

# Lessons of the Past: How REITs React in Market Downturns

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REITs have been exceedingly kind to investors over the past 26 years. And lately, REITs have not been alone in generating excellent annual returns. Exhibit 1, below, shows that the S&P 500 Stock Index (S&P) and the Russell 2000 Stock Index (Russell) have outperformed the NAREIT Index over the past 10 years.

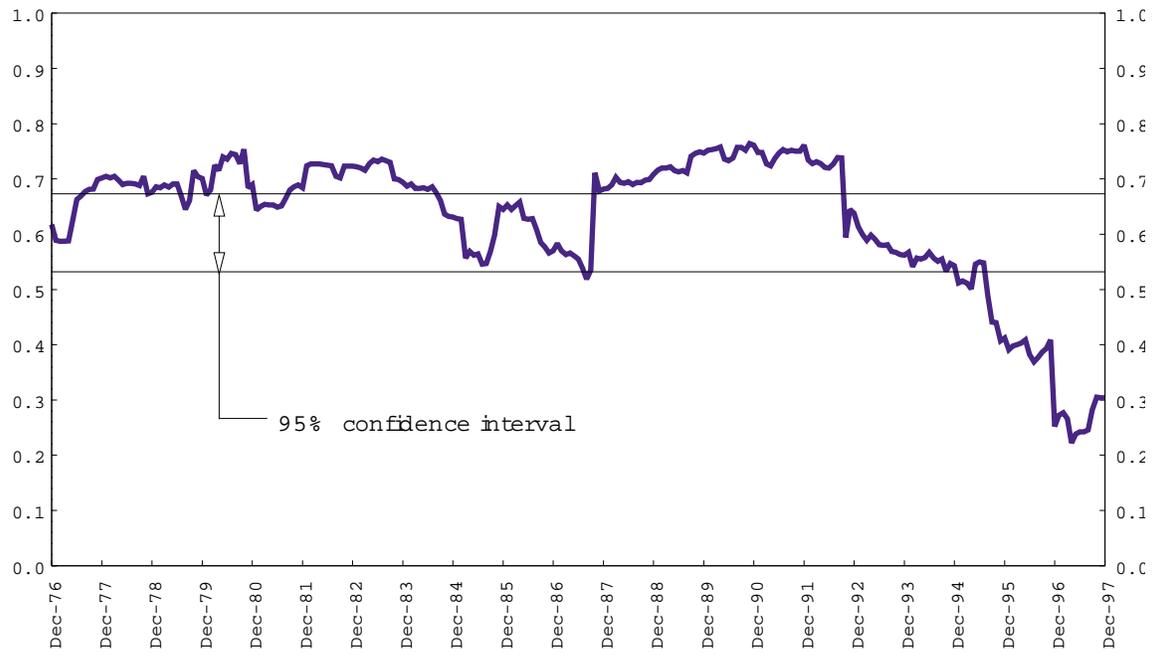
Exhibit 1  
Total Annual Returns, 1988 to 1997

year	NAREIT	S&P	Russell
1997	20.5%	33.4%	22.4%
1996	36.4	23.0	16.6
1995	14.2	37.6	22.4
1994	3.0	1.3	-1.8
1993	18.7	10.1	18.9
1992	20.7	7.6	18.4
1991	29.4	30.5	46.0
1990	-23.4	-3.1	-19.5
1989	4.7	31.7	16.2
1988	15.8	16.6	24.9
mean	14.0%	18.9%	16.4%
std deviation	15.7	13.7	16.3

REITs, however, behave differently than the broad stock market does, even differently than the small capitalization stock segment within which many equity REITs are classified. In particular, the NAREIT Index exhibits relatively low correlations vis a vis the broad S&P index--0.305 over the 60-months ending December 1997--and vis a vis the small capitalization segment represented by the Russell 2000 index--0.473 over the 60-months ending December 1997. Exhibit 2 shows that the relationship between S&P and the NAREIT Index has persisted quite a while but has declined substantially over the past five years.

In statistical parlance, the 95% confidence interval covers the range from 0.518 to 0.662 around a sample correlation estimate of 0.595 between the NAREIT and S&P indices over the full period from January 1972 to December 1997. The rolling 60-month correlations have been lower than the lower bound of the confidence interval since early 1995, which reflects the divergence between the two series that investors, investment managers, and journalists have been talking about ever since REITs began to receive institutional investor attention in 1993.

Exhibit 2  
Rolling 60-month Correlation between NAREIT and S&P  
January 1972 to December 1997



3.25%. Conversely, if the expected excess return of the S&P should fall by 10%, the NAREIT index might decline a more modest 3.25%.

Seen in this light, REITs can be interpreted as moving with the overall market, but at a more sluggish pace both upwardly and downwardly. Sluggishness is not a pejorative term here. In terms of portfolio construction, the sluggishness of REIT returns in response to market movements provides cushion to downward movements in the overall market.

## Through The Longest Lens

Some analysts suggest that recent events in the stock and REIT markets have been atypical. Perhaps performance and other interlocking relationships among investable securities, they argue, are different now than they were years ago. Certainly, the new breed of REITs formed since 1993 have generated a buzz among institutional investors and the public at large, and some of the subsequent performance has deviated from the more recent past. However, with the recent success of stock investments in general and of REITs in particular, it is difficult to predict with confidence how REITs might perform in a downturn. The simple answer is to wait until it happens. Then, we'll get back to you.

Obviously, this answer is unsatisfactory, so let's look at the longest available series of REIT data to see whether history reveals something more definitive. We examined monthly total returns for the S&P 500 Index and NAREIT Equity Index (less Health Care) for the 26-year period from January 1972 to December 1997—312 months of data. Summary statistics are shown in Exhibit 3.

From this summary, we see that REITs have performed slightly better than the S&P 500—15.10% annual return versus 14.56% for the S&P—with surprisingly less volatility despite the small capitalization stock aspect of REITs—15.56% annual standard deviation versus 17.13% for the S&P. Without conflicting evidence, it's a good guess that REITs have lower volatility due largely to the steady, predictable, and relatively high dividend payout that generally retards growth prospects, but supplies investors with a desirable income stream.

In looking at long-run REIT index returns, we should remember that “survivor bias” skews the reported returns upward. While there is no authoritative source for the amount of this bias, a figure of about 2% in the average annual return seems reasonable, at least through the late 1980s. Survivor bias is considered less meaningful over the past decade, however, as fewer REITs have disappeared or been absorbed into others.

Correlations between monthly total returns for NAREIT and S&P are low by stock series standards. The correlation over the full 312 months shown in Exhibit 3 is just 0.607 with a robust 95% confidence interval between 0.532 and 0.673. Therefore, for investors who care about dampening overall portfolio volatility without paying too high a price in reduced return, REITs seem to offer the best of both worlds: improved overall total return coupled with reduced portfolio risk. We would be hard pressed to uncover a more favorable combination of investment benefits from other stock sectors.

Exhibit 3  
Total Return Summary Statistics  
January 1972 to December 1997

statistic	NAREIT	S&P
months	312	312
monthly mean return	1.18%	1.14%
monthly standard deviation	3.93	4.34
monthly std. error of mean	0.22	0.25
monthly median return	1.24	1.30
correlation of returns		0.607
beta		0.673
95% confidence interval		0.532 to 0.673
autocorrelation	0.116	-0.006
95% confidence interval	0.005	-0.117
	to	to
	0.224	0.105
annual mean return	15.10%	14.56%
annual standard deviation	15.56	17.13
annual std. error of mean	3.05	3.36

The autocorrelation statistics give a hint as to why REITs behave differently than the broader stock market. Strong autocorrelation indicates predictability in the series of returns, while zero autocorrelation indicates random, unpredictable sequential results. In Exhibit 3, we see that the S&P showed a slight negative autocorrelation, but the 95% confidence interval around the statistic indicates that the result is statistically indistinguishable from zero, i.e., the S&P monthly return series is likely random. On the other hand, the NAREIT series with a positive autocorrelation of 0.116 is statistically significantly greater than zero with 95% confidence. This positive autocorrelation indicates that the NAREIT return series is somewhat predictable or, inversely, is not entirely random. A predictable series with positive autocorrelation is arguably less volatile than an unpredictable one. Thus, the lower volatility of the NAREIT index has another possible explanation.

### If Good Times Turn Bad

Naturally, monthly stock returns sometimes turn negative, occasionally for several months at a time. Both the S&P and NAREIT series are no exception. As shown in Exhibit 4, over the last 312 months, the S&P index has had negative monthly returns 117 times and the NAREIT index has had negative monthly returns 116 times. The average monthly return for those months in which the indices were negative was -3.00% for the S&P and -2.50% for the NAREIT. Median returns show a similar pattern for those negative months with -2.13% for the S&P and -1.65% for the NAREIT.

Thus, the frequency of negative returns for both NAREIT and S&P is virtually identical, but the NAREIT index suffered a somewhat lower decline than the S&P—whether you look at the average or the median total return statistic. Once again, REITs seem to have been a safe bet, even when there were declines in the overall stock market represented by the S&P index.

Looked at another way, the S&P and NAREIT experienced periods of negative returns, but those periods seldom coincided. For example, of the 117 months when the S&P was negative,

NAREIT was also negative—but just 69 times, or about 59% of the time. Of the 41 two-month periods that the S&P was negative, NAREIT was also negative 19 of those same two-month periods or about 46% of the time. Results for three-month and four-month periods when the S&P was negative show even less frequent simultaneous negative performance of the NAREIT index (see Exhibit 4).

The results are a bit better than the exhibit shows—in terms of the number of periods of consecutive negative months—because there are sequences of negative return months that overlap. When there are three consecutive negative months, for example, this is counted as 2 two-month negative periods, but the middle month counts in both periods.

Exhibit 4  
Total Return Statistics When Returns Are Negative  
January 1972 to December 1997

statistic	NAREIT	S&P
all months	312	312
all negative return months	116	117
monthly mean return	-2.50%	-3.00%
monthly median return	-1.65	-2.13
when S&P is negative for 1 month (117 months):		
months NAREIT also negative	69	
monthly mean return	-3.32%	-3.94%
monthly median return	-2.14	-3.15
when S&P is negative for 2 consecutive months (41 periods):		
periods NAREIT also negative	19	
periodic mean return	-3.84%	-4.30%
periodic median return	-3.84	-3.13
when S&P is negative for 3 consecutive months (20 periods):		
periods NAREIT also negative	7	
periodic mean return	-3.75%	-4.42%
periodic median return	-4.90	-3.77
when S&P is negative for 4 consecutive months (10 periods):		
periods NAREIT also negative	2	
periodic mean return	-2.82%	-3.08%
periodic median return	-2.82	-3.08

When the S&P index was negative for 1, 2, 3, or 4 months running, the NAREIT index consistently produced less negative (i.e., superior, albeit also negative) periodic average returns. For example, of the 41 periods during which the S&P was negative for 2 consecutive months, there were 19 periods during which the NAREIT index was also negative. In those 19 periods, the mean two-month total return for the S&P was -4.30% but the mean two-month total return for the NAREIT was just -3.84%, a lower negative return.

Investors holding some combination of the NAREIT index and the S&P 500 index over the last twenty-six years would have produced an interesting combination of portfolio benefits: (1) high returns, (2) lower volatility than either index alone due to low correlation between the two

series, and (3) meaningful counter cyclical return behavior between the pair of indices. Might this pattern continue or repeat in the future? No one knows for sure, but, if past performance is any indication of future performance, REITs deserve serious consideration by any long-term, risk-averse stock investor.

REITs are certainly not immune to negative monthly returns, but history has shown that the negative returns seldom coincided with negative returns in the broader stock market. As such, REITs are likely to be a useful addition to stock portfolios and to dampen or reduce downside risk in the portfolio. REITs over the long haul have demonstrated consistently strong relative returns and low volatility versus the broader market benchmark.