Realized vs. Required Rates of Return & What it Means to the Real Estate Industry

by Kenneth P. Riggs, Jr., CRE, & Ryan W. Harms

Introduction

Today's institutional real estate environment is dynamic. One only has to take a brief look at its storied past to see the roller coaster ride it has taken over the past 20 years. Fortunately, institutional real estate has begun the maturation process, or so it seems. Today's investors are exerting more control and are paying closer attention to the tell-tale signs of an impending market slowdown, with most of this control generated from an increase of information available in the commercial real estate market and the influence of the public market real estate vehicles. The importance of technology and "real-time" information has turned the archaic real estate ways of old, obsolete.

The profile of today's successful investor is one that includes descriptives such as informed, tenacious, technologically affluent, and well-read. As summed up by Andrew Carnegie, the steel magnate and multi-millionaire, "There is scarcely a man who has made a fortune by speculation and kept it." In today's instant access environment, the informed investor, more times than not, gets the cash cow.

With this in mind, the authors take you through a historical return analysis of institutional real estate investment and show how information can enable investors to predict future trends in commercial real estate.

History

The history of the commercial real estate as an institutional investment can be traced by examining pension fund investment as an asset class.

About the Authors

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As reported in "Risks and Rewards in Real Estate: A Historical Perspective," prepared by Real Estate Research Corporation (RERC) in April 1983, unlike their European counterparts, U.S. pension funds had just begun in the late 1970s and earlier 1980s to exhibit a true commitment toward commercial real estate investment.[1] This is contrasted to the large Dutch and German pension funds that began investing in real property in their own countries in the 1950s. First Chicago's Real Estate Fund F, established in 1973, was one of the first real estate funds for pension investors; and as of 1983 had approximately 100 participants with a core investment portfolio of 77 properties. The age of the industry is also documented by the industry's first standardized real estate performance report being published in the first quarter of 1978. In this context, even a casual observer would recognize that the institutional real estate industry is young—20 years or so—compared to the stock and bond markets. In retrospect, is it shocking that the young industry hit the wall in the late 1980s and experienced the most significant depression ever witnessed for any commercial real estate market—the proverbial 100-year flood? The infancy of the real estate market and lack of consistent and readily available information were some of the main drivers in the late 1980's real estate fallout.

The need for concise real estate information on required and realized returns spawned the inception of the National Council of Real Estate Investment Fiduciaries' (NCREIF) Index in 1978, and the introduction of surveyed investment criteria like the Real Estate Research Corporation's (RERC) Real Estate Investment Criteria in 1979. Investors have long demanded bellwether indicators of changes in the U.S. private equity commercial real estate market. This has led us, as analysts in investment activity, to combine sources and reliable data to provide a barometer for investment activity and to predict future trends in commercial real estate.

In a perfect world, investors would favor actual property transaction data that involves similar types of property that are used to develop the indexes. However, the problem is that real estate, by its nature, does not lend itself to continuous, efficient trading mechanisms like the stock and bond markets, although more recently the public markets provide more real-time investment information. Real estate trades are infrequent, their terms are highly property-specific, and the number of trades germane to a particular analysis is limited. Moreover, details on transactions are seldom publicly available. Although institutional real estate advisors and investors usually compile performance reports internally, and many also participate in public databases, these databases are typically retrospective and involve realized returns that are not readily available to the investment community.[2]

SOURCES OF DATA

The most widely utilized database of historic, realized institutional real estate all-equity returns is the NCREIF Property Index (NPI), published by the National Council of Real Estate Investment Fiduciaries. Other sources for these data are the National Association of Real Estate Investment Trusts (NAREIT) and Evaluation Associates, Inc. Although the NAREIT Index is market-based, we cannot use its return data for 100 percent equity real estate realized returns because the NAREIT data reflects leveraged returns and the returns are influenced by being a public company. The NPI is the most relevant, despite some limitations, for the purposes described in this manuscript. The index is widely available, and the time series covers a lengthy real estate cycle, although it may yet suffice to filter out extreme cycles. NCREIF returns will be used as a basis for realized returns (ex post). We recognize the appraisal-bias issue involved with the NCREIF data, but ultimately, it is the most credible and readily available source of realized return data.[3]

The Real Estate Research Corporation (RERC) has conducted and published required (expected) returns from investment surveys since 1979. RERC's quarterly survey augments the expected yield rate responses with personal interviews and monitors change in market fundamentals, such as capital availability, supply and demand in each asset class, and overall investment strategies. The investment criteria detailed in the survey include current property-type preferences, income and expense growth rates, and the expected (ex ante) yield rates used by real estate investors in discounted cash flow analyses. Required rates of returns in this manuscript will be based on investment surveys.[4] As further illustrated herein, surveys of pension funds, pension fund advisors, lending institutions, and corporate and other investors provide timely insights into current investment criteria and can be a good prediction model of future trends for realized returns.

The commingling of RERC's Real Estate Investment Criteria and NCREIF's Index appears to become the benchmark for tracking realized and required returns in the dynamic real estate market. As investors know, no investment market is perfect—

there has and always will be business and investment cycles with their inevitable peaks and valleys. The world in which we live is extremely complex and unpredictable, and this instability is even more pronounced with the addition of technology. We have entered into a technological age that has garnered the echoed term, New Economy. Granted, we will experience life and business as we never have before at levels never dreamed of; but be assured, economic and investment cycles will endure in this new market order. To verify investment cycles and irrational exuberance, we need only turn our attention to the volatile technology and dot.com sectors of today's stock market where we see these characteristic unstable market fundamentals played out in real-time.

REALIZED & REQUIRED RETURNS

The industry is roughly 10 long years past that brain damage period of the late 1980s. With that lesson behind us, all industry players are trying to assess what the next phase of the real estate cycle will look like, feel like, and how it will affect them professionally. We tend to study the physical and capital markets, and complete rigorous economic analyses to find clues about state of the market. However, the ultimate issue is predicting performance—realized versus expected total returns (promise made... promise delivered...promise broken). In an effort to uncover if the past can provide any clues as to what is in store for the future of the industry, it is important to analyze the relationship of realized and required rates of return for real estate over the past 20 years. Realized returns are defined as those returns that an investment actually generates through a total return comprised of cash flow and appreciation in value. Required returns, on the other hand, are those returns (total return comprised of cash flow and appreciation in value) that investors are currently seeking in order to make new investments. This spread (realized minus required returns) analysis is done on a total return basis, which is the most crucial to investors; however, we also consider income returns, only to uncover potential trends about pricing risk in real estate.

To the authors, this relationship (realized minus required total returns) is what ultimately drives any investor's decision to place a bet or not, regardless of the type of investment—stocks, bonds, venture capital, etc. Generally, investors analyze the variance of returns to measure risk that allows them to address complex decisions about allocating money to various asset types—stocks, bonds, real estate, etc. Equally important to this process is measuring

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downside risk. Risk is defined as the exposure to a chance of loss or the degree of probability of loss. Behavioral decision research has cast serious doubt on the descriptive validity on classical decision-making theory. The latter assumes that investors are rational, risk averse, and integrate asset decisions or make decisions on a portfolio basis. Whereas, behavioral finance theorists do not believe that the market is necessarily rational, that investment decisions are made in isolation, and that the market may be a risk seeker in certain situations. For purposes of this manuscript, the most important aspect of behavioral finance is the notion that investors are more loss-averse than risk-averse. Investors feel more pain from losses than they feel good about the same level of gains.

Our spread analysis allows for a downside risk view. If recent realized returns are above current required returns, investment capital views the opportunity as a good bet, or a no-brainer. Investors will keep funding new investments that result in new construction, ultimately forcing realized returns down toward required levels and most likely below required returns—the market is not perfect and will oversell investment opportunities. The real issue is how far does the market overshoot its target – if overzealous, it might even kill its investment appeal. The net result over time is that realized returns should equal required returns, which

simply means that you have positive spread (realized minus required returns) periods that will equal negative spread periods. Implicitly, the ability of the market to even-out its negative spread periods with positive spread periods assumes that the market has readily and easily available sources of information and market prices that are reflective of this market.

In analyzing the historical differences between realized and required rates of returns we can also assess spread levels during different investment cycles. As the industry matures, there is consensus that the amplitudes of the cycle have changed, and if this is the case, what does this mean for real estate investors?

ALL PROPERTY TYPES

Figure 1 (on page 10), charts total (income & appreciation) realized versus required returns for all property types as reported for the NCREIF Property Index (NPI) and RERC's Quarterly Investment Survey. The attraction of institutional capital to real estate can be seen by the positive spreads (calculated by subtracting total – income & appreciation – realized returns from required returns) for 1979 and 1980 of approximately 6.0 percent and 2.0 percent. It is interesting to note that in its first 10 years, starting from its inception in 1973, Fund F had produced attractive returns that outdistanced inflation and had been more attractive returns than the stock and bond markets. It is not surprising that these high risk-adjusted returns attracted capital to the industry. In addition, there was a confluence of other factors—a favorable real estate tax code, financial deregulation, and ERISA diversification requirements—that contributed to what was in store for the industry. The spread quickly turned to a negative 7.0 percent in 1983 and recovered in 1984 but stayed in negative territory, 2.0 percent to 4.0 percent up until 1990. During the first 10 years of the industry's institutional existence, the real estate market was experiencing the biggest development boom witnessed since the 1950s. The bloom quickly came off the rose. The following period is etched in most investors' minds as a real estate depression—spreads between realized and required total returns went negative by 10.0 percent to 18.0 percent between 1990 and 1993. The term did not exist then, but real estate was the 'dot.com' of its day. Investors strongly subscribed to the belief that real estate rents and values always went up. Perhaps there is a lesson that today's technology investor will recognize cycles and a regression toward the mean, wishful thinking. There will always be cycles and an industry that is considered the dot.com of the day where the hot money flows. After the real estate trough, the negative spreads dissipated and only turned positive for 1997 and 1998 with a positive total return spread of roughly 3.0 percent to 5.0 percent. The recent total spreads for 1999 and 2000 are essentially zero.

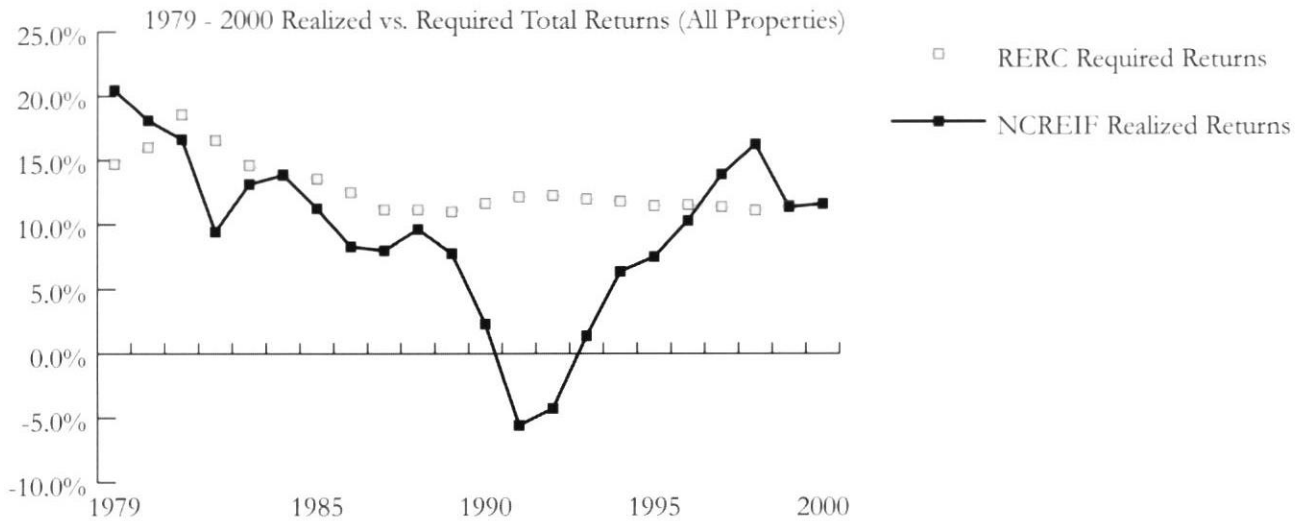
The above historical analysis for total (income & appreciation) realized versus required returns demonstrates that the market has been a poor judge of pricing risk in real estate. The approximate 20-year average total realized and required returns are 9.5 percent and 12.9 percent, respectively, for a negative spread of 3.4 percent. The gap widens if we consider only actual properties sold in the NPI. According to Jeffrey D. Fisher, Dunn professor of real estate at Indiana University and NCREIF's consulting director of research and technology, the average for the NPI for properties that have sold (removing the appraisal bias) is approximately 8.0 percent. This suggests a negative total return spread of 4.9 percent over the past 20 years from the required return average.

This significant negative spread is one of the reasons that pension real estate investments represent, on average, less than 3 percent of their total portfolio and for those pension plans that have a real estate allocation, real estate represents 7 percent of the total portfolio. Before drawing conclusions and implications on the negative spread analysis for total returns presented above, the authors will analyze the spread for the income component only and then analyze the total return spread for individual property categories.

Figure 2 (on page 10), reflects the spread between realized and required overall capitalization rates (income component) for the period of 1978 to 2000. The overall capitalization rate (OAR) is defined as net operating income before capital expenditures (tenant improvements, leasing commissions, and reserves) divided by the property value and/or sale price. As mentioned beforehand, an appraisal bias exists in the NCREIF total return data and this bias has also been found to extend to the income component used to develop the overall capitalization rate.[5] There are other more subtle issues influencing the derivation of OARs from both sources; however, for purposes of our historical spread analysis, the data sets are the most reliable and readily available. It can quickly be observed that the spread was at its highest level in 1981 at roughly minus 3.0 percent, meaning that realized OARs were below required

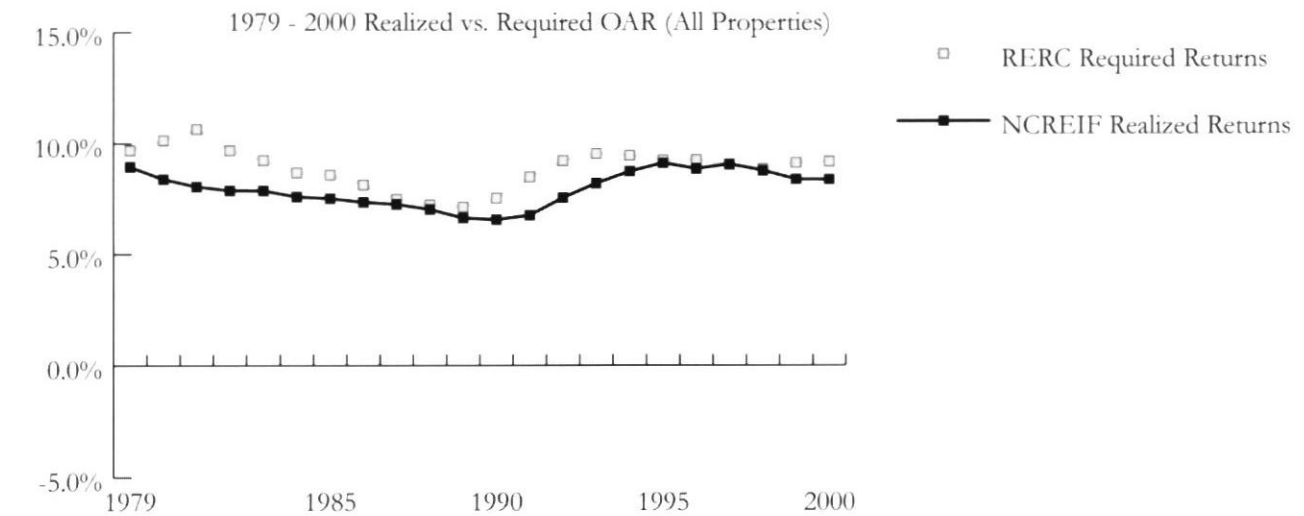
Figures 1 & 2

Figure 1



Source: National Council of Real Estate Investment Fiduciaries, Real Estate Research Corporation

Figure 2

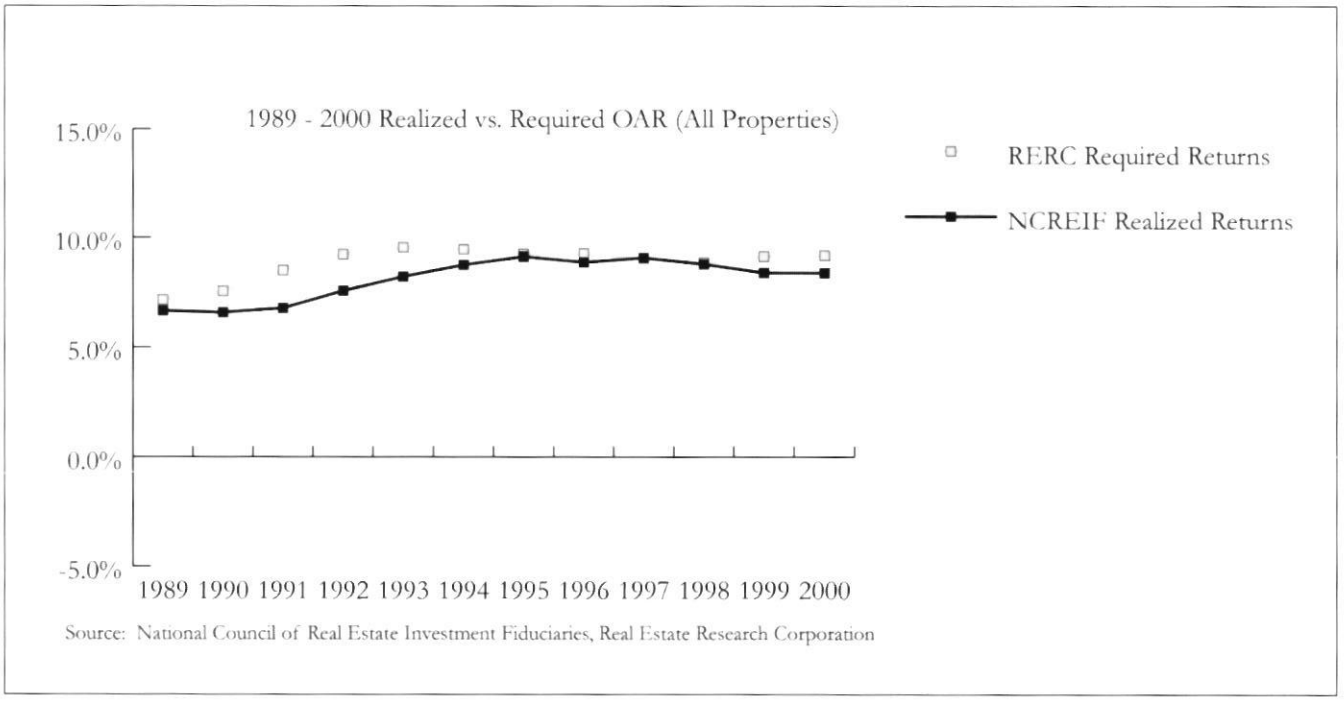


Source: National Council of Real Estate Investment Fiduciaries, Real Estate Research Corporation

OARs. This observation is most likely explained by recognizing that 1981 was the height of the inflation period and it was the beginning of the institutional real estate period. From that point on, the spread is much more stable at around minus 1.0 percent to 2.0 percent, and that includes the period between 1990 and 1993, which reflects a general average spread of minus 1.5 percent. The informed investor (survey respondent) can now recognize the path of real estate returns in the future and price the risk of the income component with greater confidence.

Figure 3 more clearly depicts the relative tightness of the OAR realized versus required spreads compared to the total return spreads presented earlier in the manuscript. The difference between the net operating income used to develop the OAR and cash flow is capital expenditures and appreciation/depreciation component. Generally speaking, the formula reflects income plus appreciation or less depreciation (which incorporates value changes adjusted for capital expenditures) equals total returns. The volatility and therefore the risk lies in

Figure 3



these components—predicting capital gains/losses which incorporates capital expenditures. These conclusions tell us that a substantial risk rests in predicting total return rates versus income rate or OAR. Regretfully, the predictability of the income component relationship is not extensively explored in this manuscript, however, future research will show how it can be a tool in developing a total required rate of return. Remember the tenets of the dividend discount model, dividends plus growth equals total return. In making adjustments (be sure to make apples-to-apples comparisons) to the income component for growth may yield a very reliable way to price risk in the real estate market. Again, the relevance here is that it tells us that the ability to predict the direction of the spread between total realized versus required returns rests with understanding capital expenditures and appreciation/depreciation. These may have a very high correlation; as a property loses its competitive position and/or is faced with more competition, it has to spend more money on capital items to maintain its value or else it may see a loss in value. Therefore, the authors will address the capital gain/loss component as the capital expenditure observation.

CAPITAL INTENSIVE VS. NON-CAPITAL INTENSIVE

To further examine this capital expenditure (CapX) observation, we analyzed properties that are less capital intensive (industrials and apartments) versus more capital intensive (office and retail). *Figures 4 through 7* (see pages 12 & 13) present historical spreads of realized versus required returns for 1989 through 2000 for these property types.

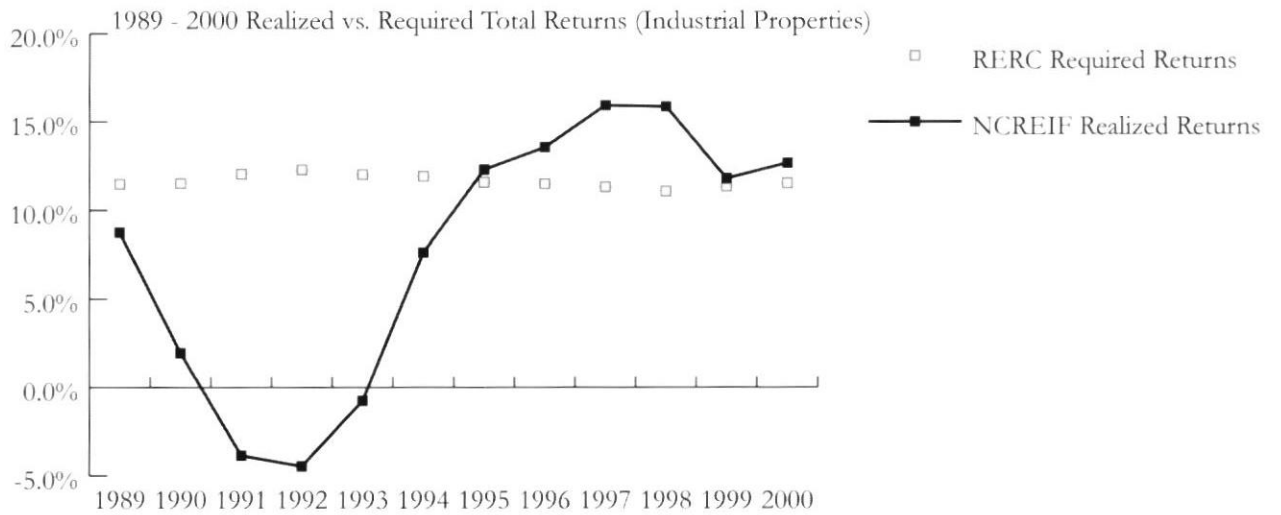
As reflected in *Figures 4 through 7*, industrial and apartment properties continue to maintain a positive spread where total realized returns exceed required returns. Investors have recognized the predictable, stable attribute of these properties and in RERC's survey of the market, investors have consistently placed them as their favorite property types. Turning to the capital intensive property types of office and retail, we see office total realized returns still holding up in positive spread territory, but retail has been negative for the past couple of years. The performance of retail has not met investor expectations, due mainly to the industry being over-built and resulting in significant amounts of capital being spent to maintain competitive market positions. On the other end, office markets have generally stayed in balance and delivered solid performance between 1995 - 2000. Overall, realized and required returns have remained relatively proximal to each other from 1990 through the present.

CONCLUSION

The cliche "time will tell" still rings true for our maturing real estate market. The commercial real estate market for institutional investors is relatively young and its investors have learned some hard lessons about placing bets on the asset class. The

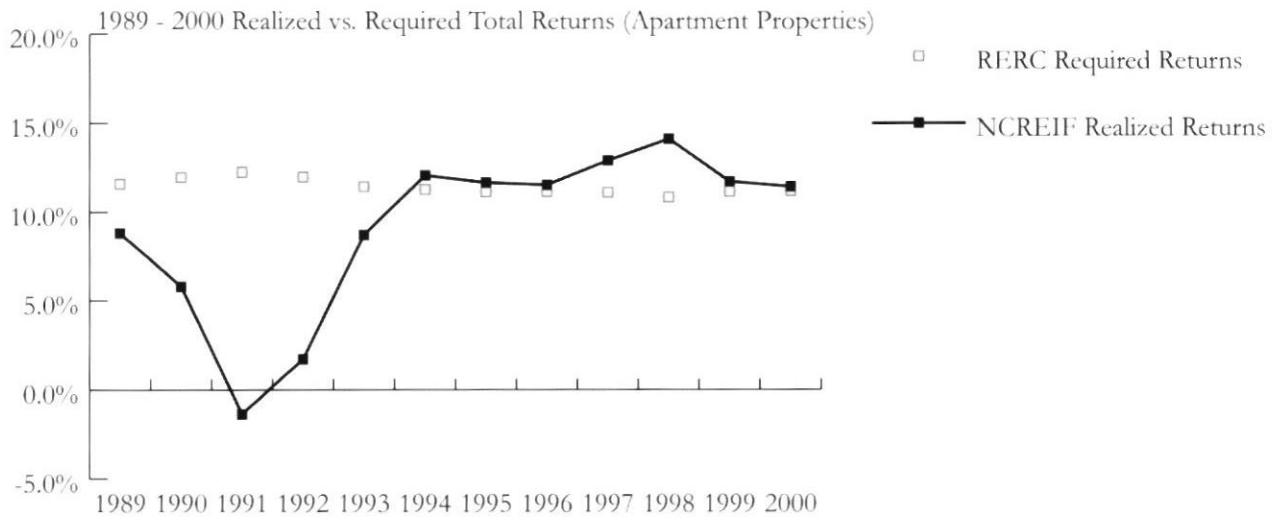
Figures 4 & 5

Figure 4



Source: National Council of Real Estate Investment Fiduciaries, Real Estate Research Corporation

Figure 5



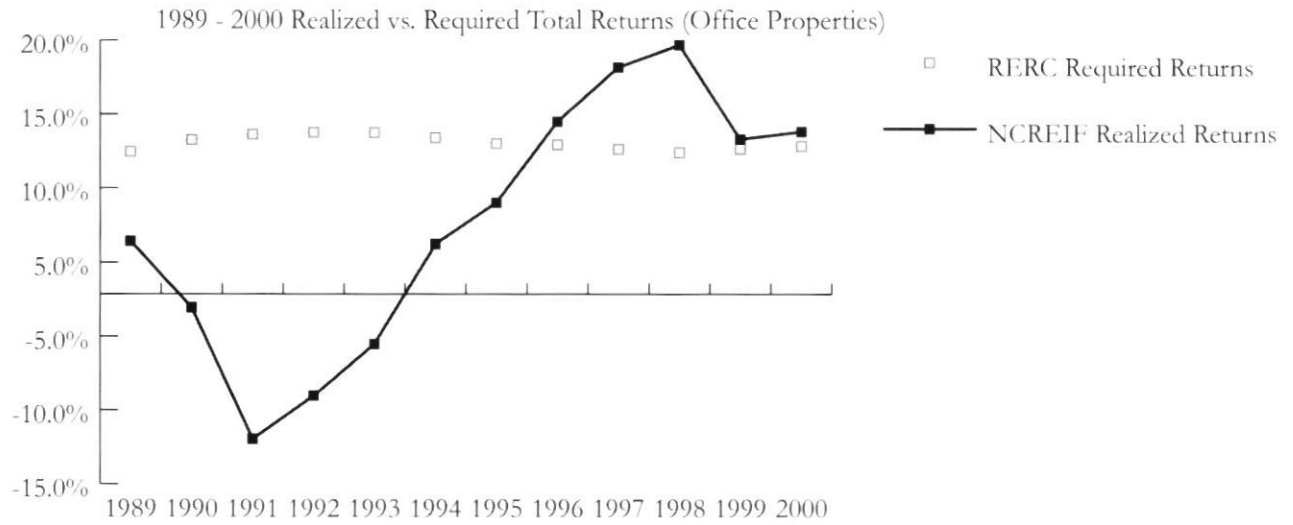
Source: National Council of Real Estate Investment Fiduciaries, Real Estate Research Corporation

real estate depression in the late 1980s/early 1990s brought the asset class to its knees and over time converted the industry to a performance-driven environment. Real estate originally was sold based on which developer had the best glossy photos, with the deals being done behind closed doors — no more. Information and performance catch the attention of the analysts and investors; they drive investment decisions to allocate capital to the industry. One thing is for sure when digesting this data: timely and plentiful information has and will continue to be key to successfully predicting the real estate trends.

The real estate asset class evolution is no different than that experienced by the stock market when it began as a widely accepted institutional investment. Prior to the 1960s, institutional investors focused primarily on the bond market and the stock market was 90 percent controlled by individual investors. It was not until Wall Street recognized the need for credible historical data in the 1960s and

Figures 6 & 7

Figure 6



Source: National Council of Real Estate Investment Fiduciaries, Real Estate Research Corporation

Figure 7

Source: National Council of Real Estate Investment Fiduciaries, Real Estate Research Corporation

funded a research center did stocks become a mainstream investment. The result of the hunt for credible historical investment performance information then was the formation and funding of the Center for Research in Security Prices (CRSP), a financial research center at the Graduate School of Business at the University of Chicago. CRSP files now cover common stocks listed on all major exchanges. The unparalleled accuracy of their data files has made them a staple of academic and commercial research since 1960, and is credited with priming stock investments in becoming the heaviest weighted asset class in a pension portfolio.

Real estate is entering into the earlier phases of what the stock market experienced some 40 years ago. As reported in this manuscript, NCREIF Property Index (NPI) is now 20 years old. It is available to its members online and is continuing to develop new reports for the industry. Real Estate Research Corporation (RERC) has been monitoring investor expectations for over 20 years. The industry is finally

at a point where it is possible (through an analysis of both RERC's investment criteria from survey respondents and the realized returns from NCREIF) to more confidently predict risk and return characteristics for commercial real estate.

The analysis of these sources of industry information allows an investor to compare realized versus required rates of return. The authors have used this analysis to demonstrate that on average the industry has historically done a relatively poor job of pricing total risk or uncertainty of real estate returns. The income component analysis through overall capitalization rates (OAR) showed that the spreads between realized and required OARs have and continue to be narrow. This finding suggests that a dividend discount model style of analysis may serve as a good basis for developing a total discount rate. Finally, the uncertainty in pricing real estate risk rests with assessing the impact of the appreciation/depreciation component of the total return, which incorporates capital expenditures.

The industry will continue to develop in its ability to price risk for the real estate markets through better sources of return data. The acceleration necessary to accomplish this effort will be extremely quick due the availability of technology. Perhaps the future will bring us the stability to watch real estate tickers scroll across the bottom of computer screens with investors trading index futures for real estate around the world. REI25

NOTES

1. Lachman, L., Bolan, L., "Risks and Rewards in Real Estate: A Historical Perspecitve," (Real Estate Research Corporation, 1983).
2. Riggs, Kenneth P., "Pricing risk: Choosing a discount rate," (*Real Estate Issues* Vol.21 No.2, 1996), pp. 16-22.
3. Fisher, J., Geltner, D., Webb, R.B., "Value Indices of Commercial Real Estate: A Comparison of Index Construction Method," (*Journal of Real Estate Finance and Economics*, 1994), pp. 463-481.
4. Real Estate Research Corporation (RERC), *Real Estate Report*, 1979-2000.
5. Fisher, Jeffrey D. "Trends in capitalization rates from the NCREIF database: Twenty years of sold properties," (*Real Estate Finance*, 2000), pp. 35-40.

ABOUT THE AUTHORS

(continued from page 6)

RERC, he has performed numerous investment analyses of industrial, retail, apartment, and office buildings across the nation. In addition, Harms ssists institutional investors in developing partnership agreements in large commercial real estate transactions. [redacted])