

A Random Walk Down Main Street: Can Experts Predict Returns on Commercial Real Estate?

Author David C. Ling

Abstract This study examines the ability of experts, specifically institutional owners and managers, to predict commercial real estate return performance in major metropolitan markets and on various property types. The findings indicate that the consensus opinions on investment conditions contained in Real Estate Research Corporation's quarterly Real Estate Investment Survey are useful in forecasting subsequent return performance. In fact, the findings document that RERC's surveys are backward looking. The implications of these findings for investors are discussed.

The ability of investors and managers to predict stock prices has been debated for more than 100 years. Bachelier (1900) argued that the probability at any moment of a rise in the price of a publicly traded security is the same as the probability of a fall in price, because "Clearly, the price considered most likely by the market is the true current price: if the market judged otherwise, it would quote not this price, but another price higher or lower."¹ Under these conditions, Bachelier argued that stock prices will move only when the market revises the "price considered most likely." Over time, this characterization of stock price movements came to be called the random walk or, more formally, the efficient market hypothesis. A primary focus of capital market research has been to determine whether or not the random walk is an accurate description of stock price movements (Bernstein, 1992).

A segment of this "predictability" literature has focused on the ability of security analysts, portfolio managers, newspaper columnists, and other "experts" to predict returns. In the process of managing his family's financial affairs in the 1920s, Alfred Cowles kept abreast of the stock market by subscribing to publication services that provided investment advice. He came to view the volume of publications coming his way as "a little wasteful" and decided to ascertain which publication was best so that his subscriptions to the others could be canceled. Cowles (1933) analyzed the track records of 24 forecasting publications. He concluded that "the average forecasting agency fell [below] the average of all

performances achievable by pure chance” and that, in all tests, the market as a whole had outperformed the practitioners. In 1944, Cowles published a second study in *Econometrica* that examined 6,904 expert forecasts over a 15-year period (Cowles, 1944). Again, the results failed “to disclose evidence of ability to predict successfully the future course of the stock market.”

Paul Samuelson’s research also led him to take a dim view of portfolio managers. Samuelson (1974) stated that “a respect for the evidence compels me to incline toward the hypothesis that most portfolio managers should go out of business—take up plumbing, teach Greek, or help produce the annual GDP by serving as corporate executives.”

Although the traditional formulation of the efficient market hypothesis (EMH) precludes predictable stock prices, theoretical advances in asset pricing and behavioral finance theory have produced models that allow for the existence of predictable prices and returns. Moreover, a growing empirical literature, aided by the significantly increased processing time of computers, has provided some evidence that stock prices are predictable, to some extent, using publicly available information (Keim, 1986; Campbell and Shiller, 1988; Xia, 2001; Avramov, 2002; Doukas, 2002; Ogden, 2003; and Avramov, 2004) and that a sizable minority of active mutual fund managers actually do pick stocks well enough to more than cover their trading costs (Kallberg, Liu and Trzcinka, 2000; Wermers, 2003; and Kosowski, Timmerman, White and Wermers, 2004). Nevertheless, attempts to characterize stock return predictability have not produced a consistent set of explanatory variables, giving rise to model uncertainty and data snooping fears (Cremers, 2002).

What about the predictability of commercial real estate returns? Recent research has produced some evidence that returns on exchange-traded real estate securities are partially predictable (*e.g.*, Liu and Mei, 1992; Mei and Liu, 1994; Cooper, Downs and Patterson, 1995; Li and Wang, 1995; Karolyi and Sanders, 1998; Ling, Naranjo and Ryngaert, 2000; and Brooks and Tsolacos, 2003). However, Ling et al. find no evidence that superior return performance using a market timing strategy to buy and sell real estate securities is possible once transaction costs are incorporated into the analysis.

Although evidence of an economically significant return predictability does not exist for securitized real estate markets, many analysts and investors have concluded that skillful portfolio managers *can* add value (on a risk-adjusted basis) in the private real estate market through asset selection and investment timing strategies.² This conclusion is based on the widely held view that private (unsecured) commercial real estate markets exhibit persistent inefficiencies that can be exploited by superior investment managers. The purported inefficiencies in private real estate markets are thought to arise from an absence of centralized trading, or even price lists, a low degree of turnover in investor portfolios, a lack of transparency in the transactions that do occur, and the heterogeneity and indivisibility of commercial real estate assets.

That many market participants believe real estate portfolio managers can add value is evidenced by the dramatic growth of the commercial investment management industry since the 1970s and by the recent proliferation of investment funds and management strategies offered by the industry. These funds and strategies are known by descriptive names such as “enhanced core,” “value added,” or “opportunistic,” depending loosely on the magnitude of the excess returns targeted by the fund (Stoesser and Hess, 2000). Typically, the excess returns expected to be produced by these strategies are thought to arise from the manager’s ability to successfully “target” geographical markets and/or property types, or at least that is part of the marketing pitch provided to owners and investors by some investment advisors to justify the collection of advisory fees.

Despite the proliferation of actively managed real estate funds and claims of superior “targeting” ability, evidence that real estate managers can pick “winners” and “losers” is largely nonexistent. This paper attempts to shed some light on the ability of commercial real estate experts to successfully target property types and geographic markets. In particular, we examine the ability of the respondents to Real Estate Research Corporation’s quarterly Real Estate Investment Survey to predict returns for nine property types and fifteen to nineteen metropolitan markets over a thirteen-year sample period. To examine RERC’s ability to predict return performance on institutional quality property, in the spirit of Cowles (1933, 1944), we collect the consensus opinions on investment conditions in sixteen metropolitan areas and for nine property types from RERC’s quarterly *Real Estate Report*. These forecasts are then compared to the actual returns earned by institutional investors in these property types and metropolitan areas as measured by the National Council of Real Estate Investment Fiduciaries (NCREIF).

The results are not encouraging for those who have paid for and spent time pouring over the prognostications of the experts. Using ten different quarterly RERC surveys over the 1991 through 2000 time period, we find no evidence that the consensus opinions on investment conditions contained in RERC’s survey results are useful in forecasting subsequent return performance. In fact, contrarian investment strategies are at least as likely to produce superior returns as are the investment strategies implied by the RERC survey results. Although we find no evidence that RERC’s survey results are helpful in targeting property types or geographic markets, we do find that their consensus predictions are correlated with NCREIF returns in the two years prior to the survey. That is, RERC’s investment conditions are clearly *backward* looking, not forward looking.

This paper proceeds as follows. The next section describes the research design and data used to quantify the ability of RERC survey respondents to forecast investment performance. The following section discusses the results. The implications of our findings are discussed in a concluding section.

Research Design and Data

Founded in 1931 in Chicago, Real Estate Research Corporation was one of the first national firms dedicated to commercial real estate research, valuation, and

consulting services. Today, RERC is nationally known for its research, analysis, and investment criteria.

Published quarterly in the *Real Estate Report*, the RERC Real Estate Investment Survey summarizes the expected rates of return, property selection criteria, and investment outlook of a sample of institutional investors and managers throughout the United States. For example, the summer 2004 *Real Estate Report* contained information collected from 151 survey respondents. Thirty-nine of these were described as “national respondents,” while the remaining 112 were characterized as “regional respondents.” The national respondents included individuals from firms such as Bank of America, Prudential Real Estate Investors, RREEF, Cushman & Wakefield, CB Richard Ellis, Legg Mason Realty Services, State Teachers Retirement System of Ohio, and Russell Real Estate Advisors.

RERC Survey respondents provide information on current investment criteria such as required (ex ante) internal rates of return, going-in and terminal capitalization rates, tenant renewal probabilities, and investment conditions. The survey results are collected, averaged, and published in the quarterly *Real Estate Report*, along with RERC’s analysis of the results. According to RERC, the survey results are used by investors, developers, appraisers, and financial institutions to “monitor changing market conditions and to forecast financial performance.”³

The focus here is on the results reported by RERC on current “investment conditions.” Survey respondents are asked to rank the current investment conditions of nine property types. These rankings are not MSA-specific; that is, survey respondents rank the investment desirability of apartment investments, suburban office investments, along with seven other property types across the U.S. RERC also publishes survey results for a significant number of metropolitan areas. These MSA-level investment condition rankings are not property specific. Survey respondents are asked to rank current investment conditions in each MSA or for each property type on a scale of 1 to 10, with 1 indicating “poor” investment conditions and 10 indicating “excellent” conditions.

Exhibit 1 contains the property-level investment condition survey results for the first quarters of 2001 and 2002. In 2002, the consensus opinion was that apartment properties, with a rank of 6.6, were the most desirable investments, followed by neighborhood retail and industrial warehouse properties. In contrast, hotel investments, with a mean ranking of 3.1, were deemed the least desirable of the nine property types. Although not evident from the two sample quarters displayed in Exhibit 1, RERC’s investment condition rankings display a significant amount of variation over time in both absolute and relative terms.

How do we assess the ability of RERC’s investment conditions to forecast subsequent return performance? The most widely used total return indices of privately-held, institutional-quality real estate returns are produced quarterly by NCREIF. The NCREIF Property Index (NPI) is a property-level index that reports

Exhibit 1 | RERC Investment Conditions by Property Type^a for Sample Quarters

Property Type	RERC Ranking ^a	
	2002:1	2001:1
Office-CBD	4.9	6.6
Office-suburban	4.2	4.8
Industrial-warehouse	6.1	6.0
Retail-neighborhood	6.3	5.6
Industrial-R&D	3.9	5.1
Hotel	3.1	4.0
Apartment	6.6	7.2
Retail-regional mall	4.5	5.5
Retail-power center	3.9	3.6

Notes: The source is RERC *Real Estate Report*, Vol. 30, No.1 and Vol. 31, No. 1.
^aRated on a scale of 1 = poor to 10 = excellent.

unleveraged, appraisal-based, total returns on a quarterly basis. NCREIF's members who own fully operational properties (at least 60% leased), make quarterly reports to NCREIF regarding the values of all such properties, as well as the net operating income, capital improvement expenditures, and partial sales receipts associated with each property (along with other information primarily of a property-descriptive nature). NCREIF computes the quarterly total return for each property (net income plus change in market value), and then constructs the index as the value-weighted average across all the constituent properties' returns. NCREIF reports total return at the aggregate U.S. level, as well as numerous sub-indices defined by property type and geographic location.⁴

How appropriate is the use of the NCREIF Index as a benchmark to measure the forecasting ability of RERC survey respondents? According to Geltner and Ling (2001), NCREIF's data-contributing members represent over 70% of the property holdings of the entire tax-exempt fiduciary branch of the investment industry. Institutional "core" properties are precisely the segment of the market that is the focus of the RERC survey.

A frequently noted shortcoming of the NCREIF Total Return Index is the way in which changes in the values of the properties that comprise the index are estimated. At least once a year, independent fee appraisals are obtained by owners of all NCREIF properties. These appraisals are then updated in-house during the intervening quarters. If a property in the Index happens to sell in a particular quarter, only then is a transaction price used to calculate the property's price

appreciation or depreciation. Thus, the appreciation component of the total return is largely estimated from changes in appraised values. The use of appraisals in determining quarterly changes in property values is believed to “smooth” indicated changes in underlying property values.⁵ Appraisal smoothing can greatly affect the analysis of questions relating to lag/led relationships and correlations between private real estate and other asset classes and the quantification of risk measures, such as beta or volatility. However, return smoothing is not an issue when measuring average total return performance over extended periods of time such as the four- to ten-year holding periods considered here.

A final consideration in this study’s use and interpretation of RERC’s investment conditions is risk. If a survey respondent is asked whether or not it is a good time to purchase, say, suburban office buildings, a natural response is to ask “at what price?” Although risk is not discussed in RERC’s description of its survey, it is clear from the survey instructions and RERC’s interpretations of the results that respondents are ranking the investment desirability of property types or metropolitan areas *given* the current pricing they are observing for these property types and metropolitan areas. If, for example, hotels are viewed to be more risky than the other eight property types tracked by RERC, this risk is reflected in lower market prices and higher expected returns (all else equal) for hotel investments. Because risk, and its effects on pricing, are factored into the respondents’ ranking of investment conditions, it is not necessary to risk-adjust the NCREIF returns used to quantify subsequent return performance.

Results

Correlation of Realized Returns with RERC Survey Forecasts

To examine the ability of RERC’s panel of owners and managers to predict return performance, realized NCREIF returns were first correlated with the corresponding raw RERC investment desirability rankings. An example of this methodology is contained in Exhibit 2. The first column displays the ranking of investment conditions in the first quarter of 1994 for the nine property types. At that time, the consensus opinion of the survey respondents was that apartment properties would perform the best, as indicated by the mean investment condition ranking of 7.6. Apartment properties were expected to be followed in performance by industrial warehouses and regional malls. With an average investment condition ranking of 4.8, suburban office properties were expected to underperform the remaining eight properties types. Column 2 in Exhibit 2 contains the annualized rates of return realized by each of the property types, as reported by NCREIF, over the four-year period immediately following the first quarter 1994 survey. For example, apartment properties produced an average annualized total return of

Exhibit 2 | Example of RERC Return Predictability: Correlation of Survey Ranking and Subsequent Returns

Property Type	RERC Investment Condition Ranking 1994:1 ^a	Ave. Annualized NCREIF Return 1994:2–1998:1 (%)
Apartment	7.6	11.7
Industrial-warehouse	6.6	11.9
Retail-regional mall	6.5	6.2
Retail-power center	6.4	10.1
Retail-neighborhood	6.2	7.9
Industrial-R&D	5.2	14.7
Office-CBD	5.1	9.4
Hotel	4.9	19.7
Office-suburban	4.8	13.0
Correlation		–0.48

Notes: The source is RERC *Real Estate Report*, Vol. 23, No. 1 and NCREIF.
^aRated on a scale of 1 = poor to 10 = excellent.

11.7% over the 1994:2 through 1998:1 time period, while low-rated suburban office properties produced an average annual return of 13.0%. Exhibit 2 also reveals that actual returns were negatively correlated with the RERC rankings; in fact, the correlation for this combination of survey quarter and holding period returns is –0.48.

Exhibit 3 contains the full set of correlations for the nine property types between RERC rankings and actual returns. Because of the significant transaction costs associated with acquiring and disposing of direct ownership interests in commercial real estate, average investment holding periods tend to be long. A number of studies suggest that typical holding periods for institutional investors range from eight to twelve years. To eliminate the potential sensitivity of the results to the assumed investment holding period, results are reported for four, six, eight, and ten-year holding periods.

The first column in Exhibit 3 contains the correlations between RERC's rankings and the corresponding realized return over the subsequent four-year period. For example, the correlation between the fourth quarter 1991 RERC rankings for the nine property types and the corresponding NCREIF returns over the subsequent four years is 0.34. For the nine RERC surveys for which total returns were calculated in the subsequent four years, the average correlation between RERC's desirability rankings and actual return performance is 0.14. When the quarterly

Exhibit 3 | How Correlated are RERC Property Type Investment Conditions with Subsequent Return Performance as Measured by NCREIF?

Forecast Quarter	4-Yr Holding Period Correlation	6-Yr Holding Period Correlation	8-Yr Holding Period Correlation	10-Yr Holding Period Correlation	Average Correlation
1991:4	0.34	-0.26	-0.38	-0.28	-0.14
1993:1	-0.10	-0.38	-0.41	-0.13	-0.26
1994:1	-0.48	-0.55	-0.45	-0.10	-0.39
1995:1	-0.15	-0.28	-0.28		-0.24
1996:1	0.64	0.70	0.16		0.50
1997:1	0.59	0.00			0.30
1998:1	0.11	-0.70			-0.29
1999:1	0.29				0.29
2000:1	0.03				0.03
Average	0.14	-0.21	-0.27	-0.17	-0.22

Note: The source is NCREIF and RERC *Real Estate Report*, various issues.

RERC investment condition rankings are compared to total returns over the subsequent six years, the average correlation declines to -0.21 ; for eight-year holding periods, the average correlation declines further to -0.27 . The average correlation for the twenty-four property type “cells” is -0.22 . In short, there is clearly no positive correlation between the predictions of RERC survey respondents and the actual return performance of the nine property types.

Exhibit 4 contains the corresponding correlations for the nineteen metropolitan areas.⁶ For example, the average correlation between the quarterly survey rankings and the total return in the subsequent four years is 0.09. The average correlation for each of the twenty MSA/holding period cells is 0.06, which is not statistically different from zero. Again, there appears to be no correlation between the MSA-level performance predictions of RERC survey respondents and actual return performance, although the correlation of 0.62 between the investment desirability ranking published in the first quarter of 1997 and returns in the subsequent four years is puzzling. The mean and standard deviation of the desirability rankings across MSAs in 1997:1 are not significantly different than for other survey quarters. However, investment returns are random variables subject to an enormous number of exogenous influences which are, in turn, random variables. Thus, this seemingly high positive correlation is likely the result of random chance, although we cannot rule out the possibility that survey respondents as a group were actually good, not just lucky, when making their first quarter 1997 predictions.

Exhibit 4 | How Correlated are RERC MSA Investment Conditions with Subsequent Return Performance as Measured by NCREIF?

Forecast Quarter	4-Yr Holding Period Correlation	6-Yr Holding Period Correlation	8-Yr Holding Period Correlation	10-Yr Holding Period Correlation	Average Correlation
1991:4	-0.09	-0.10	-0.02	-0.02	-0.06
1993:1	0.18	0.25	0.20	0.12	0.19
1994:1	0.17	0.13	0.05	-0.11	0.06
1995:1	-0.11	-0.19	-0.29		-0.20
1996:1	-0.03	-0.05			-0.04
1997:1	0.62	0.50			0.56
1998:1	0.09	-0.08			0.00
1999:1	-0.06				-0.06
Average	0.09	0.07	-0.02	0.00	0.06

Note: The source is NCREIF and RERC *Real Estate Report*, various issues.

The Effectiveness of Forming Portfolios based on RERC Rankings

If RERC's rankings of investment conditions are useful, pursuing a strategy of investing in portfolios of highly ranked properties should, on average, dominant a strategy of investing in portfolios of lowly ranked property types. To examine this hypothesis, for each RERC survey in the sample, the median investment desirability ranking is calculated for the nine property types and sixteen metropolitan areas. Property types or MSAs with investment condition rankings above the median are combined, in equal proportions, to form a highly ranked portfolio, while property types or MSAs with rankings below the median investment condition ranking are combined to form an equally-weighted low ranked portfolio.

An example of this portfolio sorting strategy is contained in Exhibit 5. The first column lists eight property types in the order in which they were ranked in terms of investment conditions in the first quarter 1994 survey. The median ranking, associated with neighborhood shopping centers, was 6.2. The four property types with desirability rankings in excess of 6.2—apartments, industrial warehouses, regional malls, and power centers—are combined to form the equally-weighted highly ranked portfolio. The four property types with average rankings below 6.2 are combined to form the equally-weighted low ranked portfolio. The average

Exhibit 5 | RERC Return Predictability: Returns on High-Ranked Minus Low-Ranked Portfolios

	RERC Ranking 1994:1 ^a	Ave. NCREIF Return 1994:2–1998:1 (%)
Apartment	7.6	11.7
Industrial-warehouse	6.6	11.9
Retail-regional mall	6.5	6.2
Retail-power center	6.4	10.1
Average return		10.1
Industrial-R&D	5.2	14.7
Office-CBD	5.1	9.4
Hotel	4.9	19.7
Office-suburban	4.8	13.0
Average return		14.2
Difference in Portfolio Returns (HML)		–4.3

Notes: The source is RERC *Real Estate Report*, Vol. 23, No. 1 and NCREIF.
^aRated on a scale of 1 = poor to 10 = excellent. The mean ranking, associated with neighborhood shopping centers, was 6.2.

return is then calculated on both the high- and low-ranked portfolios for the four years immediately following the first quarter of 1994. This produces total returns of 10.1% and 14.2%, respectively, for the high- and low-ranked portfolios, a high minus low (HML) difference of –4.3 percentage points (430 basis points).

Exhibit 6 contains the full set of HML portfolio return differentials for the nine property types. Investors who formed portfolios based on the fourth quarter 1991 survey results would have experienced a 3.17 percentage point return differential on the highly ranked portfolio relative to the low ranked portfolio. The average return differential for a four-year holding period is 1.07 percentage points. However, as assumed holding periods increase in length, the average HML return differential quickly becomes negative, falling to –0.95 percentage points for six-year holding periods and –1.12 percentage points for eight-year holding periods. For ten-year holding periods, the return differential is –0.29 percentage points. For the twenty-four combinations of RERC survey results and holding period assumptions, the highly ranked portfolio underperformed low-ranked portfolios by an average of 0.14 percentage points. Although this negative HML differential is not statistically significant, it is clear that portfolios of highly-ranked property types did not outperform low-ranked portfolios. It is also important to note that there was a great deal of variation in the HML differential across the 24 sample cells. This variation is suggestive of a high degree of randomness in holding period returns, even on relatively low-risk investment-grade commercial properties.

Exhibit 6 | Property Type Return Differentials: High-Ranked Minus Low-Ranked Portfolios

Forecast Quarter	4-Yr Holding Period	6-Yr Holding Period	8-Yr Holding Period	10-Yr Holding Period	Average
1991:4	3.17	-0.59	-1.10	-0.48	0.25
1993:1	0.13	-1.74	-1.66	-0.07	-0.83
1994:1	-4.23	-3.57	-2.38	-0.33	-2.63
1995:1	1.17	0.48	-0.12		0.51
1996:1	3.00	1.62	-0.33		1.43
1997:1	2.65	-0.24			1.21
1998:1	-0.13	-2.63			-1.38
1999:1	1.33				1.33
2000:1	2.58				2.58
Average	1.07	-0.95	-1.12	-0.29	-0.14

Note: The sources are NCREIF and RERC *Real Estate Report*, various issues.

Exhibit 7 contains the corresponding set of HML return differentials for the sixteen metropolitan areas. Here, there appears to be some weak evidence that a strategy of investing in highly-ranked metropolitan areas would have outperformed a strategy of investing in low-ranked MSAs. For example, the average HML return differential, assuming a four-year holding period, was 0.53 percentage points. For the twenty-four combinations of RERC survey results and holding period assumptions, high-ranked portfolios outperformed low-ranked MSA portfolios by 0.30 percentage points, although there is a substantial amount of variation in the twenty-three MSA HML differentials. Moreover, this positive 0.30 average return differential has not been adjusted for the significant transaction costs that would be associated with quarterly adjustments of portfolio holdings based on RERC survey results. Even a moderate estimate of such quarterly rebalancing costs would eliminate the 30 basis point average outperformance of highly ranked portfolios.

RERC Survey Rankings are Backward Looking

The evidence presented thus far clearly shows that RERC's rankings of investment conditions are not predictive of future return performance at the aggregate MSA or property level. In fact, further investigation reveals that RERC's rankings are *backward* looking. Consider the rankings and correlations displayed in Exhibit 8. Once again, the first column contains the property type rankings contained in the first quarter 1994 RERC survey. The second column contains the corresponding NCREIF total returns for each property type over the *previous* two years. Property

Exhibit 7 | MSA Return Differentials: High-Ranked Minus Low-Ranked Portfolios

Forecast Quarter	4-Yr Holding Period	6-Yr Holding Period	8-Yr Holding Period	10-Yr Holding Period	Average
1991:4	-1.22	-0.95	-0.41	-0.18	-0.69
1993:1	2.39	1.78	1.48	0.98	1.66
1994:1	1.56	1.11	0.78	0.11	0.89
1995:1	-1.68	-2.17	-1.39		-1.75
1996:1	0.79	0.71	0.02		0.51
1997:1	1.95	1.09			1.52
1998:1	-0.15	-0.34			-0.25
1999:1	0.58				0.58
Average	0.53	0.18	0.10	0.30	0.30

Note: The sources are NCREIF and RERC *Real Estate Report*, various issues.

Exhibit 8 | Correlation of 2004 First Quarter RERC Property Type Rankings with Prior Two-Year Returns

Property Types	RERC Ranking 1994:1 ^a	Prior 2-Yr. NCREIF Return 1992:1–1993:4 (%)
Apartment	7.6	5.1
Industrial-warehouse	6.6	-1.9
Retail-regional mall	6.5	1.7
Retail-neighborhood	6.2	3.9
Industrial-R&D	5.2	-2.6
Office-CBD	5.1	-7.1
Hotel	4.9	2.3
Office-suburban	4.8	-5.4
Correlation	0.67	

Notes: The source is RERC *Real Estate Report*, Vol. 23, No. 1 and NCREIF.
^aRated on a scale of 1 = poor to 10 = excellent.

type investment condition rankings were positively related to NCREIF return performance in the two years prior to the first quarter of 1994. In fact, the correlation was an astounding 0.67.

The complete set of two-year backward looking return correlations is contained in Exhibit 9. The first column reports the results for the nine property types. The average correlation between current quarter investment desirability rankings and NCREIF returns in the prior two years is 0.39. However, there is a great deal of variation across the backward-looking correlations. For example, the correlation of lagged two-year returns with the 1997 survey results was 0.67; the 1999:1 correlation was -0.18 . Clearly, the degree to which RERC survey respondents have based their performance expectations on prior years has varied considerably over time. Moreover, the correlations reported in Exhibit 9 reveal a downward drift in recent years, suggesting less anchoring of return expectations to prior performance. The corresponding backward-looking two-year correlations for the MSA samples have averaged 0.26. Both the property type and MSA correlations are statistically significant and strongly suggest that using aggregate RERC survey results to determine current investment strategies has been akin to driving a car by looking in the rear view mirror.

Why are survey respondents overweighting recent performance when constructing their forecasts? The term used in the behavioral finance literature to describe the behavior is “representativeness bias,” which is overweighting recent returns and

Exhibit 9 | Correlation of RERC Investment Condition Rankings with NCREIF Returns in Prior Two Years

Forecast Quarter	Property Type	Metropolitan Area
1991:4	0.28	0.71
1993:1	0.49	0.35
1994:1	0.67	0.54
1995:1	0.45	0.47
1996:1	0.55	0.45
1997:1	0.63	0.35
1998:1	0.59	0.29
1999:1	-0.18	-0.38
2000:1	0.44	0.28
2001:1	0.26	-0.17
2002:1	0.13	0.00
Average	0.39	0.26

Note: The sources are NCREIF and RERC *Real Estate Report*, various issues.

underweighting long-term averages (Tversky and Kahneman, 1986; Baker, 2002; and Barberis and Thaler, 2003).

Interpretation and Implications of Results

The results reveal that investment strategies based on RERC's quarterly investment conditions rankings since 1991 would not have improved total return performance—the criterion of prime importance to investors. The implications are clear: investors should not focus on predictions of rents, property values, and returns for the broad market segments followed by RERC.

Although it is not certain this result is generalizable, the burden of proof rests with the producers of similar surveys and forecasts.⁷ Future tests of forecasting ability, however, should be based on the ability of the forecast to improve investors' risk-adjusted returns. Jon Southard of Torto-Wheaton Research (TWR) recently published a brief analysis of TWR's ability to forecast MSA level rental growth rates (Southard, 2003). Southard compared the average annualized growth rates in rents from 1998 to 2002 in markets where TWR had forecast the most rapid growth to markets where they had projected the slowest growth in rents. According to Southard, buying properties in TWR's ten top-ranked markets at the beginning of 1998 would have resulted in average annual rent growth of 3.5%, while selling assets in their 10 lowest-ranked markets would have allowed investors to divest of assets with an average -0.70% growth rate. Southard claims that following TWR's rental growth projections “would result in improved returns as the stronger rent growth feeds into stronger value growth.” This assertion is troubling. The market's consensus opinion on rent growth is presumably reflected in the price of properties at the time of acquisition. This implies that buying properties based on the expected magnitude of rent growth may not be consistent with wealth maximization. Rather, investors should look for properties in markets where they are more optimistic about future rent growth than the marginal buyer and seller of such properties. That is, investors “win” when realized rental growth rates are greater than expected by the marginal investor. Said differently, investors could have purchased properties in all ten of the markets in which TWR predicted strong rent growth. However, if realized growth in these markets was less than expected by market participants when the assets were purchased, following TWR's strategy could have been wealth destroying.

What can be done to improve the usefulness of RERC's surveys and projections? First, the publication and discussion of property investment conditions aggregated to the national level is of limited value. Knowing, for example, how office property investments are doing, or expected to do, on average, across the U.S. is information that makes for interesting discussion; however, it is of no value to investors considering the acquisition of office properties located in specific local markets.

What about RERC's MSA-level forecasts? Commercial real estate analysts have traditionally relied on MSA-level data to forecast the performance of properties

located within their boundaries. This reliance on MSA-level data has been largely driven by necessity, for more disaggregated data are only now becoming more widely available. However, as demonstrated by Taylor, Rubin, and Lynford (2000), submarket conditions are likely to be substantially and measurably more important than MSA-level supply and demand conditions in explaining return performance. This aggregation problem is exacerbated if all property types are compounded in a ranking of MSA-level investment conditions.⁸

If investors should not expect to earn abnormal returns by trading on the national- or MSA-level forecasts produced by RERC or other providers of similar forecasts, where should investors focus their limited time and resources? Unfortunately, index products akin to those that mimic the return on the S&P 500 and other stock indices are not available to investors in unsecured commercial real estate markets. The lack of a tradable index requires investors to purchase illiquid, whole assets in local markets.

Until index products are developed for commercial real estate, a “top-down” diversification oriented approach to individual asset selection is recommended. Diversification is a powerful tool for increasing the risk-adjusted return performance of investor portfolios. Moreover, the results presented in this paper strongly suggest that a “naïve” diversification strategy of randomly allocating investment capital across property types and MSAs is likely to be as effective, and much less expensive, as an investment strategy that relies on return forecasts aggregated to the MSA level. This is because, as discussed above, there is no evidence that indicates managers and advisors can consistently pick winners and losers among the MSAs and aggregate property types.⁹

An additional reason for following a naïve diversification strategy is that return variances and correlations across aggregate MSAs and property types appear to be unstable over time. Thus, unlike in the broader capital markets where, say, a low correlation between bond and stock returns, can be expected, the relation between commercial property returns in Boston and returns in San Francisco, or the returns on office properties and the returns on apartment properties, cannot be expected to remain relatively stable over time. In the absence of predictable returns and/or stable return correlations, a simple naïve diversification strategy may be preferable to a more expensive “strategic” allocation strategy.

In addition to pursuing an effective top-down diversification strategy, investors should focus on “deal” specifics, including the analysis of the immediate market area, due diligence and underwriting, and negotiations. Although advisors and managers can rarely consistently time acquisitions and dispositions across MSAs and property types, most investors can benefit from expert advice in identifying and acquiring properties in local submarkets. Managers and advisors should spend more time marketing their deal execution skills and less time promoting their market forecasting abilities.

In summary, investors should focus on both “big picture” diversification issues and effective deal execution at the property level. The acquisition and analysis of

MSA level or aggregate property type forecasts, such as those produced by RERC and other firms, should be a casual hobby, not an activity upon which valuable resources are consistently expended. In short, Cowles' conclusions, first published in 1933 in an article titled "Can Stock Market Forecasters Forecast," apply to commercial real estate markets today. A three-word abstract of Cowles' article concluded: "It is Doubtful."

Endnotes

- ¹ This quote from Bachelier (1900) is taken from Bernstein (1992), page 21.
- ² See, for example, Stoesser and Hess (2000) and Han (1996).
- ³ *Real Estate Report*, summer 2002.
- ⁴ More information is available on the NCREIF website: www.ncreif.com.
- ⁵ This smoothing is thought to result from the tendency of appraisals to lag (*i.e.*, only partially adjust to) true value changes. The appraisal-based smoothing causes downward biased estimates of total return volatility.
- ⁶ The metropolitan areas for which we had data for each survey are Atlanta, Boston, Chicago, Dallas, Denver, Houston, Los Angeles, Miami, Minneapolis, New York, San Diego, San Francisco, Seattle, St. Louis, and Washington D.C. Charlotte, Detroit, Philadelphia, and Phoenix are also included in a number of the surveys.
- ⁷ Another survey of institutional investors that would be interesting to examine for its forecasting ability is the Korpacz Real Estate Investor Survey, published by PricewaterhouseCoopers. Each quarterly issue of the survey contains information on the current and long-range perspectives of buyers' strategies, including key value indicators by market, marketing timing strategies, and expected growth rates. Upon request, PWC would not provide any information on survey respondents other than to report that "there are over 100 participants every quarter." PricewaterhouseCoopers also publishes *Real Estate Value Cycles*. This quarterly publication is said by PricewaterhouseCoopers to provide "a clear and concise understanding of emerging trends in U.S. real estate value cycles." Future research could analyze the ability of these publications to predict future return performance.
- ⁸ Interestingly, required pre-tax IRRs, also published quarterly by RERC, clearly reveal that institutional investors and managers are largely unable to distinguish different levels of risk across property types and, especially, MSAs. This is evident in the fact that, with the possible exception of hotel properties, required, pre-tax IRRs vary remarkably little across property types. Moreover, there is even less variation in required pre-tax IRRs across MSAs. Thus, although RERC publishes investment condition rankings that display a significant amount of variation across property types and MSAs, the same survey respondents report much less variation in required returns across these same property types and MSAs.
- ⁹ Undoubtedly, some readers will have access to proprietary information that "proves" they (or their managers) have been able to consistently pick property type and/or MSA "winners." We invite these individuals to make this information publicly available.

References

- Avramov, D., Stock Return Predictability and Model Uncertainty, *Journal of Financial Economics*, 2002, 64, 423–58.
- ., Predictability and Asset Pricing Models, *Review of Financial Studies*, 2004, 17, 699–739.
- Bachelier, L., *Theory of Speculation*. Translated by A. James Boness. Paris: Gauthier-Villars, 1900.
- Baker, H. K. and J. R. Nofsinger, Psychological Biases of Investors, *Financial Services Review*, 2002, 11, 97–116.
- Barberis, N. and R. Thaler, A Survey of Behavioral Finance, In *Handbook of the Economics of Finance*, G.M. Constantinides, M. Harris, and R. Stultz (Eds.), North-Holland, 2003.
- Bernstein, P. L., *Capital Ideas: The Improbable Origins of Modern Wall Street*, The Free Press, New York, NY, 1992.
- Brooks, C. and S. Tsolacos, International Evidence on the Predictability of Returns to Securitized Real Estate Assets: Econometric Models versus Neural Networks, *Journal of Property Research*, 2003, 20, 133–55.
- Campbell, J. Y. and R. J. Shiller, 1988, Stock Prices, Earnings, and Expected Dividends, *Journal of Finance*, 1988, 43, 661–76.
- Cowles, A., Can Stock Market Forecasters Forecast?, *Econometrica*, 1933, 1:3, 309–24.
- ., Stock Market Forecasting. *Econometrica*, 1944, 12:205–14.
- Cooper, M., D. Downs and G. Patterson, Asymmetric Information and the Predictability of Real Estate Returns, *Journal of Real Estate Finance and Economics*, 1995, 20, 225–44.
- Cremers, K. J., Stock Return Predictability: A Bayesian Model Selection Perspective, *Review of Financial Studies*, 2002, 15, 1223–49.
- Doukas, J. A., A Test of Errors-in-Expectations Explanation of the Value/Glamour Stock Returns Performance: Evidence from Analysts' Forecasts, *Journal of Finance* 2002, 57, 2143–65.
- Geltner, D. and D. C. Ling, Ideal Research and Benchmark Indexes in Private Real Estate: Some Conclusions from the RERI/PREA Technical Report, *Real Estate Finance*, 2001, 17, 1–12.
- Han, J., Targeting Markets is Popular: A Survey of Pension Real Estate Investment Advisors, *Real Estate Finance*, 1996, Spring, 66–75.
- Karolyi, G. A. and A. B. Sanders, The Variation of Economic Risk Premiums in Real Estate Returns, *Journal of Real Estate Finance and Economics*, 1998, 17, 245–62.
- Kallberg, J. G., C. L. Liu and C. Trzcinka, The Value Added from Investment Managers: An Examination of Funds of REITs, *Journal of Financial and Quantitative Analysis*, 2000, 35, 387–408.
- Keim, D. B., Predicting Returns in the Stock and Bond Markets, *Journal of Financial Economics*, 1986, 17, 357–90.
- Kosowski, R., A. Timmerman, H. White and R. Wermers, Can Mutual Fund 'Stars' Really Pick Stocks? New Evidence from a Bootstrap Analysis, Working Paper, 2004.
- Li, Y. and K. Wang, The Predictability of REIT Returns and Market Segmentation, *Journal of Real Estate Research*, 1995, 10, 471–82.

- Ling, D. C., A. Naranjo and M. D. Ryngaert, The Predictability of Equity REIT Returns: Time Variation and Economic Significance, *Journal of Real Estate Finance and Economics*, 2000, 20, 117–36.
- Liu, C. H. and J. Mei, The Predictability of Returns on Equity REITs and Their Co-Movement with Other Assets, *Journal of Real Estate Finance and Economics*, 1992, 5, 401–18.
- Mei, J. and C. Liu, 1994, The Predictability of Real estate Returns and Market Timing, *Journal of Real Estate Finance and Economics* 1994, 8, 115–35.
- Ogden, J. P., The Calendar Structure of Risk and Expected Returns on Stocks and Bonds, *Journal of Financial Economics*, 2003, 70, 29–67.
- Samuelson, P. A., Challenge to Judgment, *Journal of Portfolio Management*, 1974, 1, 17–19.
- Southard, J., More on TWR Forecast Accuracy, *TWR About Real Estate*, 2003, 4:35, September 9 (www.tortowheatonresearch.com).
- Stoesser, J. W. and R. C. Hess, Differentiating Higher Return Strategies in Property Markets, Prudential Real Estate Investors, August 2000 (www.prudential.com).
- Taylor, M., G. Rubin and L. Lynford, Submarkets Matters! Applying Market Information to Asset-Specific Decisions, *Real Estate Finance*, 2000, Fall, 7–26.
- Tversky, A. and K. Daniel, Rational Choice and the Framing of Decisions, *Journal of Business* 1986, 59, 251–78.
- Wermers, R., Are Mutual Fund Shareholders Compensated for Active Management ‘Bets’?, Working Paper, 2003.
- Xie, Y., Learning About Predictability: The Effects of Parameter Uncertainty on Dynamic Asset Allocations, *Journal of Finance*, 2001, 56, 205–46.

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