Executive Summary

The theory of diversification (Markowitz 1952) suggests that putting all of your eggs in one basket (or asset class) has produced higher risk (volatility) historically. Therefore, diversifying a portfolio among many asset classes and/or investments helps to offset periods of decline in one asset class or investment. Due to the low, or even negative, correlation to other asset classes, income-producing commercial real estate — private real estate in particular — has historically been shown to help offset the volatility of investing in other asset classes, thereby potentially reducing portfolio risk.

Since the global financial crisis of 2007-2009, volatile stock markets have driven many investors to be more risk-averse. From January 1926 to April 2009, the S&P 500 Index suffered 10 monthly losses greater than 15.74%, or eight times more often than an investor would expect based on the normal distribution of returns (one standard deviation) assumed by many stock investment strategists and their models. For the 10-year period 2000-2009, a period coined the “Lost Decade,” the compound annual total return for large cap stocks as measured by the S&P 500 was a negative 0.95%. In this white paper, we explore the benefits of adding the real estate asset class to investors’ portfolios.

Taking a Closer Look at Commercial Real Estate

To better understand the correlation of commercial real estate to other asset classes, it’s imperative to understand the two primary real estate return indices:

**NAREIT Equity REIT Index (publicly traded real estate)**

The FTSE/NAREIT Equity REIT Index is published by the National Association of Real Estate Investment Trusts (NAREIT) in conjunction with the international EPRA/FTSE stock index group and is the index of publicly traded Real Estate Investment Trusts (REITs) in the United States and other countries. REIT returns come from the dividends they pay (REITs must pay out 90% of their taxable income to retain their “tax pass-through” or tax free status like mutual funds) and the change (appreciation) in their stock price. REIT returns include the use of property leverage (mortgages or bonds) and management’s ability to manage properties profitably, as well as purchase and sell properties for a longer-term portfolio profit.
NCREIF Property Index (NPI) (private/direct income-producing real estate)

The NPI, published by the National Council of Real Estate Investment Fiduciaries (NCREIF), is an index of properties owned by institutional investors such as pension funds and endowments. The index is an unleveraged return (e.g., the property’s return is based on the income it generates as though there is no mortgage debt on the property, as most institutions buy their properties all cash) plus the price appreciation. The price appreciation is based upon quarterly appraisals done on each property and the actual sales price when the property is sold. Because many institutional investors do not use leverage, the NCREIF reported return to equity is lower than many private individual investors may experience in their equity investments when they use leverage (via a fixed rate mortgage) on a property.

Correlation of Investment Returns

Correlation measures how returns on two investments move in relation to each other. Measured on a scale of +1 to -1, positively correlated asset returns tend to move up or down at the same time, while negatively correlated assets tend to move in opposite directions. When return correlations are a 1.0 (or 100% correlated), two investments move exactly together and there is no diversification benefit. Conversely, with perfect negative correlation of -1.0, two investments always move in the exact opposite direction.

Low Correlation for Diversification Strategy

Observing the historic correlations between asset classes can provide some guidance in selecting investments that may perform better when others are lagging. For example the historic correlation between stocks and publicly traded REITs were below 50% between 1992 to 2006, as seen in Exhibit 1. However, since 2009, the correlation has averaged about 76%, making the public REITs diversification benefit less powerful. (Part of this increasing correlation has come from REITs being added in to all major stock indexes such as the S&P 500 and derivative or hedge products now available on REITs.)

Exhibit 1 — Rolling 36-Month Correlation Between U.S. Stocks and REITs

Source: NCRIEF and Bloomberg, February 2015.
Looking at direct real estate investments using the NCREIF index, one can see that the correlation between the NCREIF and NAREIT indices is a very low 0.09, and thus direct real estate should provide strong diversification benefits in an investment portfolio with stocks and bonds. From Exhibit 2, we can also see that direct real estate returns have had a much lower volatility than publicly traded REITs which is another benefit to an investment portfolio. Also note that the return of direct real estate is lower than the publicly traded REITs. The major reason behind this is that the NCREIF index is an unleveraged return (with no loans on the properties), while the publicly traded REITs have historically leveraged their portfolios at close to 50% to achieve their higher return to equity investors. Of course leverage (debt) also creates more equity return volatility or risk. An investment vehicle that sits between the two indices is the non-traded REIT, which uses leverage, but is not traded on the stock market. Since non-traded REITs do not price their properties, an annual return comparison is not possible at this point in time. However, a study was done by University of Texas at Austin using Blue Vault Data on non-traded REITs. This study found that from inception (beginning in the 1980s) to liquidity event (investor cash out), the 17 non-traded REITs studied had produced an average return of 10.59% (a return in between public and private real estate returns). This result supports the premise that leverage can enhance the return to equity.

Exhibit 2 — Annual Returns for NCREIF Private Real Estate & Public REITs

Source: NCREIF Property Index & FTSE/NAREIT Equity REIT Index.

Bonds

Adding bonds to a portfolio also helps diversification by lowering volatility. This suggests that, in the past, even if an investor’s stocks are underperforming, their bonds might still provide positive returns or, worst case, performing less negatively than stocks. However, a recent study by Morgan Stanley shows that when 10-year bond yields fall into the 3% to 6% range for an extended period of time, stock and bond yields become more highly correlated (their prices moved in the same direction). This happened from 2001 to 2011. From 2011 to 2014 the stock market has performed well, while bond yields and returns have stayed below 3%, producing a low correlation. In 2015 stock prices are at historically high valuations (creating the expectation of low to moderate stock returns). In 2015, bond yields are still at 60-year lows and economists...
are projecting U.S. 10-year treasuries to yield 2.6% and increase to 3.6% in 2016. Thus, if interest rates move into the 3% to 6% range, bond and stock correlation should rise into the 40% to 60% range and the diversification benefits of bonds in a portfolio decline substantially. (Not to mention that bond prices drop when interest rates rise, so investors lose principal.) Thus, investors who must liquidate their low-yield bond holdings before the bond matures lose. It is therefore highly likely that bond returns may not keep up with inflation over the next few years. Due to the fact that treasury yields have not risen back above the 3% level yet, Morgan Stanley has not updated this study.

**Exhibit 3 — U.S. Treasury Bond Yields and Correlation to the Dow Jones Industrial Index**

**U.S. Treasury Bonds (over 10 years) after 1950**


**Commercial Real Estate Correlation Variance**

Assets like stocks, bonds and publicly traded REITs, from a valuation perspective, are directly affected by myriad of intangible factors such as investor emotions. For example, news in 2011 of turmoil in European markets had a direct impact on investor confidence here in the United States, in turn negatively affecting the valuation of many exchange-traded assets (such as stocks and REITs), hurting overall market strength.
Private real estate returns, as represented by the NPI, however, are valued on factors different from those that can affect publicly traded assets. Private real estate has a low, or even negative, correlation to other asset classes, allowing these investments the potential to help with portfolio diversification. In 2013, NAREIT did a study for institutional investors and found that adding 30% publicly traded REITs to a portfolio of direct real estate improved returns and produced a negative return only 1% of the time in the last 35 years. The chart in Exhibit 4 displays the correlation between six widely used indices over the past 20 years through 2014. In particular, the NPI, which often serves as a benchmark for private real estate, exhibits consistently low or negative correlation with the other investment indices.

**Exhibit 4 — Real Estate Exhibits Low Correlation to Other Asset Classes**

*December 31, 1994 – December 31, 2014*

<table>
<thead>
<tr>
<th></th>
<th>NCREIF NPI</th>
<th>NAREIT Equity Index</th>
<th>S&amp;P 500</th>
<th>Russell 2000</th>
<th>Barclay’s Aggregate Bond Index</th>
<th>MSCI EAFE</th>
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<td>NCREIF NPI</td>
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</tr>
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<td>NAREIT Equity Index</td>
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<td>S&amp;P 500</td>
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<tr>
<td>Barclay’s Aggregate Bond Index</td>
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<td>0.07</td>
<td>-0.02</td>
<td>-0.15</td>
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<tr>
<td>MSCI EAFE</td>
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<td>0.40</td>
<td>0.80</td>
<td>0.79</td>
<td>-0.32</td>
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</tbody>
</table>

*Source: Bloomberg, 2014.*

**Conclusion**

Income-producing commercial real estate has had historically low correlations to the other major asset classes. During both good and bad economic times, real estate has provided diversification benefits to investors’ portfolios in both public and private forms. It has grown in popularity with institutional investors over the past five decades (most pension funds and endowments have an allocation to real estate of between 5% to 20% of their total portfolio). Commercial real estate has also been a portfolio holding of wealthy investors as well. Thus, adding private income-producing commercial real estate to an investor’s portfolio could help improve performance by decreasing the long-term volatility of their portfolio and potentially increasing long-term returns. The REIT vehicle — both public and non-traded — have been a popular option over the past 25 years.
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