Esther James works for Evaluation Corporation, a consultant specializing in asset allocation and management selection for tax exempt institutional investors and high net worth individuals. One of her projects is to develop a framework for evaluating the role of real estate in an investment portfolio. The first challenge for her, before considering the role of real estate in the portfolio, was to figure out how to measure the historical performance of real estate. There are two primary benchmarks for commercial real estate performance, NCREIF and NAREIT.

The **NCREIF NPI Index** represents a broadly diversified investment in commercial properties as reported by their institutional holders who are participating members in the organization. Its capital appreciation returns are based upon external appraisals of the properties in the portfolios every 4 to 6 quarters, and internal updates every quarter. Property returns are unlevered to make them comparable.

**NAREIT** reports an index of real estate investment trust returns. It’s **NAREIT-Equity** index is comprised of REITs whose make equity investments in commercial property. REITS have both debt and equity in their capital structure.

She figured that these two indices should be generally correlated to each other, since they both represent investment in commercial property, and when these investments are aggregated, they should capture the same real estate factor in the U.S. economy. Oddly enough, she found that the series performed differently.

**Part I. Real Estate as an Investment**

Esther had several general questions to address about real estate as an investment and these indices as measures. Unfortunately the answers to her questions depended a lot on which series she used for her analysis. Her checklist includes:

- What is the correlation between the indices?
- Does one lead or lag the other?
- What is the long-term expected return to investment in real estate?
- What is the annual volatility of real estate as an asset class?
- Is real estate a good inflation hedge compared to the S&P 500?
- Is real estate sensitive to interest rates?
- What is the correlation between real estate and stocks, bonds and tbills?
- Why is the NCREIF index autocorrelated?
- Does autocorrelation make a difference in terms of forecasting risk and return?

**Part II. Manager Evaluation**
Esther figured that these indices should be potentially useful for benchmarking manager performance. To see how this might work, she selected two managers and used the benchmarks to see how they performed.

**PRISA** is the oldest of all the large, co-mingled real estate accounts managed by insurance companies. Its benchmark is the NCREIF. PRISA is organized as an open-end fund – like a mutual fund – that allowed institutional investors to buy and sell shares. Its properties are evaluated by appraisal methods. When money comes into the fund properties are purchased. Institutions receive their pro-rata share of income from the fund properties. When they need to get out of the fund they sell their shares back to the fund. Quarterly returns for PRISA are available through 2000 only.

How has PRISA performed relative to the NCREIF benchmark? What is the alpha, beta and R-square?

What happens to the fund when a lot of investors want to sell shares?

How did PRISA do in periods of distress for real estate?

**Third Avenue Fund** (ticker TAREX) is a $2 billion dollar REIT mutual fund managed by Michael Winer with a value orientation. Winer uses his experience with distressed real estate loans and asset portfolios, and his background in real estate development in California to select REITs undervalued to assets. This strategy should earn a risk adjusted premium to the REIT index. Monthly returns for Third Avenue are easily downloaded from Yahoo.

How has Third Avenue performed relative to the NAREIT benchmark? What is the alpha, beta and R-square?

Is the fund more volatile than the index? If so, why?

Do we know how it has done in periods of distress?

Based upon her analysis, Esther had to decide how to summarize the characteristics of real estate as an investment class, and the two leading benchmarks as the basis for describing the long term risk and return of real estate investment, and for benchmarking manager performance.

She knew one of the major questions facing institutional investors is whether to use commingled funds or REITs as a vehicle for their real estate exposure. Her analysis should take a clear stand on this issue.