US PENSION FUND INVESTMENT IN REAL ESTATE: A TWENTY-FIVE YEAR HISTORY & FIVE YEAR FORECAST

Daniel Paul McCadden

&

Peter Timothy McNally

Submitted to the Department of Urban Studies and Planning on August 5, 1996 in partial fulfillment of the requirements for the degree of Master of Science in Real Estate Development at the

Massachusetts Institute of Technology

Abstract

Pension funds are the largest single source of investment capital in the United States, currently representing approximately $3.4 trillion. They have, however, had a short and tumultuous history of investment in real estate. Due to the devastating losses incurred by the industry during the early 1990's real estate down cycle, these institutions are rightfully apprehensive in rolling over existing investments and/or committing additional capital to real estate investment.

In general, there is much debate over proper allocations and acceptable investment vehicles. And, with the explosive growth in the public REIT and CMBS markets, along with the introduction of some new opportunistic funds, plan sponsors have a growing array of investment options in which to research, understand and pursue.

Working in cooperation with the Pension Real Estate Association (PREA), the authors surveyed twenty-eight plan sponsors (all with assets among the largest 200 US pension funds) with a current aggregate real estate portfolio of $30 billion (approximately 5.12% of their total plan assets) and forty-nine real estate advisory firms with a current total of $136 billion under management. The objective of the survey was to determine how pension fund investors currently view the real estate investment market, how much capital is being allocated to real estate, and to what type of investment vehicles this capital will flow.

Based on survey results, pension fund investment in real estate is indeed quite strong, with most funds increasing the percentage of capital allocated to real estate by 50%. Real estate investment is clearly being treated as more tactical in nature. Plan sponsors as a group are seeking greater liquidity and control over their investments and are actively diversifying their holdings into the public markets, particularly in the REIT sector. While the advisory business will continue to manage an increasing amount of capital, it will act as an intermediary to a smaller percentage of the total real estate capital, in part due to an anticipated decrease in ownership of commingled funds and the plan sponsors’ increasing appetite for separate account investment.

Thesis Supervisor: Blake Eagle
Title: Chairman, MIT Center for Real Estate
ACKNOWLEDGMENTS

This thesis is dedicated to my wife Caitlin, whose sacrifices and unwavering support throughout this disruptive year have made my educational experience at MIT all the more enriching.

- Peter T. McNally

This thesis is dedicated to my parents and my entire family. Their foresight and encouragement, coupled with their significant sacrifices, have made so many wonderful things possible, only one of which has been my experience here at MIT.

- Daniel P. McCadden

Special thanks is given to Blake Eagle, Chairman of the MIT Center for Real Estate. A renowned authority in the pension fund consulting business, Blake grilled us on the basics and then walked us through many of the subtleties and nuances involved in this enthralling facet of the real estate business.

Additional thanks is offered to the Pension Real Estate Association, and in particular, Gayle Haynes, PREA’s executive vice president. Without her help the surveys included in this thesis, which are such an integral part of our conclusions, would not have been possible.

A note of thanks is also extended to the advisors and plan sponsors who, in the spirit of academic research, completed the questionnaires and took the time to meet with the authors to discuss the changes occurring in their businesses.
Table of Contents

ABSTRACT ........................................................................................................................................... 2

ACKNOWLEDGMENTS .......................................................................................................................... 3

INTRODUCTION AND THESIS OVERVIEW ......................................................................................... 6
INTRODUCTION AND OVERVIEW OF THESIS AND SURVEYS .............................................................. 6

CHAPTER ONE ....................................................................................................................................... 8
AN HISTORICAL OVERVIEW OF PENSION FUND INVESTMENT IN REAL ESTATE: 1970’s ................. 8
  Pension Fund Inquiry in the 1970’s ......................................................................................................... 8
  Modern Portfolio Theory ....................................................................................................................... 8
  Inflation .................................................................................................................................................. 9
  The Growth of Pension Plan Assets ...................................................................................................... 10
  Employee Retirement Income Security Act .......................................................................................... 12
  Pension Fund Investment Strategy During the 1970’s ......................................................................... 12
  Real Estate Investment Performance During the 1970’s .................................................................... 15

CHAPTER TWO ..................................................................................................................................... 18
THE PROPERTY MARKETS AND PENSION FUND INVESTMENT STRATEGY IN REAL ESTATE: 1980’s .... 18
  The Property Markets: 1980 - 1985 ..................................................................................................... 18
  The Advent of the Advisory Business .................................................................................................. 20
  Closed-end Commingled Real Estate Funds ......................................................................................... 21
  Direct Investment .................................................................................................................................. 22
  Real Estate Advisory Industry Summary .............................................................................................. 23
  Tactical versus Strategic Nature of Real Estate Investment ............................................................... 23
  Oversupply of Capital to Real Estate: 1985-1989 ............................................................................... 25
  Conclusion ............................................................................................................................................ 28

CHAPTER THREE ................................................................................................................................... 30
INNOVATION, SECURITIZATION AND THE START OF A MAJOR MARKET RECOVERY: 1990 - 1995 ....... 30
  The Sale of Discounted Mortgages and Properties ............................................................................. 32
  Commercial Mortgage Backed Securities (CMBS) .............................................................................. 34
  Real Estate Investment Trusts ................................................................................................................ 35
  The Present State of Institutional Investment in Real Estate: 1995 - 1996 ........................................... 38

CHAPTER FOUR ..................................................................................................................................... 40
A LOOK AT CURRENT INVESTMENT STRATEGIES: SURVEY RESULTS .................................................. 40
  Introduction ............................................................................................................................................ 40
  Objective of the Survey .......................................................................................................................... 41
  How pension plans view the real estate market: Asset Class or Industry Sector? ............................... 41
  How pension plans view real estate investment: Strategic or Tactical? ............................................. 43
  Current versus Targeted Real Estate Allocations .............................................................................. 45
  The Evolution of the Real Estate Portfolio .............................................................................................. 46
  Private Equity ......................................................................................................................................... 49
  Private Debt .......................................................................................................................................... 50
  Public Equity ......................................................................................................................................... 51
  Public Debt .......................................................................................................................................... 52
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted Real Estate Returns</td>
<td>53</td>
</tr>
<tr>
<td>Leverage</td>
<td>54</td>
</tr>
<tr>
<td><strong>CHAPTER FIVE</strong></td>
<td>57</td>
</tr>
<tr>
<td><strong>How Capital is Being Invested and its Effect on the Real Estate Advisory Business</strong></td>
<td>57</td>
</tr>
<tr>
<td>A Look at Assets Under Management</td>
<td>57</td>
</tr>
<tr>
<td>Discretion</td>
<td>59</td>
</tr>
<tr>
<td>Separate Accounts</td>
<td>60</td>
</tr>
<tr>
<td>Commingled Accounts</td>
<td>63</td>
</tr>
<tr>
<td>Advisors’ Response</td>
<td>63</td>
</tr>
<tr>
<td>Plan Sponsors’ Response</td>
<td>64</td>
</tr>
<tr>
<td>Opportunistic Investment</td>
<td>65</td>
</tr>
<tr>
<td>Co-Investment with Private Operating Companies: Trend or Fad?</td>
<td>67</td>
</tr>
<tr>
<td><strong>CHAPTER SIX</strong></td>
<td>70</td>
</tr>
<tr>
<td><strong>Conclusions, Outlook and Predictions: 1995 - 1996</strong></td>
<td>70</td>
</tr>
<tr>
<td>The State of the Property Markets: 1995 - 1996</td>
<td>70</td>
</tr>
<tr>
<td>Pension Fund Investment in Real Estate</td>
<td>71</td>
</tr>
<tr>
<td>The Stock Market versus Real Estate: 1995 - 1996</td>
<td>73</td>
</tr>
<tr>
<td>Asset Class versus Industry Sector</td>
<td>75</td>
</tr>
<tr>
<td>Strategic versus Tactical Investment</td>
<td>75</td>
</tr>
<tr>
<td>Leverage</td>
<td>76</td>
</tr>
<tr>
<td>Discretion over Separate Accounts</td>
<td>76</td>
</tr>
<tr>
<td>Commingled Accounts</td>
<td>77</td>
</tr>
<tr>
<td>Opportunistic Investing</td>
<td>79</td>
</tr>
<tr>
<td>Investment in Private Operating Companies</td>
<td>79</td>
</tr>
<tr>
<td>Current versus Targeted Real Estate Allocations</td>
<td>80</td>
</tr>
<tr>
<td>The Four Quadrants</td>
<td>80</td>
</tr>
<tr>
<td>Targeted Returns</td>
<td>81</td>
</tr>
<tr>
<td>A Closing Remark</td>
<td>82</td>
</tr>
<tr>
<td><strong>APPENDIX A: PENSION PLAN SURVEY</strong></td>
<td>83</td>
</tr>
<tr>
<td><strong>APPENDIX B: ADVISOR SURVEY</strong></td>
<td>86</td>
</tr>
<tr>
<td><strong>BIBLIOGRAPHY</strong></td>
<td>89</td>
</tr>
<tr>
<td>Books</td>
<td>89</td>
</tr>
<tr>
<td>Periodicals</td>
<td>89</td>
</tr>
<tr>
<td>Interviewees</td>
<td>91</td>
</tr>
</tbody>
</table>
Introduction and Thesis Overview

Introduction and Overview of Thesis and Surveys

Pension funds are the largest single source of investment capital in the United States, currently representing approximately $3.4 trillion. Since their involvement in real estate began in the early 1970’s, plan sponsors have invested a significant portion of their capital in this asset class and currently hold approximately $150 billion. Up to the late 1980’s, returns were attractive and volatility remained manageable. During the early 1990’s, however, values plummeted and a wave of panic and foreclosure swept over the real estate industry. As a result, the romance between pension fund capital and real estate ended.

Due to the recession of the early 1990’s, real estate investment is treated with a great deal more scrutiny. Better, more detailed information is demanded, and returns are required to be in line with investments in other asset classes if capital is to flow into real estate. In general, there is much debate over proper real estate allocations and acceptable investment vehicles.

The goal of this thesis is to take the current temperature of the pension plan community toward real estate investment. Specifically, the authors seek to determine how the pension plan community currently views the real estate investment market, how much
capital is being allocated to real estate, and to what type of investment vehicles this capital will flow.

To properly answer these questions and to understand the nuances of pension fund investment in real estate, the authors start from the very beginning. Chapter One presents an historical review of institutional investment in real estate during the early 1970's - the time investment in real estate really became fashionable and actually was undertaken. Chapter One concludes with an examination of the fundamental arguments for inclusion of real estate in a portfolio and the criteria plan sponsors used in evaluating investments.

Chapter Two begins with a review of pension fund investment in the 1980's and then discusses the growth of the real estate advisory business. It finishes with a discussion of the devastating real estate crash of the late 1980's. Chapter Three chronicles the rise of the public markets and the start of the real estate recovery in the mid 1990's. Chapters Four and Five, the main focus of this thesis, present the survey results and discuss the potential effects the current sentiment of the pension community is having, and will have, on the advisory business.

As no story would be complete without an epilogue as to what the future holds, Chapter Six gives a brief summary of the current state of the capital markets and the real estate industry's outlook towards its future. Many questions are posed that currently remain unanswered, several of which present possible topics for future theses.
Chapter One

An Historical Overview of Pension Fund Investment in Real Estate: 1970’s

Pension Fund Inquiry in the 1970’s

Prior to the 1970’s pension funds were invested primarily in government bonds and corporate fixed income securities. These investments performed their role in meeting the pension plans’ liabilities. During the 1970’s, however, the financial markets changed dramatically and pension plans began to actively consider real estate in their investment portfolios. In retrospect, four major factors contributed to pension funds’ appetite for investment in real estate in the 1970’s:

1) the advent and acceptance of Modern Portfolio Theory (MPT)
2) high inflation rates beginning in 1965
3) the substantial growth of pension plan assets, and
4) the passage of the Employment Retirement Income Security Act (ERISA)

Modern Portfolio Theory

During the 1960’s, Modern Portfolio Theory (MPT) came into vogue as extensive academic research demonstrated that investment in common stocks provided the necessary diversification for most investment portfolios. Put forth by Harry Markowitz in his 1952 article, MPT is based on the premise that portfolios comprised of many different stocks which are not exactly correlated with one another will reduce the overall standard
deviation of the portfolio without reducing its overall expected return. Markowitz' research was truly monumental and today remains the foundation for much of what is known about the relationship between risk and return.¹

Most all pension funds during the 1960’s were invested in broadly diversified portfolios comprised, in large part, of common stocks. Pension fund managers had realized that investment in the stock market would earn an investor an additional “risk premium” should the investor’s time horizon be long enough.

By the late 1960’s, however, higher-than-anticipated inflation rates had a significant negative impact on the stock market. Portfolio investors of the late 1960’s and early 1970’s soon learned that stocks decline in value when inflation exceeded anticipated levels.² As a result, attention began to turn away from the stock market as the sole diversifying asset class. Academics and industry practitioners began to evaluate the historical return and volatility characteristics of real estate. Their conclusions resulted in the single biggest argument in favor of including real estate in the portfolio: real estate was negatively correlated to the stock market and less volatile. MPT evolved in that it considered the interrelationship among asset classes just as it did individual securities. Clearly real estate was a massive asset class which comprised a significant part of the US economy.

**Inflation**

By the early 1970’s, inflation was a major factor to consider when devising investment strategy. From 1952 to 1965, the rate of inflation continued in the range of

---

² Frank Russell Company, Revisiting the Case for Pension Fund Investment in Real Estate, October 1990
1% to 4%. After 1965, the rate of inflation began to follow a pronounced upward trend, eventually exceeding 12% by 1974.\(^3\) Investments in financial assets performed abysmally during this time period. Real returns for stocks were negative 8.4% for the five year period ending 1974 and negative 3.8% for the ten year period ending 1974. As a result, pension funds began seeking investments which provided a hedge against inflation. Portfolio analysts who began to discover real estate's negative correlation with other asset classes also observed its apparent hedge against inflation.

**The Growth of Pension Plan Assets**

While high inflation rates were becoming accepted as somewhat permanent, pension fund assets were steadily increasing. Large employers were not only offering more and more generous "defined" retirement benefits, but, in addition, the size of the American private sector workforce enrolled in retirement plans was increasing substantially. In 1950, approximately 20% of the private sector workforce was covered under a defined benefit plan. By 1974, this had increased to 50%. During the five years from 1970 to 1974, public and private pension plan assets had grown from a total of $262 billion to $371 billion - an increase of 42%.\(^4\) It became necessary for pension funds to seek meaningful investment outlets outside the stock and bond markets in which to place their capital.

While the growth of retirement plans seemed like a positive social development, the industry-wide management strategies for such a growing pool of capital were not so

\(^{3}\) Center for Research, University of Chicago  
\(^{4}\) Securities & Exchange Commission
obvious. As one representative of a large pension fund stated in 1977, “it may not be too far in the future when the Fortune 500 pension funds end up owning the Fortune 500 corporations.”5 While this statement was clearly an exaggeration, pension investment executives were in a sobering quandary over how to responsibly invest this capital when the funds to be invested comprised such an overwhelming portion of the capital markets themselves. Exhibit I-1 illustrates that by the mid 1970’s, pension funds, with total plan holdings valued at approximately $370 billion, had assets totaling 15% of the total investment grade assets in the United States. Real estate, representing 22% of all investment grade assets, was not then significantly included in their portfolios. That would soon change.

EXHIBIT I - 1

US INVESTMENT-GRADE ASSETS
December 31, 1976

<table>
<thead>
<tr>
<th></th>
<th>Value (billions)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Equities</td>
<td>$1,051</td>
<td>44</td>
</tr>
<tr>
<td>Open Market Paper</td>
<td>72</td>
<td>3</td>
</tr>
<tr>
<td>Corporate Bonds</td>
<td>334</td>
<td>14</td>
</tr>
<tr>
<td>US Treasury Debt</td>
<td>407</td>
<td>17</td>
</tr>
<tr>
<td>Commercial Real Estate</td>
<td>337</td>
<td>14</td>
</tr>
<tr>
<td>Multi-Family Real Estate</td>
<td>201</td>
<td>8</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$2,402</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: “Supply and Demand for Credit in 1977” - Salomon Brothers

5 Frank Russell Company, Revisiting the Case for Pension Fund Investment in Real Estate, October 1990
Employee Retirement Income Security Act

As pension funds were growing rapidly and inflation was having its effect on the investment landscape, landmark legislation was passed in 1974 in the form of the Employee Retirement Income Security Act (ERISA). This legislation governed the funding, vesting, administration, and termination of private pension plans. Not surprisingly, much of the ERISA guidelines were grounded in Modern Portfolio Theory. Simply stated, ERISA stipulated that a pension plan did not put “all its eggs in one basket”. ERISA put forth the “prudent man” rule in that just as it would be imprudent to invest substantially in one common stock, it would be imprudent to invest in only one asset class as well. ERISA required that the pension plan fiduciary “diversify the investments of the plan so as to minimize the risks of large losses, unless under the circumstances it is clearly prudent not to do so.” MPT considered the interrelationship among asset classes just as it did individual securities. Capital turned its attention to the “new” asset class: real estate.

Pension Fund Investment Strategy During the 1970’s

A renowned real estate investment consultant who was interviewed as part of this thesis remembers speaking to a Chief Financial Officer at a Fortune 100 company during the mid-1970’s. The CFO stated that given the opportunity, he would divest all of the

---

6 H.C. Black, Black’s Law Dictionary, Abridged Sixth Edition
firm’s pension plan assets in the stock market and reinvest them in real estate. He emphatically declared that he *would never again invest in the stock market*; he was that disappointed with the performance of the stock market over the previous ten years.

While this anecdote may seem extreme and perhaps somewhat embellished, it is a relevant backdrop to consider when studying real estate investment strategies throughout the 1970’s and 1980’s. The search for different types of investments such as real estate was clearly related to the high inflation of the 1970’s which ravaged the assets of most pension funds comprised mostly of stocks and bonds.\(^7\) As the rational for real estate’s role in the total pension portfolio became convincing, a strategy as to how to make the actual investment was required.

Throughout the 1970’s, most pension fund investment in real estate was achieved through large insurance companies and money center commercial banks (traditional real estate advisory firms did not play a major role until about 1980). As a result of being active in this sector for some time by making long term whole loans on large office and industrial properties, insurance companies and commercial banks presented themselves as having the capabilities and expertise to manage real estate investments. They began by sponsoring open-end commingled funds which had charters giving the portfolio managers broad discretion over investment strategy. Liquidity was promised to investors through a redemption process modeled along the lines of public mutual funds. For the most part, however, buyers of these funds did not require liquidity; their investment holding periods were supposed to be long term, and returns on investment were expected to be quite high.

These first commingled funds were invested primarily in well located, fully or mostly leased office, industrial and retail properties. Diversification was achieved by property type and by geographical region. The investment objectives of the funds were to achieve stable rates of return over the long term with the potential for a kicker of both rental income growth and property appreciation (the inflation hedge). Most of the funds were unleveraged. Acquisition targets were easily recognizable central business district office towers, large suburban office parks, industrial complexes and to some degree suburban retail malls. Acquisitions were typically made after the properties were substantially leased so that development risk was deferred to real estate developers and other entrepreneurs.

By 1976 there were approximately twenty-five large commingled funds offered to the market. The five largest funds, whose assets were valued at $1.6 billion, had the following similar characteristics:

1. Investors were long-term, tax-exempt employee benefit plans.
2. Investment objectives were conservative and sought stable rates of return over time.
3. Acquisition targets were existing and tenanted multi-use income properties. Criteria generally included newer buildings with quality tenants and predictable cash flows.
4. For the most part, the purchase of property was financed with 100% equity.
5. All used the same methodology for valuing assets and measuring performance, i.e. the appraisal process.

In 1977, the five largest pooled real estate funds were also the funds with the longest operating history. Exhibit I-2 provides a brief overview of these funds.

---

8 Frank Russell Company, Real Estate Investments Retirement Plans, October 1977
**EXHIBIT I-2**

**FIVE LARGEST COMMINGLED REAL ESTATE FUNDS AS OF 1977**

<table>
<thead>
<tr>
<th>FUND NAME</th>
<th>PARENT COMPANY</th>
<th>TOTAL ASSETS as of 1977 (millions)</th>
<th>PERFORMANCE from INCEPTION through 6/30/77</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRISA</td>
<td>Prudential</td>
<td>$868</td>
<td>8.0%</td>
</tr>
<tr>
<td>Separate Account No. 8</td>
<td>Equitable</td>
<td>$168</td>
<td>9.2%</td>
</tr>
<tr>
<td>Real Estate Equity Fund</td>
<td>Wells Fargo Bank</td>
<td>$18</td>
<td>9.2%</td>
</tr>
<tr>
<td>Group Fund</td>
<td>First National Bank of Chicago</td>
<td>$105</td>
<td>8.0%</td>
</tr>
<tr>
<td>CPI(^9)</td>
<td>Corporate Property Investors</td>
<td>$473</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

*Source: “Real Estate Investments Retirement Plans”, Frank Russell Company, 1977*

---

**Real Estate Investment Performance During the 1970’s**

In the context of Modern Portfolio Theory, most pension plans determined that the *optimal portfolio weights* to real estate were in the range of 5% to 20% percent of the total portfolio.\(^{10}\) The major factors determining any particular fund’s allocation were:

1. the charter and mission statement of the given pension plan
2. the degree to which investment executives at the pension plan actually believed in or adhered to Modern Portfolio Theory
3. how well a given asset class was performing relative to the other asset classes, and most importantly
4. what most of the other pension plans were doing (it has been well documented that pension plans have a “herd mentality” to investing).\(^{11}\)

---

\(^9\) Corporate Properties Investors was organized as a privately owned REIT. Shareholders were comprised almost solely of tax-exempt employee benefit plans. CPI was a highly leveraged vehicle compared to the other bank and insurance company funds.

\(^{10}\) Interestingly enough, this targeted allocation range has not changed materially to this day.

\(^{11}\) This thesis research has evidenced that these are still the major determinants for investment allocation, although in the future, the most important criteria will be “3” - how well a given asset class is performing relative to the other asset classes.
Pension fund investment in real estate during the 1970's proved a worthwhile venture. As inflation continued at relatively high rates, real estate consistently produced positive real rates of returns. The standard benchmark for measuring performance returns of institutional grade real estate, the Russell NCREIF Index, has only been in existence since 1978. As a result, there was a scarcity of reliable data of historical returns for investment grade real estate prior to this time. However, for the purposes of this historical performance analysis, the authors relied on an article by Ibbotson and Siegel which showed that real estate performed quite well, outperforming the stock market over this ten year period by almost 5%. The data reported in Exhibit I-3 is derived from one of their research sources.

EXHIBIT I - 3

COMPARATIVE RETURNS TABLE FOR THE 1970's

<table>
<thead>
<tr>
<th>YEAR</th>
<th>REAL ESTATE COMPOSITE</th>
<th>STOCKS</th>
<th>LONG-TERM GOVERNMENT BONDS</th>
<th>INFLATION (CPI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>10.76%</td>
<td>4.01%</td>
<td>12.10%</td>
<td>5.49%</td>
</tr>
<tr>
<td>1971</td>
<td>9.38%</td>
<td>14.31%</td>
<td>13.23%</td>
<td>3.36%</td>
</tr>
<tr>
<td>1972</td>
<td>8.93%</td>
<td>18.98%</td>
<td>5.68%</td>
<td>3.41%</td>
</tr>
<tr>
<td>1973</td>
<td>11.65%</td>
<td>-14.66%</td>
<td>-1.11%</td>
<td>8.80%</td>
</tr>
<tr>
<td>1974</td>
<td>13.79%</td>
<td>-26.47%</td>
<td>4.35%</td>
<td>12.20%</td>
</tr>
<tr>
<td>1975</td>
<td>13.44%</td>
<td>37.20%</td>
<td>9.19%</td>
<td>7.01%</td>
</tr>
<tr>
<td>1976</td>
<td>9.70%</td>
<td>23.84%</td>
<td>16.75%</td>
<td>4.81%</td>
</tr>
<tr>
<td>1977</td>
<td>11.08%</td>
<td>-7.18%</td>
<td>-1.67%</td>
<td>6.77%</td>
</tr>
<tr>
<td>1978</td>
<td>14.76%</td>
<td>6.56%</td>
<td>-1.16%</td>
<td>9.03%</td>
</tr>
<tr>
<td>1979</td>
<td>18.60%</td>
<td>18.44%</td>
<td>-1.22%</td>
<td>13.31%</td>
</tr>
<tr>
<td>1980</td>
<td>13.34%</td>
<td>32.42%</td>
<td>-3.95%</td>
<td>12.40%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>13.58%</td>
<td>8.87%</td>
<td>5.10%</td>
<td>8.63%</td>
</tr>
</tbody>
</table>

14 Return figures for Stocks, Long-term Government Bonds and CPI are from the Center for Research of Security Prices, University of Chicago
As the table above shows, investment in the stock market during the 1970’s barely kept pace with inflation. Investment in government bonds produced negative real rates of returns. Real estate meanwhile far outpaced the stock market and appeared to represent a hedge against inflation. Investors, and particularly pension funds, began to respond to real estate’s apparent advantages, and by 1980, real estate was clearly a desired investment by institutional investors. Its performance throughout the previous ten years set the stage for the commercial real estate market to attract massive over investment for most of the 1980’s which eventually led to a market free fall starting in 1990.
Chapter Two

The Property Markets and Pension Fund Investment Strategy in Real Estate: 1980's

*The Property Markets: 1980 - 1985*

In the years preceding the early 1980's, new office construction was constrained due to a tight money supply and high interest rates. The real estate market on the whole was defined by a deficiency of capital. By 1980, however, capital had returned to the real estate market and a number of massive structural changes were well underway in the US economy which were having a profound effect on the domestic property markets. The nation continued its transformation from a post-World War II manufacturing economy to an information-age service economy. As a result, the number of office workers grew substantially, thereby dramatically increasing the need for office space. Office space demand soon reached record highs. Vacancy levels meanwhile broached historical lows, falling under one percent in several markets. Exhibit II-1 shows selected central business district vacancy rates throughout the first half of the decade.

As a result of this new demand, developers took their queue, and a building boom of speculative office space of unprecedented proportions began to literally and figuratively change the landscape of American cities. The real estate industry quickly transformed itself from being capital deficient to becoming overwhelmed with a capital surplus. During
the decade of the 1980’s, more office space was constructed than was built since the time of the American Revolution!

EXHIBIT II-1

SELECTED CENTRAL BUSINESS DISTRICT VACANCY RATES

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>4.1%</td>
<td>4.8%</td>
<td>10.3%</td>
<td>12.4%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Atlanta</td>
<td>13.9</td>
<td>17.7</td>
<td>19.4</td>
<td>16.0</td>
<td>14.1</td>
</tr>
<tr>
<td>Boston</td>
<td>1.5</td>
<td>2.3</td>
<td>3.7</td>
<td>1.9</td>
<td>12.8</td>
</tr>
<tr>
<td>Chicago</td>
<td>3.7</td>
<td>4.0</td>
<td>8.3</td>
<td>11.3</td>
<td>10.4</td>
</tr>
<tr>
<td>Dallas</td>
<td>4.8</td>
<td>4.8</td>
<td>10.0</td>
<td>15.1</td>
<td>17.2</td>
</tr>
<tr>
<td>Denver</td>
<td>0.3</td>
<td>0.1</td>
<td>8.3</td>
<td>23.0</td>
<td>23.7</td>
</tr>
<tr>
<td>Houston</td>
<td>1.4</td>
<td>1.3</td>
<td>5.8</td>
<td>14.6</td>
<td>20.9</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>0.2</td>
<td>0.8</td>
<td>9.5</td>
<td>12.3</td>
<td>11.8</td>
</tr>
<tr>
<td>New York (DT)</td>
<td>NA</td>
<td>0.4</td>
<td>3.3</td>
<td>3.7</td>
<td>8.3</td>
</tr>
<tr>
<td>New York (MM)</td>
<td>1.5</td>
<td>2.4</td>
<td>4.3</td>
<td>7.2</td>
<td>6.9</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>5.8</td>
<td>6.4</td>
<td>9.1</td>
<td>8.6</td>
<td>9.0</td>
</tr>
<tr>
<td>Seattle</td>
<td>6.0</td>
<td>6.9</td>
<td>8.7</td>
<td>14.3</td>
<td>14.5</td>
</tr>
<tr>
<td>Washington DC</td>
<td>0.8</td>
<td>2.7</td>
<td>9.6</td>
<td>11.7</td>
<td>10.4</td>
</tr>
</tbody>
</table>

Source: Coldwell Banker

Even though the vacancy figures shown in Exhibit II-1 reflect an upward trend in part due to the oil bust in the early 1980’s (i.e. Dallas, Denver, Houston), supply was quite clearly beginning to outstrip demand by 1984 in most other markets as well. The vacancy levels, therefore, were not a result of declining demand for office space, but rather due to new office supply coming on-line faster than it could be absorbed. Developers kept up an incredible construction pace for the next several years.
The Advent of the Advisory Business

Throughout the 1970's, pension funds invested in real estate almost exclusively via open-end commingled real estate funds offered through life insurance companies and commercial banks. As pension funds became more knowledgeable about real estate, however, their investment objectives and strategies became more innovative. In retrospect, the pension plans' desire for more risky and specialized investment options other than the larger open-ended funds managed by the life insurance companies and commercial banks was a natural progression. By the early 1980's, pension plans had been participating in the real estate investment arena for more than ten years. The asset class had performed well, and by this point in time, pension fund managers were comfortable and familiar with investing in real estate. In this vein, the independent advisory firms which came into existence in the early 1980's were much smaller than the life insurance companies. They tended to be more entrepreneurial and well suited to capitalize on this change in investor attitude.

As the real estate advisory industry was quickly taking form, dozens of new firms entered the business, offering an increasing array of real estate investment vehicles to pension plan sponsors. New closed-end vehicles and more focused investment strategies emanated from the independent real estate investment management community as advisors sought to differentiate themselves from one another and their open-end fund manager
counterparts. While traditional open-ended commingled funds remained the hallmark of real estate investment, those pension plans with substantial assets and a significant allocation to real estate could now retain advisors to invest directly on a separate account basis. Some advisors formed property sector funds and geographic sector funds, while others put together equity joint venture deals. Some of the more creative advisors gave clients the ability to invest with participating debt deals. By the early 1980’s, pension plans simply had more investment vehicle options, and therefore more risk/return investment options. This situation opened the door for more advisors to enter the business.

Closed-end Commingled Real Estate Funds

Advisory firms offered a variety of investment services. The investment vehicle they favored and promoted most was the closed-end commingled real estate fund. Even though the growth of closed-end funds, both in terms of the number of funds and amount of money invested, was slow in getting started, they were an important evolutionary development due to the fact that they were almost exclusively run by advisory firms - a collection of specialized real estate businesses, some of which did not even exist until pension funds developed an appetite for real estate.

A closed-end fund “closes” its doors to additional investors once a pre-specified amount of money has been raised. The closed-end fund has a finite life (typically about
ten years) and is liquidated as the due date approaches. 

Closed-end funds were often diversified by geographic region and by property usage just like their larger cousins, the open-end funds, but many were more specialized in this regard. Because the closed-end funds were typically smaller than the open-ended funds, the properties targeted for acquisition were smaller as well. While a larger open-end fund could purchase properties well in excess of $150 million, the closed-end funds tended to concentrate on properties in the $5-20 million range. Nevertheless, most closed-end funds still acquired well located, Class A buildings. 

Closed-end funds were seen by plan sponsors as an additional complementary access route to the commercial property markets.

**Direct Investment**

The advent of direct investment in real estate was indicative of certain pension funds' belief in their own ability to acquire and manage real estate investments on a direct basis or in a separately managed account. A few, mostly corporate plans, began to develop portfolios of real estate assets for their own account. A few of these private plans developed in-house real estate staffs - ones with acquisition and asset management capabilities.

Similarly, other large plans, both public and private, invested on a direct basis through advisory firms. A pension plan with sufficient capital to build its own real estate portfolio is able to tailor its investments to meet the plan's overall investment objectives.

---

15 Provost, David “Compensating the Prudent Man An Examination of the Trend Towards Performance Based Fee Structures in the Pension Real Estate Advisory Industry,” Masters Thesis, MIT Center for Real Estate, 1995

16 Ibid.
Plan sponsors approached direct investment in real estate using two different styles. Some gave their separate account managers full discretion based on a pre-agreed-upon investment strategy. Others employed their advisors more as brokers and property managers by retaining the investment decision making process at the plan sponsor level.

**Real Estate Advisory Industry Summary**

The increase in availability and breadth of investment vehicles during the early 1980’s was evidenced by the meteoric growth of the pension fund advisory business. Prior to 1980, approximately 15 independent advisory firms were investing on behalf of the pension fund community. By 1981 there were 40 firms engaged in the real estate advisory business. By 1983 this had increased to 65.17

**Tactical versus Strategic Nature of Real Estate Investment**

As previously stated, much of the rational for institutional investment in real estate was rooted in Modern Portfolio Theory. Not surprisingly, the argument for diversifying into real estate during the early 1970’s coincided with several years of lackluster performance in the stock and bond markets. This was also a period when the findings of academic research reporting on the risk and return characteristics of asset classes and individual securities were finding their way into the practical world of portfolio management. Real estate performed well during this time period, but it was almost

---

exclusively treated as a diversifying agent. This is consistent with both the general allocations of 5-15% made to real estate and with the conservative investment strategies employed by the plan sponsors. Throughout the 1970’s, and to some degree the first half of the 1980’s, real estate investment was strategic in nature; pension fund managers allocated money to real estate under the directive that it was a long term investment and then somewhat sat on the sidelines. For the most part, real estate portfolio managers at the life insurance companies and commercial banks sponsoring the funds exercised discretion over major decisions. By the mid 1980’s, the large open-ended funds were thought of as real estate “index fund” portfolios and comprised pension funds’ core component of their real estate allocation.¹⁸ This is not unlike a passive or strategic investor in the stock market who invests in a Standard & Poor’s indexed mutual fund.

By 1985, however, pension fund investment strategy in real estate was clearly becoming more tactical. The trend toward closed-end fund investment, with its more specialized investment approaches, and direct separate account investment, continued to an even greater degree during the second half of the 1980’s and is indicative of a more tactical strategy. At the end of 1984, there were 28 open-end funds valued at $16.5 billion; by 1989 there were 31 open-end funds valued at $21.2 billion. Closed-end funds on the other hand grew in number from 32 in 1984 to 72 by 1989. The value of closed-end funds increased from $4.6 billion to $17.2 billion over the same time period.¹⁹ Most pension plans were now allocating a certain amount of their real estate capital for strategic investment and a portion for tactical investment.

¹⁸ Revisiting the Case for Pension Fund Investment in Real Estate, Frank Russell Company, October 1990 ¹⁹ Ibid.
Exhibit II-2 indicates how closed-end funds increased in market share during the early to late 1980’s. It also shows how specialized investment in real estate became more prevalent during this time period.

**Exhibit II - 2**

*Changing Commingled Fund Characteristics*

<table>
<thead>
<tr>
<th></th>
<th>1983</th>
<th>1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open-End Funds</td>
<td>80%</td>
<td>62%</td>
</tr>
<tr>
<td>Closed-End Funds</td>
<td>20%</td>
<td>38%</td>
</tr>
<tr>
<td>Diversified</td>
<td>87%</td>
<td>76%</td>
</tr>
<tr>
<td>Specialized</td>
<td>13%</td>
<td>24%</td>
</tr>
</tbody>
</table>

**Oversupply of Capital to Real Estate: 1985-1989**

During the second half of the 1980’s, the amount of total capital flowing into real estate was overwhelming. To some extent this flow of capital can be attributed to the exponential growth of pension fund assets throughout the decade. In 1980, total pension fund assets were $825 billion. By 1985, they had doubled to $1.6 trillion. By 1989, they had further increased by 50% to $2.5 trillion. Over the ten year period from 1980 to 1989, pension fund assets increased at an annualized rate of 11.6%. Exhibit II-3 shows the pronounced growth of pension assets throughout the 1970’s and 1980’s.

For the five year period from 1985 to 1989, total pension fund assets increased at an annualized rate of 9.1%. During the same time period pension fund investment in real

---

20 Provost, David “Compensating the Prudent Man An Examination of the Trend Towards Performance Based Fee Structures in the Pension Real Estate Advisory Industry”, masters thesis, MIT Center for Real Estate, 1995
estate increased at an annualized rate of 17.5%. Exhibit II-4 shows the growth of pension fund capital flowing into real estate between 1985 and 1989.

Exhibit II - 3


Exhibit II - 4

Source: Evaluations Associates; Pensions & Investment Age
The amount of capital pension funds allocated to the real estate sector paled by comparison to that which banks, savings and loans, and insurance companies invested in real estate during this same time period (see Exhibit II-5). Capitalization rates dropped as the projected growth of rents were assumed to increase uninterrupted. Vacancy rates remained stubbornly high in many markets because new supply of office space was coming on line at a reckless pace. Tenant demand for office space was no where sufficient to justify the amount of building taking place during the latter half of the 1980's. The unrestrained flow of capital to real estate clearly ignored fundamental imbalances of supply and demand within the property markets.

Exhibit II - 5

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks</td>
<td>$176</td>
<td>$223</td>
<td>$268</td>
<td>$301</td>
<td>$344</td>
</tr>
<tr>
<td>S &amp; L’s</td>
<td>92</td>
<td>121</td>
<td>151</td>
<td>139</td>
<td>136</td>
</tr>
<tr>
<td>Insurance Companies</td>
<td>127</td>
<td>149</td>
<td>168</td>
<td>186</td>
<td>191</td>
</tr>
<tr>
<td>Total</td>
<td>$395</td>
<td>$493</td>
<td>$587</td>
<td>$626</td>
<td>$671</td>
</tr>
</tbody>
</table>

Source: Federal Reserve Bulletin

An analysis of historical returns of the Russell-NCREIF Index and the Unlevered NAREIT Index (Exhibit II-6) substantiates that the real estate market peaked around 1986
and then dropped precipitously thereafter. Nevertheless, developers continued to build so long as lenders continued to finance new office construction. The downward trend in values is particularly pronounced with the Unlevered NAREIT Index. (It is widely believed that the only reason the Russell-NACREIF Index did not drop more drastically in the late 1980’s was because of the inherent lag and some perceived conflicts associated with the appraisal process.)

**Exhibit II - 6**

![Graph showing real estate market trends](image)

**Conclusion**

By 1989, the real estate market was in a free fall. Problems within the savings & loan industry were becoming evident, giving the capital markets a preview of the financial debacle that would severely impair the nation’s banking system for several years thereafter. At the end of the 1980’s, office vacancy rates stood at 20% to 30% in many
markets. This overhang of space would remain for years as a severe national recession reverberated throughout the economy in the early 1990's. The real estate boom and bust of the 1980's was a cycle exacerbated by a complete separation of the capital markets' demand for real estate investment far outstripping tenant demand for rental space.
Chapter Three

Innovation, Securitization and the Start of a Major Market Recovery: 1990 - 1995

It would be many years before the property markets fully digested the immense overhang of space resulting from the building boom of the 1980’s. Markets were clearly over built, and in the early 1990’s, the US economy was experiencing a recession, further lessening the demand for office space. Nationally there was little to no net absorption resulting in a vacancy rate which remained close to 20% (see Exhibit III-1). In many metropolitan markets absorption was actually negative.

Exhibit III - 1

Source: CB Commercial
If the only problem to have occurred in the industry was a temporary imbalance in the supply and demand of office space, then the workout and ultimate transformation of the industry would not have been so remarkable. This was not the case, however, as the real estate capital markets almost completely retracted at this time. The collapse of the savings and loan industry and the enormous losses suffered by the nation’s commercial banks created an enormous void of capital for the real estate sector in the early 1990’s. The property markets and the capital markets were gridlocked. The few tenants in need of additional office space had difficulty finding landlords who could fund tenant improvements. Similarly, investors (they were extremely rare in 1990 and 1991) could not find debt capital to finance building purchases. Lenders were simply not underwriting debt if the underlying collateral on the loan was commercial real estate. In this context, most developers were in a sobering predicament: they could not finance sorely needed lease deals, nor could they refinance their expiring bullet and mini-perm loans originated in the 1980’s.

Three major phenomena which occurred during the first half of the 1990’s transformed the fabric of the real estate industry and will most likely define institutional investment paradigms throughout the end of the century. They were:

1. The sale of properties and pools of mortgages by institutional lenders at steeply discounted prices.
2. The collapse of the savings and loan industry and the subsequent bailout by the federal government’s Resolution Trust Company (RTC). The RTC’s most significant legacy to the investment community was its recapitalization and disposition of pools of commercial mortgages into Commercial Mortgage Backed Securities (CMBS).
The dearth of conventional, private debt capital to refinance the property portfolios of many of the country’s premier developers. Many of these “operating companies” were over leveraged and were facing bankruptcy due to the precipitous drop in property values. Wall Street filled the void by providing public equity financing, and the Real Estate Investment Trust (REIT) re-emerged as a “main stream” ownership vehicle for large portfolios of properties.

**The Sale of Discounted Mortgages and Properties**

There were not many commercial banks and life insurance companies unaffected by non-performing commercial real estate loans in the early 1990’s. As a result, commercial banks’ and life insurance companies’ “Real Estate Owned” (REO) departments began a dramatic wave of foreclosures, a process which continued through 1994. Although these organizations were not in the business of owning real estate, they became involuntary owners of extraordinary amounts of commercial real estate. Their solution was to sell off foreclosed assets, along with pools of largely non-performing mortgages, at steeply discounted prices.

This mass disposition of real estate assets created exceptional opportunities for the first group of entrepreneurial and opportunistic buyers who raised equity capital privately from both individual and institutional investors (not much was raised from pension funds). Because the banks and many of the insurance companies wanted to expunge all real estate from their portfolios and many of the more traditional buyers were sidelined or chose not to participate, under performing assets were routinely sold at less than 50% of
replacement cost or face value. To make the deals even more attractive, sellers often provided enticing financing at low interest rates with loan-to-value ratios close to 100% in some instances. Additionally, the banks and insurance companies frequently stabilized their REO assets by restructuring leases, funding tenant improvements and providing much needed deferred maintenance. Once the properties were "cleaned up" and marked to market, the banks and insurance companies (often under the pressure of FDIC regulators) wrote off the losses and instituted disposition strategies.\(^{21}\)

The first wave entrepreneurs fared so well with their real estate investments that more conservative buyers began to enter the market. By 1993 and 1994, it was not overly difficult to obtain traditional long term mortgage financing, and it was widely believed that the trough of the market cycle had passed. Pension investors were not entirely left out of this bargain buying spree, and by 1994, they reemerged as significant buyers of real estate. While pension plans were not comfortable investing alongside some of the smaller unproven entrepreneurs, they did invest with some of the more sophisticated Wall Street organizations which sponsored "vulture funds" or opportunistic funds. Some of the top real estate advisory firms quickly formed their own funds by purchasing properties at or close to the bottom of the market. These funds were in part financed with capital provided by the pension fund community. The pension fund plan sponsors were now clearly making \textit{tactical} investments in real estate, and in many instances, they earned handsome returns for the risks they took.

\(^{21}\) Not all of the life insurance companies disposed of their REO assets at the bottom of the market cycle. A small number of life insurance companies adopted longer term hold strategies in order to sell in a more favorable market. Commercial banks, on the other hand, almost without exception had to sell off their REO portfolios due to regulatory and federal charter requirements.
Commercial Mortgage Backed Securities (CMBS)

As the commercial banks were taking massive write-offs resulting from their non-performing real estate loan portfolios, the federal government's Resolution Trust Company (RTC) was rapidly taking over failing thrifts. The RTC's strategy was to securitize and liquidate pools of commercial mortgages originated by the dissolved thrifts. This securitization program started in August of 1991, and by 1995, the RTC had nearly completed its liquidation process. Widely credited with jump-starting the CMBS market, the RTC provided the critical mass necessary to develop the legal and financial infrastructure required to achieve a broad public real estate debt investor base.22

As these mortgages were recapitalized into CMBS, they were also repriced and marked to market. The prices were determined not by appraisals of the underlying properties, but rather by the prices fixed income investors would pay for CMBS in light of the myriad other available options within the public securities markets. The RTC essentially priced the CMBS to clear the market. While an analysis of the CMBS investment arena is beyond the scope of this thesis, what is clear is that the pricing of public real estate debt will, in large part, determine the value of private debt, it has forced the valuation of all real estate debt to be looked at relative to other publicly traded fixed income securities.

*Real Estate Investment Trusts*

Although equity real estate investment trusts (REITs) have existed since the 1960's, REIT initial public offerings (IPOs) did not begin to take off until 1992 and 1993. The total capitalization of the public REIT market grew from approximately $10 billion in the early 1990's to $57.5 billion in 1995. Exhibit III-2 shows the rapid growth of public REITs during the first half of this decade.

**Exhibit III - 2**

'Market Capitalization of Publicly Traded REITs'

*Source: NAREIT Research Department*

One reason for this exponential growth can be traced to the many large developers who were facing insolvency in the early 1990’s. These developers could not refinance
their properties with traditional mortgage debt. In most cases the outstanding loan balances exceeded property values. Even if a property was a performing asset, banks and insurance companies were simply not lending. Moreover, many lenders were becoming very aggressive about taking back properties via the foreclosure process.

To Wall Street, commercial real estate began to seem attractive; prices were getting hammered, driving up going-in cash yields. With many large developers desperate to recapitalize, and Wall Street forever looking for “yieldy” investments in which to place capital, the umbrella partnership real estate investment trust (UPREIT) was born. The UPREIT structure allowed the developer or sponsor to contribute properties in exchange for stock in the REIT without facing an immediate tax liability. Investment banks raised equity capital in the public markets, using it to retire debt on the contributed properties. In addition, surplus capital was made available to fund new acquisitions and to provide the working capital needed to help grow the company.

While the UPREIT structure is enormously complex, it provided numerous benefits to the sponsor, two of which are particularly attractive. First, the UPREIT vehicle recapitalized the sponsor’s properties, often retiring significant amounts of high cost debt in exchange for lower cost equity. To cash-strapped real estate operating companies unable to finance even the smallest lease transaction, such a windfall of capital breathed life into their organizations. Secondly, the UPREIT structure allowed the property contributors to defer their tax recapture liability with respect to the contributed properties until some future date when they actually sell some of their shares.\(^{23}\)

\(^{23}\)Lawrence Kaplan and Craig Stern, “REITs and UPREITs: Characteristics, Requirements and Taxation”, Kenneth Leventhal & Company, 1994, pp. 8, 9
By 1993, the positive spread being offered in the public market became so attractive that sponsors of REITs actually had true arbitrage plays in acquiring properties. Wall Street was paying more for real estate (in the form of stock) than Main Street (in the form of real property).24 Prospective REIT sponsors contracted to buy properties by executing purchase and sale agreements contingent on a successful IPO. If for some reason the IPO was unsuccessful, the prospective sponsor was not obligated to close the transaction. On the other hand, if the IPO went as planned, the sponsor would receive proceeds from Wall Street which often exceeded the contracted purchase price of the properties. This risk-free gain, referred to in the industry as “the scrape,” often times amounted to many millions of dollars for the development companies who went public - organizations which prior to Wall Street knocking on their door, were on the verge of financial collapse.

The REIT vehicle has become and will remain an important investment vehicle for institutional investors. The advantages of the public equity REIT model include:

- Increased liquidity.
- The senior management teams of REITs often own much of the stock, an arrangement which is believed to provide for a sound alignment of incentives between management and investors.
- REITs are typically specialized by property type and geographic region. In this regard, REIT operating companies are thought to be experts within their niche.
- REITs have demonstrated an ability to grow both internally (through increasing the NOI of existing assets) and externally (through the acquisition of properties with retained capital not distributed as dividends).

24 Ibid., p. 2
The concept of external growth is non-existent for direct investment in real estate.

Since late 1994, there has been increased convergence between public and private pricing real estate; there no longer exists significant opportunity for “positive spread investing”. Traditional sources of capital, such as commercial banks, have returned, and developers and operating companies can now finance their transactions while remaining a privately-held organization.

The growth of the REIT industry, therefore, has begun to cool down in terms of the number of IPOs. However, pension fund investors who want more in their real estate equity investments are enthusiastic with the public REIT “model.” It is likely that REITs will influence both investor behavior and property level pricing for many years to come.


As the industry evolves and moves beyond the turmoil of the early 1990’s, future real estate investment strategy will be devised in light of the relationship between the public and private cost of capital. Values will be determined in a capital markets context. Real estate values will no longer be overly reliant on appraisals, nor will they be viewed simply by their relation to replacement costs. Rather, real estate will be evaluated based on its current cash yield and its potential for growth in income and appreciation as
compared to similar risk-adjusted equities in the stock market. Hence, real estate will be
“priced off the curve” in traditional capital markets fashion.$^{25}$

---

$^{25}$ Taken from quote from Charles H. Wurtzebach, President and CEO of Heitman/JMB Advisory Corporation.
Chapter Four

A Look at Current Investment Strategies: Survey Results

Introduction

In order to determine the current outlook of the pension fund industry toward real estate investment, a comprehensive survey was prepared by the authors with the help of MIT faculty. The survey was sent by the Pension Real Estate Association (PREA) to 400 plan sponsors and 200 real estate advisory firms. The plan sponsors returning the survey represented several pension fund types: private (11), public (16), endowment (7), and others (5), and ranged in total asset size from approximately $150 million to well in excess of $50 billion. The 49 responding advisory firms in the aggregate reported $136 billion in assets under management.

In analyzing the plan sponsor survey responses, it became clear that the majority of the responding plan sponsors were among the largest pension funds in the US. Nineteen responding plan sponsors have assets placing them among Pension & Investments' 1995 list of the 100 largest pension funds in the United States. Twenty-eight have assets placing them among the 200 largest pension funds. The combined real estate assets of these 28 pension funds (14 public, 7 corporate, 7 other) represented over 98% of the total real estate assets of all 39 responding plan sponsors. Because the assets of the smaller eleven pension funds represented such a minor percentage of total real estate assets of our sample, they were not included in our survey results.
The results presented in this thesis, therefore, are indicative of only the largest 200 private and public pension funds in the US. It is important to note, however, that with an aggregate real estate portfolio of almost $30 billion, these 28 funds represent approximately 20% of all pension fund investment in real estate; they have the ability to affect the capital markets.

**Objective of the Survey**

The objective of the survey was to identify how pension funds currently view real estate investment, how their attitudes may or may not have changed since 1991, and how this recent market cycle may affect their real estate investment strategies over the next five years. In addition, the authors sought to determine how the advisory business has been and will be affected by this outlook and the changes that may take place within the real estate advisory community. Lastly, the authors sought to determine if there have been any major or subtle variations in the type of investment vehicles capturing investment dollars.

Polling organizations for what is clearly proprietary information can be very difficult. As such, strict confidentiality was promised. Therefore, the information included in the next two chapters is reported in aggregate form only. No portfolio specific information is offered which could identify an individual pension plan or advisory firm.

**How pension plans view the real estate market: Asset Class or Industry Sector?**

How pension fund investors view the real estate market can have significant ramifications in the manner in which they invest. Viewing real estate as an industry sector
may result in lower allocations to real estate or investing in real estate only when it is anticipated to offer higher returns than investments in other industry sectors. The more likely outcome is that real estate is viewed as but one thin slice of a much larger public stock market. The result of this type of strategy may be a greater frequency of transactions, a shorter holding period, and an effort to time markets. At times real estate may not be held in the portfolio at all.

Conversely, if the investor views real estate as a distinct asset class, it is likely that real estate will play a more constant, and therefore, strategic part in the diversification of the entire portfolio. Based on this investment philosophy, it should be the case that the aggregate investment in real estate is a planned, premeditated percentage of the entire pension plan portfolio; an allocation target should exist. Although the actual allocation will vary over time, there will always be some minimum commitment to real estate.

As Exhibit IV-1 shows, 96% of responding plan sponsors view real estate as a separate asset class. Further, 85% have an allocation target, currently averaging 8.6% (7.76% on a weighted average basis). Advisory firms similarly reported that 94% of their clients view real estate as a separate asset class. Keeping in mind that all of our responding plan sponsors are among the largest 200 pension plans in the country, it makes sense to observe such a high response in favor of real estate as a separate, diversifying asset class.
How pension plans view real estate investment: Strategic or Tactical?

Similar to the distinction of asset class versus industry sector is the question of whether a plan views its real estate investments as tactical or strategic. A strategic real estate investor is one that has some minimum percentage of its portfolio *always* invested in real estate. The investor views real estate as having a strategic role in a mixed-asset portfolio. Strategic investment will be more consistent over time in terms of both minimum allocation targets and holding periods. Implicitly, plan sponsors are willing to ride out market cycles. Strategic investment is usually concentrated in “core” properties and “core” investment vehicles.

Conversely, tactical investment is characterized by more market timing of investments. This in turn would suggest more use of debt, the desire for higher liquidity, and more buy/sell decisions.
Thirty-five percent of the plan sponsors view their real estate as strategic (see Exhibit IV-2). This result serves to support the arguments of diversification and the historically longer-term investment horizons. Thirty-five percent of the plan sponsors view real estate investment as a tactical investment. This translates to a desire to engage in some market timing and to seek greater annual returns while taking additional risk. Such strategies would include investing in opportunistic funds and/or leveraging up investments in order to augment returns.

**Exhibit IV - 2**

<table>
<thead>
<tr>
<th>STRATEGIC</th>
<th>TACTICAL</th>
<th>BOTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.00%</td>
<td>34.00%</td>
<td>33.00%</td>
</tr>
<tr>
<td>30.00%</td>
<td>29.00%</td>
<td>28.00%</td>
</tr>
<tr>
<td>27.00%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The most interesting result observed is that 30% of the responding plan sponsors view real estate as both tactical and strategic. This suggests that while real estate may play a long term strategic role, allocations to real estate will vary over time depending on how real estate’s expected returns compare with other asset classes. *It would appear that real estate investment is becoming more tactical in nature.*
While these results may be indicative of a willingness to assume higher risks for higher returns, several individuals interviewed who work for plan sponsors suggest that this really is not the case. Rather, they say, this is simply a result of pension investors' trying to take advantage of the current up cycle in the real estate markets.

**Current versus Targeted Real Estate Allocations**

As discussed previously, 96% of plan sponsors view real estate as a distinct asset class. It would follow then that almost all pension plans would have established real estate allocation targets and current real estate positions. Most plans do. A total of 86% of the plan sponsors surveyed have a minimum target allocation. The average target allocation is 8.6%. While plan sponsor allocation targets vary considerably, they are, on a weighted-average basis, 50% higher than actual funded positions (7.76% versus 5.12%, respectively). If these target allocations are to be reached, a total of $14.6 billion in new real estate capital will be placed in the real estate markets by 2001.

Two separate hypotheses may be drawn from this data. First, it can be surmised that there is now an enormous demand for real estate; if the 28 funds surveyed were to reach their allocation target, a total of over $14.6 billion in real estate capital would need to be placed! This may translate to a general trend by pension plans to commit a significant additional portion of investment capital to real estate in the coming years.

The second hypothesis suggests that allocation targets are usually higher than actual investment and most plans simply never reach their targets. Over the past five years, high stock market returns have dramatically increased the total portfolio assets of
many pension funds. The existing real estate component meanwhile has increased in value at a lower rate. The result is the inability of plan sponsors to maintain a real estate allocation target as expressed as a percentage of total plan assets. Allocation targets can therefore be thought of as a “moving target.” It seems apparent that while most large pension plans are seeking to increase their real estate holdings, they are unlikely to fully realize them.

In evaluating the survey, a few additional questions would have helped elucidate some current trends. One question could have polled the pension plans to determine what percentage of the real estate allocation is expected to be held on some kind of consistent basis so as to represent a minimum strategic commitment to real estate as an asset class. Similarly, a second question could have asked what percentage of the real estate allocation is forecasted to be invested on a more temporary or tactical basis.

*The Evolution of the Real Estate Portfolio*

There is a great deal of talk about constructing real estate portfolios around the concept of the “Four Quadrant” theory. The real estate investment market is made up of four distinct sectors: private equity, private debt, public equity, and public debt.
Traditional investment in real estate has been concentrated primarily in the private debt and equity markets. However, as more and more real estate assets, both properties and mortgages, become securitized in the public markets, they are being added to the portfolios of institutional investors. Using the results of our surveys of plan sponsors, Exhibits IV-3 and IV-4 display the changes of the aggregate real estate portfolio from 1991 to 1996. Exhibit IV-5 shows the estimated aggregate real estate portfolio in 2001.
Exhibit IV - 4

1996 CURRENT REAL ESTATE PORTFOLIO AS REPORTED BY PLAN SPONSORS

PUBLIC DEBT 0%
PRIVATE DEBT 12%
PUBLIC EQUITY 4%
PRIVATE EQUITY 84%

Exhibit IV - 5

ESTIMATED 2001 REAL ESTATE PORTFOLIO AS REPORTED BY PLAN SPONSORS

PUBLIC DEBT 2%
PRIVATE DEBT 14%
PUBLIC EQUITY 11%
PRIVATE EQUITY 73%
**Private Equity**

For the twenty-five years pension funds have been investing in real estate equities, their investments have been made primarily in the private market, either by purchasing shares of commingled funds, private REITs, private limited partnerships, etc. or by acquiring property on a direct basis. Until the early 1990’s, there was not a public equity real estate securities market option.

The plan sponsors’ aggregate portfolio as depicted by the survey reveals that 97% of the total real estate capital in 1991 was invested in private equity of one kind or another. That this group had a little over 1% invested in public equity at this time is revealing given the fact that the market capitalization of the public equity market was very small, about $13 billion in 1991. There can be no better explanation for this level of investment other than the public REIT equity market offered real estate investors some level of liquidity that was totally non-existent in the private markets at that time.

Private equity as a percentage of the aggregate portfolio dropped to 84% in 1996. This is an intuitively surprising reduction when it is observed that most of the give up was not to public equity (which more than quadrupled to 4% from 1991 to 1996, yet represents a relatively minor position), but rather to private debt (which increased from 2% to 12%). A logical question to ask is why?

The answer can be traced to a few large plan sponsors which dramatically increased their private debt holdings in the last five years. Because debt capital was
virtually non-existent in the early 1990’s, those pension plans who provided debt capital at this time received returns several hundred basis points over treasuries.

The percentage of private equity is further anticipated to drop to 73% in the next five years. While much of the give up in this case is predicted to go to public equity, a significant portion is forecasted to once again go to private debt. The reason for this can again be traced to the few large plans previously discussed. These funds alone plan to double their private debt allocations to a combined total of several billion dollars.

A total decrease of 24% in the percentage of private equity held in the aggregate real estate portfolio during a ten year period would seem to represent a major trend away from direct property ownership. The plan sponsors’ increasing appetite for liquidity, the significant acquisition, management, and disposition fees associated with direct ownership, and plan sponsors’ continued desire for high returns may be the reasons for this dramatic decrease.

**Private Debt**

Traditionally referred to as whole loans or simply commercial mortgages, private debt increased from 2% in 1991 to 12% in 1996. Further, private debt is anticipated to comprise 14% of the aggregate real estate portfolio in 2001. In the past, real estate debt was almost exclusively held in the fixed-income portfolio. Such a dramatic increase in debt held in the real estate portfolio may represent some kind of new trend. The authors

---

26 Most debt, whole loans and CMBS, is held as part with the pension plan’s fixed income portfolio. For the purposes of this thesis, the authors analyzed only debt held as part of the real estate portfolio.
have not determined the reason for this increase and openly pose the question for future study.

**Public Equity**

Investment in liquid real estate securities as a percentage of the aggregate portfolio increased from 1% to 4% between 1991 and 1996. During this same time period, the market capitalization of the public REIT market increased from about $10 billion to approximately $55 billion. Apparently the pension funds surveyed have decided to increase their overall level of real estate liquidity by increasing exposure to public equity REITs. This decision to invest more capital in public REITs could also be return driven since publicly traded equity real estate securities outperformed the private market by a wide margin during this five year period.

Plan sponsors project public equity to comprise 11% of their real estate investment capital by 2001. For the 28 plan sponsors surveyed, an 11% allocation to public equity would represent a total investment of $5.68 billion, $4.32 billion more than the current funded position of $1.36 billion. Our universe of responding plan sponsors consists of 28 funds whose total $30 billion real estate investments represent approximately 20% of the pension fund real estate investment market. If this 11% REIT allocation figure was extrapolated to all pension fund investment in real estate, an estimated $21 billion in pension plan money alone will be invested in the public equity market over the next five years. Given that the current capitalization of the entire REIT market is approximately
$55 billion, it may be unlikely that new REIT issues can keep pace with investors’ projected demand for ownership in these vehicles.

The dramatic growth in REIT public offerings experienced during the period 1990 to 1995 was a result of the lack of traditional mortgage debt financing in the capital markets and the unusually wide yield spreads at the time between the public and private markets. Since then, capital has returned to the private markets, causing spreads to narrow. As a result, REIT IPOs have fallen off substantially.

**Public Debt**

The capitalization of the public real estate debt market (in the form of commercial mortgage backed securities) totaled $5 billion in 1991. It has increased to approximately $80 billion in 1995. Not a single plan sponsor reported holding public debt in 1991. Further, not a single responding plan sponsor reported holding securitized debt in its current real estate portfolio. According to one interviewee, an executive at a major advisory firm, “the reason lies in the perception that these instruments are complex and confusing in nature. They do not offer satisfactory liquidity due to a lack of an active secondary market.”

While such an explanation may have some credence, there is likely more to the story. Plan sponsors hold most of their real estate debt instruments within their fixed-income portfolios and do not consider these investments as “real estate.” Therefore, it is likely that the percentage reported in both public and private real estate debt is understated. Furthermore, “opportunistic” commingled funds sponsored by the advisors
often include high yield, unrated CMBS. It is likely that many pension funds own shares in these commingled funds and yet did not report owning CMBS when the surveys were completed.

By 2001, plan sponsors anticipate holding 2.4% of their real estate funds in the public debt market. It is important to note, however, that only four respondees anticipate owning public debt. One plan sponsor’s allocation alone accounts for much of the predicted increase in public real estate debt.

**Targeted Real Estate Returns**

Given an indication of how plan sponsors view the market and in what quadrants they expect to place capital, it makes sense to address return objectives. In polling the plan sponsors for their targeted real estate returns, the authors sought to determine if plan sponsors expect to earn a “normal” return on real estate investments or whether pension funds are seeking to enhance overall portfolio returns by investing in real estate. This answer should be directly tied to whether plan sponsors view real estate as a tactical or a strategic asset.

While several individual plan sponsors seek opportunistic returns in the high teens, the vast majority expect returns between 10% and 12% (11.7% on average).\(^{27}\) Separated into components, 8.0% is income and 3.7% is capital appreciation.

\(^{27}\) Note: all return figures are nominal.
An expected return of 11.7% seems to represent an achievable target based on current real estate return data series. The Russell NACREIF Index reported a 1995 total return of 8.93%. The NAREIT Index reported a 1995 total return of over 18%. With 65% of the plan sponsors viewing real estate investment as tactical, is a 12% return adequate compensation for the risk of trying to time cycles? The yield to maturity on intermediate term maturity (6 to 9 years) US government bonds averaged 6.49% in 1995. A 550 basis point spread may well be worth the extra risk.

Leverage

Survey results indicate that 64% of responding plan sponsors are leveraging their real estate investments by an average of 25% (see Exhibit IV-7).
Asked how the percentage of plan sponsors using leverage will change over the next five years, 29% of the plan sponsors predict the use of leverage will increase. Only 4% forecasted leverage would decrease, while 29% anticipated no significant change. Thirty-eight percent were uncertain as to the future use of leverage.

The aggregate response of the advisory firms was similar. An estimated 64% of their clients use leverage. Average LTV ratios are 33%. Of the advisory firms polled,
31% forecast an increase in the use of leverage. Only 12% predict a decrease. A total of 56% anticipate no major changes.

Pension plans have historically owned the great majority of their property investments unlevered. They have ample capital to invest, so using leverage is not required to purchase real estate. Why then is leverage such an integral part of their strategy? The answer is to enhance return-on-investment. Plan sponsors are apparently seeking to capitalize on expected increases in real estate property values. If this is indeed the case, then leverage would be increased in a rising market. Conversely, leverage would be decreased during periods when values are in decline. Given that 67% of the plan sponsors anticipate the use of leverage to increase or remain the same, it may be surmised that the pension funds community anticipates at least a five year rise in the real estate markets. By attempting to capitalize on this bullish outlook, plan sponsors are inherently treating real estate as a tactical investment.
Chapter Five

How Capital is Being Invested and its Effect on the Real Estate Advisory Business

In evaluating the survey results thus far, the authors have concentrated almost exclusively on the responses of the plan sponsors. Focus now turns to the survey responses of the advisory community. The goal here is to determine what sort of effects the changing practices of their clients are having, or will have on the advisory business. Specifically, the survey attempted to determine the future of investment in commingled funds versus separate or direct accounts. In addition, the survey sought to flush out how much discretion the pension fund community plans on giving its real estate advisors.

A Look at Assets Under Management

The 49 advisory firms included in our survey have a total of $136.6 billion under management. These assets are split approximately in thirds among corporate plans, public plans and a catch-all category which includes endowments, high-net-worth individuals, church plans, etc. A total of $136.6 billion in assets under management represents an increase of 35% since 1991. It is not clear to the authors whether this increase in assets is a result of the increased value of existing real estate investments; the product of acquisition, consolidation or merger; or the result of new capital entering the market.
through advisory firms. Analysis of real estate return data would indicate most of this increase is due to the latter two reasons.

By 2001, the responding advisors estimate their assets under management to increase by 60% to $218.4 billion. This predicted increase is not significantly different than the plan sponsors’ forecasted 52% growth in total plan assets and their projected 65% increase in its aggregate real estate portfolio.

**Exhibit V - 1**

![Bar chart showing total funds under management from 1991 to 2001.]

In order to determine the advisors’ role in the year 2001, the plan sponsors were asked to predict how the percentage of their real estate capital invested through advisory firms would change by 2001. Thirty-seven percent predicted a net decrease. Eleven percent anticipated an increase. Forty-eight percent predicted no change. Four percent were not sure. (See Exhibit V-2). *It seems that while total capital invested through
advisory firms will increase, a smaller percentage of total pension real estate capital will flow through these firms going forward.

Exhibit V - 2

By 2001, your percentage of real estate capital invested through advisory firms will:

- Don't know: 4%
- Increase: 11%
- Same: 48%
- Decrease: 37%

Discretion

A topic of keen interest to real estate advisors is the level of investment discretion plan sponsors are willing to give them. In the past, most plan sponsors gave their advisors considerable control over buy and sell decisions. Pension funds that invested in commingled funds gave 100% discretion to the fund manager. Those plan sponsors that invested in direct property established varying levels of decision making responsibility. Clearly, the recent real estate down cycle has resulted in an introspective analysis of where control should ultimately lie and when to limit or expand it. Concerns regarding the misalignment of interests resulting from fee structures tied to buy and hold decisions have become a major topic of debate. With the advent of so many new opportunistic investment vehicles, a thorough understanding of who has what discretion and any trends
associated with it can offer valuable insight into the future investment practices of the industry. In discussing investment discretion, assets under management fall into two distinct categories: separate or direct accounts, which offer varying degrees of discretion, and commingled funds, which by their structure grant full discretion to its manager/sponsor.

**Separate Accounts**

Defined as a real estate portfolio owned by a single pension fund, separate accounts are invariably held by multi-billion dollar plan sponsors who have the significant capital resources required to build a properly diversified portfolio for their own account. The benefits of separate accounts include greater control in the investment strategy decision making process and total flexibility in property disposition. The extent to which any pension fund separate account investor grants an advisor some level of discretion is usually the result of a long term relationship built on trust, or perhaps a result of a lack of in-house real estate capabilities.

Of total separate account capital currently under management by advisory firms, approximately 55% is discretionary. Of the *public* separate account capital, 50% is discretionary. Of the *private* separate account capital, 63% is discretionary.

In polling the advisory community as to the future of discretion over separate accounts, the results given in Exhibit V-3 were observed.
Advisory Firms Anticipate That By 2001, The Percentage Of Separate Accounts With Full Discretion Will:

<table>
<thead>
<tr>
<th></th>
<th>INCREASE</th>
<th>DECREASE</th>
<th>SAME</th>
<th>NOT SURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC PLANS</td>
<td>58%</td>
<td>39%</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>PRIVATE PLANS</td>
<td>51%</td>
<td>41%</td>
<td>8%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Fifty-eight percent of the advisors expect the percentage of discretionary public separate account assets to increase. Approximately 39% anticipate a decrease. Asked the same question for private separate account assets, 51% of advisory firms anticipate the percentage of discretionary private separate accounts to increase. Forty-one percent predict a decrease. While some disagreement exists about the future of discretion, there appears no discernible difference in the advisors' anticipated changes in public versus private account discretion.

Plan Sponsors Anticipate That By 2001, The Percentage Of Separate Accounts With Full Discretion Will:

<table>
<thead>
<tr>
<th></th>
<th>INCREASE</th>
<th>DECREASE</th>
<th>SAME</th>
<th>NOT SURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC PLANS</td>
<td>33%</td>
<td>8%</td>
<td>42%</td>
<td>17%</td>
</tr>
<tr>
<td>PRIVATE PLANS</td>
<td>0%</td>
<td>50%</td>
<td>33%</td>
<td>17%</td>
</tr>
</tbody>
</table>
It is interesting to compare the advisors’ forecasts for discretion with those of the plan sponsors. Exhibit V-4 presents the plan sponsors’ view of how discretion will change. Of the public plans surveyed, 33% expect the percentage of separate accounts with full discretion to increase. Only 8% percent predict a decrease. Forty-two percent forecast no major changes, and seventeen percent remain unsure. Not a single private plan expects to increase its percentage of separate accounts with full discretion. Fifty percent predict a decrease. Thirty-three percent forecast no change, and seventeen percent remain unsure.

Clearly, significant disagreement exists on the issue of discretion between the capital providers and the capital intermediaries. The advisory community is unsure whether discretion will either increase or decrease. In contrast, the public plans, many short on staff and working with limited in-house resources, expect to increase discretion they give advisors. Only 8% of the public funds anticipate a decrease in discretion given. This is the good news for the advisory community.

Private plans, however, are not in sync with their public counterparts. Fifty percent anticipate a decrease in discretion they give advisors. This appears to represent a trend toward consolidating control within the ranks of the plan sponsors and away from advisors.

It may be that some of the disparity between the advisors expectations and the plan sponsors’ predictions can be attributed to limiting the survey responses to only those plan sponsors with assets among the 200 largest pension funds in the US. The survey results clearly reflect the bias of these large plans. The aggregate response of the advisors may
reflect their views on the *entire* pension real estate investment market, not just the largest 200 pension funds.

**Commingled Accounts**

The development of commingled real estate investment funds was the product of the large insurance companies and a few money-center commercial banks. Originally created to offer easy and diversified entry to capital seeking investment in real estate, these funds have evolved considerably in the type of property they now hold and in the investors who buy into these vehicles. Originally attractive to the larger pension funds who sought to address their real estate allocation decisions expeditiously, commingled funds have in recent times attracted more and more smaller plans who have made the real estate allocation decision but do not have the resources to purchase property on a direct basis. Commingled accounts offer easy diversification without investing extraordinary amounts of capital or time.

**Advisors’ Response**

The responding advisory firms report that the percentage of assets under management invested in commingled accounts has decreased from 49% in 1991 to 37% in 1996. They further project a decrease to 34% over the next five years. There appears to be a trend away from investment in commingled funds.
Plan Sponsors' Response

Plan sponsor responses reveal a weighted average 26% of the aggregate real estate capital invested in commingled accounts. As a group, 52% of the plan sponsors anticipate this percentage to decrease by 2001. Twenty-six percent project an increase. Nine percent expect no change, and 13% remain uncertain.

Some significant differences were observed when comparing responses of the public and private plans. Thirty-six percent of the public plans expect to increase their percentage of real estate capital invested in commingled funds. Not one single responding corporate pension plan anticipates increasing its percentage of real estate capital allocated to commingled funds. Almost 45% of the public plans expect to decrease investment in commingled funds. Sixty percent of the private plan sponsors reported the same results.
Plan Sponsors Anticipate That By 2001, The Percentage Of Their Real Estate Capital Invested in Commingled Accounts Will:

<table>
<thead>
<tr>
<th></th>
<th>INCREASE</th>
<th>DECREASE</th>
<th>SAME</th>
<th>NOT SURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC PLANS</td>
<td>36%</td>
<td>45%</td>
<td>0%</td>
<td>19%</td>
</tr>
<tr>
<td>PRIVATE PLANS</td>
<td>0%</td>
<td>66%</td>
<td>17%</td>
<td>17%</td>
</tr>
</tbody>
</table>

In the final analysis, it is not surprising that a significant percentage of the largest pension plans (both public and private), who typically have the resources and capital to construct their own properly diversified separate or direct account, expect to decrease the percentage of their real estate capital invested in commingled accounts.

Opportunistic Investment

The capital which had the foresight and nerve to invest in real estate in the early 1990's often made attractive returns. The so called “vulture funds” and other types of “bottom fishers” tried to take full advantage of the lack of capital in the market by offering to buy assets at deep discounts. In many ways, these “opportunistic” buyers of real estate changed the way many investors view real estate investment. To attract capital, real estate now has to offer returns comparable to those available in venture capital. This approach toward real estate investing is more tactical than strategic, an observation which may
partially explain why our earlier survey results indicate many plan sponsors currently view real estate investment as tactical.

To determine if a trend exists in the real estate investor community vis-à-vis "opportunistic investment" (i.e. higher risk, higher return) the advisory community was asked to report what percentage of their assets under management is classified as opportunistic funds (see Exhibit V-7).

**Exhibit V-7**

<table>
<thead>
<tr>
<th>PERCENTAGE OF ASSETS UNDER MANAGEMENT IN &quot;OPPORTUNISTIC FUNDS&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
</tr>
<tr>
<td>1996</td>
</tr>
<tr>
<td>2001</td>
</tr>
</tbody>
</table>

Survey results indicate that since 1991, the percentage of real estate capital placed in opportunistic funds has increased by only 2%. Real estate capital invested in these vehicles through the 49 responding advisory firms currently totals approximately $30 billion, up from $20 billion in 1991. Looking forward five years, advisors predict a pronounced increase from 22% to 28% of assets under management invested in opportunistic funds. This suggests that total real estate investment capital invested in opportunistic funds for the 28 responding plan sponsors will reach $61 billion in the year
2001. A five year net increase of $31 billion represents a significant influx of capital into opportunistic real estate vehicles.

In analyzing the data, it seems counter intuitive to observe that in 1991, 20% of the assets under management of responding advisory firms’ were held in opportunistic funds. 1991 was close to the bottom of the real estate down cycle, and opportunistic capital did not enter the real estate investment market until 1992 and 1993. Further, a more pronounced increase would seem to have been expected in the percentage of real estate investment capital placed in ‘opportunistic’ funds between 1991 and 1996.

The reason for advisors reporting such a high percentage of real estate capital invested opportunistic funds in 1991 may possibly be explained by some disagreement in the definition of what constitutes opportunistic investment. Leaving the definition up to the advisory firms may have resulted in the inclusion of funds not “opportunistic” in nature.

Co-Investment with Private Operating Companies: Trend or Fad?

In an effort to solve some of the perceived misalignment of interests that existed between investors and advisory firms, pension funds are apparently open to vehicle structures that deal directly with this issue. While there are several types of vehicles offered, one is the concept of a plan sponsor co-investing alongside a private real estate operating company. It works this way: the operating company puts up its own equity alongside that of the plan sponsor. Both have capital at risk. Both are principals. Acquisition and disposition fees are significantly lower than with traditional advisors, and
management fees are replaced with performance fees which are usually “back-ended.” The plan sponsor receives a preferred return before the operating company receives its return. The results of our surveys indicate that co-investment with private operating companies is on the rise (see Exhibit V-8).

Exhibit V - 8

<table>
<thead>
<tr>
<th>PLAN SPONSORS: HAVE YOU CONSIDERED CO-INVESTMENT WITH PRIVATE OPERATING COMPANIES?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO 26%</td>
</tr>
<tr>
<td>YES 74%</td>
</tr>
</tbody>
</table>

Asked whether they have considered co-investment with private operating companies, 74% of the responding plan sponsors answered in the affirmative. Of those that have considered this type of investment, 50% are, or have, participated in some kind of co-investment. In analyzing the data, an additional question would have served to further test the conclusion that this type of investment vehicle is on the rise. The question would have polled the plan sponsors to determine how many pension funds that are considering co-investment, but have as yet not funded any, intend to do so in the near future. While an answer to this question would offer additional insight, our survey results
support the hypothesis that co-investing alongside private operating companies is a likely strategy, one that is on the rise.

Further confirmation of this hypothesis comes from the survey results of the advisory community. A significant 74% of responding advisory firms expect that this form of investment vehicle could represent a new trend in the industry. Advisory firms will have to address how this will impact the future of the traditional real estate advisory business.
Chapter Six

Conclusions, Outlook and Predictions: 1995 - 1996

*The State of the Property Markets: 1995 - 1996*

Despite high vacancy rates in many markets, absorption continues to deplete the oversupply of space. Vacancy rates are trending downward in almost every property sector and geographic region of the country (see Exhibit VI-1). As occupancy rates increase, rents will rise, pushing up income yields and prices.

Exhibit VI - 1

![Graph showing US Office Vacancy Rates: 1990 - 1995]

Source: CB Commercial
The 1995 total return figures reported by the Russell NACREIF Index were positive for each property type, the first time since 1990. Purchase prices, however, still have not reached replacement costs in most suburban and central business districts. As a result, office development remains constrained. Overall, the “mood” within the property markets is bullish, and the general perception exists that the real estate recovery will continue in the coming years.

**Pension Fund Investment in Real Estate**

At the end of 1995, assets of US pension funds totaled approximately $3.4 trillion, up from $2.5 trillion in 1989.²⁸ US pension funds remain the largest pool of investment capital in the world. Total US non-farm commercial real estate is valued at $3.08 trillion of which $1.22 trillion is considered to be “institutional grade” real estate. Of this $1.22 trillion, approximately 20% is financed with equity and 80% is financed with debt. Given that pension funds own approximately 50% of the equity portion, it is not an overstatement to claim that pension funds have a massive controlling influence within the institutional real estate investment arena.²⁹

---

Exhibit VI - 2 through VI - 4

Total U.S. Real Estate: $3.08 Trillion (1995)

Non-Institutional 60%
Institutional 40%

Total Debt: $993 Billion

Private CMBS 6%
Other 3%
Pension Funds 4%
REITs 7%
Foreign Investors 12%
Life Companies 2%
Savings Associations 13%
Commercial Banks 40%

Total Equity: $232 Billion

Foreign Investors 13%
Life Companies 22%
Pension Funds 43%
Savings Associations 13%
Commercial Banks 2%
REITs 19%

**The Stock Market versus Real Estate: 1995 - 1996**

During the past two years, the stock market has continuously reached new highs. US corporate profits are strong, and the national unemployment rate stands at an economically healthy 5.3%. The stock market’s performance over the last several years has exceeded expectations. The Standard & Poor’s 500 Composite Index increased over 34% in 1995 (see Exhibit VI - 5).

**Exhibit VI - 5**

Two main factors differentiate real estate investment from investments in the stock markets. First, while the stock market has been bullish since 1991, it is currently trending downward. Increased volatility is making some investors nervous. In contrast, a great deal of optimism prevails that the real estate recovery is still young with plenty of upside.
left. Real estate returns are strong, but prices have a long way to climb before reaching replacement costs. The Russell-NCREIF Property index has steadily improved with 1995 total returns approaching 10%. In addition, returns published by The National Association of Real Estate Investment Trusts (NAREIT) have been in double digits for four of the past five years. In 1995, the NAREIT total return was 18.31%.

**Exhibit VI - 6**

![Annual Dividend Yields: 1982 - 1995](image)

The second difference between real estate and stock investments is that the yields on real estate (for both direct investment and REITs) are significantly higher than those for corporate equities (see Exhibit VI - 6). As the prospects for future increased

---

30 Income figures for the Russell-NACREIF Property Index were taken from the Frank Russell Company's *Index Detail, December 31, 1994* and *The NCREIF Real Estate Performance Report Fourth Quarter 1995*. Dividend figures for NAREIT were taken from 1995 *NAREIT Industry Statistics*, The National Association of Real Estate Investment Trusts, March 1996, and represent the annualized yield for the month of December of each year. Dividend yields for the S&P 500 Composite represent the annual "close" figures.

31 For the purposes of comparison, it should be stated that the dividend yields on real estate are much greater than that of corporate equities because many public corporations retain some of their earnings while all of the NOI and/or most all of FFO on real estate is considered "income yield".
corporate earnings are impounded into share prices, dividend yields have continued on a long term downward trend and currently stand at approximately 2%. Both plan sponsors and advisors interviewed as part of this thesis were aware of this trend and stated that the stock market is currently pricey and that the yields on real estate are extremely attractive to pension fund investment managers "without the speculative reliance on value growth to produce returns." Several interviewees emphatically declared that pension funds will more aggressively fulfill their real estate allocations or increase them altogether.

**Asset Class versus Industry Sector**

There is nothing monumental to report on this issue. Based on the survey results, for the time being, real estate is awarded separate asset class status.

**Strategic versus Tactical Investment**

It appears that real estate investment strategy is becoming more tactical in nature. While the 'core' investments, conservatively managed with long term holding periods, will remain a significant part of the portfolio, achieving returns competitive with other asset classes requires more fluid strategies. Targeting specific metropolitan areas, investing in operating companies, selling when prices are believed to be high, and employing debt in rising markets are indicative of more tactical than strategic behavior. This type of

---

32 Cambon, Barbara "Pension Fund Participation in Real Estate Capital Formation", Real Estate Issues, August 1994, p. 48
investment practice seeks to capture incremental returns by taking advantage of changes in the cyclical behavior of real estate.

**Leverage**

The use of leverage by pension funds has become more prevalent in the last five years. The results of the survey indicate that even *more debt may be used in the future.*

Three interrelated reasons may explain the increase in the use of leverage:

1) Returns for real estate as an asset class must be attractive as compared to alternative risk-adjusted investments in the stock market.

2) It is widely believed that the real estate market is in the midst of an upward cycle. It can, therefore, be argued that leverage is being employed to magnify returns on investments, and

3) Pension fund investment strategy is tending to become more tactical; investors are attempting to “time” this upswing in the market.

**Discretion over Separate Accounts**

*Increased discretion will likely be granted to advisors managing separate account investments of public plans.* Discretion will likely decrease, however, for separate accounts of corporate plans. Public plans are currently investing more capital in real estate than their private counterparts. Of the largest 50 pension funds in the United States, 30 are public. 33 As such, many public plans have the capital necessary to build their own well diversified real estate portfolios via direct investment. Many public plans,

---

however, lack expert real estate staffs to oversee their investments. The consensus is that they do not intend to bring on new employees. Logic follows that they will need to pass the management and discretion downstream to their advisors.

Conversely, some of the large private plans are staffed with sophisticated in-house real estate departments. As a result, they have less reliance on the services of an advisor to oversee direct investments. Moreover, as corporations are downsizing and offering employees early retirement, the need for higher levels of plan liquidity does not bode well for increased investment in direct ownership of real estate. Direct investment in real estate simply does not accommodate this liquidity objective.

**Commingled Accounts**

*Investment in commingled accounts will likely decrease for corporate plans.* The amount public plans intend on investing in commingled accounts, on the other hand, is unclear. Forty-five percent of the public plans surveyed, indicate a decrease in expected investment in commingled accounts, while 36% indicate an increase. The bigger universe of smaller public plans, however, will likely increase their percentage of real estate capital invested in commingled accounts as they will be unable to invest on a direct basis. Similarly, on the private side, what business there will be for commingled accounts will likely be with the smaller plans. This may create two trends:

1) The real estate firms which manage open-ended commingled accounts consisting of large "core" portfolios of real estate, diversified by property usage and geographic region (i.e. the life insurance companies), will have
to look to smaller pension funds to grow their portfolios, the majority of which will come from the public sector.

2) The organizations currently having success managing smaller, opportunistic commingled accounts (i.e. many advisory companies) may have difficulty in rolling over pension fund capital as the real estate recovery matures and 20% plus returns become more difficult to achieve.

The pessimistic forecast for commingled runs counter to a few current trends. Life insurance companies are experiencing net cash inflows and seeing their assets under management increase within their open-ended commingled accounts. This may be occurring because pension funds see a potential arbitrage play due to appraisal lag. Since quarterly valuations of open-end funds are based on appraised values of the funds' underlying real estate, and because appraisals often lag the current market (both on the upside and the downside), investors believe they are buying in at below true value in a rising market.

Secondly, much of the investment action has been in the arena of “opportunistic” investing. Wall Street firms, as well as the advisors who have started these types of funds, have now capitalized on most of the rising market. Many have produced solid returns for their investors. Capital follows returns, and pension capital is still flowing in this direction. This may soon change, however, as discussed in the next section.
Opportunistic Investing

Pension funds will continue to allocate capital to opportunistic commingled funds so long as the advisors who manage them continue to deliver high returns. "The first opportunistic funds took advantage of market inefficiencies and pursued straight real estate finance plays by acquiring distressed real estate or non-performing loan portfolios and then processing them with financial expertise." The bulk of non-performing loans and distressed real estate has already been purchased by the vulture funds and entrepreneurs. Opportunities still exist, but they are far more difficult to find. Despite the odds, both pension funds and advisors forecast that more capital will be allocated to opportunistic investment in real estate. That many of the advisors are sponsoring opportunistic funds may indicate that the advisory community has a tacit mandate from the plan sponsors to deliver high returns.

Investment in Private Operating Companies

*Investment in private operating companies is a strong trend which is likely to continue.* This type of investment, in terms of alignment of incentives, is the next best vehicle to public equity REITs. As REITs comprise only a small portion of institutional real estate assets, plan sponsors who are enthusiastic with the REIT model, but unable to satisfy their appetite for REIT investment, may invest in private operating companies. As

34 Brad Hall, "Real Estate Roundtable, Experts Define Trends in Real Estate", Pension Management, February 1996 p. 22
long as pension funds are willing to provide debt and equity capital at competitive rates, private operating companies will seek to form alliances.

While an active secondary market does not presently exist for these types of investments, plan sponsors who do not require liquidity can benefit from many unique advantages of private operating companies. For example, plan sponsors may share in fees generated from property management and brokerage aspects of the operating company. In addition, private operating companies often provide considerable local expertise which can locate and expedite acquisition opportunities which the plan sponsor would otherwise not be exposed. Small private operating companies also are, at times, more capable of retaining existing tenants than a passive, out-of-town investor. Lastly, investment in operating companies can provide growth (both internal and external) just as is the case with public REITs.

**Current versus Targeted Real Estate Allocations**

*Plan sponsors expect to invest multiple billions of dollars in real estate in the coming years.* The survey and interviews with industry leaders confirm the general perception that more capital, not less, is headed to the real estate sector.

**The Four Quadrants**

*Aggregate investment is expected to increase in each of the four quadrants.* The percentage invested in direct equity, the mainstay of pension real estate investment, will
decrease. Public equity is drawing considerable attention and capital. *Pension funds indicate that they will increase their percentage of capital invested in REITs.* Because the total capitalization of the public REIT market remains small, *investment in private operating companies (most likely private REITs) should continue to increase* so long as this type of investment offers similar return and management incentive characteristics as those offered by REITs. Many investors in private operating companies hope to securitize their investment and “go public” when the opportunity makes economic sense.

*Private debt (whole loans) held by pension funds has increased to more than 10% of their total real estate capital and is forecasted to increase even further during the next five years.* Why public debt will be held in the real estate portfolio and not in the fixed income portfolio remains unanswered and is openly posed as a question to the real estate academic community for future research.

*Investment in securitized debt is expected to increase.* Most likely, this public real estate debt capital is targeted at high yield, un-rated and lower tranche CMBS which has return characteristics much like equity real estate. Unlike investment grade debt, lower tranche CMBS requires considerable real estate expertise. This may well explain its inclusion in the real estate portfolio as opposed to the fixed income portfolio.

**Targeted Returns**

Investments in the stock market have far exceeded expectations. If the stock market loses steam, focus will likely to turn to other asset classes capable of producing attractive returns. In this light, real estate is garnering additional attention in the pension
fund community as a viable outlet to place new capital. Most pension funds expect a 12% total return on their real estate investments, 8% as income and 4% as capital appreciation. A twelve percent total return is not dissimilar to the stock market’s return over the last ten years.

A Closing Remark

Real estate is considered a separate asset class. It is also an integral part of the capital markets. In order to attract debt and equity capital, real estate must provide similar risk-adjusted returns to those expected from corporate bonds and equities. No longer is real estate investment made largely on the merits of its diversification characteristics and its supposed inflation hedge. Real estate investment is now and will continue to be made almost exclusively based on risk and return considerations. The real estate advisory community seems to recognize this, as indicated by their overwhelming survey response predicting that most new pension fund investment will be “opportunistic” in nature.

Pension fund investors will continue to employ more tactical strategies. As such, they will seek increased liquidity and follow more fluid investment strategies.
Appendix A: Pension Plan Survey

MIT CENTER FOR REAL ESTATE 1996 PENSION PLAN SURVEY

Type of fund: □ Public □ Corporate □ Endowment □ Foundation □ Taft-Hartley
□ Other (specify) __________

1991 Total Plan Assets: $ ______ 1996 Total Plan Assets $ ______
2001 Total Plan Assets (Projected) $ ______

I. CURRENT REAL ESTATE PORTFOLIO
A. Do you hold real estate in your portfolio? Yes □ No □
B. What year did you begin to invest in real estate? ______
C. Do you have a real estate allocation target? Yes □ No □
D. If yes, what percentage of total assets? ___ %
E. Total dollar value of this real estate allocation today: $ ______

II. What is the value of your current real estate portfolio? $ ______

Of this total real estate portfolio, how much is allocated to:

Public equity $ _____  Private equity $ _____
Public debt $ _____  Private debt $ _____

III. HISTORICAL REAL ESTATE PORTFOLIO 1991:
A. Total value of real estate portfolio on 6/30/91: $ ______
B. Of this total on 6/30/91, the real estate portfolio was funded as follows:

Public equity $ _____  Private equity $ _____
Public debt $ _____  Private debt $ _____

IV. PROJECTED REAL ESTATE PORTFOLIO 2001:
A. Total projected value of real estate portfolio in 2001: $ ______
B. Projected allocations in 2001:

Public equity $ _____  Private equity $ _____
Public debt $ _____  Private debt $ _____

V. CURRENT RETURN CRITERIA
Annual return target from total real estate portfolio:
Total return: ____ %  Income: ____ %  Capital appreciation ____ %
VI. Do you measure your returns against a benchmark?  
   Yes ☐ No ☐  
   If yes, which one?  ☐ NAREIT  ☐ NCREIF  ☐ S&P 500  
   ☐ Wilshire REAL ESTATE Index  ☐ Other (specify) ____________

VII. Do you consider real estate:  ☐ an asset class  or  ☐ an industry sector

VIII. Is your plan’s investment in real estate:  
   Strategic: ☐ (i.e. you plan to make basic allocation objectives to real estate and will “ride out” the cycles rather than trying to time them)  
   Tactical: ☐ (i.e. you hope to exploit opportunities by timing market cycles)

IX. When evaluating the following investment structures, what holding period to you use for your analysis?  
   Number of years  3  5  7  10+  
   public equity ☐ ☐ ☐ ☐  
   private equity ☐ ☐ ☐ ☐  
   public debt ☐ ☐ ☐ ☐  
   private debt ☐ ☐ ☐ ☐

X. Is your real estate portfolio leveraged?  Yes ☐ No ☐  
   By 2001, do you anticipate your use of leverage will:  
   ☐ increase  ☐ decrease  ☐ no change  ☐ not sure

XI. How are real estate allocations made:  
   A. ☐ internal staff  ☐ advisory firms  
      ☐ consultants  ☐ other (specify) ____________
   B. Do you anticipate this may change over the next five years, and if so, how?  
      Yes ☐ No ☐

XII. How many real estate advisory firms do you currently use? _____

XIII. What percentage of your real estate assets are invested and managed by independent advisory firms?  
   A. ☐ less than 25%  ☐ 25-50%  ☐ 51-75%  ☐ 76-100%  
   B. Is this ☐ greater  ☐ less  or  ☐ the same as in 1991?

XIV. By 2001, do you anticipate that the percentage of real estate assets invested through advisory firms will:  ☐ increase  ☐ decrease  ☐ no change  ☐ not sure
XV. What percentage of your real estate assets are invested in commingled funds? ____%  
By 2001, do you anticipate your allocations to commingled funds to:  
☐ increase  ☐ decrease  ☐ no change  ☐ not sure

XVI. Of your total real estate assets invested through advisory firms not in commingled funds, what percentage is:
A. discretionary ____%  nondiscretionary ____%  
B. Is this ☐ greater  ☐ less  or  ☐ the same as in 1991?  
C. By 2001, do you anticipate the percentage of your discretionary portfolio to:  
☐ increase  ☐ decrease  ☐ no change  ☐ not sure

XVII. By 2001, do you anticipate that you will use advisory firms to manage your real estate investments in the public equity markets?
A. ☐ yes  ☐ no  ☐ don’t know  
B. How about the public debt markets? ☐ yes  ☐ no  ☐ don’t know

XVIII. Have you considered co-investment opportunities in private real estate operating companies?
A. ☐ yes  ☐ no
B. If yes, have you funded those investments? ☐ yes  ☐ no

Thank you for your participation. If you wish to receive a copy of the survey results, please provide your mailing address below:

Name: ____________________________________________
Organization: _________________________________________
Address: _______________________________________________
City: ______________________ State: ___________ Zip: ___________
Appendix B: Advisor Survey

MIT CENTER FOR REAL ESTATE SURVEY OF ADVISORS FOR INVESTMENT PLANS

Organization Name: ________________________________________________

Company Profile

1. What is the total value of your firm's real estate assets under management? $ __________ Of this total, how much is:

   Public Equity ________%   Private Equity ________%
   Public Debt ________%   Private Debt ________%

2. Five years ago, the approximate value of your firm's real estate assets under management was:
   Total $ __________ Of this total, how much was:

   Public Equity ________%   Private Equity ________%
   Public Debt ________%   Private Debt ________%

3. Looking forward five years, the approximate value of your firm's real estate assets under management will be: Total $ __________ Of this total, how much will be:

   Public Equity ________%   Private Equity ________%
   Public Debt ________%   Private Debt ________%

4. Are your clients ____ increasing or ____ decreasing their total real estate assets under management (not just funds invested with your firm)?

5. Over the next five years, do you foresee public plans increasing or decreasing their exposure in the following four quadrants?

   Increasing  decreasing  Increasing  decreasing

   Public Equity  ____  ____  Public Debt  ____  ____
   Private Equity  ____  ____  Private Debt  ____  ____

6. Over the next five years, do you foresee corporate plans increasing or decreasing their exposure in the following four quadrants?

   Increasing  decreasing  Increasing  decreasing

   Public Equity  ____  ____  Public Debt  ____  ____
   Private Equity  ____  ____  Private Debt  ____  ____
7. What is the percentage of your investments on behalf of:
   corporate plans ____%  public plans ____%  other ____%?

8. Of your total funds under management, what percentage of this is in commingled funds?  
   ______%  

9. Five years ago, approximately what percentage was in commingled funds?  ____%  

10. Looking forward five years, approximately what percentage will be in commingled funds?  
    ____%  

11. What percentage of your separate account assets under management are discretionary?  ____%  
    Is this more □  less □  or the same □  than five years ago?  

12. Looking forward five years, do you foresee that your percentage of discretionary separate  
    account assets under management will  
    Increase □  decrease □  stay the same □

13. What percentage of the private real estate assets that you manage for corporate funds is  
    discretionary?  ____%  
    Is this more □  less □  or the same □  than five years ago?  

14. Looking forward five years, do you foresee this percentage to increase? □ yes  □ no  

15. What percentage of the private real estate assets that you manage for public funds is  
    discretionary?  ____%  
    Is this more □  less □  or the same □  than five years ago?  

16. Looking forward five years, do you foresee this percentage to increase? □ yes  □ no  

17. Which benchmark do you use for return comparisons?  
   NAREIT □  NCREIF □  S&P 500 □  Wilshire RE □  Other, please specify__________

18. Do most of your clients consider real estate: □ an asset class  or □ industry sector  

19. Is your firm’s investment focus in real estate:  
   Strategic: □  
   (i.e. you manage your clients’ allocation objectives and will “ride out” the cycles rather than  
    trying to time them?)  
   Tactical: □  
   (i.e. you hope to exploit opportunities by timing market cycles?)
20. When evaluating the following investment structures, what holding period do you use for analysis?

<table>
<thead>
<tr>
<th>Number of years</th>
<th>3</th>
<th>5</th>
<th>7</th>
<th>10+</th>
</tr>
</thead>
<tbody>
<tr>
<td>public equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>private equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>public debt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>private debt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. Approximately what percentage of your assets under management currently uses an “opportunistic” strategy? _____%

22. Five years ago, approximately what percentage of your assets under management currently used an “opportunistic” strategy? _____%

23. Looking forward five years, approximately what percentage of your assets under management currently will use an “opportunistic” strategy? _____%

24. Are your real estate assets under management leveraged? ☐ Yes ☐ No

If yes, on average what percentage of the total portfolio is leveraged? _____%

25. Is this leverage used primarily in the more “opportunistic” investments? ☐ Yes ☐ No

26. In five years, will your use of leverage: increase ☐ decrease ☐ stay the same ☐

27. Over the next five years, do you foresee that when institutional investors make decisions to invest at least $25 million in REITs that they will use the services of a “four quadrant” real estate advisory firm?

☐ most will use an advisor ☐ some will use an advisor ☐ few will use an advisor

Have you considered co-investment opportunities with private operating companies on behalf of your clients? ☐ Yes ☐ No

28. Do you feel this type of investment could represent a new “trend” in the industry? ☐ Yes ☐ No

29. In the next five years, the total funds committed to this type of investment will increase ☐ decrease ☐ stay the same ☐

Thank you for your participation. If you wish to receive a copy of the survey results, please provide your mailing address below:

Name: __________________________________________
Organization: ___________________________________
Address: _______________________________________
City: ___________________ State: ___________ Zip: ___________________

88
Bibliography

Books


Eagle, B. *Revisiting the Case for Pension Fund Investment in Real Estate*, Frank Russell Company, October 1990

Frank Russell Company *Real Estate Investments Retirement Plans*, October 1977


Periodicals


Han, J. Targeting Markets is Popular: A survey of Pension Fund Real Estate Investment Advisors, *Real Estate Finance*, Volume 13, #1, Spring 1996


Melnikoff, M. A Note on the Dawn of Property Investment by American Pension Funds, *AREURA Journal*, Fall 1984


*Pension & Investments*, Top 200 pension Funds/Sponsors, January 22, 1996

Provost, D. Compensating the Prudent Man An Examination of the Trend Towards Performance Based Fee Structures in the Pension Real Estate Advisory Industry, MIT Center for Real Estate Thesis, September 1995


**Interviewees**

**Abbott Davis**, Real Estate Officer, New York State Teachers Retirement System, Albany, NY

**Blake Eagle**, Chairman, MIT Center for Real Estate, Cambridge, MA

**C. J. Harwood**, Executive Vice President, Equitable Real Estate, Boston, MA

**Steve Goldmark**, Director of Real Estate Investments, IBM Pension Fund, Stamford, CT

**Charles Grossman**, Managing Director, Jones Lang Wooten Realty Advisors, New York, NY

**Michael Miles**, Fidelity Investments, Boston, MA

**Arthur Segel**, Managing Partner, TA Associates Realty, Boston, MA