



THE BENEFITS OF INVESTING IN REAL ESTATE INVESTMENT TRUSTS (REITS)

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OVERVIEW

Real estate investment trusts, or REITs, provide investors the opportunity to purchase a diversified portfolio of real estate with an investment structure that is generally liquid. REITs can be either publicly or privately held. This asset class first became available to investors in the United States in 1960, when President Eisenhower signed into law the REIT Act (as part of the Cigar Excise Tax Extension). Since that time, the market capitalization of all U.S. REITs (equity, mortgage, and hybrid) has grown to over \$900 billion in 2014, reflecting increased investor allocation to REITs to gain exposure to large-scale income-producing real estate.

Different from traditional investments in real estate, REITs must be owned by at least 100 investors and not be closely held. REIT structures have the advantage of being exempt from corporate income tax, allowing investors to avoid the problem of double taxation (on earnings and dividends) affecting corporations and partnerships. REITs are able to take advantage of this tax benefit as long as 1) they pay out at least 90 percent of their gross income to investors as dividends, and 2) the majority of their gross income and value of assets is derived from and represented by real estate. This structure means REITs can provide investors higher and more tax-efficient income from real estate.

These benefits of REITs help explain some of the reasons that this asset class has been increasingly attractive to investors since its formation. At Washington Trust, we invest in real estate investment trusts as part of a diversified portfolio mix that is designed to increase return for the level of risk over the long term.

Similar to traditional real estate investments, investors have long favored investment in REITs given their increased income benefit to the portfolio and their protective hedge against inflation. This white paper seeks to further examine these benefits, as well as the portfolio diversification benefit that real estate investment trusts add as part of an investment portfolio.



STUDY METHODOLOGY

To study the benefits of income and inflation protection provided by REITs, we compared two marketable REIT indices: the FTSE NAREIT All Equity REITs Total Return Index and the FTSE NAREIT All Equity REITs Price Return index from 12/31/1971 to 6/30/2015. This was the longest available time period given the REIT indices' inception date. We also compared the returns of the FTSE NAREIT All Equity REITs Total Return Index to a measure of inflation: the US Consumer Price Index (seasonally adjusted) as published by the Bureau of Labor Statistics (US BLS CPI All Urban SA 1982-1984 Index) over this same period of time.

- Appendix 1 details the annual returns and comparisons of these indices.

To study the portfolio diversification benefit of investing in REITs, a portfolio of stocks (represented by the S&P 500 Index) and REITs (represented by the FTSE NAREIT All Equity REITs TR Index) was optimized to maximize return for the level of risk (or risk-adjusted return).

- Appendix 2 details the asset allocation for the stocks and REITs portfolio.

This optimized portfolio of stocks and REITs was then compared to a stocks-only portfolio as well as a REITs-only portfolio using total return, standard deviation (risk), and Sharpe ratio (risk-adjusted return). Definition of terms and additional information on the study methodology are detailed in Appendix 3 and Appendix 4. As discussed previously, the period of review for this study was 12/31/1971 through 6/30/2015. This extended period of study ensures that the performance analysis of the stocks and REITs portfolio is significant over multiple market cycles. The study examined 10-year time periods (12/31/1971 to 12/31/1981, 12/31/1981 to 12/31/1991, 12/31/1991 to 12/31/2001, 12/31/2001 to 12/31/2011) and a recent time period (12/31/2011 to 6/30/2015). The review of successive 10-year time periods allows us to determine if the performance is consistent in the differing market environments.

ANALYSIS AND RESULTS

To analyze the benefits of income provided by REITs, we compared returns for the FTSE NAREIT All Equity REITs Total Return Index and the FTSE NAREIT All Equity REITs Price Return index from 12/31/1971 to 6/30/2015 (Table 1).

	<i>Total Return (%) (12/31/1971 to 6/30/2015)</i>
FTSE NAREIT All Equity REITs TR USD	11.93
FTSE NAREIT All Equity REITs PR USD	4.15
FTSE NAREIT All Equity REITs Income	7.78



Analyzing the FTSE NAREIT All Equity REITs Total Return index since its inception in 1972 shows that equity REITs have produced an average annual total return of 11.93%. Of this return, 4.15% of the return was provided by the FTSE NAREIT All Equity REITs Price Return index. Subtracting the price return from the total return allows us to derive that REITs provided an average annual yield of 7.78% over this period of time. This yield for REITs is significant compared to other asset classes available to investors and demonstrates that REIT investors receive a substantial income benefit to their portfolios.

We then compared returns for the FTSE NAREIT All Equity REITs Total Return Index to the US BLS CPI All Urban SA 1982-1984 index to analyze the protection against inflation provided by REITs (Table 2).

	<i>Total Return (%) (12/31/1971 to 6/30/2015)</i>
FTSE NAREIT All Equity REITs TR USD	11.93
US BLS CPI All Urban SA 1982-1984	4.12
FTSE NAREIT Average Excess Annual TR to Inflation (1972-2014)	7.81

Looking at inflation as measured the US BLS CPI All Urban SA 1982-1984 index shows us that inflation averaged 4.12% from 12/31/1971 to 6/30/2015. This means that REITs had an average excess annual total return to inflation of 7.81 percentage points. Looking further at annual REIT returns over this period of time we find that REIT returns exceeded inflation in 33 of the 43 annual time periods reviewed, or 76.7% of the time. This finding is consistent with research by Case, Watchter, and Worley (2011), which looked at rolling six-month time periods from 1978 to 2011 and found that REITs protected against inflation 65.8% of the time, and provided better protection than stocks (60.8% of the time). This data demonstrates that REITs provide an effective hedge against inflation to the portfolio.

To review the diversification benefit of investing in REITs, we compared the returns of stocks (represented by the S&P 500 Index), REITs (represented by the FTSE NAREIT All Equity REITs TR Index), and an optimized portfolio of stocks and REITs over the long term and in successive 10-year time periods (Table 3).

	<i>Total Return Annualized (%) (12/31/1971 to 06/30/2015)</i>	<i>Total Return Annualized (%) (12/31/1971 to 12/31/1981)</i>	<i>Total Return Annualized (%) (12/31/1981 to 12/31/1991)</i>	<i>Total Return Annualized (%) (12/31/1991 to 12/31/2001)</i>	<i>Total Return Annualized (%) (12/31/2001 to 12/31/2011)</i>	<i>Total Return Annualized (%) (12/31/2011 to 06/30/2015)</i>
S&P 500 TR USD	10.45	6.50	17.59	12.94	2.92	17.67
FTSE NAREIT All Equity REITs TR USD	11.93	11.82	14.06	11.63	10.20	12.08
Stocks and REITs Opt. Portfolio	11.17	8.25	16.65	13.11	5.26	16.26



The return data shows that over the period of study, REITs had a higher return (11.93%) than stocks (as measured by the S&P 500) and the portfolio of stocks and REITs. Reviewing the return data further, we can observe that REITs outperformed in two of the time periods, stocks outperformed in two of the time periods, and the diversified stocks and REITs portfolio outperformed in only one of the time periods. The data in the table informs us that over time, different asset classes or investment strategies will have performance leadership reflecting changing market environments.

Standard deviation is one statistical measure of volatility, or risk, as the measure shows dispersion of returns to the mean (return). The standard deviation data for stocks, REITs, and the stocks and REITs portfolio is presented below (Table 4).

Table 4

	<i>Standard Deviation (12/31/1971 to 06/30/2015)</i>	<i>Standard Deviation (12/31/1971 to 12/31/1981)</i>	<i>Standard Deviation (12/31/1981 to 12/31/1991)</i>	<i>Standard Deviation (12/31/1991 to 12/31/2001)</i>	<i>Standard Deviation (12/31/2001 to 12/31/2011)</i>	<i>Standard Deviation (12/31/2011 to 06/30/2015)</i>
S&P 500 TR USD	15.25	15.86	16.62	14.02	15.93	9.39
FTSE NAREIT All Equity REITs TR USD	17.09	16.51	11.88	12.07	25.71	12.99
Stocks and REITs Opt. Portfolio	14.23	14.76	14.35	11.34	17.40	8.71

The standard deviation shows that a diversified portfolio of stocks and REITs has the lowest risk over the extended period of study. The diversified portfolio had lower risk in three of the time periods, while stocks and REITs alone had lower risk in one time period each. This table also shows us that the diversified portfolio more consistently had lower risk than stocks or REITs alone in the 10-year time periods analyzed. This finding is consistent with the investment expectation that increased portfolio diversification should lead to lower risk.

Risk-adjusted return, as measured by the Sharpe ratio, indicates the amount of excess return that is received for the given level risk. The Sharpe ratio is calculated by dividing the strategy's excess return (to the risk-free rate) by the respective standard deviation. This ratio is shown for stocks, REITs, and the stocks and REITs portfolio (Table 5).

Table 5

	<i>Sharpe Ratio (12/31/1971 to 06/30/2015)</i>	<i>Sharpe Ratio (12/31/1971 to 12/31/1981)</i>	<i>Sharpe Ratio (12/31/1981 to 12/31/1991)</i>	<i>Sharpe Ratio (12/31/1991 to 12/31/2001)</i>	<i>Sharpe Ratio (12/31/2001 to 12/31/2011)</i>	<i>Sharpe Ratio (12/31/2011 to 06/30/2015)</i>
S&P 500 TR USD	0.39	-0.03	0.59	0.61	0.14	1.78
FTSE NAREIT All Equity REITs TR USD	0.45	0.27	0.51	0.59	0.44	0.94
Stocks and REITs Opt. Portfolio	0.46	0.07	0.61	0.74	0.28	1.78

The Sharpe ratio data demonstrates that the diversified stocks and REITs portfolio had the highest return for the level of risk over the long term. The optimized stocks and REITs



portfolio had the highest risk-adjusted return in three of the time periods, REITs risk adjusted return was higher in two of the time periods, and stocks had a higher risk-adjusted return in only one time period. This data shows that the diversified portfolio of stocks and REITs consistently had higher risk-adjusted return than investing in stocks or REITs alone in the 10-year time periods analyzed.

CONCLUSION

The research process and data show the benefits of investing in real estate investment trusts (REITs) include increased income and protection against inflation. These benefits are demonstrated by the high average annual yield (7.85%) provided by equity REITs and the high excess annual return to inflation (7.81 percentage points) from 12/31/1971 to 6/30/2015.

Analysis of the return data of stocks (represented by the S&P 500 Index), REITs (represented by the FTSE NAREIT All Equity REITs TR Index), and an optimized portfolio of stocks and REITs demonstrates the challenges in predicting asset class leadership given changing market conditions and environments. While it is difficult to say with certainty which asset or asset class will provide the best performance looking forward, it is important to ensure investors are compensated with adequate return for a given level of risk. The research data shows that a diversified portfolio of stocks and REITs is expected to have increased return for the level of risk (or risk-adjusted return) than stocks or REITs alone. This extended period of study and research data shows that the higher risk-adjusted return of the diversified stocks and REITs portfolio is significant over multiple market cycles and in differing market time periods.

We conclude that these findings validate the investment in REITs as part of a diversified portfolio mix that is designed to increase return for the level of risk over the long term.

REFERENCES

Case B., Wachter, S., and Worley, R. (2011), "Inflation and Real Estate Investments" U of Penn, Inst for Law & Econ Research Paper No. 11-33.

APPENDIX 1 – TOTAL RETURN, PRICE RETURN, AND INCOME OF REITS COMPARED TO INFLATION



<i>Appendix 1</i>	<i>FTSE NAREIT All Equity REITs TR USD (%)</i>	<i>FTSE NAREIT All Equity REITs PR USD (%)</i>	<i>FTSE NAREIT All Equity REITs Income (%)</i>	<i>US BLS CPI All Urban SA 1982- 1984 (%)</i>	<i>FTSE NAREIT Average Excess Annual TR to Inflation (%)</i>
1972	8.01	1.08	6.93	3.41	4.60
1973	-15.52	-21.77	6.25	8.94	-24.46
1974	-21.40	-29.33	7.93	12.10	-33.50
1975	19.30	8.34	10.96	7.13	12.17
1976	47.59	36.21	11.38	5.04	42.55
1977	22.42	13.97	8.45	6.68	15.74
1978	10.34	2.66	7.68	8.99	1.35
1979	35.86	25.49	10.37	13.25	22.61
1980	24.37	1.94	22.43	12.35	12.02
1981	6.00	-2.03	8.03	8.91	-2.91
1982	21.60	11.49	10.11	3.83	17.77
1983	30.64	21.01	9.63	3.79	26.85
1984	20.93	9.30	11.63	4.04	16.89
1985	19.10	9.62	9.48	3.79	15.31
1986	19.16	10.57	8.59	1.19	17.97
1987	-3.64	-10.31	6.67	4.33	-7.97
1988	13.49	4.77	8.72	4.41	9.08
1989	8.84	0.58	8.26	4.64	4.20
1990	-15.35	-26.45	11.10	6.25	-21.60
1991	35.70	25.47	10.23	2.98	32.72
1992	14.59	6.40	8.19	2.97	11.62
1993	19.65	12.95	6.70	2.81	16.84
1994	3.17	-3.51	6.68	2.60	0.57
1995	15.27	6.56	8.71	2.53	12.74
1996	35.27	26.35	8.92	3.38	31.89
1997	20.26	13.33	6.93	1.70	18.56
1998	-17.50	-22.33	4.83	1.61	-19.11
1999	-4.62	-12.21	7.59	2.68	-7.30
2000	26.37	16.51	9.86	3.44	22.93
2001	13.93	5.85	8.08	1.60	12.33
2002	3.82	-3.12	6.94	2.48	1.34
2003	37.13	28.48	8.65	2.04	35.09
2004	31.58	24.35	7.23	3.34	28.24
2005	12.16	6.67	5.49	3.34	8.82
2006	35.06	29.51	5.55	2.52	32.54
2007	-15.69	-19.05	3.36	4.11	-19.80
2008	-37.73	-41.12	3.39	-0.02	-37.71
2009	27.99	21.28	6.71	2.81	25.18
2010	27.95	23.07	4.88	1.44	26.51
2011	8.28	4.32	3.96	3.03	5.25
2012	19.70	15.61	4.09	1.77	17.93
2013	2.86	-0.80	3.66	1.53	1.33
2014	28.03	23.44	4.59	0.68	27.35
2015 (through 6/30)	-5.44	-7.11	1.67	1.18	-6.62
Total Return	11.93	4.15	7.78	4.12	7.81
Outperformance					77%

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Washington Trust Bank believes that the information used in this study was obtained from reliable sources, but we do not guarantee its accuracy. Neither the information nor any opinion expressed constitutes a solicitation for business or a recommendation of the purchase or sale of securities or commodities.

APPENDIX 2 – ASSET ALLOCATION AND BACK-TESTED MODEL FOR THE STOCKS AND REITS PORTFOLIO



<i>Appendix 2</i>	
<i>Asset Class</i>	<i>Stocks and REITs Back-Tested Model</i>
S&P 500 TR USD	70.30%
FTSE NAREIT All Equity REITs TR	29.70%
Total	100.00%

APPENDIX 3 - DEFINITION OF TERMS

- **Total return** is a measure of return over time, combining both asset appreciation and income.
- **Standard deviation** is a measure of risk which shows the dispersion of returns to the mean.
- The **Sharpe ratio** is a measure of risk-adjusted return calculated by dividing the average portfolio excess return (to the risk-free rate) by the standard deviation over time.

APPENDIX 4 – ADDITIONAL INFORMATION ON STUDY METHODOLOGY

- Asset class indices were used in this study as they appropriately represent asset class performance, but do not reflect investment manager bias.
- The period of review for this study was 12/31/1971 through 6/30/2015, given that the earliest common start date for the asset class indices was 12/31/1971. This period ensures that the performance analysis is significant over multiple market cycles.
- The Stocks and REITs back-tested model was rebalanced once a year to target weights (on a rolling calendar basis).
- The study assumes that an investor was invested in the strategies for the full time period studied. We recognize that many investors may not have utilized all the asset classes shown for the full time period and that actual investment results may be different as a result.