

2019 CEM Benchmarking Study Highlights REIT Performance

20-year study reveals allocations, returns, volatility and risk-adjusted performance of 12 asset classes

Highlights

- REITs had the second highest average annual return of the 12 asset classes covered
- REITs had relatively low correlation with equities.
- REITs had the highest non-fixed income risk adjusted return.
- REITs outperformed all styles of unlisted real estate.

Introduction

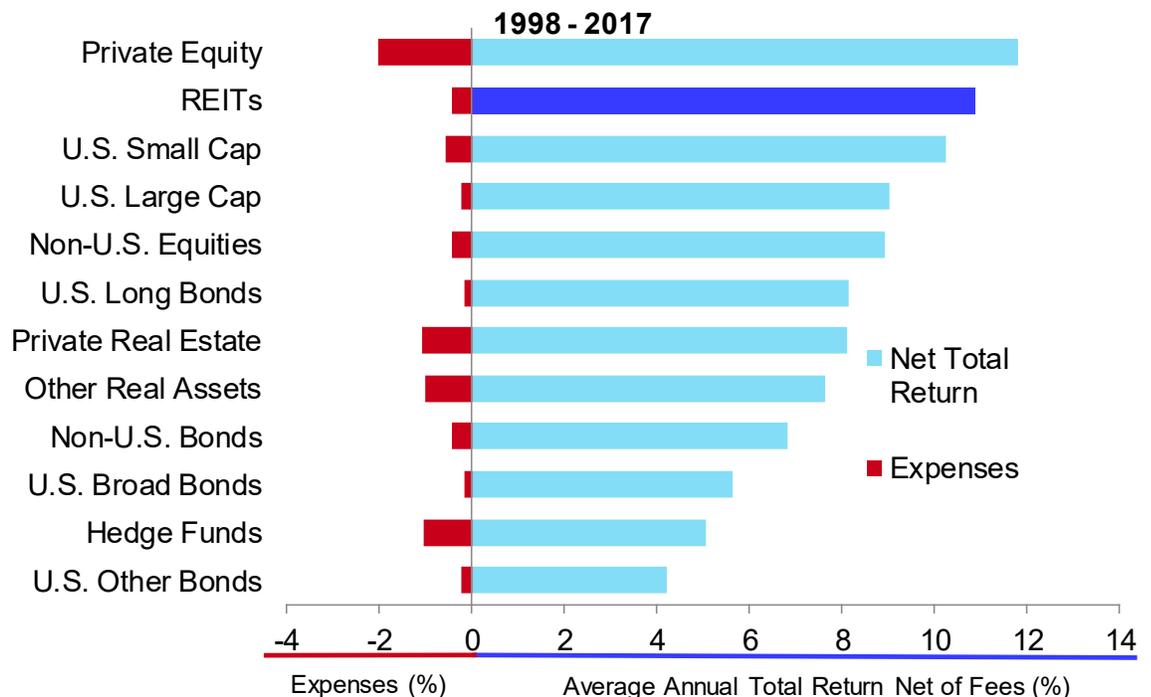
CEM Benchmarking’s 2019 study, sponsored by Nareit, provides a comprehensive look at realized investment performance across asset classes over a 20-year period (1998-2017) using a unique dataset covering over 200 public and private sector pensions with nearly \$3.8 trillion in combined assets under management. One of the unique benefits of the CEM dataset is that it provides the actual realized performance of the assets chosen

by plan managers and trustees.

The study compares gross and net average annual total returns as well as correlations and volatilities for 12 asset classes with appropriate adjustments for reporting lags associated with illiquid asset classes (unlisted real estate and private equity).

The 2019 study also compares the performance of different styles of unlisted real estate including internally managed, core, value added/opportunistic and fund of funds.

Figure 1
Annual Net Total Return and Expense by Asset Class for U.S. Defined Benefit Pension Funds



Returns

Over the 20-year period covered by the study there are striking differences in performance across asset classes. Figure 1 summarizes average annual net returns and expenses for the 12 asset classes.

- Listed equity REITs had the second highest average annual net return over the period, 10.9%.
- Unlisted real estate produced average net returns of 8.1% over the period, about 280 basis points less than REITs.
- The two worst performing asset classes were hedge funds/tactical asset allocation (TAA) strategies and U.S. other fixed income. U.S. other fixed income however includes cash. If cash is excluded from U.S. other fixed income as an aggregate asset class, then hedge funds/TAA would have been the worst performing asset class with a 20-year arithmetic average annual net return of 5.0 percent.

Real Estate Returns by Ownership Style

Unlisted or private real estate can be accessed through a number of different ownership styles each with different risk profiles and costs. CEM provides comparisons of returns, correlations and volatilities for each of the four key private real estate ownership styles:

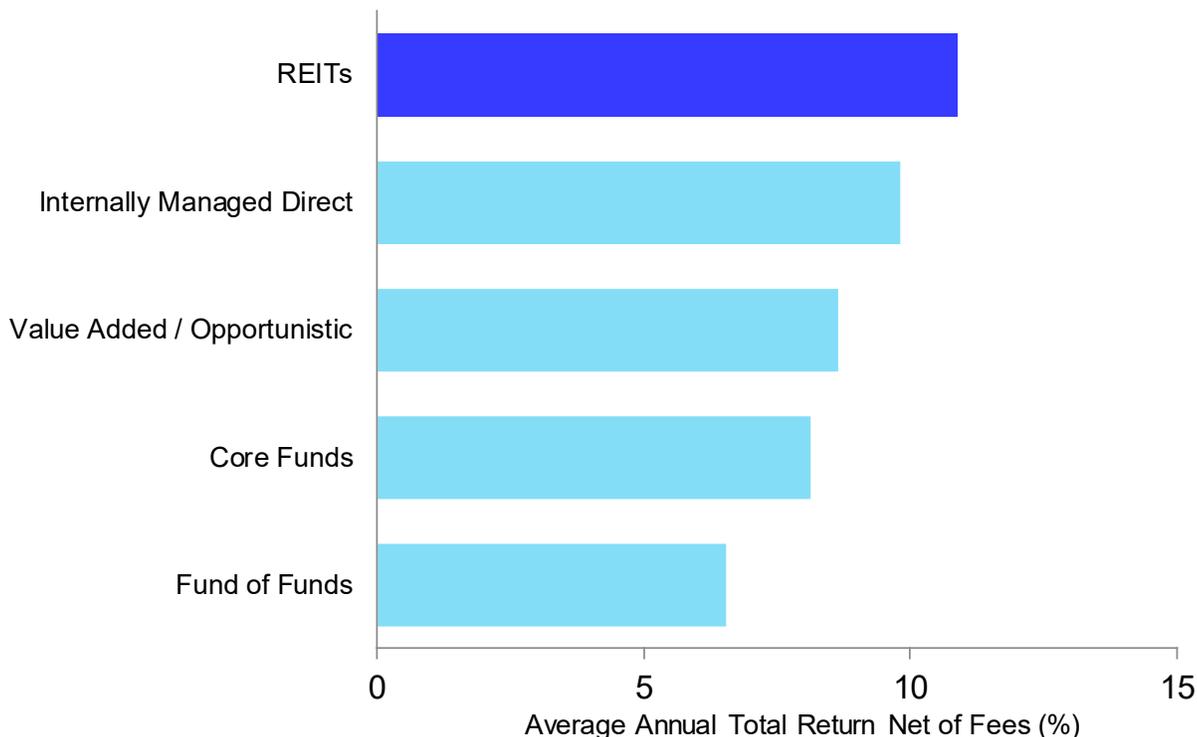
- Internally managed direct
- Core Funds
- Value Added / Opportunistic Funds
- Fund of Funds.

Figure Two shows that irrespective of ownership style, REITs outperform private real estate.

Correlations

The study computed correlations of annual returns among the 12 asset classes. Table 1 (next page) summarizes some key correlations between broad equities, REITs and unlisted real estate.

**Figure 2
Annual Net Total Return for Real Estate by Ownership Style
1998 - 2017**



Source: CEM Benchmarking, 2019.

Table 1
Key Correlations
(1998 - 2017)

	REITs	Private Real Estate	U.S. Long Bonds	U.S. Large Cap	U.S. Small Cap	Non-U.S. Equities	Private Equity	Hedge Funds
REITs	1.00	0.91	-0.03	0.53	0.62	0.56	0.49	0.50
Private Real Estate		1.00	-0.06	0.47	0.57	0.54	0.53	0.43
U.S. Long Bonds			1.00	-0.41	-0.51	-0.50	-0.61	-0.30
U.S. Large Cap				1.00	0.92	0.89	0.85	0.92
U.S. Small Cap					1.00	0.88	0.89	0.79
Non-U.S. Equities						1.00	0.89	0.85
Private Equity							1.00	0.79
Hedge Funds								1.00

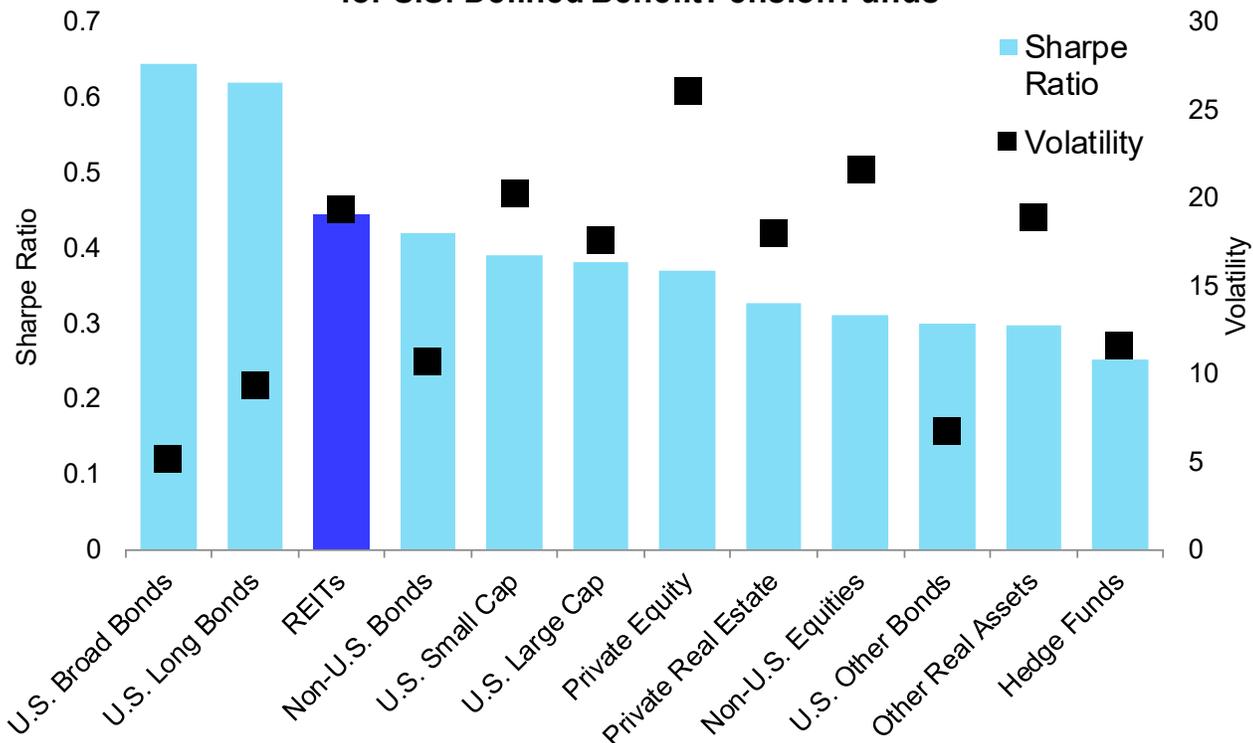
Source: CEM Benchmarking, 2019

As highlighted in green, REIT and unlisted real estate returns were highly correlated when illiquid returns are adjusted for reporting lags. The correlation is measured as .91. The high correlation is not surprising given the similarities in underlying assets.

bonds and listed equity returns. These relatively low correlations reflect the well known diversification benefits associated with the real estate asset class, whether REITs or unlisted real estate.

- As highlighted in dark blue, REIT and unlisted real estate returns had relatively low correlations with

Figure 3
Volatility and Risk Adjusted Returns by Asset Class for U.S. Defined Benefit Pension Funds



Source: CEM Benchmarking, 2019.

Volatilities and Risk Adjusted Returns

The study also compared volatilities and risk adjusted returns using the Sharpe ratio across asset classes.

The data are summarized in Figure 3.

- Two fixed income asset classes had the highest Sharpe ratios reflecting their extremely low volatilities albeit modest returns.
- Outside of fixed income, REITs had the highest Sharpe ratio measuring .44, reflecting their high returns and just above average volatility. Unlisted real estate had a much lower Sharpe ratio measuring .33, reflecting lower returns and comparable volatility to REITs.
- After adjusting for valuation lags, the study found that REITs and unlisted real estate had comparable volatilities. REITs and unlisted real estate had the 4th and 6th most volatile net returns with measured volatilities of 19.4% and 18.1% respectively. As with correlations, the similarity in volatilities is not surprising given that REITs and unlisted

real estate have the same underlying assets.

- After adjusting for valuation lags, private equity was by far the most volatile asset class.

The study also compared volatilities and risk adjusted returns using the Sharpe ratio across real estate ownership styles. The data are summarized in Figure 4.

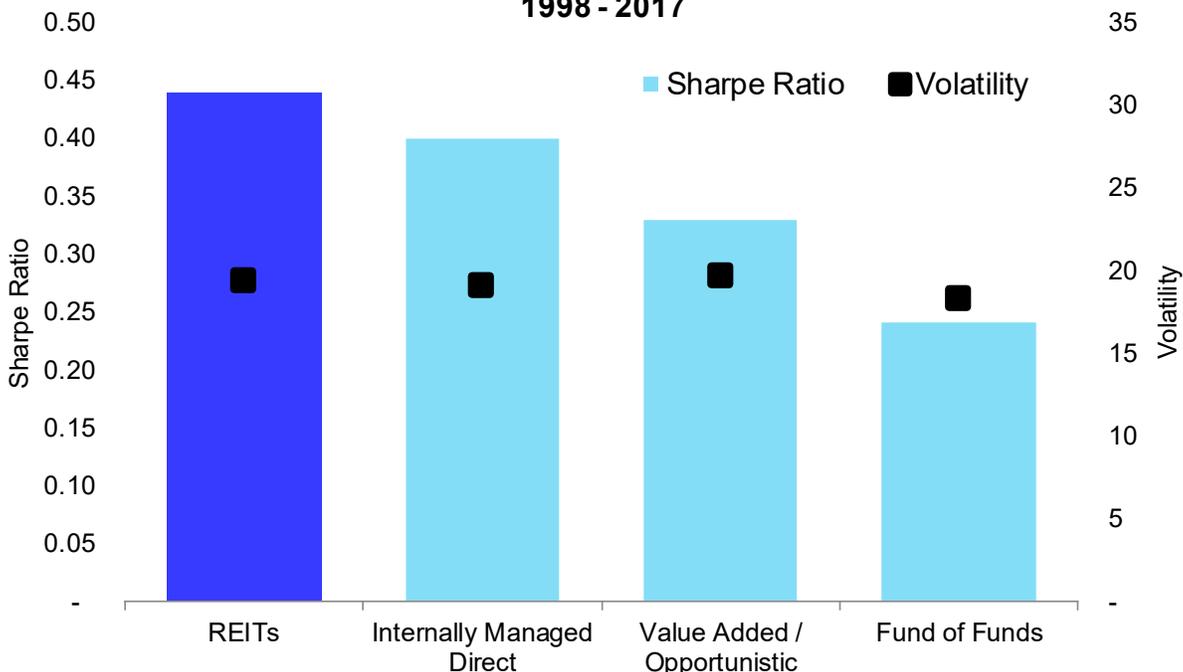
As the figure indicates, REITs have comparable volatilities to and provide better risk adjusted returns than any style of private real estate.

Conclusion

CEM Benchmarking used its unique proprietary dataset which is comprised of asset level return data for hundreds of US pension funds with nearly \$3.8 trillion in assets. The CEM analysis concluded that over the 20 year period of study covering the years 1998 through 2017, REITs had the second highest average annual net return, relatively low correlations with other asset classes, implying good diversification benefits, and strong risk adjusted returns.

The study also found that REITs outperform private real estate irrespective of ownership style.

Figure 4
Volatility and Risk Adjusted Returns for
Real Estate and Alternatives
1998 - 2017



Source: CEM Benchmarking, 2019.