Surprising Comparison Of Risk And Return Factors Between Real Estate Investment Trusts (REITs) And The S&P 500 Index During The 2000-2011 Time Period

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ABSTRACT

We composed and contrasted stock returns for large capitalized companies (S&P 500) with returns of real estate investment trusts using the Financial Times equity, mortgage and composite indexes. The time period which was chosen was 2000 through 2011. This period is significant because up until the crash of 2008, the real estate bubble was forming. Major real estate problems were already in force in 2007, but serious deflation really did not fully commence until the stock market crash in the late summer and early fall of 2008. With such heavy doses of deflation, one would think real estate was doomed. We found that average returns for the S&P 500 during this time period was 2.44% vs. a 13.73% average return for the composite Real Estate Investment Trusts (REIT) index. We calculated the geometric returns of .0054% for the S&P 500 vs. 11.21% for the composite REIT. This geometric return calculation was necessary because of many negative returns over a short period of time. The real surprise came when we risk adjusted our numbers using coefficients of variation. Using average returns, we found that the S&P 500 took 7.9959 units of risk for each unit of return, while the composite REIT composite only took 1.6497 units of risk per return. Even the SE Mortgage index only took 2.4914 units of risk per unit of return, while the Equity REIT index took on 1.5744 units of risk per return. Utilizing geometric returns or compounded rates of return, we found a coefficient of variation (CV) of 9.755 for the S&P 500, where the composite REIT experienced a 2.0205 CV and the FTSE Mortgage index showed a 4.0023 CV. Even though mortgage REITs took a greater hit than equity REITs, we still found a favorable relationship of risk and return vs. investment in common stocks. Money managers, who were properly diversified, rode out the financial storm much more comfortably with REITs as part of their diversification parameters.

Keywords: Real Estate Investment Trusts (REITs); Real Estate Bubble; Deflation; Inflation; Geometric Returns; Risk-Adjusted Returns; Average Returns; S&P 500 Index; SE Mortgage Index; Diversification

BACKGROUND OF REAL ESTATE INVESTMENT TRUSTS [REITS]

In the 1960s, Congress created Real Estate Investment Trusts as a way to allow individual investors into the liquid real estate market. This gives small investors the same opportunities as large corporations in regard to investing in real estate. Over the past ten years, REITs have grown immensely from a market capitalization of $90 billion to about $200 billion (All About REITs).

Real Estate Investment Trusts are securities that sell much like common stocks, but only invest directly in real estate. These securities primarily invest through properties and mortgages and give investors an opportunity to have liquid real estate assets (Real Estate Investment Trust - REIT). Without a REIT, an investor's options in holding real estate assets are confined to direct ownership of a property and mortgage, which can be extremely illiquid in recessions or market pullbacks. The major advantage to owning REITs comes from their liquidity. If an investor decides his REIT is overvalued at a particular time, he will most likely be able to find a buyer. On the other hand, investors who purchase real estate directly could have a long lag period when they decide to exit the market.

In order for a trust to be considered a Real Estate Investment Trust, it must qualify in three aspects - investment, revenue, and payout. First, the trust must be comprised of at least 75% real estate investments. Next, the trust must generate at least 75% of its revenue from these real estate investments and it must also pay the owners at least 90% of its taxable income in the form of dividends (All About REITs).

There are two types of Real Estate Investment Trusts - Equity REITs and Mortgage REITs. Equity REITs invest in and own physical properties; therefore, their revenues are generated by property rent fees. Mortgage REITs invest completely in the property's mortgages; thus, their revenues depend entirely on interest rates. Mortgage REITs' revenue heavily hinges on the reliability of the people who take out the mortgage for their properties. If these property owners fail to make monthly payments on the mortgages, the Mortgage REITs do not cash in on the interest and principal payments and are left empty handed. Another type of REIT is called a hybrid REIT which combines Mortgage and Equity REITs in an investment strategy to take advantage of opportunities in both markets (Real Estate Investment Trust - REIT).

Furthermore, REITs are divided into three categories of trading - publicly traded REITs, privately traded REITs, and public REITs not traded on popular stock exchanges. Publicly traded REITs are listed on major stock exchanges, such as the New York Stock Exchange, and are required to file with the Securities and Exchange Commission. Public REITs that are not traded on popular stock exchanges also have to file with the Securities and Exchange Commission since they are legally considered public. Private REITs do not have to be filed with the SEC and are not traded on the major stock exchanges. The three types of REITs have different rules and regulations when it comes to redemption and liquidity. Public REITs are very liquid and easily redeemed. Public REITs not listed are somewhat more difficult to redeem and often require a minimum holding period for the investment. The time frame and restrictions on redemption vary depending on which company manages the REIT, but they are somewhat illiquid. Private REITs are similar to public non-listed REITs, but all rules and restrictions are completely devised by the managing firm. They do not adhere to Securities and Exchange Commission's regulations like the other two forms of REITs (All Things REIT).

HISTORICAL REIT RETURNS

Historically, the stock market yields about a 10% return on investment. For the past 10 years, however, the market has severely underperformed. As detailed by the S&P 500 Index, an average return of only 2.44% on investment was realized from 2000-2011. In contrast, the FTSE NAREIT Composite return for the same period was an astounding 13.73%, even taking into account the housing collapse of 2008-2009.

Real Estate Investment Trusts have historically outperformed the market due to the direct investment into real estate and that 90% of taxable income must be returned to the shareholders. This limits the amount of fees that can be placed on the trusts and makes for high dividend yields. Per Table 1, Composite REIT returns average 13.73% over the past ten years, while the S&P 500 made only a 2.44% return over this same time period. If we take a closer look into the time breakdown and which periods in each fund were hardest hit, we will notice that in 2007, the REITs were hit with negative returns, while the S&P 500 was still returning positive results. This indicates a telling figure in which the real estate industry began to feel the effects of the housing crash before the market did in 2008. This indicator should have told investors something about the future of the market as a whole, but most trudged blindly into the fire that would return a dismal -37% in 2008.

The standard deviation on REITs is slightly higher than the market risk. The REIT composite index measures a standard deviation of 22.65% over the past ten years, while the market measures 19.51%. Breaking down the REITs into the two different categories, we see that Mortgage REITs are much riskier than Equity REITs. Standard deviation on the mortgage side is 34.78%, while Equity REITs measure just 22.42%. The reason for increased risk on the mortgage side of REITs is due to the fact that most assets in Mortgage REITs are held in commercial real estate, which tend to default much easier than the residential properties held by Equity REITs

(Fink). This is reflected in Table 1 in 2007 with the onset of the crash. The start of loan defaulting was seen most heavily in the commercial real estate sector and, as a result, the Mortgage REITs took a precarious plunge of -42.35%. Equity REITs during the same year lost only - 15.69%. The extreme volatility is seen in 2001 where Mortgage REITs gained 77.34%, while Equity REITs gained only 13.97%.

Table 1: Historical REIT Returns

	FTSE NAREIT Composite	FTSE NAREIT Equity REITs	FTSE NAREIT Mortgage REITs	S&P 500 Composite Index
	Return (%)	Return (%)	Return (%)	Return (%)
2000	25.89	26.37	15.96	-9.10
2001	15.50	13.93	77.34	-11.89
2002	5.22	3.82	31.08	-22.10
2003	38.47	37.13	57.39	28.69
2004	30.41	31.58	18.43	10.88
2005	8.29	12.16	-23.19	4.91
2006	34.02	35.06	19.32	15.79
2007	-17.83	-15.69	-42.35	5.49
2008	-37.84	-37.73	-31.31	-37.00
2009	27.80	27.99	24.63	26.46
2010	27.56	27.96	22.60	15.06
2011	7.30	8.29	-2.42	2.05
Average (%)	**13.73**	**14.24**	**13.96**	**2.44**
Standard Deviation (%)	**22.65**	**22.42**	**34.78**	**19.51**
Correlation with S&P 500	**0.729**	**0.749**	**0.240**	**--**

Data compiled from Annual Index Values & Returns, 1972-2011 and S&P 500.

Mortgage REIT returns benefit heavily on interest rate declines and the increase in value of the mortgage itself (Fink). This is much like the way the bond market works. When a decrease in interest rates occurs, the value of Mortgage REITs usually increases proportionally, more than when an increase in interest rates occurs to devalue the assets. Since most returns are found in dividends from the REITs, it is highly likely that dividend yields and returns, in general, experience extreme volatility with changes in interest rates. This is part of the reason why Mortgage REITs are so risky in an uncertain economy. To a value manager, a Mortgage REIT would be an undesirable investment unless interest rates were unreasonably high.

A DEEPER LOOK INTO EQUITY REITS

Within the category of Equity REITs, there are several different specific types of REITs available for investment. These specific types of Equity REITs will hold a majority of their assets in retail, office, residential, healthcare, or industrial real estate (REITs, SEC). Several different benefits and risks can be associated with these different types of Equity REITs.

With an Equity REIT invested in retail space, in particular, a pullback in the market and economy would cause consumer confidence to decrease and retail businesses would most likely contract with a reduction in sales. On the other hand, during a push in the market and economy, retail businesses would thrive and increase the value of the Equity REIT in which the assets are held.

For a REIT heavily invested in office real estate assets, risk would mainly stem from the economy, much like retail real estate. In hard economic times, office spaces may be turning up vacant because of business failure. Thus, that specific office space will devalue because of the lack of demand for new businesses. When the economic conditions are prosperous, businesses in office parks and office retail space should be thriving and demand for the real estate would drive the value of the Equity REIT up.

Residential Equity REITs' success would not so much hinge on economic prosperity, but partially in location and buying price. Managers of REITs holding assets in residential real estate would most likely be hedging their bets on the initial buying price of the house, apartment, or condominium, as well as the location. A value manager would search for undervalued residential properties that may have previously been foreclosed on, wait for the property to gain value, and resell. Risks associated with acquiring residential real estate assets include the unpredictability of the consumer. A manager of a residential Equity REIT is not able to predict whether the asset can be sold to a consumer for the right price or not. This can be considered a bet and could possibly become an illiquid asset if consumers are not willing to purchase it for the asking price.

Healthcare Equity REITs will invest in assets within the healthcare or medical field. The risk of a healthcare Equity REIT is generally much lower than the previously discussed types. People will require healthcare, thus there should always be some level of demand for healthcare services. This being said, a majority of healthcare real estate properties will be operating on enough revenue to keep it in business. If for some reason the healthcare property goes vacant, another healthcare business is likely to swoop in on the opportunity to expand or create a new service. The little risk associated with the healthcare industry is related to health insurance. With current high unemployment numbers, many people are not able to afford healthcare and may forego services. However, as previously mentioned, healthcare is more often than not, indispensable.

Industrial real estate may be one of the few industries that can actually prosper during a recession, thus making this REIT concentration attractive. As seen recently in the United States' recession, the government looks to stimulate the economic cash flow domestically by spending money. Some of this money spent is on construction, whether it be roadways, schools, or parks. The government looks to employ people and get cash moving again during recessions and a productive way to do that is through labor markets. If an Equity REIT is heavily invested in industrial real estate assets, they may have downside protection on a market pullback or recession. The risk associated with holding these assets is if the government or private contractors are not asking for industrial work because of complacency or spending cut-backs. This could occur from private contractors during recessions or by governments during budget deficit awareness.

REWARDS OF REIT INVESTING VS. ALTERNATIVE INVESTMENTS

All Real Estate Investment Trusts can, at times, be very lucrative investments. One of the reasons REITs are able to pass on most revenues to investors is because of the requirements and regulations assessed on REITs. By law, 90% of its taxable income must be paid as dividends to shareholders if the REITs want to avoid double taxation. REITs do not get taxed at the entity level, but only when the profits reach the investor (Fink). As a result, REITs are able to pass much more revenue on to shareholders and thereby increase their dividend yields. A list of high yielding REITs is shown in Table 2:

Table 2: High Yielding REITs

REIT	Dividend Yield (%)	Mutual Fund	Dividend Yield (%)
Invesco Mortgage Capital	20.1%	Market Vectors Uranium & Nuclear Energy	11.66%
American Capital Agency	18.8%	Powershares KBW High Dividend Yield	10.76%
Cypress Sharpridge Investments	17.6%	Powershares S&P 500 BuyWrite	10.11%
Chimera Investment Corp.	16.1%	CEF Income Composite	8.29%
Annaly Capital Management	14.2%	SPDR Barclays Capital High Yield	7.50%
Resource Capital Corp.	17.7%	iboxx High Yield Corporate Bond	7.48%
Hatteras Financial	14.2%	Powershares Financial Preferred	7.10%
Anworth Mortgage Asset Corp	13.8%	Powershares Preferred	6.54%
MFA Financial	13.2%	iShares S&P U.S. Preferred Stock Index	6.53%

Data compiled from Fink and Kapsch (April 2012)

Per Table 2, it is evident that the highest dividend yielding REITs outperform their dividend yielding Exchange-Traded Fund [ETF] counterparts. ETFs are similar to REITs in that they are both mutual funds, but ETFs usually track stock indices or commodities (Kapsch). When we compare REITs to ETFs, we can see that the REIT dividend yield overpowers the best yielding ETFs. If the investor is looking for a strong dividend from a mutual fund, Real Estate Investment Trusts are the way to go. In addition to paying an extremely high dividend, many of the assets REITs hold are believed to be undervalued since the bottom of the housing crisis appears to hit bottom in the middle of 2009. Thus, REITs appear to have more upside potential than do the average ETFs from the perspective of a value manager. REITs have thus become increasingly popular.

Other ways of comparing REITs to similar investment options is by net total returns. REITs have been linked to a great dividend yield, but how does this compare with non-dividend yielding funds?

In Table 3, Equity REITs are being compared to three other types of mutual funds that are comparable to REITs. Core funds are mutual funds that base most of the portfolio around one stable - core stock - and then diversify around that core stock with smaller, riskier companies. Value-Added funds are mutual funds whose portfolios are comprised of primarily undervalued companies or assets. These companies may be those that have gone through a rough period and are trading at a low price and thought to be worth more than the price. Opportunistic funds are mutual funds whose portfolios contain a majority of under-managed, under-performing companies, or assets thought to soon increase drastically in value.

Table 3: Net Total Returns for Various Mutual Funds

Period Ending 12-2009	1 Year	3 Years	5 Years	10 Years	20 Years
Equity REITs	27.4%	-12.9%	-0.1%	10.1%	9.3%
Core Funds	-30.4%	-10.6%	-0.2%	4.0%	4.3%
Value-Added Funds	-41.0%	-18.3%	-4.4%	2.5%	3.5%
Opportunistic Funds	-31.0%	-18.6%	0.5%	6.3%	6.1%

Data compiled from (REIT.com)

Equity REITs, in particular, have outperformed each of the following competitors in the long run. For a value manager - or a tortoise investor, returns are not measured in the short run but over the long term. Analyzing the 10-year mark for net return on investment, Equity REITs returned 10.1%, while the next best investment returned only 6.3%. From the 20-year mark, Equity REITs gained 3.2% more on investment than its nearest competitor.

As mentioned earlier, many investors are seeing Real Estate Investment Trusts as a new way to capitalize on future gains in the real estate market. This opportunity for investment is becoming increasingly popular as the real estate market recovers from the crash of 2008. As seen in Table 3, 1-year returns since the end of 2008 have outperformed the closest competitor by 58.4%. As seen in Table 3, one-year returns in period ending 12-2009 have outperformed the closest competitor by approximately 58%; this is proof that REITs possess the potential for high returns in the economy's recovery.

Public Real Estate Investment Trusts are highly liquid on the public stock exchanges. Just like most common stock, if an investor wants out of or into a specific REIT, it is very easy to do so. This is a very attractive benefit to REITs that cannot be determined by just looking at the numbers.

From a pure return standpoint, it would be hard to argue against investing in Real Estate Investment Trusts. The returns in the long run have outperformed other types of mutual funds and the economy looks to be headed in the right direction in order to add value to REITs in the near future.

RISK FACTORS ASSOCIATED WITH REITS

Assessing opportunities within REITs can often lead to focusing on dividends and returns. One thing investors need to be cognizant of when determining whether or not to invest in REITs is their respective risk factors. Mortgage REITs suffer from three major risk factors - credit risk, liquidity risk, and interest rate risk. These risks vary from REIT to REIT and each investor needs to be able to break down the risk for each investment considered.

The biggest risk factor associated with Real Estate Investment Trusts is that of a rising interest rate environment. Especially with funds holding mortgages, rising interest rates are very dangerous. With a mortgage, a specific interest rate is locked in for several years for the customer who has procured a fixed mortgage. If a REIT holds mortgages locked in at low interest rates and interest rates proceed to increase over the lifetime of the mortgage, then, in essence, the contract has been devalued. In addition, Mortgage REITs need to borrow money from financial institutions in the short run which allows them to invest this money in the long run. So, the long-run investments, in turn, pay for the short-term borrowings. The difference between what interest rate the REIT locks in for the short-term borrowing and what the REIT collects from long-term investment is how the funds generate revenue. In a rising interest rate environment, the short-term rates at which the REIT can borrow money from will increase and cut into their profits from the long-term investments. This is why periods like we are presently experiencing in the United States, with close to zero short-term interest rates, create a very high interest rate risk factor environment (Interest Rate Risk in MREITS).

While interest rate risk is the primary concern for Mortgage REITs, Equity REITs do not possess the same risk. Equity REITs hold physical real estate assets and benefit from either rent payments or appreciation of assets. Therefore, the risk of Equity REITs comes from devaluation of assets or default on rent payments. In the 2008 housing crisis, Equity REITs took a very hard hit, and there was aggressive asset devaluation. For example, a property owned by an Equity REIT fund prior to 2008 would have been worth much more than after the crash of 2008 and into 2009. This poses a great threat to investors who hold the funds because the REIT will not be able to liquidate the assets for a fair price. The REIT would have to absorb a loss and move on to a new opportunity. Another threat to investors after the crash of 2008 was the inability of property renters to pay their monthly rent fees. Equity REITs were facing decreased cash flow because unemployed renters were unable to pay rent. As a result of these two risk factors devaluing Equity REITs, the funds were forced to cut dividends and reduce cash flow to investors. Uncertainty in dividend payment is a big cause for concern for an investor looking to invest in an Equity REIT.

While REITs do not suffer exposure to industries other than real estate, they also do not have the diversification of industries other than real estate. REITs carry an enormous downside if the real estate industry goes under like it has in the past few years. This is why many investors are hesitant to push cash into these funds. If history were to repeat itself, REITs would take yet another huge hit and investors would be sitting on pennies.

RISK FACTORS ASSOCIATED WITH OTHER MUTUAL FUNDS

Competing mutual funds face similar risk factors as do REITs, but in a broader sense. Competing funds are invested in assets not only in real estate, but market sectors such as commodities, agriculture, information technology, etc.; therefore, they face political, economic, and financial risk. Most mutual funds hold common stock in publicly traded companies as well as bond instruments. If a company goes too heavily into debt, they could be considered financially risky and default on that debt. After declaring bankruptcy, the company’s stock should plummet and will sell for pennies on the dollar. This unsystematic risk faced by holding a common stock in one of these companies is a risk that mutual fund managers should be aware of.

Another risk that affects mutual funds is economic risk. While REITs suffer from economic risk as well, general mutual funds are more prone to this type of risk. The real estate industry, for example, could be relatively unaffected at times by an economic downturn, thus leaving REITs without severe losses. A mutual fund, however, generally owns common stock from various industries, leaving it more susceptible to broader economic risk. This is not to say that the economic risk associated with general mutual funds is more severe than if a real estate crash were to happen; it just merely means that mutual funds have more exposure to various industries where an investment crash could take place.

Another major risk for a generic mutual fund is political risk. Oftentimes, mutual funds will hold international assets such as foreign companies or foreign bonds. If the mutual fund manager is not careful, the foreign company may be at risk of a political or social revolt like the Libyan crisis or the Egyptian political overthrow. Political instability such as this can cause foreign assets held in that country to devalue as well as increase the volatility of the assets.

CONCLUDING REIT INVESTING

In recent months, a big uproar has been occurring about Real Estate Investment Trust funds. Now that it seems as though the real estate crash of 2008 is behind us, many speculators believe now is the time to buy into REITs. If we truly are at rock bottom in this recession, now would be a great time to invest in cheap real estate through REIT Investment and then watch these assets increase in value during the recovery. Although REITs have been highly volatile in recent years, the upside potential for investment is at an all time high. If the market truly does recover and not suffer another pullback, we could be in the midst of a once in a lifetime opportunity to cash in on real estate opportunities.

Utilizing geometric returns or compounded rates of return, we found a coefficient of variation (CV) of 9.755 for the S&P 500, where the composite REIT experienced a 2.0205 CV and the FTSE Mortgage index showed a 4.0023 CV. Even though mortgage REITs took a greater hit than equity REITs, we still found a favorable risk and return relationship vs. the investment in common stocks (Exhibit 1). Money managers who were properly diversified rode out the financial storm much more comfortably with REITs as part of their diversification parameters.

Exhibit 1: 2000-2011 Time Period Summary

	REIT Composite	Equity REIT	Mortgage REIT	S&P 500 Index
Average Return	13.73%	14.24%	13.96%	2.44%
Compound Return	11.21%	11.77%	8.69%	0.0054%
Standard Deviation	22.65%	22.42%	34.78%	19.51%
Correlation with S&P 500	0.729	0.749	0.240	1.00
Coefficient of Variation Using Average Returns	1.6497	1.5744	2.4914	7.9959
Coefficient of Variation Using Geometric Returns	2.0205	1.9048	4.0023	9.755

Data compiled from Annual Index Values & Returns, 1972-2011 and S&P 500 and CVs were hand calculated by authors.

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