francisco had similar levels of liquidity over 2003 to 2006. However, in 2009, San Francisco was a significantly more liquid market, as liquidity nearly dried up in Austin. By filtering through the 50 largest markets, we can eliminate 12 that have historically proven illiquid at some point in the cycle, including Raleigh, Austin, Charlotte and Nashville.

Market Depth

Second, investors should consider how "deep the bench is" in a given market. A deep bench of potential tenants provides a core investor with some protection against significant re-leasing risk in the event a major tenant vacates. To evaluate the depth of each market, we looked at the average absorption rate,[12] in relation to market size, in each of the 38 remaining markets over the last 20 years. We use absorption to quantify the market's depth because it provides a long-term perspective on market activity and how likely a landlord will be able to re-lease space. In order to pass this test, a market needed to record absorption above the median, which narrows down our list of potential markets to 15. Notable markets that fail this test included Miami, Portland, San Jose and Minneapolis.

It's All About Supply

The 15 remaining markets have all shown to be liquid markets with deep tenant demand drivers. However, a core investor must not stop here because the final criterion is equally as important as the first two in predicting appreciation returns over the long haul. In our view, supply is the greatest long term risk to appreciation, and, therefore, our final criterion is that the market has supply constraints.

While supply is responsive to increases in tenant demand, it is generally unresponsive to market declines. Thus, since excess supply is not eliminated from the market, rents must fall as landlords compete to fill their space. Therefore, we measure the tendency of a market to be subjected to overbuilding by investigating the average vacancy over the past 20 years. By evaluating average vacancy over the past 20 years, we are able to estimate how well the market has historically balanced supply and demand. Moreover, by favoring markets with low average vacancies, we focus only on office markets that will generally give an edge to landlords to push rents and grow NOI. Using this statistic, we find that the top five office markets are New York, Washington, DC, San Francisco, Boston and Seattle. These markets also happen to have historically seen the greatest tendencies to appreciate over ten- and twenty-year holding periods.

Scenario Analysis

To illustrate the point further, we took 10 highly liquid markets that have traditionally been popular with institutional investors.[13] We then imagined that three investors were each building an office portfolio. The investors would allocate an equal amount to each of the office markets they selected and buy their entire portfolio in the first quarter of 2000. Investor A believes in having a well-diversified portfolio that includes both primary and secondary markets. Investor A, therefore, invests 10 percent of her portfolio in each of the 10 markets. Investor B prefers high cap rate secondary markets and, instead, limits his portfolio to five markets, allocating 20 percent to Dallas, Houston, Phoenix, Chicago and Atlanta.

[10] Source: NCREIF. Data as of 3Q 2014.

[11] Liquidity = transaction volume (SF) / inventory (SF) Source: Real Capital Analytics, CBRE-EA, MSREI-Strategy.

[12] Absorption rate = net absorption (SF) / inventory (SF)

[13] Markets considered in this analysis included DC, New York, Boston, Los Angeles, San Francisco, Houston, Seattle, Chicago, Phoenix and Atlanta.

Finally, Investor C insists on investing only in primary markets that exhibit supply constraints. Investor C purchases office buildings in Washington, DC, New York, Boston, San Francisco, Seattle and Los Angeles.[14]

Display 3: **Scenario Analysis Results**

1Q 2000 - 3Q 2014

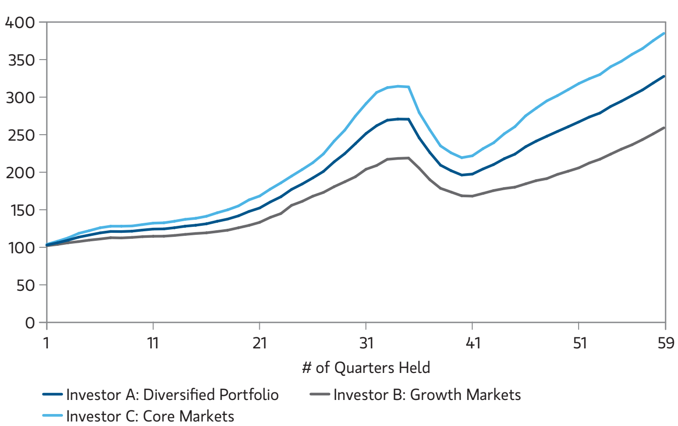
	INVESTOR A - DIVERSIFIED	INVESTOR B - GROWTH	INVESTOR C - CORE
Income	6.7	7.1	6.4
Appreciation	1.6	(0.4)	3.0
Total	**8.4**	**6.7**	**9.6**

Source: NCREIF. Data as of 3Q 2014.

There are three key lessons from this exercise. One, even though primary markets are more expensive up front, they provide strong appreciation returns to make up for it. Looking again at our model portfolios, Investor B who invested in higher cap rate markets saw the value of his portfolio decline by an annualized rate of 0.4 percent, while Investor C's core portfolio appreciated by 3.0 percent annually (see *Display 3*.) Meanwhile, Investor C's portfolio still received an annualized income return of 6.4 percent, 70 basis points lower than the higher-yielding portfolio of Investor B. Therefore, Investor C's portfolio essentially traded 70 basis points in income for 340 basis points of appreciation. Over the course of the entire holding period (1Q 2000 to 3Q 2014), Investor C's appreciation growth translates into an additional 290 basis points of outperformance over Investor B.

Display 4: **Portfolio Returns over Time**

Index, 100 = Quarter 0



Source: NCREIF. Data as of 3Q 2014.

The second take-away is related to the first. The main reason Investor C's core portfolio outperforms is that rent, and by extension net operating income, grows in core, supply-constrained markets. In contrast, most high-cap rate markets see limited rent and income growth over the long run (however, these markets may see spikes from short-term imbalances). Remember, though, that core investing should be a long-term strategy and not based on market timing. So why would a long term investor want to own an asset that has a high chance of declining in value over their holding period?

Three, core investors are not getting paid enough to take on the risks of entering into non-core markets. Over our analysis period, Investor C's core portfolio returned 1.4 percent per unit of risk annually, while Investor B received returns of 1.3 percent per unit of risk. Investor B held a portfolio that exposed him to market timing risk, backfilling risk and supply risk, yet received lower returns than Investor C's portfolio that faced less of these risks.[15] However, this runs counter to the way in which we think about risk. Instead, we would expect Investor B to receive higher returns in order to compensate him for these heightened risks; once again, we wonder why a core investor would seek to "head up the risk curve" into these markets.

So what to do when investing in core office?

With this statistical beeswax plugging your ears, should you sail closer to the alluring sounds of higher yields, or should a core investor stick to the strategy and block out the Sirens? We suggest investors chart the following course.

1. Play the odds

The bad news is that no one can accurately predict the future. The good news is that while the future will not be the same as the past, it will probably rhyme. Therefore, we can utilize the lessons of the past three decades to make educated guesses on which investments will likely provide the best returns in the future. The message is pretty clear—primary office markets have routinely shown themselves to have better odds at realizing appreciation gains over 10- and 20-year holding periods than secondary markets.

2. Focus on core for the long run

While higher cap rates may sound attractive—especially in a low yield environment—we would warn against chasing yield. In secondary markets, investors are forced to take on additional risk from market timing. As we stated earlier, market timing

[14] Although Los Angeles overall does not rank highly in our final criterion, West Los Angeles, where many institutional properties are located, has historically seen an average vacancy rate that would place it into the top 5

[15] We define a unit of risk as the annualized standard deviation of total returns. Thus, this calculation is Total Return/Annualized Standard Deviation of Total Return

is difficult, and nearly impossible to do consistently. Since core strategies aim to provide steady returns, investors should put less weight on market timing in a core strategy. Instead, core investors should buckle down for the long run and take solace in the fact that over the long term, core real estate has historically not only held up, but outperformed its peers.

3. Chase appreciation, not yield

We believe today's historically low volatility will eventually come to an end. When it does, appreciation gains will cease to be driven by cap rate compression, and instead will rely entirely on NOI growth (which has historically been the main driver of asset appreciation). Thus, with expectations of NOI growth becoming increasingly important to core real estate returns, we would prefer to stick with markets that have a strong historical tendency to appreciate instead of attempting to play the market timing game.

Just like in *The Odyssey*, a core investor's journey is a long one that will undoubtedly require them to sail through an economic storm or two. We, therefore, reiterate that core investors should resist the temptation of the Sirens' song to "chase yield into secondary markets." We have already seen how this plays out, shipwrecked on the rocks. Instead, as we have shown, core investors should stay the course and chase appreciation—this has historically been the best way to protect capital and realize long term outperformance.

The definition of a core market should not change with the whims and perceptions of market participants. Rather, core markets are characterized by three structural traits: liquidity, market depth and supply constraints. To chase yields in secondary markets by expanding one's definition of core has historically been a poor strategy. Instead, it is when market discipline is declining (and leading participants into secondary markets) that one should be most wary of deviating from strategy.

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NCREIF National Property Index. The NCREIF National Property Index is a quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only.

NCREIF Fund Index - Open End Diversified Core Equity. The NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE) is the first of the NCREIF Fund Database products and is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted. NCREIF will calculate the overall aggregated Index return

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