The Determinants of REIT Franchise Value

A Reprise

by

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THESIS ABSTRACT

This paper re-examines the determinants of REIT franchise values, which were defined and studied in a previous MIT thesis by Jim Young for a representative group of apartment and office REITs in 1998[1]. Franchise value was specifically defined as the Premium-to-Net Asset Vaue (NAV) at which most REITs trade.

In broader terms, franchise value is often defined as the present value which management is expected to add in terms of net revenue growth to shareholders. A more specific definition of franchise value was presented in the previous thesis, and a model constructed, in which the internal and external structural components were quantified, to determine their impact on franchise value. The same econometric model is applied today to pooled data from '97 and '99, against the backdrop of a different market environment, to verify which components continue to play a significant role on a REIT's franchise value over a broader market cycle.

Independent variables are developed as proxies for the components of the franchise value, and are regressed against alternate specifications of franchise value (the dependent variable). The dependent variables used in this study are the REITs' Premium-to-Net Asset Vaue (NAV) and Price to Funds From Operations (FFO) multiple for the sample of office and apartment REITs.

The results show that regional economic concentrations, measures of balance sheet strength, visibility, management experience and conflict of interest mitigations are statistically significant factors which contribute to franchise value.

More significantly, this thesis discovered that the relationship between the alternate specification of the dependent variable, the Price-to-FFO multiple, and the independent variables is more conclusive than it is for the Premium-to-NAV specification of the dependent variable. This suggests that perhaps over time, the more objective measure of the Price-to-FFO multiple produces a better measure of franchise value than does the more commonly used Premium-to-NAV (which is a more subjective measure of a REIT's portfolio value, and depends on a multitude of assumptions for which there is little consensus at the present time).

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1.0   Introduction

The purpose of this paper is to re-examine the determinants of REIT franchise values, which were defined and studied in a previous MIT thesis by Jim Young for a representative group of apartment and office REITs in 1998[2]. Franchise value was defined as the Premium-to-Net Asset Vaue (NAV), at which most REITs trade. In broader terms, franchise value is the *additional value*, as reflected by its stock price, that management is expected to add in terms of net revenue growth to shareholders.

In this paper, franchise value will be measured in two ways. The first is according to the previous specification of premium/discount to NAV, which is the value of the company in relation to net asset value of the company's property holdings. Net asset value is defined as the "*liquidation value*" assigned to a REIT's real estate holdings and is an arguably an imprecise figure, because it is based on assumptions of cap rates, growth rates, discount rates, projected earnings and other economic forecasts. The second is the Price-to-FFO multiple, which purports to be a relative measure of the REIT's *earning power*, based on actual income from properties, joint ventures and fees. The Price-to-FFO multiple is not tied to the value of any particular portfolio asset(s) in any way. To the extent that a REIT is a going concern that can buy, sell and invest in real estate products in the marketplace, and not a closed-end fund, the Price-to-FFO multiple is deemed to be an alternative measure of franchise value.

This 2000 thesis will refresh the relevant data as of 4th quarter 1999 and try to empirically explain the premium or discount to which REITs trade relative to their NAV as well as their Price-to-FFO multiples. Several new explanatory variables will be added to ones used in the previous model as a way of investigating other aspects of the market that may inform the pricing levels of REITs today.

Data from 1997 and 1999 will be merged, in an effort to "normalize" results from data gathered from both "bull" and "bear" markets. This thesis will also test the model with new variables against the 1999 data alone. These studies will seek to determine whether the model, which was applied successfully when REITs were

trading at substantial premiums to their NAVs, is as statistically compelling, under much different market climates, as well as over a longer term.

1.1 Context of REIT Markets, Y2K

The previous thesis on REIT Franchise Value in 1998 was conducted during a period in which REIT stock values were trading at 20 to 30% premiums to NAV[3]. At the time, there were 210 REITs with an equity market capitalization of $140.5 billion.[4] Among the group of 42 Apartment and Office REITs included in this study 2 years ago, the mean premium was 17.2% to their Net Asset Values (NAVs).[5] Two years later (as of December 31, 1999), the equity market capitalization of REITs has diminished to $124.3 billion[6], and the 36 remaining REITs[7] in the study were trading at a mean *discount* of 20% to their NAVs. There has been a recent upturn in the REIT equity market as of the 2nd quarter of 2000; however there is much speculation as to its significance and duration. As such, it will not be addressed in this thesis.

Relative Pricing: REITs versus Real Estate, Bonds and Stocks

Despite the historic trend towards premium valuations, the NAV discount as recently widened to its deepest level in over eight years.
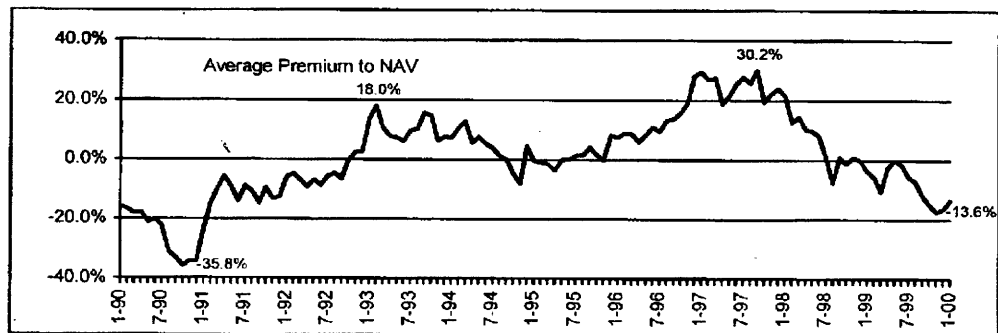
Figure 1.1 Relative Pricing of REIT returns to NAV

REIT prices started plummeting in the first quarter of '98, an event that was escalated by the Russian debt crisis and its effects on the credit markets[8], among other variables. Until quite recently, REIT stock values have been trading at substantial discounts to NAV, and although public real estate

markets have recovered some ground in the first half of 2000, these have not reached the same levels nor have they seen the same growth as that seen between '97 and '98. This scene has been played against the backdrop of the steady growth in the nation's economy and continued strong fundamentals in most real estate markets.

Many analysts have attributed this drop in stock valuation to revised growth expectations for the companies. However, there is also some ad hoc evidence that entire industry has been affected as a result of *macro-economic* issues, such as the Russia's default, the Asian crisis and Brazil's threatened devaluation and the combined effects of these events on credit markets.[9] In addition, the exponential stock valuation growth of the high-tech equity markets, as evidenced by the surge in the NASDAQ composite index over the past year, has also contributed to the malaise in the Real Estate markets. Nor has the Real Estate industry been singled out—weekly articles in the Wall Street Journal lament the flow of funds from more established "old economy" stocks to riskier and less well-known "new economy" stocks that have seen stock valuations shoot through the stratosphere.

In addition, there has been an ongoing trend of REIT consolidation since 1995 as companies merge in an effort to expand growth prospects in new areas and to create synergies through greater economies of scale[10]. Among the REITs studied, several have consolidated. These are:

- Avalon Communities Trust (AVS) and Bay Apt. Communities (BYA) consolidated into Avalon Bay (AVB);

- Merry Land Investments Inc. was acquired by Equity Residential Trust (EQR) in early '99;

- Cornerstone Properties (CPP) was acquired by Equity Office Properties (EOP) early in 2000 (Cornerstone data is included in this study, as the acquisition was not yet complete as of 4th quarter 1999 and the data was available);

- Security Capital Pacific Trust (PTR) and Security Capital Atlantic Inc. (SCA) merged into Archstone Communities Trust (ASN) in '99; and

- Walden Residential Properties Inc. (WDN) was acquired by Olympus in March '00.

The increasing liquidity of the private Real Estate markets combined with the inherent inflexibility of the REIT tax structure have also contributed to de-REITings. Some examples of these within the previous thesis' study pool include[11]:

- Berkshire Realty Company Inc. (BRI)

- Irvine Apt. Communities Inc. (IAC)

Others that have deREITed and have not been included in the study are:

- Starwood Hotels (converted from paired share to C-Corp in Jan '99)

- Sunstone Hotel (SSI)

- Wyndham Hospitality

Today, REIT growth and acquisitions have leveled off—in part as result of most companies' inability or lack of desire to raise funds in the public markets, given their discounted valuations, and in part as a result of evolving expectations by investors. Many analysts note that REIT stock prices did start lagging behind the general market early in 1998 (allegedly betraying investor disaffection[12]), however, this was only part of the story. The Russian crisis' effects on the CMBS and REIT debt markets has largely curtailed the availability of debt, unsecured or otherwise, and has had an effect as well on the REIT equity sector's growth from development and acquisitions.[13]

Figure 1
Morgan Stanley REIT Index (RMS) vs. the S&P 500 — Total Returns

Data: 7/95 through 2/00)
Aug 25, 1995 = 100
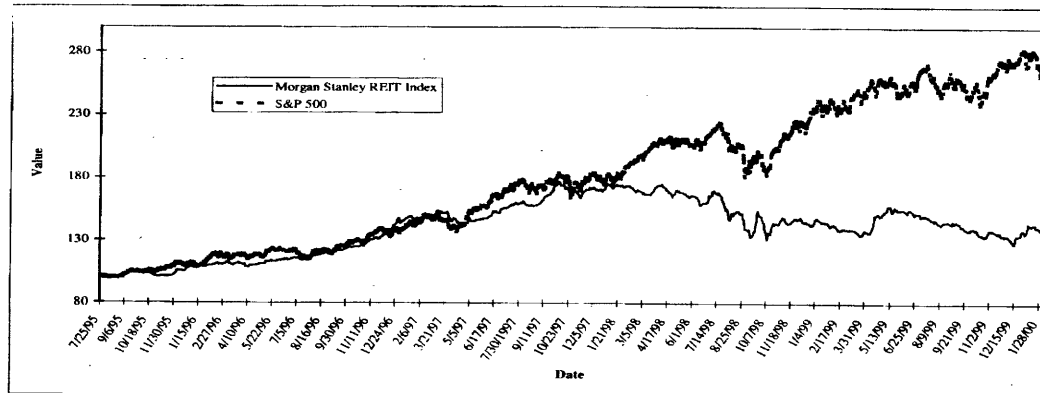
Fig. 1.2   MSDW REIT Index vs. the S&P 5000 – Total Returns

Following the global financial panic and ensuing devaluation of REIT stock prices, public market investors reassessed the desirability of investing further in these stocks, which may explain why REIT equity shares have not rebounded in value along with the broader equity markets. In fact, unsecured REIT debt issuance for the first five months of 2000 totaled about $1.4 billion, down sharply from approx. $6.3 and $5.9 billion for the same periods in 1999 and 1998, respectively.[14]   The implications of this are that REIT managers have found the proportion of debt in their capital structure and/or relative cost of debt too high, which is partly due to other corporate sectors that have borrowed record sums in 1999 and the first half of 2000, which has further driven up the cost of debt.

As a result, REITs have grown adept at finding alternate financing methods that increase FFO/share without tapping the public markets. While there have been issuances to meet ongoing capital needs, REITs by and large have been using joint ventures, property sales and preferred equity to finance growth. One example of this would be recent efforts by JDN Realty Corp., which, in 1999, sold several of its "non-premium" properties in the context of a fairly liquid real estate market.[15] "What we want to try to get away from are levering up and (making) new equity issuances," says Charles Talbert, director of investor relations for JDN. "Both of those, debt and equity, have

been prohibitively expensive over a year and a half because investors have cut off REITs from raising equity and issuing additional debt...to become self-funding is a way to eliminate going to the volatile capital markets."[16]   The company's asset-recycling program initially resulted in a drop in stock price, but analysts thereafter gave the company a positive prognosis as a result of these efforts.

REITs have also done off-balance sheet financing for development. Typically a REIT contributes limited equity to a joint partnership venture to facilitate development. This process is not well-disclosed and difficult to measure, as some REITs have chosen to reveal these financial transaction in their 10Qs, while many do not. Also, the amount of debt and its resultant effect on "consolidated " financial statements are not clearly revealed.

Other strategies include tax deferral through property "swaps", as used by Summit Properties, which employs 1031 exchanges (swap of properties) or 3rd party exchanges, which result in tax-deferred capital gains on their property acquisitions.

1.2   Research Issue

The purpose of this research is: (a) to verify whether the same components of "franchise value" remain statistically significant in determining REIT equity valuations *over time* and *against current pricing*; and (b) to determine whether other measures of franchise value, (e.g. FFO Multiple, AFFO Multiple, Net Income multiple, etc.) have a stronger relationship to the presumed components of franchise value, and (c) to posit other possible explanations for new valuations given today's equity market climate. A few new variables will be introduced to test these theories, within the scope of their contribution (or detraction) to REIT's franchise value. These additional variables will focus on components that measure REIT growth, as well as the REIT management's ability to create value in the current business environment. Other variables which measure broader market forces (such as public sentiment, the performance of high-tech equity stocks over fixed

income stocks, etc.) were discussed and considered for study as well, but were deemed as being difficult to measure within the context of this thesis, and do not directly contribute to a REIT's measure of franchise value.

1.3   Changes in Investor Perception of Public Real Estate Values

Some possible explanations for trail-off in REIT stock values may be due to changes in investors' perceptions of the space markets. As vacancies drop, investors may think that the markets have entered a *development* phase (as opposed to the *overbuilt* or *slow absorption* phases). During this phase, occupancy, rents and prices are unlikely to rise in magnitude as they did in earlier phases, as new properties begin to come online. Investors are forward looking and anticipate that the added supply would limit future income growth, as development typically lags behind vacancy rates.[17]

—+— Vacancy Rate   —— Construction   - - - Employment Growth
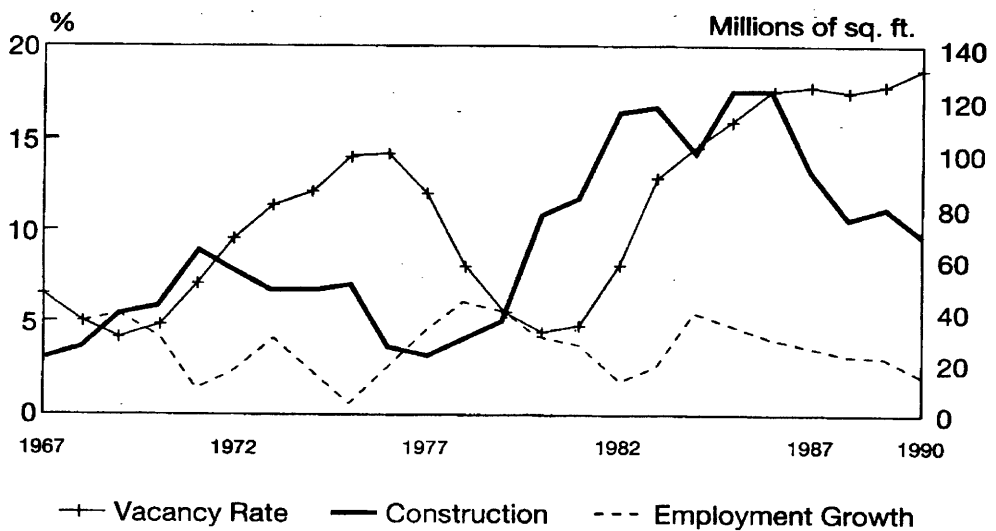
FIGURE 1.3   Office employment growth, vacancy rate, and construction, 1967–1990.

These data are aggregated from 30 metropolitan areas.

Source: Employment, adjusted U.S. government figures courtesy of Regional Financial Associates, Bala-Cynwyd, PA; vacancy and construction, CB Commercial.

Related to this anticipation is the lingering memory in investor's minds of the overbuilding in '80s and its long-term effects on the market. Finally, there is the unknown factor in investors' minds regarding the impending space

requirements of a new economy, which promises greater mobility and flexibility in the work arena, and possibly less required office space.

As mentioned earlier, fundamental changes in stock market investor attitudes have also caused a shift in the equity markets from the real estate sectors to higher growth stocks. This may in part be influenced by the evolving structure of ownership of commercial property--from traditional partnerships between developers and institutional investors, who typically hold properties long-term--to stock market investors, who expect greater liquidity and have shorter investment horizons. These investors expect higher yields and faster growth, as do fund managers, who are judged on quarterly performances. All this sets the stage for greater volatility of REIT share prices, compared to direct property prices.[18]

It is also possible that investors now realize that the real estate industry is mature industry and not a traditional growth stock. Again, many claim that investors are flocking to higher expected total returns provided by other growth stocks in equity sector. Prospects for rapid growth in real estate values--that is, in the total amount of real estate acquired or built--are much lower than prospects for growth in other industries. As expected growth is deemed by many in the industry as the *primary* driver of the (anemic) performance of the REIT stocks over the past two years, the new variables added in this thesis will focus on those components of REIT franchise value (e.g. capital deployment levels, reduction in vacancy levels, number of recent equity issuances, management turnover, etc...) which influence growth in company size, revenues and per-share operating performance.

2.0 Research Methodology

2.1 1998 Thesis

The previous study defined the components of REIT "Franchise value" as the "premiums to net asset value at which most REITs currently trade."[19] These premiums were then quantified and empirically examined to statistically explain the components of such franchise value. Numerous independent variables were chosen to represent proxies for the components of franchise value, and were statistically measured to evaluate their impact on the dependent variables of REIT stock premiums (Stock price/NAV - 1). With a few additional variables added to existing ones used in the previous model, a similar format and methodology will be used in this study to try to compare the results of regressions in a meaningful way across the two years spanning a peak and trough in REIT share pricing.

Franchise Value Components

Franchise Value, as defined in this thesis, is based on 3 basic categories and their respective criteria[20]:

- *Internal/External Structural* – Business strategy focus, Regional & Product type, Asset Diversification, Growth opportunities (expanded to include capital deployment levels and changes in vacancy levels), Balance sheet strength (expanded to include firms' ability/proclivity to offer new stock issuances) Visibility, and Low overhead;

- *Human Resources* – Visionary leadership, Experienced management (including any changes in management which may signal a shift in direction in management), Organizational structure (UPREIT yes/no), Organizational culture; and

- *Governance* – Conflicts of interest, Incentive based compensation agreements, Significant insider ownership, Disclosure.

2.2   Capital Markets Research

Research into the changes in the Capital Markets that ultimately impacted REITs was conducted during the course of studies for Prof. Tim Riddiough's *Real Estate Capital Markets* class at MIT. The evolution of events leading to the global credit crisis due to Russia's default, management incentives to add value to each company, the return of private pension fund investors to the real estate capital markets, as well as methods of calculating the growth and strength of REITs in an evolving public market were among specific issues that were discussed and analyzed in the course. Some offshoots of these studies produced new variables for this thesis:

- *Price-to-FFO Multiple* - In the previous study, the FFO multiple (stock price per share/FFO per share) was considered as an alternate dependent variable, but was discounted for its lack of correlation to NAV, especially in the office sector. The use of this number as an alternate specification for dependent variable will be reassessed in this study.

- *Price-to-AFFO Multiple* - The Price-to-AFFO multiple will also considered in this study as an alternate dependent specification. AFFO attempts to correct the FFO's definitional shortcomings by addressing the omission of depreciating assets, recurring capital items such as leasing commissions, and the vagaries of floating rate debt and principal payments. In general, it has become used more often for its capacity to indicate future operating cashflows for the company.

- *Price-to-Net-Income Multiple* - Additionally, the Price-to-Net-Income multiple is studied as a possible dependent variable to measure company valuation through earnings growth. Its strengths and weaknesses will be discussed more comprehensively below.

All data for NAV and independent variables are culled from similar sources as those used in the prior study. Company disclosures in the form of 10Q and

10K filings, Proxy statements and internet market links, various real estate analysts' reports and models, NAREIT and SNL data, were used to populate the variable database. As much as possible, a single, standardized source was used for all data involving quantitative valuation of earnings, returns and pricing.

2.3   Literature Review

Literature pertaining to REIT franchise value and pricing are addressed in several articles cited below. Other empirical research articles and studies are cited in the previous thesis.[21]

Empirical Research

> Hartzell, Heckman and Miles, *"Diversification Categories in Investment Real Estate,"* AREUEA Journal 14, pp. 230-254, 1986 and Hartzell, Shulman and Wurtzebach, *"Refining the Analysis of Regional Diversification of Income-Producing Real Estate,"* Journal of Real Estate Research 2, pp. 85-89, 1987. These articles propose the categories and relative benefits of regional and property type diversification within real estate. The eight product and geographic boundary categories are incorporated into a variable to determine whether these diversification measurements are significant to franchise value in this thesis.

Publications from Independent Research Firms

> Green Street Advisors, Inc. article on *"REIT Pricing—An Update of Our Pricing Model", 1/20/00.* This updated model breaks pricing into two major components: the first is NAV derived by marking to market value of real estate and other balance sheet items; the second is non-empirical value added or subtracted due to the ability of management working in current business environment to create value and/or structural or balance sheet features that may detract from value. While the Green Street article is critical of NAV as pricing measure by itself, it does validate the use of NAV as an estimate of firm value, which is forward looking in that it

incorporates future risks and internal growth prospects. To address its limitations, the Green St. model subjectively incorporates many of the qualitative governance and conflicts of interest variables used in this Regression study.

Green Street Advisors, Inc. article on *"The High Cost of Owning Real Estate", 9/29/99.* Although it acknowledges the improvement of FFO and AFFO figures compared to NAV, this article is nevertheless critical of these measurements and proposes Adjusted Net Income as a gauge which "comes closer to the economic truth" about performance measures. It posits that Net Income appropriately captures the appreciation of real estate through higher revenues and the costs of realizing this appreciation through depreciation. A summary of its merits and weaknesses is presented below:[22]

- Flaws include: Short (40-year) depreciation schedule does not apply to most buildings; owners with older properties have artificially low book value for properties due to this abbreviated schedule; Net Income straightlines rents and includes gains on sales, as does its cousin, FFO.

- Strengths include: Recognizes that real estate depreciates. By adding back all real estate depreciation in the computation of FFO, the REIT industry is guilty of ignoring this very real, and very material, expense. The depreciation of the buildings and improvements that shows up in net income is, conceptually, a very close cousin to the "cap ex" (capital expenditure) reserves applied by most credible analysts when they compute AFFO/CAD. Thus, from a theoretical context, Net Income is a much better performance measure than FFO, because it better matches revenues and expenses, as well as projects growth in earnings[23].

3.0   Statistical Components of Franchise Value Examination

3.1   Statistical Sample

Of the 42 REITs included in the prior study, only 36 REITs remain in the current study "pool" after the de-REITs and acquisitions of the past two years. 2 REITs have been substituted in this study: Avalon Bay (AVB), the result of the merger between Avalon Properties and Bay Apartment Communities; and Archstone (ASN), which forged the merger between Security Capital Pacific Trust (PTR) and Security Capital Atlantic Inc. (SCA). Merry Land Investments Inc. (MRY), acquired by Equity Residential (EQR) and Walden Residential Properties Inc. (WDN), acquired by Olympus in early 2000, have been dropped from the study. Two companies have deREITed: Berkshire Realty Company Inc. (BRI) and Irvine Apartment Communities Inc. (IAC). These companies have been removed from the study as well. The total sampling of 36 is smaller than the original sampling, though it is considered sufficient to provide statistical data for the office and apartment sectors. The sampling of original 42 REITs were office and apartment REITs existing in '98 and are considered representative sample of public REITs in those sectors. Today there are a total of 48 apartment and office REITs[24], however, for the sake of comparison of data across time, we have not included those REITs which were not included in the original sampling.

In conducting this study, the identified characteristics of the REITs will be regressed against the dependent variable specified (NAV premium, Price-to-FFO multiple, price to AFFO multiple or price to Net Income multiple) as a group, with statistical findings summarized. The data from the 1997 study and the 1999 study will be "cross-pooled" into one statistical data set to verify whether the variables have the same or similar impact on the alternative specifications for the dependent variables over the two-year cycle between 12/31/97 and 12/31/99.

3.2 Dependent variables

Premium-to-NAV as of 12/31/99. Portfolio net asset valuation is imprecise in that it is based on different assumptions applied by several analysts. To minimize inherent variances in the individual calculations, a mean NAV, composed of the average net asset value from 6 different analysts, is used to calculate the premiums/discounts. Data is for December 31, 1999 out of research reports from six sources, as shown in **Exhibit 1** below[25].

Exhibit 1
Premium-to-NAV and Price-to-FFO Multiples as of December 31, 1999

Office and Apartment REITS	Ticker	NAV Prem	Price to FFO Mult
Associated Estates Realty Corporation	AEC	74.36%	5.56
Apartment Investment and Management Company	AIV	96.82%	10.18
Amli Residential Properties Trust	AML	83.22%	8.18
Arden Realty Inc.	ARI	74.00%	7.72
Archstone Communities Trust	ASN	84.33%	10.66
Avalon Bay	AVB	82.86%	10.78
Brandywine Realty Trust	BDN	73.57%	7.06
Bedford Property Investors, Inc.	BED	73.55%	8.07
BRE Properties, Inc.	BRE	81.57%	9.93
Boston Properties, Inc.	BXP	84.16%	11.36
Mack-Cali Realty Corporation	CLI	73.98%	8.29
Cornerstone Properties, Inc.	CPP	73.98%	9.40
Camden Property Trust	CPT	80.71%	8.90
CarrAmerica Realty Corporation	CRE	81.43%	8.54
Duke-Weeks Realty Corp.	DRE	68.53%	9.26
Equity Office Properties Trust	EOP	86.12%	10.19
Equity Residential Properties Trust	EQR	82.75%	9.93
Essex Property Trust, Inc.	ESS	88.58%	10.63
Gables Residential Trust	GBP	84.55%	8.84
Great Lakes REIT, Inc.	GL	74.26%	3.03
Highwoods Properties, Inc.	HIW	68.57%	7.24
Home Properties of New York, Inc.	HME	79.23%	10.14
Koger Equity, Inc.	KE	68.01%	7.28
Kilroy Realty Corporation	KRC	81.18%	9.17
Mid-America Apartment Communities, Inc.	MAA	78.75%	8.75
Parkway Properties, Inc.	PKY	86.41%	8.64
Prentiss Properties Trust Inc.	PP	73.58%	7.45
Post Properties, Inc.	PPS	86.05%	10.58
Reckson Associates Realty Corporation	RA	78.25%	9.30
SL Green Realty Corp.	SLG	75.07%	10.28
Summit Properties, Inc.	SMT	74.44%	8.30
Spieker Properties, Inc.	SPK	83.76%	10.92
Charles E. Smith Residential Realty, Inc.	SRW	87.15%	11.17
Cornerstone Realty Income Trust Inc.	TCR	75.17%	8.17
Town and Country Trust	TCT	107.23%	9.15
United Dominion Realty Trust, Inc.	UDR	75.31%	7.58

2000 est. Price-to-FFO Multiple—This had been considered as an alternate specification to a dependent variable in the previous thesis, but was discounted due to its lack of correlation to NAV, particularly in the office sector. We revisited this variable once more to determine if there is a better correlation to NAV or if this specification of the dependent variable perhaps does a better job of explaining the variance in share prices across REITS. The correlations of Apartment FFO and Office FFO multiples to NAV premium were 53.3% and at 63.5%, respectively, which were no stronger than the previous thesis' correlations. However, there appears to be more reliance (and consensus data relating to FFO per share) on this measurement available today (see Consensus data for this variable, **Exhibit 1**, calculations in **Appendix 2**); therefore the Price-to-FFO multiple will be tested as an alternate dependent variable.

2000 est. price to AFFO Multiple—Consideration was given to using price to AFFO multiple as a dependent variable. AFFO correlations to NAV premium for apartment and office REITs were 66.2% and 72.4% respectively, higher than those for FFO. Despite this higher correlation, the disparate sources and large gaps in AFFO data collected from 1997 and 1999 raised some question as to the reliability of these correlations and the data in general. Their lack of standardization in its calculation is problematic as well, thus, it was discounted as a viable specification of the dependent variable.

1999 Price to Net Income Multiple --Net Income multiple was briefly considered as a dependent variable to measure earnings growth, but discounted due to lack of consensus for its use in industry. In fact, only Green Street Advisors advocates the use of Adjusted Net Income as a performance measure.

3.3 Independent variables

The following **Exhibit 2** provides a statistical summary of the objective and subjective variables which have been used to test the definition of franchise value.[26] The objective components were easier to access, as they consist of information available to investors and analysts. Some are more challenging to find, and required consensus data. For instance, in collecting the Acquisition and Development figures which analysts build into their earnings (FFO) models to identify company growth prospects, I found a wide range of estimated data for each company. Some analysts consider the development figures alone, as they do not believe that there will be much accretive value to acquisitions over the coming year, given the current high cost of both capital and properties. Others are bullish on external growth as supported by acquisition and development figures, but look at other factors such as management and specific local markets to calculate their NAVs. Most lament the unclear direction provided them by the companies themselves, and estimate the acquisition and development figures based on previous activity and their (the analysts') own sense of how the companies will grow. For this particular data, I have collected data from the analysts' models directly, making adjustments for varying accounting practices[27] to arrive at a consensus number for most of the REITs in the study group. In certain cases, where there was missing data, the mean for the variable was used for the regression runs.

The more subjective components of franchise value, such as management variables, required creation of proxy values or other types of measurement. **Exhibit 2** lists and provides descriptive statistics for the Independent variable database, also seen in **Appendix 3**. A brief description of the Independent variables, along with assumptions and expectation for each variable are as follows:

Exhibit 2

Independent Variable Descriptive Statistics

Independent Variable Description	Variable Name	All REITS			
		Mean	Std. Dev.	Min.	Max.
Business Strategy					
Herfindahl Geographical Concentration	GEOGRAP	15.3%	100.0%	52.8%	25.2%
Herfindahl Product Type Index	INDEX_2	50.0%	100.0%	88.5%	17.7%
Change in Occupancy Levels	CHGVAC	-11.1%	7.1%	-0.4%	2.9%
Regional Growth Opportunities					
New England	NEWENG	0.0%	23.3%	2.0%	5.3%
Mid Atalntic	MIDATL	0.0%	100.0%	22.5%	32.8%
Old South	OLDSOU	0.0%	91.4%	22.4%	29.2%
Industrial Midwest	INDMID	0.0%	96.0%	10.8%	22.5%
Farm Belt	FARM	0.0%	8.0%	0.8%	2.0%
Mineral Extraction	MINEXT	0.0%	45.8%	12.2%	15.0%
Southern California	SOCAL	0.0%	100.0%	14.7%	25.8%
Northern California	NOCAL	0.0%	72.2%	10.2%	17.1%
Balance Sheet Strength					
Debt to Total Asset Value	DEBTTAV	29.0%	72.2%	46.8%	9.3%
Debt to Market Cap	PERDEBT	24.4%	72.3%	49.1%	9.3%
Percentage Variable Rate Debt	VARDEBT	3.2%	74.9%	25.1%	16.2%
EBITDA to Interest Expense Ratio	EBITINT	167.5%	623.1%	344.6%	86.5%
2000E Capital Deployment Ratio	DEPCAP50	-41.9%	3090.1%	164.8%	544.8%
2000E Capital Deployment Level	A&DLEVL	-5.3%	12.6%	2.6%	3.7%
New Stock Issuances (Equity & Debt)	NEWSTOC	0.0%	1900.0%	519.4%	479.8%
Dividend Payout to '00 FFO Ratio	PAYOUT	28.6%	184.4%	76.1%	24.7%
Visibility					
Analyst Coverage *(millions)*	NOANAL	2	19	9	5
Number of Institutional Owners *(millions)*	OWNINSTN	17	264	111	55
% of Institutional Owners	INSTOWN	15.7%	98.2%	57.2%	20.6%
Average Weekly Shares Traded (millions)	TRADENO	117	2711	644	534
Average Trading Volume (% of Market Cap)	TRADEVOL	0.4%	2.3%	1.3%	0.4%
Total Market Cap *(Millions)*	TOTALCAP	497	12632	2895	2784
Low Overhead					
G&A as Percentage of NOI	GANOI	1.1%	20.3%	6.2%	3.6%
Experienced Management					
Average Earnings Surprise	SURPRISE	-0.8%	3.9%	1.2%	1.1%
Average Tenure of Top 6 Executives	AVGYRS	3	21	10	6
Visionary Leadership					
Vision Test	VISION	0	6	2	1
Disclosure					
Disclosure Level	DISCLOSE	2	6	4	1
Conflicts of Interest					
O.P. Units Outstanding	UPVALUEP	-2.6%	31.6%	6.0%	6.9%
Total Inside Ownership	OWNIMP	1.0%	41.5%	12.2%	8.6%
Executive Inside Ownership	BENTOP6	0.1%	26.1%	7.9%	6.6%

Indicator (Dummy) Variables		All REITs			
		1 =	0 =	1=#	0=#
Focus (1= Office)	FOCUS	Office	Apt	1 = 19	0 = 25
Inhouse Property Management	SLFMGMT	Yes	No	1 = 36	0 = 0
Development Capability	DEVCAP	Yes	No	1 = 31	0 = 11
de-REITed (1=yes)	DEREIT	Yes	No	1 = 2	0 = 34
Change in Management ('99 only)	CHGMGMT	Yes	No	1 = 18	0 = 17
Rated Debt	INVGRAD	Yes	No	1 = 16	0 = 28
Evidence of Nepotism	NEP	Yes	No	1 = 29	0 = 7
Structure	STRUCTURE	UPREIT	Trad/Dwn	1 = 28	0 = 8
State of Incorporation	MDCORP	Other	MD	1 = 10	0 = 27
Independent Board Chair	INDYCHR	Yes	No	1 = 17	0 = 19

Internal/External:

Focused Business Strategy

- *FOCUS.* Office/Apt (1=office)

- *GEOGRAP.* Herfindahl Index of Geographic and Product type concentration – tests the hypothesis that a focused business strategy, as defined by geographic concentration, is no longer a significant determinant of franchise value. The value of this index will vary between 1.0 for non-geographically diversified REITs to .125 for REITs which are equally diversified across 8 regions. See **Appendix 4** for summaries of each REIT's holdings by economic region.

- *INDEX 2.* Herfindahl index of product type concentration -- tests the hypothesis that, unlike regional diversification, product type diversification is not viewed favorably in the REIT marketplace. The variable will be equal to 1.0 for REITs with holdings in only one product type, such as EQR. For REITs which are equally diversified across six product types, the variable will be .167. REITs with low index score are expected to have lower franchise values.

Growth Opportunities inherent w/in business strategy

- *DEVCAP.* Development capabilities (1=yes) – It has been believed that the ability not only to acquire, but to develop property, increases a REIT's growth prospects and should thus have a positive impact on franchise value. This may not be as significant today as in the previous study, as most REITs have not had the access to funding due to increased costs of capital and/or lack of credit availability.

- *SLFMGMT.* Inhouse Property Mgmt. (1=yes) – Inhouse property management capability is a sign of a fully-integrated real estate company, and is deemed to provide economies of scale in maximizing internal profit (growth) potential. Indeed most REITs have this capability today, and therefore, a significant relationship between a

REIT's Inhouse Property Mgmt capacity and its NAV premium or Price-to-FFO multiple is not expected to be identified.

- Regional Growth Opportunities *(See Exhibit 2, Appendix 8 for Regions)* – This is measured by the Hartzell, et al., economic region segmentation scale as a way of determining whether, for a given property type, regional focus or growth opportunities are perceived as adding value to a REIT. A REIT with a high concentration of properties in certain that are experiencing high economic growth in conjunction with high barriers-to-entry (such as New England, Northern and Southern California, the Mid-Atlantic states, etc.), are expected to have stock pricing premiums, or at least lower discount levels.

- *DE-REIT.* De-REITed? (1=yes) This dummy variable posits that companies which were in process of de-REITing in '98 were known to investors and rewarded in terms of premiums to their NAVs, due to anticipated growth prospects. However, as only two REITs have de-REITed and these two did so in 1999, well after the '97 data was collected, this variable was not used.

- *CHGVAC.* Occupancy Change – The increase in occupancy rates—or decrease in vacancy rates--between '97 and '99 intuitively should be *negatively* correlated to expected future income growth, that is, rents go up along with stock price as vacancies decrease. However, an argument could be made for this to be *positively* correlated, that is, this decrease in vacancy rates (as measured by % change in stock) would translate to *lower* stock valuation, if investors anticipate that a development boom would soon ensue. As investors are forward looking, it is expected that the latter will hold sway, with lower vacancy changes correlating to lower stock premium valuation. Changes in occupancy levels are deemed by some investors as a leading indicator of potential development. This variable will be applied to 1999 REITs to see if the negative correlation holds.

Balance Sheet Strength/Access to Capital

- *PERDEBT.* Debt as a % to Total Market Capitalization – One of the key components of balance sheet strength, it is expected that companies' debt levels at or below 40% have additional borrowing capacity and therefore more growth potential. As debt levels have exceeded 50% for many REITs in the past two years and borrowing capacity has been exhausted for all but a handful of companies, this variable is not expected to have much impact on REIT pricing, except to perhaps "reward" those with additional capacity for debt (that is, those with lower debt levels) with higher valuations.

- *DEPCAP50.* Additional Borrowing Capacity to Estimated Capital Deployment Ratio– This variable measures the company's capacity to reach a 50% debt level-to-total market capitalization level against its estimated capital deployment (2000E development and acquisitions). The resultant ratio is a gauge of the buffer (in years, roughly) that existing shareholders have before the REIT must "go back to the (equity markets) well" to carry out its business plan. The data is a consensus estimate from between Lehman Bros., Morgan Stanley and Legg Mason analysts. This new study shifts to a 50% debt-to-total market capitalization threshold, more common in today's marketplace, despite higher costs of capital. To achieve consistency across both studies, the 1997 data is adjusted to reflect this higher debt threshold. This adjustment is not expected to have any measurable effect on the 1997 data, as most of the companies at the time had positive debt/capital deployment ratios and the measurement would be based on relative levels of deployment ratios. However, it makes the 1999 data more relevant, given that it is expected that very few REITs today would fall below the 40% debt levels, which are required to generate positive Debt/Capital Deployment values. It is then expected that those companies which have higher positive ratio values will be rewarded in the marketplace with higher stock valuation.

- *ADLVL*. 2000 Estimated Capital Deployment—One of the new variables introduced in this study, this variable is the estimated volume of a REIT's acquisitions and development for the coming year (2000E), which are built into analysts' models to project growth of FFO/earnings for each REIT. These values are taken as a % of total market capitalization for each company. Though difficult to pinpoint, this figure is the best measure of a company's *external growth*, and is anticipated to be significant in this year's study. A greater capital deployment capacity is expected to factor into a REIT's franchise value positively.

- *NEWSTOC*. New Stock Issuance -- Another measurement of deployment capacity is a firm's proclivity to tap the capital markets via new stock issuances. Any new stock issuances—common, preferred or convertible—will be counted. It is assumed that the higher the number of issuances, the greater the amount of capital available, the greater the ability of the firm to finance growth. Because there are some REITs which did not (or could not) issue new equity or debt, while others have done so regularly, the simple measure of issuance activity is expected to have a positive effect on a company's ability to achieve external growth, and thus increase its franchise value.

- *INVGRAD*. Investment Grade Debt rating (1=yes) – This rating signifies the ability of a company to access unsecured debt, which can provide additional flexibility for growth opportunities. Having unsecured debt credit rating should positively impact relative REIT stock value, which was the hypothesis two years ago. Today, this ability to access unsecured debt could be viewed *negatively*, as firms who have access to and use debt capital, signal slower growth prospects.

- *VARDEBT*. Variable Rate Debt to Total Debt Ratio – The anticipated decrease in FFO from fluctuating interest rates is expected to have a negative impact on stock pricing.

- *EBITINT.* EBITDA-to-Interest Expense Ratio – The EBITDA-to-Interest Expense ratio is a coverage level used by analysts to rate a firm's ability to cover its annual interest expense obligations. A higher interest coverage ratio is thus expected to *decrease* the cost of debt and equity, and should correlate with higher relative REIT stock pricing.

- *PAYRATIO.* Dividend Payout to Estimated 2000 FFO Ratio – A higher dividend payout ratio leaves the REIT with less cash on hand for growth opportunities. A lower payout ratio is expected to have a positive impact on stock pricing levels.

Visibility

- *NOANAL.* Number of analysts covering stocks – It is expected that increased investor visibility will have a positive impact on franchise value and that REITs with more analyst coverage will be priced accordingly higher.

- *OWNINSTN* and *INSTOWN.* Number of Institutional Owners and percentage of Inst. Ownership to outstanding shares -- It is expected that REITs with a higher number of institutional holders and higher percentage of Institutional investors should have higher stock values.

- *TRADENO* and *TRADVOL.* Relative Trading Volume – The average weekly number of shares traded and % of shares traded relative to market cap is the ultimate measure of liquidity. If this "liquidity premium" does exist, then REITs with higher relative trading volumes should trade at higher levels relative to their NAV.

- *TOTALCAP.* Total Market Capitalization (in billions) -- Following Sam Zell's mantra that "bigger is better", due to larger REITs' ability to access capital and achieve economies of scale in property level negotiation, this variable is a simple test of investor preference for larger companies. Following the hiccup in the NASDAQ this past March, and the net effects across the marketplace as a whole, it is

expected that REITs with the largest capitalization (considered equivalent to "blue chips") would have higher relative stock values.

Low Overhead

- *GANOI.* G&A as a % of NOI – This variable attempts to measure investor's perception of operating expense at the corporate level, relative to net operating income. It is expected that there should be a positive relationship between low G&A expenses and stock pricing levels.

Human Resources:

Experienced Management with a Proven Track Record

- *SURPRISE.* Average % earnings surprise -- This variable is the gauge by which REITs meet investor's performance expectations. It is expected that REITs with positive average earnings surprises should trade at higher pricing levels than those which do not meet or exceed expected earnings. The figure is an average for the prior eight fiscal quarters.

- *NEP.* Evidence of nepotism (1= no evidence of family relationships in management). Many REITs were originally formed from private, family real estate businesses, which sought to capitalize on opportunities provided by the public market. Though many have had significant changes in management due to acquisitions and mergers, there is still evidence of family ties within some companies' management structure. To measure nepotism's effects on stock pricing, an indicator (dummy) variable was used based on the evidence (or lack thereof) of family relationships within a REIT's Board and management at the executive level. Evidence of such is expected to negatively impact the company's pricing levels.

- *CHGMGMT.* Change in management since '98 (1=yes) As discussed previously, the public Real Estate markets have undergone

evolutionary changes in the past two years. Mergers, acquisitions and even disappearances of these companies from the public forum have resulted from these changes, as companies have tried to adapt to the new (harsher) terrain. This has yielded a turnover in Management for many REITs, which tried, among many things, to boost stock price with the fresh infusion of new "blood" into the top ranks of its company structure. This proxy variable attempts to measure how a change in the top six Executive ranks within a company in the past two years, signaling a change in direction of company management, might indicate higher pricing levels.

Visionary Leadership

- *VISION*. The number of companies which the Chairman or CEO has taken public – This variable attempts to measure whether a Chairman or CEO's entrepreneurial skills, personal charisma, or track record--as indicated by the number of companies he/she has taken public--is significant in determining REIT pricing levels. Visionary leadership in the business arena, as defined in this manner, is expected to have a positive effect on stock pricing levels.

Governance:

Disclosure

- *DISCLOSE*. Press release disclosure test (score based on disclosure material provided to public) -- This variable is a measure of transparency, based on a six-point criteria of disclosure level within a REIT's quarterly reports (10Qs):

  - Complete (though unaudited) income statement

  - Complete (though unaudited) balance sheet

  - A "same store" performance breakdown

- Financial details of each new transaction (excluding simple summary)

- Reconciliation of Net Income to FFO

- Reconciliation of Net Income to FAD

A baseline "score" of 2 is expected, as all REITs are required by the SEC to submit Income statement and Balance sheet information in their quarterly reports. Those companies which exceed this basic information in their 10Qs are expected to be rewarded with higher stock pricing.

Conflicts of Interest

- _STRUCT._ UPREIT Structure (1=yes) – The UPREIT structure has been hailed as a useful mechanism for reducing taxable income for the company sponsors and other contributors/sellers of property to the REIT. However, the UPREIT structure has also drawn much criticism in literature for being replete with conflicts of interest—the taxes triggered by the disposition of properties tied to these Operating Partnership Units (OPUs) create an incentive for the partners/UPREIT management to maintain the status quo by holding onto these assets, thereby missing profitable opportunities for sale of assets. It is expected that this variable will negatively (though slightly) impact REIT pricing levels.

- _MDCORP._ Maryland Corporation (1=yes) – Because the state of Maryland supports strict anti-corporate takeover provisions, it is expected that REITs which seek this protection are those which intend to protect their operating partnership units from unfavorable tax consequences, and may thus sacrifice shareholder interests in the event of value-enhancing purchase offers from outside entities.

- _INDYCHR._ Separation of Mgmt and Board Leadership (1=Inside Chair) – This variable tests governance strength by revealing whether there

is separation between Board and management in the company, as evidenced by the existence of separate CEO and Chairman within a company's Board of Directors. It is expected that this separation will have a positive impact on REIT pricing.

- *OWNIMP*. Percentage Insider Ownership, including stock options – The alignment of interest is often reflected in the compensation of "Insiders", or those within the Executive management or Board. This variable measures the percentage of ownership as a proxy for protection against conflicts of interest. Data is from SNL Securities and represents the last reported 1999 data.

- *BENTOP6*. Percentage Insider Ownership of the top 6 officers of the REIT – This variable is a second test of alignment of management and shareholder interest. The percentage of beneficial stock ownership, including operating partnership units, if applicable, of the top six executive positions is derived from 1999 Proxy Statements. It is expected that inside ownership is positively correlated to higher pricing levels.

4.0   Regression results

As stated earlier, the prior data set was expanded to determine whether the
statistical model would be representative of stock valuation during "normal" cycles.
In this way it is hoped that the regressions can sift out those significant elements of
franchise value as described in this thesis, adjusting for any extraordinary market
context influences. A Summary of Regressions results is presented in **Exhibit 3.**

Exhibit 3

Summary of Adjusted R-Squared Values

	NAV Premium – Dependent Variables		FFO Multiple– Dependent Variable	
	'99 Data Only	*'97-'99 Data*	*'99 Data Only*	*'97-'99 Data*
Orig. (Control) Independent Variables	n/a	**64.7%**	n/a	**76.6%**
Orig. + New Independent Variables	36.3%	60.9%	60.2%	76.6%

The regression analyses of the variables described in Chapter 3 resulted in a
statistical model which explains **64.7%** of the variance in the *Premium-to-net asset
values* and **76.6%** of the variance in *Price-to-FFO multiples*, the alternate
specification of dependent variable in the study (see **Appendices 5a** and **7a**). These
results are echoed in results of regressions using the original plus the new variables
against both the NAV premium and Price-to-FFO multiple, with R-squared "scores"
of 60.9% and 76.6%, respectively (See **Appendices 5b** and **7b**). It is by sheer
coincidence that the same Adjusted R-squared values of 76.6% resulted from both
regressions on the original (control) variables as well as the original + "new"
variables. One explanation would be that the runs are nearly identical, with
virtually the same variables removed due to collinearity problems associated with
these variables. In addition, only two out of the four new variables introduced were
applied to these runs, due to incomplete data for 1997. Of the two, NEWSTOC

proved to be insignificant. The other variable, ADLVL, which measures deployment capacity, replaced DEPCAP50, which was removed due to multi-collinearity problems. All four new variables were applied to regressions on the 1999 data set, producing much more varied results (see discussion below).

From the results given above, it appears that the strength of the relationship of the independent variables to the franchise value as measured by Premium-to-NAV is not constant over time. The previous thesis yielded an Adjusted R-squared value of 72.9%[28], versus 64.7% today. However, the results from the regressions suggests a much stronger relationship between the variables and the Price-to-FFO multiple as an alternate dependent variable, at a much higher Adj. R-squared value of 76.6% *and* lower Standard of Error of 1.228%. These results are replicated in the results of the regression using the "original + new" variables against the NAV premium or discount (Adj. R-squared of 60.9%) and the alternate dependent specification of the FFO multiple (again, an Adj. R-squared of 76.6%). The results of the regressions for the '97-'99 merged data using the Premium-to-NAV as a dependent variable is shown in **Appendices 5a** and **5b.**

The results using the same model on the 1999 data were much weaker (**36.3%** adjusted R-squared using NAV premium as a dependent variable, and **60.2%** adjusted R-squared using the FFO multiple as a dependent variable). While these results suggest that the model perhaps does not present the correct hypotheses on data collected during a bear market, it is interesting to note that the stronger relationship shown between the variables and the FFO multiple is evident on this study as well. The results of the regressions on the 1999 data set only are shown in **Appendices 6A** and **6B.**

For the remainder of this thesis, I will focus on the results of the regressions on the expanded '97-'99 data set, using the original, "control" independent variables and the Price-to-FFO multiple as the dependent variable. The slight differences between this run and that including the new variables will be noted in the text and detailed in the FFO Regression Summary presented in **Exhibit 4** and documented in **Appendices 7A** and **7B.** A discussion of each of the statistically significant variables and of selected non-statistically significant variables from the model follows.

Exhibit 4

Summary of '97-'99 Regression Results
Dependent Variable: Price-to-FFO Multiple
Independent Variables: Original (Control)

Variable Dexcription	Variable Name	Included Variables			Excluded Variables		
		Coefficient	t-stat	Significance	Coefficient	t-stat	Significance
Constant		13.939	23.210	0.000			
Focus							
Focus (1= Office)	FOCUS	-1.586	-0.360	0.000			
Business Strategy							
Herfindahl Geographical Concentration	GEOGRAP				0.053	0.827	0.411
Herfindahl Product Type Index	INDEX_2				-0.054	0.643	0.522
Development Capability	DEVCAP				0.011	0.173	0.863
Regional Growth Opportunities							
Mid Atlantic	MIDATL	0.024	5.145	0.000			
Old South	OLDSOU				-0.027	-0.350	0.728
Industrial Midwest	INDMID				0.029	0.446	0.657
Farm Belt	FARM	0.117	2.044	0.045			
Mineral Extraction	MINEXT				-0.007	0.106	0.916
Southern California	SOCAL	0.016	3.081	0.003			
Northern California	NOCAL				-0.009	-0.144	0.886
Balance Sheet Strength							
Debt to Market Cap	PERDEBT	-0.146	-12.106	0.000			
Percentage Variable Rate Debt	VARDEBT				0.012	0.181	0.857
Rated Debt	INVGRAD				0.072	0.932	0.355
2000E Capital Deployment Ratio	DEPCAP50				-0.064	-1.068	0.29
*2000E Capital Deployment Level**	*A&DLEVL*				*0.078*	*1.029*	*0.307*
Dividend Payout to '00 FFO Ratio	PAYRATIO				-0.005	-0.080	0.936
Visibility							
% of Institutional Owners	INSTOWN				-0.032	-0.483	0.631
Average Trading Volume (% of Market Cap)	TRADEVOL				0.097	1.453	0.151
Total Market Cap (Billions)	TOTALCAP	0.005	6.957	0.000			
Low Overhead							
G&A as Percentage of NOI	GANOI	0.137	3.555	0.001			
Experienced Management							
Average Earnings Surprise	SURPRISE	0.371	3.521	0.001			
Average Tenure of Top 6 Executives	AVGYRS	0.072	3.135	0.003			
Visionary Leadership							
Vision Test	VISION	-0.665	-5.035	0.000			
Disclosure							
Disclosure Level	DISCLOSE	-0.214	-2.791	0.007			
Conflicts of Interest							
Executive Inside Ownership	BENTOP6	-0.041	1.951	0.055			
Evidence of Nepotism	NEP				0.046	0.588	0.559
Structure	STRUCT				0.003	0.043	0.966
% Inside Board	PERINSID				0.065	1.016	0.313
State of Incorporation	MDCORP				-0.051	-0.731	0.467
Independent Board Chair	INDYCHR				-0.018	-0.288	0.775
		Adjusted R-squared = 76.6%					

Removed Variables: FOCUS, SLFMGMT, NEWENG, DEBTTAV, EBITINT, NOANAL, OWNINSTN, TRADENO, UPVALUEP, OWNIMP

* *A&Dlevel replaces DEPCAP50 in Regressions using Orig. (Control) + New Variables*

4.1 1997-1999 Regressions Against Price-to-FFO Multiple – Review of Statistically Significant Variables

Focused Business Strategy

- *FOCUS.* Focus (1=Office) – The negative coefficient associated with this dummy variable indicates that a specific office focus detracts from a REIT's franchise value. This could indicate that apartment REITs have had a greater price appreciation over the two-year period than have office REITs. This would make sense, given the greater stability of commercial housing over a longer time period, and--though perhaps unjustifiably, given the strength of real estate fundamentals in all sectors of late—investors' lingering memories of the last cycle's treatment of office property valuation.

Growth Opportunities Inherent in Business Strategy

Three regions emerged from the group of variables designed to reflect economic opportunities by regional portfolio concentration as having a statistically significant impact on REIT franchise value. All show a positive impact, although of the three, the Mid-Atlantic region, which captures a wide region encompassing New York, New Jersey and the large MSAs covering Fairfield County in Connecticut, Philadelphia and its suburbs, and the Metropolitan Washington area, shows the strongest significance based on its high t-stat value (see also **Exhibit 4**, Summary of Regression Results).

- *MIDATL.* Mid-Atlantic – The strong positive coefficient reflects the dynamic real estate markets in this area during the past two years. This strength is primarily based on the growth of the high tech market (Silicon Alley in NYC and the Dulles Corridor in Washington's suburbs) in particular, and the strength of the financial services sectors throughout the Mid-Atlantic corridor in general. The growth and expansion possibilities in this region eclipse that of the New England region, which had fairly high significance in the previous thesis.

- *FARM.* Farm – The positive, though not very strong coefficient associated with this region, which covers the vast mid-portion of this country[29], including the Great Plains (see **Appendix 8**), is surprising. This may indicate the growth expected in back office space markets in the Midwest. However, it should also be noted that the collinearity diagnostics in the statistical program indicated a mild problem with this variable, which may skew the data and imply its significance is greater than it should be.

- *SOCAL.* Southern California – The positive coefficient associated with this vast region, which covers MSAs ranging from Los Angeles to San Diego and stretches to Las Vegas in Nevada, reflects the ongoing growth potential of this part of the country, in particular the industrial areas east of Los Angeles and those areas benefiting from the spillover effects of the gambling industry in Nevada.

Balance Sheet Strength/Access to Capital

- *PERDEBT.* Percentage Debt to Total Market Capitalization – One of the key components of balance sheet strength, it emerged consistently as the most significant variable in *all* of the regressions done in this thesis. It appears that investors' concerns about default risks associated with high leverage outweigh any growth potential associated with higher debt levels, rendering this variable as a strong *negative* component of franchise value. It is interesting to note that in the previous thesis, Percentage Variable Rate Debt (*VARDEBT)* came in as a negative component of franchise value, and that Percentage Debt was removed due to collinearity issues. It should also be noted that the 1999 debt ratios greatly amplify the overall data due to higher debt levels and lower relative market capitalization as a whole as of December 1999. This may have the effect of skewing the level of significance of this variable in the combined study. A more comprehensive study would be required to see whether this variable's impact is sustainable over a longer time period.

Visibility

- *TOTALCAP.* Total Market Capitalization (in billions) -- This variable, which emerged with a solid positive coefficient, is a simple test of investor preference for larger companies. Following the volatility seen in all sectors of the equity markets, it is expected that REITs with the largest capitalization would have higher relative stock values as investors flock to "safer" havens. This is borne out by this study, as companies with greater market capitalization and visibility are rewarded with a relative higher price multiple.

Low Overhead

- *GANOI.* G&A as a % of NOI – This variable is a measure of investors' perception of corporate efficiency (low overhead). It is expected that there should be an inverse relationship between G&A expenses and stock pricing levels. However, this study shows the opposite occurring, where *higher* G&A to NOI ratios are positively correlated with stock price levels. Perhaps an interpretation for this is that other variables override the effects of this corporate measurement of company efficiency. John Fosheim, of Green Street Advisers, notes that "the overall decrease of EQR and EOP's (G&A/NOI) ratio due to their recent unprecedented growth through acquisitions has not seen a corresponding rise in the companies' stock valuations." He suggests that this disconnect may have less to do with the companies' ability to control their corporate overhead levels, and more to do with overarching concerns investors might have regarding the companies' abilities to manage and leverage their acquisitions into greater internal growth ex ante.

Experienced Management

- *AVGYRS.* Average Number of Years – The average number of years of experience of the top 6 company executives has a positive coefficient,

indicating that experienced leadership is indeed valued, albeit subjectively, in determining REIT franchise value. This is particularly so in the down cycles, when company growth and performance is reliant on the direction that experienced management provides until frothier times return.

- *SURPRISE*. Average Earnings Surprise - This variable is the gauge by which REITs meet investor's performance expectations. It is reinforced in this variable's high t-statistic and positive coefficient that REITs with positive average earnings surprises trade at higher pricing levels than those which do not meet or exceed expected earnings.

- *VISION*. Vision – This variable is a count of the number of companies that a REIT's chairman has taken public, and was expected to have a positive impact on franchise value. Its significant negative coefficient indicates that the results may be tied to the investors' impression that an entrepreneurial leader who is more prone to incubate new enterprises may not have the staying power required to take a company through stages of maturity and more challenging market climates.

Disclosure

- *DISCLOSE*. Disclosure - The negative coefficient and significant level of this variable was surprising, given its relatively small significance in the previous thesis and its expected *positive* impact on REIT valuation. The press release disclosure test (scores based on 6 levels of disclosure material provided to public) is expected to manifest itself as a significant variable, particularly in the down-cycle, when more information is required by investors to enable them to assess a company's growth prospects. Regrettably, the negative correlation suggests that more transparency generates greater caution (or skepticism) on the part of investors, and results in lower stock valuation relative to the companies' NAV.

Conflicts of Interest

- *BENTOP6.* Executive Inside Ownership – The percentage insider ownership of the top 6 Officials was a second test of alignment of management and shareholder interest. The ownership of the company by the executive management, who are in a greater position to direct that company's growth and earnings, weighs in as a positive, yet significant, variable in the reqressions.

4.2 1997-1999 Regressions Against Price-to-FFO Multiple – Review of non-Statistically Significant Variables

Several of the Independent Variables in the model failed to surface as statistically significant in this sample of REITs, but had higher t-statistics (a minimum of 70% or greater confidence level) than other "excluded" variables and are considered moderately significant (see **Appendix 7B**). They are as follows:

Growth in Business Strategy

- *DEPCAP50.* Debt Capacity to Acquisitions and Development Ratio – The sign on this variable, which measures the ratio of Debt Capacity (up to 50% levels as of 12/31/99) over estimated Acquisitions and Development (for 2000), is negative, and not as expected. This variable was expected to have greater significance and a positive correlation to stock level valuation; however, due to what we believe as inconsistent data, has a negative coefficient.

- *ADLVL.* Acquisition and Development Level – The percentage of Acquisitions and Development to total market capitalization for each company is measure of estimated Capital Deployment for 2000, and is one of the new variables introduced this year. This variable was expected to be both positive and significant in the regressions that included the new variables. The sign of the coefficient for this variable

was as expected (see **Exhibit 4** and **Appendix 7B**), though not significant, perhaps due again to inconsistent data provided by analysts, whose projections for this variable had a large standard deviation to the mean, as seen in the Consensus Table (**Appendix 9**).

This was perhaps the most difficult estimate to gather and the most difficult for which to collect consensus data. Part of the accuracy of this Acquisitions and Development projection may be impacted by the importance placed on this number by the various investment houses. For example, there are those such as Lehman Bros. analyst David Harris, who feel that there "will be NO growth (in per-share financial performance) attributable to acquisitions, due to the high cost of capital compared to relative returns on real estate investments." Additionally, Lehman Brothers builds in a 10% contingency to costs attributable to development, to factor in uncertainties in development expenses, admitting that in certain markets, that figure might be larger, such as in New York, and vice versa in other markets, such as Phoenix. Then there are Legg Mason analysts who take the middle of the road and have projected that 75% of REITs' growth will be attributable to internal growth, 25% to external (A&D activity) growth. John Fosheim of Green Street Advisors, asserts that learned investors will pay a premium to invest in what appears to be high acquisition/development activity, depending on WHERE the marketplace is and WHO is managing these companies--within a certain time period. However, he concedes that "internal growth is still easier to measure and forecast than external growth." This results in a great disparity between the A&D numbers and resultant inconsistent data. When there is better information from the companies themselves, and a greater consensus among the analysts as to the importance of this variable in projecting REIT growth, this variable may indeed prove to be a significant determinant of franchise value.

Visibility

- *TRADEVOL.* Trade Volume – The positive coefficient for this variable indicates that, not unlike Total Market Capitalization, this measure of a REIT's visibility is moderately significant in explaining franchise value.

Conflicts of Interest

- *PERINSID.* Percentage Insiders (No. of executives in Board) – The positive coefficient for this variable is not as expected. The high percentage of executives on the Board of Directors was hypothesized to present a conflict of interest and the mild significance of this variable to franchise value indicates that the opposite may be true— the presence of management on the REIT's Board is not seen as impacting the REIT's stock performance negatively, and may even contribute to its franchise value.

4.3   Variables not included in the Final Analysis

Several variables were removed due to multi-collinearity problems that they caused in the regression model. The majority of these variables were essentially redundant measures of the same component of franchise value. These are as follows:

- *SLFMGMT.* In-house Property Management – This variable caused multiple collinearity issues on *all* regression runs. Virtually all companies had this capacity in both'97 and '99, rendering this measurement unreliable.

- *NEWENG.* New England – This variable caused collinearity issues with other regional sectors and had to be discarded.

- *OWNIMP.* Percentage Inside Ownership – This variable caused collinearity problems in model, and in fact is a redundant measure of Executive Ownership (BENTOP6), which proved to be somewhat significant in the model. (See **Exhibit 4**)

- *OWNINSTN.* Number of Institutional Owners – This variable caused collinearity problems, most likely with Percentage Institutional Ownership (INSTOWN), which is a better measure of Visibility.

- *EBITINT.* (EBITDA/Interest) – This coverage variable caused collinearity problems in the model throughout all regression runs for this thesis as well as those for the previous thesis.

- *TRADENO.* Number of Weekly Shares Traded – This variable caused collinearity problems, most likely with Percentage Weekly Average Shares Traded (TRADEVOL), which is a better measure of Visibility.

- *DEBTTAV.* Debt to Total Asset Value – This variable caused collinearity problems, most likely with Debt/Total Market Cap (PERDEBT), which is an arguably more objective measure of a company's leverage.

- *NOANAL.* Number of Analysts – This variable caused collinearity problems, most likely with any of the other measures of Visibility.

- *OPUNITS.* Outstanding Partnership Units as a percentage of Total Market Cap – This variable caused multicollinearity problems, most likely with Structure (UPREIT or Traditional) variable.

5.0   Conclusions

This paper revisits the statistical model used two years ago that examined the determinants of premiums to net asset value (NAV) as a measure of REIT franchise value. This paper also explores how these determinants explain another, perhaps more relevant measure of franchise value—the Price-to-FFO multiple. To the extent that a REIT is a going concern that can buy, sell and invest in real estate products in the marketplace, and not a closed-end fund, the Price-to-FFO multiple, which is a measure of the company's *earning power*, rather than the portfolio's *liquidation value*, could be deemed as an equally valid measure of franchise value.

The franchise value components are identified and grouped into three general criteria: Internal and External Structural Components, Human Resource Components, and Governance Issues, based on literature and informational interviews conducted in the previous thesis[30]. This thesis utilizes this model, which places equal emphasis on objective as well as subjective components of REIT franchise valuation.

These components as independent variables are then separately regressed against the dependent variables of NAV premium and Price-to-FFO multiple, in an effort to quantify their impact on these measures of franchise value.

5.1   Findings / Conclusions

The results of the study were unexpected. The model, which successfully identified with a 72.9% confidence level the significant variables which determined the premiums to NAV at which the REITs traded in 1998, did not produce the same results across a two year time-span.

When the same econometric model was applied using alternate specifications for the dependent variable, the relationship between the Price-to-FFO multiple and the independent variables was more conclusive than that for the NAV premium, with a 76.6% confidence level, as measured by Adjusted R-squared value. The regression results are summarized in **Exhibit 4** and the output from the statistical program are attached in **Appendices 7a** and **7b.**

The analyses revealed that several components have statistically significant impact on a REIT's franchise value, as measured by its FFO multiple. These include objective and subjective values, such as: a REIT's focus; its specific geographic concentration in the MidAtlantic, Southwest and the Farm Belt regions; the company's balance sheet strength as reflected by low debt levels; its visibility as measured by its total market capitalization and trade volume; seasoned management as measured by positive average earnings surprise and average tenure of executives in the company; low levels of entrepreneurship in the company's top management; low levels of disclosure; and conflict of interest mitigations. An overview of the significant variables tested against the Price-to-FFO multiple, as well as the previous thesis' statistical overview for the sample of Apartment and Office REITs are shown in **Exhibit 5**.

Exhibit 5

Overview of Statistical Results for Comparison

Significant Variables, '97 Data *(significant at a 95% confidence level)*	Significant Variables, '97-'99 Data *(significant at a 95% confidence level)*
- Portfolio presence in certain geographical areas 1998 Capital Deployment capacity - Percentage variable rate debt - G&A as a percentage of NOI (low) - Total Inside Ownership - Executive Inside Ownership	- Focus (low-office) - Portfolio presence in certain geographical areas - Percentage Total Debt - Total Capitalization - G&A as a percentage of NOI (high) - Executive Tenure - Average Earnings Surprise - Entrepreneurial Tendencies (Vision) - Disclosure (low)

Marginally Significant Variables, '97 Data	Marginally Sign. Variables, '97-'99 Data
(significant at not less than 70 % confidence level)	*(significant at not less than 70 % confidence level)*
• Geographical Diversification	• Executive Inside Ownership
• Development Capabilities	• Trade Volume
• Total Market Capitalization	• Deployment Capacity
• Debt Rating	
• Number of Institutional Owners	
• Analyst Coverage	
• Structure (UPREIT/Traditional)	

Several variables which were expected to render a strong impact on franchise value, particularly during the down-cycle, did not produce conclusive results. The ability to generate external growth, as measured by variables such as Development Capacity, Projected Capital Deployment levels and Debt Capacity/Projected Capital Deployment (which measures the ability to grow without issuing more equity), did not appear to have great significance, or at best, rendered a mild impact on franchise value.

These results reflect a broad range of estimates in projected capital deployment numbers for each company, as well as lack of consensus among analysts on the importance of acquisition activity in a REIT's external growth. In conversations with the various analysts however, one theme was resonant—that at least in the short term, the REITs' *internal* growth, as measured by earnings prospects, rather than their *external* growth, as measured by their development and acquisitions strategy, is much easier to calculate and a far more reliable measure of the companies' growth prospects in today's market. Thus most analysts are relying on the internally-generated FFO of the companies, producing what may perhaps be more

accurate estimates of company value. This could explain why, across different economic cycles reflected in this pooled data, the FFO multiple was a better measure of REIT franchise value.

5.2   Additional studies suggested by these conclusions

Because the econometric model proved more successful on different specifications of dependent variables (NAV premium in 1998 and FFO multiple in 2000) at different times, it would be useful to test this model using various measures of franchise value, such as those mentioned earlier in this study, including AFFO and Adjusted Net Income multiples, as the calculations of these figures becomes more standardized and their reliability improves. Periodic testing of this model may also indicate a pattern in which certain measurements of the companies' objective and subjective qualities would emerge as being more significant during different stages of the market cycle. Further study could also be conducted on a larger sample, across different sectors, or on time series for a control group of REITs, which may provide valuable verification of this model and these results.

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ENDNOTES

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3   Green Street Advisers, "REIT Pricing Model Update", article, Jan. 20, 2000.

4   As reported by the National Association of Real Estate Investment Trusts (NAREIT).

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7   Of the 42 original REITs in the study, 2 have deREITed and 5 have either merged or have been acquired by REITs within or outside of this study pool. Archstone (ASN) has been added to the study, as it incorporated two of the REITs, Security Capital Pacific Trust (PTR) and Security Capital Atlantic Inc. (SCA).

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25 See also Appendix 1 for calculations.

26 For a more expanded description, see Jim Young, "Determinants of REIT Franchise Value" Thesis, MIT CRE 1998.

27 For example, the Cornerstone acquisition by EOP was included in only 2 out of 4 analysts' models, see Appendix 9 for Acquisitions and Development calculations

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Appendix 1

Dependent Variable - 1999 Premium to Net Asset Value Calculation

Name	icke	12/31/99 Shares	Net Asset Value Per Share, As Calculated By:						Data Count	NAV per Share		12/31/99 hare Pric	Net Asset Value	Equity Mkt Capitalization	NAV Premium
			SSB	Green Street	Merrill Lynch	Lehman Bros.	Legg Mason	Bear Srearns		Mean	Std Dev				
									Calc'd	Calc'd	Calc'd	price	NAV		navprem
Associated Estates Realty Corporat	AEC	21,172,340	$7.67	$12.00			$10.00	$12.34	4	$10.50	$2.15	$7.81	222,362,501	165,355,975	74.36%
Apartment Investment and Manage	AIV	66,763,000	$42.64	$39.50	$38.25	$41.40		$43.79	5	$41.12	$2.26	$39.81	2,745,027,508	2,657,835,030	96.82%
Amli Residential Properties Trust	AML	16,655,155		$25.75		$24.00		$26.64	3	$25.46	$1.34	$21.19	424,095,763	352,922,734	83.22%
Arden Realty Inc.	ARI	63,350,000	$27.17	$25.75		$28.40			3	$27.11	$1.33	$20.06	1,717,207,333	1,270,801,000	74.00%
Archstone Communities Trust	ASN	139,400,000	$24.44	$23.00	$24.20	$26.10	$25.00	$23.11	6	$24.31	$1.17	$20.50	3,388,581,667	2,857,700,000	84.33%
Avalon Bay Properties Inc.	AVB	65,738,000	$40.68	$42.25	$40.05	$42.10	$40.79	$42.58	6	$41.41	$1.03	$34.31	2,722,101,017	2,255,470,780	82.86%
Brandywine Realty Trust	BDN	37,154,000	$20.97		$22.72	$23.10			3	$22.26	$1.14	$16.38	827,171,887	608,582,520	73.57%
Bedford Property Investors, Inc.	BED	17,530,000	$24.00			$22.50			2	$23.25	$1.06	$17.10	407,572,500	299,763,000	73.55%
BRE Properties, Inc.	BRE	44,679,000	$26.09	$29.25	$28.15		$28.50	$27.09	5	$27.82	$1.24	$22.69	1,242,791,064	1,013,766,510	81.57%
Boston Properties, Inc.	BXP	67,903,000	$35.03	$34.75	$36.79	$40.80		$37.57	5	$36.99	$2.44	$31.13	2,511,596,164	2,113,820,390	84.16%
Mack-Cali Realty Corporation	CLI	58,395,000	$34.24	$33.25	$36.59	$35.60		$36.46	5	$35.23	$1.45	$26.06	2,057,139,060	1,521,773,700	73.98%
Cornerstone Properties, Inc.	CPP	129,611,000	$17.50	$19.00	$17.88				3	$18.13	$0.78	$14.63	2,349,415,393	1,896,208,930	80.71%
Camden Property Trust	CPT	40,213,000	$33.71	$32.75	$34.94	$30.10	$34.50	$35.75	6	$33.63	$2.01	$27.38	1,352,162,125	1,101,031,940	81.43%
CarrAmerica Realty Corporation	CRE	66,823,000	$30.54	$27.75	$32.96	$31.50	$31.74	$30.50	6	$30.83	$1.76	$21.13	2,060,264,462	1,411,969,990	68.53%
Duke Realty Investments, Inc.	DRE	125,212,000	$21.40	$21.75	$23.89	$22.90	$23.27		5	$22.64	$1.04	$19.50	2,835,050,104	2,441,634,000	86.12%
Equity Office Properties Trust	EOP	252,170,000	$30.37	$29.50	$29.87		$28.47	$30.61	5	$29.76	$0.84	$24.63	7,505,587,880	6,210,947,100	82.75%
Equity Residential Properties Trust	EQR	126,415,000	$46.91	$47.50	$47.61	$49.60		$49.34	5	$48.19	$1.20	$42.69	6,092,191,680	5,396,656,350	88.58%
Essex Property Trust, Inc.	ESS	18,055,000	$42.70		$37.95	$40.40		$39.81	4	$40.22	$1.96	$34.00	726,081,825	613,870,000	84.55%
Gables Residential Trust	GBP	25,444,000	$26.34	$29.25	$30.89	$46.80	$30.91	$29.72	6	$32.32	$7.29	$24.00	822,307,673	610,656,000	74.26%
Great Lakes REIT, Inc.	GL	17,266,000	$20.04			$21.90			2	$20.97	$1.32	$14.38	362,068,020	248,285,080	68.57%
Highwoods Properties, Inc.	HIW	62,053,000	$27.83	$28.00	$30.54	$29.40	$30.95		5	$29.34	$1.42	$23.25	1,820,883,232	1,442,732,250	79.23%
Home Properties of New York, Inc	HME	19,299,000	$30.09					$30.10	2	$30.10	$0.01	$27.44	580,803,405	529,564,560	91.18%
Koger Equity, Inc.	KE	26,758,000	$26.19					$23.45	2	$24.82	$1.94	$16.88	664,133,560	451,675,040	68.01%
Kilroy Realty Corporation	KRC	27,894,000	$28.35	$26.00	$27.52	$28.40			4	$27.57	$1.12	$22.38	768,967,845	624,267,720	81.18%
Mid-America Apartment Communi	MA	18,424,000	$29.14		$28.91	$27.80		$29.10	4	$28.74	$0.63	$22.63	529,459,700	416,935,120	78.75%
Parkway Properties, Inc.	PKY	10,101,000	$32.18			$34.50			2	$33.34	$1.64	$28.81	336,767,340	291,009,810	86.41%
Prentiss Properties Trust Inc.	PP	37,608,000	$29.72	$26.75		$30.70			3	$29.06	$2.06	$21.38	1,092,763,120	804,059,040	73.58%
Post Properties, Inc.	PPS	38,776,000	$45.97	$41.75	$42.90	$48.80	$41.67	$45.60	6	$44.45	$2.83	$38.25	1,723,528,573	1,483,182,000	86.05%
Reckson Associates Realty Corpor	RA	40,370,000	$28.93	$23.50	$26.35	$24.50	$26.63	$27.28	6	$26.20	$1.95	$20.50	1,057,626,717	827,585,000	78.25%
SL Green Realty Corp.	SLG	24,204,000	$30.02			$30.20	$26.70		3	$28.97	$1.97	$21.75	701,270,560	526,437,000	75.07%
Summit Properties, Inc.	SMT	28,712,000	$26.07	$24.25	$23.83	$22.90		$23.04	5	$24.02	$1.28	$17.88	689,604,816	513,370,560	74.44%
Spieker Properties, Inc.	SPK	64,917,000	$41.42	$42.50	$42.41	$47.70			4	$43.51	$2.84	$36.44	2,824,376,378	2,365,575,480	83.76%
Charles E. Smith Residential Realt	SRW	19,790,000	$41.25	$39.25		$41.00	$40.00	$41.49	5	$40.60	$0.94	$35.38	803,434,420	700,170,200	87.15%
Cornerstone Realty Income Trust I	TCR	39,662,000	$12.97						1	$12.97	$0.00	$9.75	514,416,140	386,704,500	75.17%
Town and Country Trust	TCT	15,788,000	$17.31	$17.75		$16.00		$15.86	4	$16.73	$0.94	$17.94	264,133,240	283,236,720	107.23%
United Dominion Realty Trust, Inc	UDR	102,997,000	$12.75	$13.00	$13.41	$13.40	$12.00	$14.15	6	$13.12	$0.73	$9.88	1,351,148,978	1,017,610,360	75.31%

Count: No. of REITs in stu 36   35   26   23   29   15   23

Average	80.52%
Standard De	8.03%
Minimum	68.01%
Maximum	107.23%

Appendix 2
Dependent Variable:
1999 Price to FFO Multiple Calculation (Consensus)

Count:　13

| Name | icker | | 1999 AFFO Per Share, As Calculated By: | | | | | | FFO | | | | Price to |
			SSB	Green Street	Merrill Lynch	Goldma Sachs	Legg Mason	Bear Stearns	Data Count	Multi Mean	Std Dev	12/31/99 Share Pric	FFO Multiple
Associated Estates Realty Corporatio	AEC	Apt	$1.22	$1.45		$1.45	1.45	$1.45	5	$1.40	$0.10	$7.81	5.56
Apartment Investment and Manageme	AIV	Apt	$3.55	$4.08	$3.59	$4.08	4.08	$4.08	6	$3.91	$0.26	$39.81	10.18
Amli Residential Properties Trust	AML	Apt		$2.59		$2.59	2.59	$2.59	4	$2.59	$0.00	$21.19	8.18
Arden Realty Inc.	ARI	Office		$2.60	$2.60	$2.60	2.60	$2.60	5	$2.60	$0.00	$20.06	7.72
Archstone Communities Trust	ASN	Apt	$1.87	$1.97	$1.88	$1.97	1.87	$1.98	6	$1.92	$0.06	$20.50	10.66
Avalon Bay Properties Inc.	AVB	Apt	$3.12	$3.22	$3.10	$3.22	3.22	$3.22	6	$3.18	$0.06	$34.31	10.78
Brandywine Realty Trust	BDN	Office			$1.96	$2.44	2.44	$2.44	4	$2.32	$0.24	$16.38	7.06
Bedford Property Investors, Inc.	BED	Office					2.12		1	$2.12	$0.00	$17.10	8.07
BRE Properties, Inc.	BRE	Apt		$2.32	$2.14	$2.32	2.32	$2.32	5	$2.28	$0.08	$22.69	9.93
Boston Properties, Inc.	BXP	Office	$2.39	$2.89	$2.49	$2.89	2.89	$2.89	6	$2.74	$0.23	$31.13	11.36
Mack-Cali Realty Corporation	CLI	Office	$2.87	$3.31	$2.76	$3.31	3.31	$3.31	6	$3.15	$0.26	$26.06	8.29
Cornerstone Properties, Inc.	CPP	Office		$1.59	$1.42	$1.59	1.59	$1.59	5	$1.56	$0.08	$14.63	9.40
Camden Property Trust	CPT	Apt	$2.77	$3.20	$2.89	$3.20	3.20	$3.20	6	$3.08	$0.19	$27.38	8.90
CarrAmerica Realty Corporation	CRE	Office	$2.07	$2.57	$2.36	$2.72	2.56	$2.56	6	$2.47	$0.23	$21.13	8.54
Duke Realty Investments, Inc.	DRE	Office	$1.89	$2.19	$1.99	$2.19	2.19	$2.19	6	$2.11	$0.13	$19.50	9.26
Equity Office Properties Trust	EOP	Office	$2.05	$2.57	$2.17	$2.57	2.57	$2.57	6	$2.42	$0.24	$24.63	10.19
Equity Residential Properties Trust	EQR	Apt	$3.85	$4.48	$3.96	$4.50	4.50	$4.50	6	$4.30	$0.31	$42.69	9.93
Essex Property Trust, Inc.	ESS	Apt			$3.01	$3.26	3.26	$3.26	4	$3.20	$0.13	$34.00	10.63
Gables Residential Trust	GBP	Apt	$2.52	$2.85	$2.46	$2.85	2.76	$2.85	6	$2.72	$0.18	$24.00	8.84
Great Lakes REIT, Inc.	GL	Office	$0.00			$1.94	1.94	$15.13	4	$4.75	$6.98	$14.38	3.03
Highwoods Properties, Inc.	HIW	Office	$2.56	$3.45	$2.89	$3.45	3.45	$3.46	6	$3.21	$0.39	$23.25	7.24
Home Properties of New York, Inc.	HME	Apt	$2.48			$2.78	2.78	$2.78	4	$2.71	$0.15	$27.44	10.14
Koger Equity, Inc.	KE	Office					2.32	$2.32	2	$2.32	$0.00	$16.88	7.28
Kilroy Realty Corporation	KRC	Office		$2.50	$2.20	$2.50	2.50	$2.50	5	$2.44	$0.13	$22.38	9.17
Mid-America Apartment Communitie	MA	Apt			$2.09	$2.75	2.75	$2.75	4	$2.59	$0.33	$22.63	8.75
Parkway Properties, Inc.	PKY	Office	$2.72			$3.64	3.64		3	$3.33	$0.53	$28.81	8.64
Prentiss Properties Trust Inc.	PP	Office		$2.87			2.87	$2.87	3	$2.87	$0.00	$21.38	7.45
Post Properties, Inc.	PPS	Apt	$3.47	$3.69	$3.46	$3.69	3.69	$3.69	6	$3.62	$0.12	$38.25	10.58
Reckson Associates Realty Corporati	RA	Office	$1.97	$2.31	$2.01	$2.31	2.31	$2.31	6	$2.20	$0.17	$20.50	9.30
SL Green Realty Corp.	SLG	Office	$1.59			$2.29	2.29	$2.29	4	$2.12	$0.35	$21.75	10.28
Summit Properties, Inc.	SMT	Apt		$2.20	$1.97	$2.20	2.20	$2.20	5	$2.15	$0.10	$17.88	8.30
Spieker Properties, Inc.	SPK	Office	$3.17	$3.46	$3.02	$3.46	3.46	$3.46	6	$3.34	$0.19	$36.44	10.92
Charles E. Smith Residential Realty,	SRW	Apt	$2.91	$3.23		$3.23	3.23	$3.23	5	$3.17	$0.14	$35.38	11.17
Cornerstone Realty Income Trust Inc.	TCR	Apt	$1.08			$1.25	1.25		3	$1.19	$0.10	$9.75	8.17
Town and Country Trust	TCT	Apt		$1.96		$1.96	1.96	$1.96	4	$1.96	$0.00	$17.94	9.15
United Dominion Realty Trust, Inc.	UDR	Apt	$1.07	$1.42	$1.22	$1.42	1.27	$1.42	6	$1.30	$0.14	$9.88	7.58

Count: No. of REITs in study:　36　　23　26　24　33　36　33

Average　8.91
Standard Deviat　1.69
Minimum　3.03
Maximum　11.36

Note: Morgan Stanley FFO figures not incld because they only cover 17 out of 36 REITs

Appendix 3 - 1999 Independent Variables Database

Variable Count: 36 | Company Count: 36

Section groupings: **Focused Business Strategy** · **Growth Opportunities in Strategy** (Regional Growth Opportunities – Hartzel Economic Region Segmentation Scale) · **Balance Sheet Strength**

Name	Ticker	NAVprem Prem. (consensus)	Var est'00 FFO Mult. (consensus)	1=Office focus (10K)	Herfindahl Geograp (SNL/calc)	Prod Typ index_2 (SNL/calc)	devCAP (MO)	slfmgmt (MO)	deREIT (10k)	chgVAC %Chg Vac (97-99)	newENG	midATL	oldSOU	indMID	farm	mmEXT	soCAL	noCAL	DEBTper Debt/MktCap	debtTAV Debt/AssetVal	rateDEBT Inv Grade	var/DEBT %Variable	EBITDAint	A&Dv AcqDev	depcap50 CapDeploy	newstoc Stockissue	PAYratio Div PayOut
Associated Estates Realty Corporation	AEC	74.36%	6.90	0	92%	100.0%	1	1	0	-0.55%	0%	0%	4%	96%	0%	0%	0%	0%	72%	72%	0	64%	1.68	-5.25%	0.00%	0	132%
Apartment Investment and Management Company	AIV	96.82%	8.77	0	26%	99.9%	1	1	0		1%	4%	41%	17%	4%	23%	7%	3%	53%	55%	0	7%	3.07	0.00%	0.00%	3	64%
Amli Residential Properties Trust	AML	83.22%	7.57	0	33%	100.0%	1	1	0	3.50%	0%	0%	27%	19%	8%	46%	0%	0%	58%	52%	0	42%	3.68	0.00%	0.00%	0	69%
Arden Realty Inc.	ARI	74.00%	7.09	1	100%	83.1%	1	1	0	-11.10%	0%	0%	0%	0%	0%	0%	100%	0%	43%	36%	1	44%	4.04	4.58%	163.25%	4	68%
Archstone Communities Trust	ASN	84.33%	9.99	0	19%	100.0%	1	1	0	-0.65%	2%	7%	26%	2%	0%	18%	23%	17%	45%	42%	1	23%	2.31	8.44%	64.07%	19	80%
Avalon Bay Communities	AVB	82.86%	9.77	0	27%	100.0%	1	1	0	2.90%	11%	38%	1%	7%	0%	0%	0%	29%	37%	37%	1	15%	4.38	4.38%	293.69%	10	65%
Brandywine Realty Trust	BDN	73.57%	6.54	1	54%	74.9%	1	1	0	-2.90%	0%	71%	18%	0%	0%	11%	0%	0%	59%	52%	0	56%	2.89	2.46%	0.00%	4	69%
Bedford Property Investors, Inc.	BED	73.55%	7.50	1	29%	53.5%	1	1	0	0.19%	0%	1%	0%	10%	6%	11%	38%	34%	53%	45%	0	42%	2.99	3.82%	0.00%	4	79%
BRE Properties, Inc.	BRE	81.57%	8.94	0	55%	100.0%	1	1	0	0.00%	0%	0%	0%	0%	0%	0%	66%	34%	42%	39%	1	40%	3.60	3.49%	223.56%	0	68%
Boston Properties, Inc.	BXP	84.16%	10.59	1	43%	78.6%	1	1	0	2.90%	23%	58%	0%	0%	0%	0%	0%	19%	61%	57%	1	15%	2.46	3.98%	0.00%	2	66%
Mack-Cali Realty Corporation	CLI	73.98%	7.82	1	56%	71.5%	1	1	0		0%	74%	1%	23%	0%	1%	0%	1%	50%	42%	1	17%	3.38	2.31%	16.89%	6	74%
Cornerstone Properties, Inc.	CPP	80.71%	8.68	1	25%	96.0%	1	1	0	0.81%	16%	8%	12%	16%	1%	19%	14%	3%	43%	38%	0	14%	3.90	0.22%	3090.1%	1	77%
Camden Property Trust	CPT	81.43%	8.19	0	31%	98.4%	1	1	0		0%	1%	17%	8%	1%	43%	30%	0%	50%	46%	1	18%	3.67	2.85%	5.22%	8	68%
CarrAmerica Realty Corporation	CRE	68.53%	7.85	1	20%	100.0%	1	1	0	-1.50%	0%	17%	7%	0%	0%	23%	16%	28%	48%	45%	1	20%	3.42	0.44%	342.61%	6	75%
Duke-Weeks Realty Corp.	DRE	86.12%	8.38	1	52%	66.6%	1	1	0	7.10%	13%	14%	64%	13%	0%	2%	0%	6%	43%	43%	1	15%	4.49	5.21%	132.35%	17	74%
Equity Office Properties Trust	EOP	82.75%	9.22	1	15%	100.0%	0	1	0	0.30%	2%	8%	79%	8%	0%	16%	8%	20%	48%	45%	1	8%	3.01	1.65%	100.90%	13	61%
Equity Residential Properties Trust	EQR	88.56%	9.16	0	22%	100.0%	0	1	0	0.31%	2%	1%	1%	8%	1%	18%	2%	6%	47%	47%	1	13%	3.08	1.90%	157.50%	9	66%
Essex Property Trust, Inc.	ESS	84.55%	9.59	0	51%	99.7%	1	1	0	-0.68%	0%	0%	0%	0%	0%	0%	57%	43%	32%	35%	0	18%	4.93	5.33%	341.39%	4	69%
Gables Residential Trust	GBP	74.26%	8.38	0	51%	100.0%	0	1	0	0.60%	0%	0%	69%	6%	0%	43%	0%	0%	49%	49%	1	34%	3.57	-2.08%	-35.05%	5	75%
Great Lakes REIT, Inc.	GL	68.57%	6.85	1	86%	92.3%	0	1	0	-1.00%	0%	0%	0%	93%	0%	7%	0%	0%	42%	37%	0	29%	3.66			2	29%
Highwoods Properties, Inc.	HIW	79.23%	6.70	1	84%	65.6%	1	1	0	0.00%	0%	2%	91%	0%	0%	0%	0%	0%	50%	51%	1	13%	3.46	3.15%	0.00%	10	69%
Home Properties of New York, Inc.	HME	91.18%	9.40	0	44%	100.0%	0	1	0	0.00%	2%	49%	5%	44%	0%	0%	0%	0%	56%	58%	0	7%	3.12	0.00%	0.00%	3	119%
Koger Equity, Inc.	KE	68.01%	6.89	1	81%	97.1%	1	1	0	-1.00%	0%	0%	72%	0%	0%	11%	0%	0%	45%	36%	0	25%	3.75			1	60%
Kilroy Realty Corporation	KRC	81.18%	8.46	1	85%	50.0%	1	1	0	-3.70%	0%	0%	0%	0%	0%	1%	92%	8%	43%	42%	0	30%	3.97	5.85%	119.87%	8	69%
Mid-America Apartment Communities, Inc.	MAA	78.75%	8.37	0	64%	100.0%	0	1	0	-0.70%	0%	1%	79%	8%	0%	11%	0%	0%	56%	58%	0	24%	2.59	2.85%	0.00%	1	89%
Parkway Properties, Inc.	PKY	86.41%	8.33	1	46%	100.0%	0	1	0	3.60%	0%	20%	14%	0%	0%	18%	0%	0%	46%	49%	0	26%	3.16			2	60%
Prentiss Properties Trust Inc.	PP	73.56%	6.83	1	22%	54.4%	1	1	0	0.00%	0%	3%	72%	0%	0%	31%	23%	9%	51%	47%	0	16%	2.99	3.11%	0.00%	5	61%
Post Properties, Inc.	PPS	86.05%	9.64	0	58%	97.1%	1	1	0	-1.50%	0%	0%	100%	0%	0%	24%	0%	0%	37%	36%	1	11%	6.23	12.60%	104.93%	7	77%
Reckson Associates Realty Corporation	RA	78.25%	8.65	1	100%	55.8%	1	1	0	-1.97%	0%	100%	0%	0%	0%	0%	0%	0%	61%	55%	1	29%	3.26	-0.48%	0.00%	3	68%
SL Green Realty Corp.	SLG	76.07%	9.17	1	100%	100.0%	1	1	0	-4.00%	0%	100%	0%	0%	0%	0%	0%	0%	48%	41%	0	34%	3.29	-4.39%	-41.85%	1	69%
Summit Properties, Inc.	SMT	74.44%	7.65	0	54%	100.0%	1	1	0	-2.13%	0%	25%	69%	6%	0%	0%	0%	0%	51%	49%	1	22%	3.49	9.24%	0.00%	5	78%
Spieker Properties, Inc.	SPK	83.76%	9.83	1	60%	50.3%	1	1	0	-1.80%	1%	0%	0%	1%	0%	0%	27%	72%	42%	41%	1	3%	3.58	4.31%	193.41%	10	73%
Charles E. Smith Residential Realty, Inc.	SRW	87.18%	10.18	0	54%	100.0%	0	1	0	-1.10%	0%	98%	0%	0%	0%	0%	0%	0%	55%	53%	0	17%	3.23	4.55%	0.00%	1	69%
Cornerstone Realty Income Trust Inc.	TCR	75.17%	7.68	0	55%	100.0%	1	1	0	0.00%	0%	78%	0%	0%	0%	35%	0%	0%	24%	29%	0	75%	5.13			0	184%
Town and Country Trust	TCT	107.23%	8.65	0	64%	100.0%	0	1	0	-0.60%	0%	100%	0%	0%	0%	0%	0%	0%	61%	63%	0	19%	2.22	0.00%	0.00%	0	84%
United Dominion Realty Trust, Inc.	UDR	75.31%	7.00	0	40%	98.6%	1	1	0	-0.50%	0%	0%	48%	0%	0%	40%	11%	1%	63%	61%	1	17%	2.37	-1.00%	0.00%	12	81%

ALL:

	NAVprem	Var	focus	geograp	Prod	devCAP	slfmgmt	deREIT	chgVAC	newENG	midATL	oldSOU	indMID	farm	mmEXT	soCAL	noCAL	DEBTper	debtTAV	rateDEBT	var/DEBT	EBITDAint	A&Dv	depcap50	newstoc	PAYratio
Minimum	68.0%	6.54	1 = 19	15.31%	50.0%	1 = 31	1 = 36	1 = 2	-11.10%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	24%	29%	1 = 16	3.16%	1.68	-5.25%	-41.85%	0	29%
Maximum	107.2%	10.59	0 = 25	100.00%	100.0%	0 = 11	0 = 0	0 = 42	7.10%	23.3%	100.0%	91.4%	96.0%	8.0%	45.8%	100.0%	72.2%	72%	72%	0 = 28	74.92%	6.23	12.60%	3090.1%	19	184%
Mean	80.5%	8.37		52.76%	88.5%				-0.44%	2.0%	22.5%	19.9%	10.8%	0.8%	12.2%	14.7%	10.2%	49%	47%		25.13%	3.45	2.61%	164.78%	5	76%
Standard Deviation	8.0%	1.12		25.16%	17.7%				2.91%	5.3%	32.8%	27.0%	22.5%	2.0%	15.0%	25.6%	17.1%	9%	9%		16.21%	0.96	3.66%	544.75%	5	25%

Appendix 3 - 1999 Independent Variables Database

Name	Ticker	# of Analysts covering Stoc (noanal)	# Institutional Owners (OWNinstN)	% Shares Owned by Inst (InstOWN)	Avg Wkly # Shares (tradeno)	Avg Wkly Volume (tradvol)	Total Mkt Cap (Millions) (TOTALcap)	G&A as % of NOI (GAnoi)	Avg. Tenure of Exec's (avgtyrs)	average % earn surprise (calc)	Evidence of Nepotism (nep)	Chg in Mgmt since 97 (ChgMgmt)	# Public Cos led by Chair (vision)	Press Release Disclosure (disclo1)	1=UPREIT (struct)	OP Units o/s (upvaluep)	State Incorp Maryland Corp=0	% Inside Board (perINSID)	1=Indep Chair (indyCHR)	% Insider Incl Options (OWNimp)	% ownership top six (bento6)
Associated Estates Realty Corporation	AEC	5	41	15.7%	286	1.35%	$799.6	20.34%	11.5	1.0%	0	1	1	#REF!	0	-0.4%	0	14%	0	13.61%	3.4%
Apartment Investment and Management Company	AIV	14	142	69.8%	743	1.11%	$6,357.5	6.03%	4.0	0.5%	1	1	2	#REF!	1	4.1%	0	29%	0	8.10%	6.4%
Amli Residential Properties Trust	AML	3	66	46.3%	178	1.04%	$804.9	5.52%	11.8	0.8%	1	1	2	#REF!	1	9.8%	0	44%	0	8.30%	6.8%
Arden Realty Inc.	ARI	7	17	23.2%	778	1.23%	$2,297.9	3.13%	5.7	-0.1%	0	0	2	#REF!	1	1.9%	0	29%	0	24.50%	8.3%
Archstone Communities Trust	ASN	16	165	41.6%	986	0.71%	$5,527.8	5.27%	8.2	0.5%	1	0	1	#REF!	0	0.1%	0	10%	0	1.01%	0.3%
Avalon Bay Communities	AVB	15	160	81.7%	865	1.31%	$4,320.2	2.91%	5.3	0.1%	1	1	1	#REF!	1	1.3%	0	10%	1	3.30%	3.0%
Brandywine Realty Trust	BDN	5	116	62.9%	468	1.30%	$1,489.1	1.06%	3.0	1.4%	1	1	1	#REF!	1	1.5%	0	25%	0	30.30%	5.1%
Bedford Property Investors, Inc.	BED	4	77	58.0%	261	1.40%	$635.8	5.24%	4.8	1.8%	1	0	1	#REF!	0	5.8%	0	17%	1	10.31%	8.6%
BRE Properties, Inc.	BRE	13	126	46.9%	494	1.10%	$1,847.0	4.54%	7.8	1.6%	1	0	1	#REF!	0	3.7%	0	22%	1	4.40%	2.8%
Boston Properties, Inc.	BXP	11	156	76.4%	806	1.19%	$5,468.2	5.71%	19.2	1.2%	0	0	1	#REF!	1	13.5%	1	29%	0	26.48%	26.1%
Mack-Cali Realty Corporation	CLI	12	159	76.1%	775	1.32%	$3,020.0	6.72%	6.8	0.6%	0	0	1	#REF!	1	7.1%	0	15%	1	15.04%	3.4%
Cornerstone Properties, Inc.	CPP	10	67	98.2%	555	0.43%	$3,344.5	11.71%	4.3	3.0%	1	1	1	#REF!	1	8.4%	1	7%	1	7.40%	0.1%
Camden Property Trust	CPT	7	126	58.5%	483	1.26%	$2,464.7	4.94%	6.2	0.5%	0	0	1	#REF!	0	2.5%	0	25%	0	11.90%	4.7%
CarrAmerica Realty Corporation	CRE	10	100	40.0%	591	0.86%	$3,516.9	11.73%	7.2	0.9%	0	1	0	#REF!	1	4.4%	0	11%	0	4.50%	3.6%
Duke-Weeks Realty Corp.	DRE	14	210	54.4%	1784	1.41%	$5,057.1	4.34%		2.6%	1			#REF!	1	7.6%	1	31%	0	6.65%	3.6%
Equity Office Properties Trust	EOP	14	223	63.7%	2711	0.90%	$12,631.9	6.65%	5.1	3.5%	1	0	6	#REF!	0	6.5%	0	18%	1	2.44%	1.1%
Equity Residential Properties Trust	EQR	19	264	71.4%	1523	1.19%	$11,646.2	2.09%	4.9	0.4%	0	0	6	#REF!	1	5.0%	0	30%	1	7.22%	4.4%
Essex Property Trust, Inc.	ESS	7	86	74.9%	236	1.38%	$1,208.0	4.46%	16.1	1.4%	1	1	3	#REF!	1	5.8%	0	27%	0	12.50%	13.3%
Gables Residential Trust	GBP	12	90	60.0%	382	1.57%	$1,537.9	3.87%	9.7	0.2%	1	1	0	#REF!	1	8.5%	0	11%	0	7.50%	4.3%
Great Lakes REIT, Inc.	GL	3	48	38.4%	117	0.72%	$496.8	8.73%	7.0	2.6%	1	0	2		1	-2.6%	0	29%	0	12.03%	9.5%
Highwoods Properties, Inc.	HIW	16	136	62.3%	1064	1.82%	$3,705.8	5.72%	15.8	-0.4%	1	1	3	#REF!	1	5.8%	0	40%	1	5.90%	3.6%
Home Properties of New York, Inc.	HME	4	92	67.3%	473	2.33%	$1,405.2	8.27%	17.5	1.0%	0	0	2	#REF!	1	28.0%	0	33%	0	13.02%	9.9%
Koger Equity, Inc.	KE	2	67	82.5%	138	0.52%	$823.0	9.03%		2.4%	1	0	0	#REF!	0	2.1%	0	33%	1	6.78%	5.5%
Kilroy Realty Corporation	KRC	8	95	67.8%	400	1.53%	$1,287.6	7.45%	14.0	0.2%	0	0	1	#REF!	1	7.2%	0	33%	1	16.65%	12.1%
Mid-America Apartment Communities, Inc.	MAA	5	70	32.3%	198	1.12%	$1,334.2	10.55%	5.0	0.4%	1	0	0	#REF!	1	3.7%	1	33%	0	17.86%	12.6%
Parkway Properties, Inc	PKY	6	65	50.5%	129	1.31%	$684.3	5.87%	10.0	3.4%	1	1	0	#REF!	0	0.0%	0	22%	0	8.60%	5.1%
Prentiss Properties Trust Inc.	PP	7	131	75.8%	501	1.39%	$1,932.1	4.57%	12.0	1.0%	1	0	2	#REF!	1	1.7%	0	29%	1	12.00%	11.3%
Post Properties, Inc.	PPS	15	147	70.9%	685	1.74%	$2,691.0	3.79%	21.0	0.4%	1	1	1	#REF!	1	7.5%	1	22%	0	14.90%	12.9%
Reckson Associates Realty Corporation	RA	11	80	74.4%	745	1.85%	$2,105.8	9.51%	19.0	3.9%	0	0	3	#REF!	0	12.7%	0	40%	0	15.07%	14.6%
SL Green Realty Corp.	SLG	6	85	85.1%	391	1.61%	$1,015.5	10.19%		0.7%	1	1	1	#REF!	1	5.2%	0	40%	0	12.30%	1.6%
Summit Properties, Inc.	SMT	8	78	45.7%	329	1.25%	$1,320.4	3.34%	18.0	0.6%	1	0	1	#REF!	1	2.8%	0	43%	0	7.96%	7.5%
Spieker Properties, Inc.	SPK	12	179	75.6%	1021	1.57%	$4,793.5	5.27%	21.0	2.0%	1	0	0	#REF!	1	6.7%	0	43%	0	10.11%	9.0%
Charles E. Smith Residential Realty, Inc.	SRW	9	98	68.2%	216	1.03%	$1,650.8	5.27%		0.6%	1	1	1	#REF!	1	31.6%	0	38%	1	27.69%	24.3%
Cornerstone Realty Income Trust Inc.	TCR	5	49	18.9%	418	1.16%	$661.0	2.24%	9.7	0.5%	1	0	3	#REF!	0	-1.1%	1	38%	0	7.46%	6.4%
Town and Country Trust	TCT	2	47	19.5%	128	0.81%	$728.1	4.95%	7.0	2.1%	1	0	1	#REF!	1	6.1%	0	40%	1	41.54%	26.0%
United Dominion Realty Trust, Inc.	UDR	15	151	24.5%	1311	1.27%	$3,399.4	3.73%	8.7	-0.8%	1	1	0	#REF!	0	2.1%	1	20%	0	4.81%	2.1%

ALL:

		noanal	OWNinstN	InstOWN	tradeno	tradvol	TOTALcap	GAnoi	avgtyrs	calc	nep	ChgMgmt	vision	disclo1	struct	upvaluep	Corp=0	perINSID	indyCHR	OWNimp	bento6
Minimum		2	17	15.73%	117	0.43%	$496.8	1.06%	3.0	-0.8%	1=29	1=18	0.0	#REF!	1=28	-2.6%	1=10	7%	1=17	1.01%	0.1%
Maximum		19	264	98.19%	2711	2.33%	$12,631.9	20.34%	21.0	3.9%	0=7	0=17	6.0	#REF!	0=8	31.6%	0=27	44%	0=19	41.54%	26.1%
Mean		9.22	111.306	57.20%	644	1.25%	$2,895.3	6.24%	10.2	1.2%			1.5	#REF!		6.0%		27%		12.23%	7.9%
Standard Deviation		4.64	55.1951	20.60%	534	0.38%	$2,783.6	3.59%	5.5	1.1%			1	#REF!		6.9%		11%		8.62%	6.6%

Appendix 4
Apartment Regional Concentration
Hartzell Eight-Region Segmentation
as of December 1999

Total Square Feet

Company	Ticker	Total Square Feet	New England 1	Mid Atlantic 2	Old South 3	Ind. Midwest 4	Farm Belt 5	Min. Extraction 6	S. California 7	N. California 8	Other 9
Associated Estates Realty Corporation	AEC	12,547,570	0	0	500,760	12,046,810	0	0	0	0	0
Apartment Investment and Management Comp	AIV	112,463,190	875,200	4,936,986	46,400,178	18,908,521	4,038,998	25,844,383	8,379,813	3,079,111	160,185
Amli Residential Properties Trust	AML	20,490,075	0	0	5,582,969	3,868,879	1,645,571	9,392,656	0	0	0
Archstone Communities Trust	ASN	0	0	0	0	0	0	0	0	0	0
Avalon Bay	AVB	34,098,021	3,894,292	12,976,642	301,418	2,336,761	0	0	4,743,693	9,845,215	0
BRE Properties, Inc.	BRE	8,254,522	0	0	0	0	0	0	5,472,112	2,782,410	0
Camden Property Trust	CPT	40,943,788	0	322,845	6,926,921	3,462,940	495,872	17,610,118	12,125,092	0	0
Equity Residential Properties Trust	EQR	0	0	0	0	0	0	0	0	0	0
Essex Property Trust, Inc.	ESS	12,303,736	0	0	0	0	0	0	7,012,435	5,291,301	0
Gables Residential Trust	GBP	23,441,545	0	0	13,362,166	0	0	10,079,379	0	0	0
Great Lakes REIT, Inc.	GL	5,250,579	0	0	0	4,861,686	0	388,893	0	0	0
Home Properties of New York, Inc.	HME	25,114,057	445,722	12,405,783	1,166,636	11,095,916	0	0	0	0	0
Mid-America Apartment Communities, Inc.	MAA	31,010,678	0	432,592	24,404,503	2,615,585	0	3,557,998	0	0	0
Post Properties, Inc.	PPS	20,587,003	0	669,676	14,898,244	0	0	5,019,083	0	0	0
Summit Properties, Inc.	SMT	9,759,280	0	2,469,131	6,705,605	584,544	0	0	0	0	0
Charles E. Smith Residential Realty. Inc.	SRW	14,980,791	157,413	14,607,954	0	215,424	0	0	0	0	0
Town and Country Trust	TCT	12,905,833	0	10,117,448	1,596,410	1,191,975	0	0	0	0	0
United Dominion Realty Trust, Inc.	UDR	30,326,731	0	120,784	14,559,636	0	0	12,027,411	3,233,956	384,944	0
18 Companies		414,477,399	5,372,627	59,059,841	136,405,446	61,189,041	6,180,441	83,919,921	40,967,101	21,382,981	160,185

Percentage of Portfolio

Company	Ticker	Total Square Feet	Herfndahl Index	New England 1	Mid Atlantic 2	Old South 3	Ind. Midwest 4	Farm Belt 5	Min. Extraction 6	S. California 7	N. California 8	Other 9
Associated Estates Realty Corporation	AEC	12,547,570	92.3%	0%	0%	4%	96%	0%	0%	0%	0%	0%
Apartment Investment and Management Comp	AIV	112,463,190	26.1%	1%	4%	41%	17%	4%	23%	7%	3%	0%
Amli Residential Properties Trust	AML	20,490,075	32.6%	0%	0%	27%	19%	8%	46%	0%	0%	0%
Archstone Communities Trust	ASN	(count in # units)	18.9%	2%	7%	26%	2%	0%	18%	23%	17%	4%
Avalon Bay	AVB	34,098,021	26.5%	11%	38%	1%	7%	0%	0%	14%	29%	0%
BRE Properties, Inc.	BRE	8,254,522	55.3%	0%	0%	0%	0%	0%	0%	66%	34%	0%
Camden Property Trust	CPT	40,943,788	30.9%	0%	1%	17%	8%	1%	43%	30%	0%	0%
Equity Residential Properties Trust	EQR	(count in # units)	22.2%	2%	23%	34%	14%	1%	18%	2%	6%	0%
Essex Property Trust, Inc.	ESS	12,303,736	51.0%	0%	0%	0%	0%	0%	0%	57%	43%	0%
Gables Residential Trust	GBP	23,441,545	51.0%	0%	0%	57%	0%	0%	43%	0%	0%	0%
Great Lakes REIT, Inc.	GL	5,250,579	86.3%	0%	0%	0%	93%	0%	7%	0%	0%	0%
Home Properties of New York, Inc.	HME	25,114,057	44.2%	2%	49%	5%	44%	0%	0%	0%	0%	0%
Mid-America Apartment Communities, Inc.	MAA	31,010,678	64.0%	0%	1%	79%	8%	0%	11%	0%	0%	0%
Post Properties, Inc.	PPS	20,587,003	58.4%	0%	3%	72%	0%	0%	24%	0%	0%	0%
Summit Properties, Inc.	SMT	9,759,280	54.0%	0%	25%	69%	6%	0%	0%	0%	0%	0%
Charles E. Smith Residential Realty, Inc.	SRW	14,980,791	95.1%	1%	98%	0%	1%	0%	0%	0%	0%	0%
Town and Country Trust	TCT	12,905,833	63.8%	0%	78%	12%	9%	0%	0%	0%	0%	0%
United Dominion Realty Trust, Inc.	UDR	30,326,731	39.9%	0%	0%	48%	0%	0%	40%	11%	1%	0%
18 Companies												

Appendix 4
Office REIT REgional Concentration
Hartzell Eight-Region Segmentation
December 1999

- Total Square Feet -

Company		Index	Total Square Feet	New England 1	Mid Atlantic 2	Old South 3	Ind. Midwest 4	Farm Belt 5	Min. Extraction 6	S. California 7	N. California 8	Other 9
Arden Realty Inc.	ARI		18,490,789	0	0	0	0	0	0	18,490,789	0	0
Bedford Property Investors, Inc.	BED		7,659,457	0	44,063	0	801,383	463,078	849,161	2,924,630	2,577,142	0
Boston Properties, Inc.	BXP		24,453,323	5,697,291	14,192,451	0	0	0	0	0	4,563,581	0
Brandywine Realty Trust	BDN		17,031,340	0	12,019,034	2,019,216	2,993,090	0	0	0	0	0
CarrAmerica Realty Corporation	CRE		25,408,749	0	4,304,676	2,378,820	1,674,456	0	5,884,445	4,168,784	6,997,568	0
Cornerstone Properties, Inc.	CPP		17,981,409	2,884,826	1,372,376	1,647,986	2,093,518	0	0	2,472,824	7,509,879	0
Duke Realty Investments. Inc.	DRE		92,770,774	0	0	31,860,990	59,050,497	0	1,859,287	0	0	128,008
Equity Office Properties Trust	EOP		95,825,798	12,659,672	13,399,047	10,033,945	17,179,861	0	15,486,109	7,876,016	19,191,148	0
Highwoods Properties, Inc,	HIW		39,775,541	0	604,019	36,368,283	0	2,803,239	0	0	0	0
Kilroy Realty Corporation	KRC		12,685,605	0	0	0	0	0	75,257	11,646,535	963,813	0
Koger Equity, Inc.	KE		18,438,800	0	0	16,480,600	0	0	1,958,200	0	0	0
Mack-Cali Realty Corporation	CLI		29,895,607	0	22,057,277	297,429	157,977	391,800	5,634,448	416,967	939,709	0
Parkway Properties, Inc.	PKY		7,184,223	0	1,265,977	4,538,320	96,011	0	1,283,915	0	0	0
Prentiss Properties Trust Inc.	PP		23,792,035	0	4,746,744	916,181	3,215,677	0	7,422,357	5,363,804	2,127,272	0
Reckson Associates Realty Corporation	RA		21,052,701	0	21,052,701	0	0	0	0	0	0	0
SL Green Realty Corp.	SLG		9,130,800	0	9,130,800	0	0	0	0	0	0	0
Spieker Properties, Inc.	SPK		37,874,709	0	0	0	0	0	129,362	10,387,018	27,358,329	0
Cornerstone Realty Income Trust, Inc.	TCR		12,279,810	0	0	7,983,104	0	0	4,296,706	0	0	0
18 Companies			516,982,049	21,241,789	104,189,165	114,524,874	92,124,156	3,658,117	45,268,140	63,747,367	72,228,441	128,008

- Percentage of Portfolio -

Company		Herfindahl Index	Total Square Feet	New England 1	Mid Atlantic 2	Old South 3	Ind. Midwest 4	Farm Belt 5	Min. Extraction 6	S. California 7	N. California 8	Other 9
Arden Realty Inc.	ARI	100.0%	18,490,789	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0.00 %
Bedford Property Investors, Inc.	BED	28.6%	7,659,457	0 %	1 %	0 %	10 %	6 %	11 %	38 %	34 %	0.00 %
Boston Properties, Inc.	BXP	42.6%	24,453,323	23 %	58 %	0 %	0 %	0 %	0 %	0 %	19 %	0.00 %
Brandywine Realty Trust	BDN	54.3%	17,031,340	0 %	71 %	12 %	18 %	0 %	0 %	0 %	0 %	0.00 %
CarrAmerica Realty Corporation	CRE	19.8%	25,408,749	0 %	17 %	9 %	7 %	0 %	23 %	16 %	28 %	0.00 %
Cornerstone Properties, Inc.	CPP	24.7%	17,981,409	16 %	8 %	9 %	12 %	0 %	0 %	14 %	42 %	0.00 %
Duke Realty Investments. Inc.	DRE	52.4%	92,770,774	0 %	0 %	34 %	64 %	0 %	2 %	0 %	0 %	0.14 %
Equity Office Properties Trust	EOP	15.3%	95,825,798	13 %	14 %	10 %	18 %	0 %	16 %	8 %	20 %	0.00 %
Highwoods Properties, Inc.	HIW	84.1%	39,775,541	0 %	2 %	91 %	0 %	7 %	0 %	0 %	0 %	0.00 %
Kilroy Realty Corporation	KRC	84.9%	12,685,605	0 %	0 %	0 %	0 %	0 %	1 %	92 %	8 %	0.00 %
Koger Equity, Inc.	KE	81.0%	18,438,800	0 %	0 %	89 %	0 %	0 %	11 %	0 %	0 %	0.00 %
Mack-Cali Realty Corporation	CLI	58.1%	29,895,607	0 %	74 %	1 %	1 %	1 %	19 %	1 %	3 %	0.00 %
Parkway Properties, Inc.	PKY	46.2%	7,184,223	0 %	18 %	63 %	1 %	0 %	18 %	0 %	0 %	0.00 %
Prentiss Properties Trust Inc.	PP	21.6%	23,792,035	0 %	20 %	4 %	14 %	0 %	31 %	23 %	9 %	0.00 %
Reckson Associates Realty Corporation	RA	100.0%	21,052,701	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0.00 %
SL Green Realty Corp.	SLG	100.0%	9,130,800	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0.00 %
Spieker Properties, Inc.	SPK	59.7%	37,874,709	0 %	0 %	0 %	0 %	0 %	0 %	27 %	72 %	0.00 %
Cornerston Realty Income Trust, Inc.	TCR	54.5%	12,279,810	0 %	0 %	65 %	0 %	0 %	35 %	0 %	0 %	0.00 %
18 Companies			511,731,470	4 %	20 %	22 %	18 %	1 %	9 %	12 %	14 %	0.03 %

NAV OUTPUT A - (NAV Output 3 Run #4)
Removed Variables: SLFMGMT, DEBTTAV, OWNINSTN, TRADENO, BENTOP6, INDEX_2, NOANAL)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Condition Index
25	.827(y)	0.683	0.647	11.77%	17.468

ANOVA(z)

Model		Sum of Squares	df	Mean Square	F	Sig.
25	Regression	20890.293	8	2611.287	18.867	.000(y)
	Residual	9688.309	70	138.404		
	Total	30578.602	78			

x Predictors in the Model: (Constant), DICLOSE, GANOI, VISION, FOCUS, PERDEBT, PERINSID, OWNIMP, TOTALCAP

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
25	(Constant)	133.799	7.575		17.663	0		
	PERDEBT	-1.271	0.13	-0.76	-9.78	0	0.75	1.334
	TOTALCAP	2.79E-03	0.001	0.357	3.628	0.001	0.466	2.144
	GANOI	1.103	0.426	0.184	2.587	0.012	0.899	1.112
	VISION	-2.54	1.383	-0.17	-1.836	0.071	0.525	1.903
	DICLOSE	-2.58	0.828	-0.221	-3.116	0.003	0.899	1.113
	PERINSID	0.4	0.145	0.2	2.762	0.007	0.865	1.156
	OWNIMP	0.561	0.194	0.221	2.888	0.005	0.772	1.295
	FOCUS	-9.958	2.839	-0.251	-3.508	0.001	0.886	1.129

Excluded Variables(y)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
25	NOCAL	.013(x)	0.187	0.853	0.022	0.885	1.13	0.459
	OLDSOU	-.038(x)	-0.515	0.608	-0.062	0.851	1.175	0.466
	depCAP 50	-.045(x)	-0.624	0.535	-0.075	0.861	1.162	0.463
	INDYCHR	.020(x)	0.271	0.787	0.033	0.86	1.162	0.457
	SOCAL	.034(x)	0.489	0.626	0.059	0.927	1.079	0.464
	MDCORP	-.067(x)	-0.944	0.348	-0.113	0.904	1.106	0.46
	INSTOWN	.004(x)	0.059	0.953	0.007	0.829	1.207	0.442
	NEWENG	.061(x)	0.796	0.429	0.095	0.769	1.301	0.404
	INDMID	-.019(x)	-0.256	0.799	-0.031	0.828	1.207	0.463
	DEVCAP	-.031(x)	-0.431	0.668	-0.052	0.912	1.096	0.457
	STRUCT	.013(x)	0.149	0.882	0.018	0.646	1.547	0.452
	NEP	-.017(x)	-0.229	0.82	-0.028	0.819	1.221	0.466
	MIDATL	.001(x)	0.017	0.986	0.002	0.686	1.457	0.466
	PAYRATIO	-.090(x)	-1.253	0.215	-0.149	0.871	1.149	0.438
	GEOGRAP	-.026(x)	-0.327	0.745	-0.039	0.715	1.398	0.429
	MINEXT	-.012(x)	-0.161	0.872	-0.019	0.835	1.197	0.461
	AVGYRS	.000(x)	-0.002	0.998	0	0.819	1.222	0.466
	INVGRAD	.038(x)	0.405	0.687	0.049	0.512	1.952	0.328
	OP units outstanding	.131(x)	1.775	0.08	0.209	0.812	1.231	0.465
	VARDEBT	-.088(x)	-1.204	0.233	-0.143	0.84	1.191	0.427
	FARM	.051(x)	0.719	0.474	0.086	0.902	1.108	0.447
	EBITINT	-.103(x)	-1.103	0.274	-0.132	0.518	1.932	0.417
	SURPRISE	.088(x)	1.149	0.255	0.137	0.771	1.297	0.463
	TRADEVOL	.117(x)	1.596	0.115	0.189	0.822	1.217	0.46

NEW NAV OUTPUT A - (NEW NAV Output 1 Run #8)

Removed Variables: FOCUS, SLFMGMT, GEOGRAP, DEBTTAV, EBITINT, A&D, NEWSTOC, NOANAL, OWNINSTN, TOTALCAP, OPUNITS, BENTOP6

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Condition Index
23	.803(w)	0.645	0.609	12.37%	16.894

ANOVA(x)

Model		Sum of Squares	df	Mean Square	F	Sig.
23	Regression	19708.73	7	2815.533	18.391	.000(w)
	Residual	10869.872	71	153.097		
	Total	30578.602	78			

w Predictors: (Constant), PERDEBT, VARDEBT, PERINSID, DICLOSE, GANOI, INVGRAD, OWNIMP
x Dependent Variable: NAVPREM

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
23	(Constant)	131.761	8.126		16.215	0		
	PERDEBT	-1.156	0.132	-0.691	-8.782	0	0.809	1.236
	INVGRAD	7.757	3.235	0.196	2.398	0.019	0.751	1.332
	VARDEBT	-0.176	0.083	-0.157	-2.127	0.037	0.924	1.082
	GANOI	0.979	0.453	0.163	2.162	0.034	0.882	1.133
	DICLOSE	-2.726	0.878	-0.234	-3.106	0.003	0.885	1.13
	PERINSID	0.345	0.149	0.172	2.309	0.024	0.9	1.111
	OWNIMP	0.559	0.212	0.221	2.634	0.01	0.713	1.402

Excluded Variables(w)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
23	MIDATL	-.015(v)	-0.178	0.859	-0.021	0.704	1.421	0.61
	INDYCHR	-.006(v)	-0.087	0.931	-0.01	0.906	1.103	0.677
	DEVCAP	-.033(v)	-0.449	0.655	-0.054	0.941	1.062	0.713
	INSTOWN	-.019(v)	-0.258	0.797	-0.031	0.929	1.076	0.701
	PAYRATIO	-.064(v)	-0.841	0.403	-0.1	0.855	1.17	0.702
	STRUCT	-.009(v)	-0.103	0.918	-0.012	0.704	1.421	0.614
	No. Wkly	.084(v)	1.094	0.278	0.13	0.855	1.169	0.705
	NEP	-.003(v)	-0.042	0.967	-0.005	0.84	1.19	0.702
	NOCAL	.008(v)	0.104	0.917	0.012	0.908	1.101	0.708
	INDMID	.023(v)	0.292	0.771	0.035	0.85	1.176	0.709
	OLDSOU	-.062(v)	-0.809	0.421	-0.096	0.851	1.175	0.683
	AVGYRS	-.016(v)	-0.209	0.835	-0.025	0.817	1.224	0.658
	VISION	.031(v)	0.422	0.674	0.05	0.965	1.036	0.713
	TRADEVOL	.063(v)	0.825	0.412	0.098	0.872	1.147	0.664
	MINEXT	.038(v)	0.503	0.616	0.06	0.891	1.122	0.675
	SURPRISE	.054(v)	0.738	0.463	0.088	0.959	1.043	0.713
	SOCAL	.019(v)	0.264	0.793	0.032	0.932	1.073	0.713
	depCAP 50	-.039(v)	-0.506	0.614	-0.06	0.856	1.168	0.711
	INDEX_2	.057(v)	0.755	0.453	0.09	0.876	1.141	0.693
	FARM	.075(v)	0.98	0.331	0.116	0.863	1.158	0.686
	MDCORP	-.073(v)	-1.002	0.32	-0.119	0.948	1.054	0.713
	NEWENG	.115(v)	1.559	0.124	0.183	0.908	1.101	0.704

Appendix 6a- 1999 Regression Results
Dependent Variable: Price to FFO Multiple
Independent Variable: Original (Control) + New Variables

99 FFO OUTPUT A - (Output 1 #9)

Removed Variables: SLFMGMT, INDEX_2, DEVCAP, FOCUS, GEOGRAP, MIDATL, DEBTTAV, OWNINSTN, PERDEBT, EBITINT,

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Condition Index
22	.824(v)	0.679	0.602	0.6941	11.610

ANOVA(w)

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	29.562	7	4.223	8.767	.000(v)
22	Residual	13.97	29	0.482		
	Total	43.532	36			

v Predictors: (Constant), UPVALUEP, NEWSTOC, FOCUS, NEWENG, BENTOP6, NOCAL, INSTOWN
w Dependent Variable: FFOMULT

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	6.7	0.446		15.013	0		
	NOCAL	1.92E-02	0.008	0.293	2.506	0.018	0.811	1.232
	NEWSTOC	6.77E-02	0.027	0.291	2.506	0.018	0.821	1.218
22	INSTOWN	1.33E-02	0.007	0.245	1.851	0.074	0.632	1.582
	UPVALUEP	4.14E-02	0.022	0.255	1.86	0.073	0.587	1.703
	BENTOP6	4.70E-02	0.023	0.279	2.072	0.047	0.61	1.639
	FOCUS	-0.747	0.248	-0.34	-3.007	0.005	0.868	1.152
	NEWENG	5.20E-02	0.025	0.246	2.082	0.046	0.792	1.262

Excluded Variables(v)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
	CHGVAC	-.021(u)	-0.177	0.861	-0.033	0.833	1.2	0.585
	DISCLOSE	-.053(u)	-0.44	0.663	-0.083	0.792	1.263	0.559
	SOCAL	.009(u)	0.075	0.941	0.014	0.768	1.302	0.583
	NEP	-.019(u)	-0.162	0.872	-0.031	0.806	1.241	0.534
	TRADEVOL	.040(u)	0.313	0.757	0.059	0.7	1.429	0.538
	GANOI	.048(u)	0.399	0.693	0.075	0.794	1.26	0.55
	VISION	.002(u)	0.015	0.988	0.003	0.907	1.102	0.587
	SURPRISE	.084(u)	0.711	0.483	0.133	0.803	1.246	0.587
	CHGMGMT	-.059(u)	-0.502	0.619	-0.095	0.833	1.2	0.568
	OLDSOU	-.138(u)	-1.134	0.266	-0.21	0.745	1.343	0.578
22	MINEXT	-.088(u)	-0.737	0.467	-0.138	0.791	1.265	0.582
	GEOGRAP	.053(u)	0.407	0.687	0.077	0.677	1.477	0.582
	AVGYRS	.035(u)	0.285	0.778	0.054	0.752	1.329	0.538
	PAYRATIO	.144(u)	1.111	0.276	0.206	0.652	1.533	0.436
	VARDEBT	.082(u)	0.506	0.617	0.095	0.43	2.326	0.43
	PERINSID	.022(u)	0.16	0.874	0.03	0.628	1.593	0.506
	MDCORP	-.015(u)	-0.126	0.901	-0.024	0.841	1.188	0.582
	INDYCHR	-.127(u)	-0.971	0.34	-0.181	0.648	1.543	0.552
	STRUCT	-.133(u)	-1.013	0.32	-0.188	0.64	1.562	0.493
	PERDEBT	-.192(u)	-1.602	0.12	-0.29	0.732	1.366	0.557
	FARM	-.178(u)	-1.684	0.103	-0.303	0.927	1.078	0.582

Appendix 6b - 1999 Regression Results
Dependent Variable: NAV Premium
Independent Variable: Orig. (Control) + New Variables

99 NAV OUTPUT A - (Output1 #3)

Removed Variables: SLFMGMT, INDEX_2, DEVCAP, FOCUS, GEOGRAP, MIDATL, DEBTTAV, OWNINSTN, PERDEBT, EBITINT, NOANAL, TOTALCAP, BENTOP6,OWNIMP,CHGVAC, GANOI

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Condition Index
25	.659(y)	0.434	0.363	6.32%	12.072

ANOVA(z)

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	978.955	4	244.739	6.134	.001(y)
25	Residual	1276.838	32	39.901		
	Total	2255.793	36			

y Predictors: (Constant), BENTOP6, NEP, VARDEBT, PAYRATIO
z Dependent Variable: NAVPREM

Coefficients(a)

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
	(Constant)	6.7	0.446		15.013	0		
	NOCAL	1.92E-02	0.008	0.293	2.506	0.018	0.811	1.232
	NEWSTOC	6.77E-02	0.027	0.291	2.506	0.018	0.821	1.218
22	INSTOWN	1.33E-02	0.007	0.245	1.851	0.074	0.632	1.582
	UPVALUEP	4.14E-02	0.022	0.255	1.86	0.073	0.587	1.703
	BENTOP6	4.70E-02	0.023	0.279	2.072	0.047	0.61	1.639
	FOCUS	-0.747	0.248	-0.34	-3.007	0.005	0.868	1.152
	NEWENG	5.20E-02	0.025	0.246	2.082	0.046	0.792	1.262

Excluded Variables (y)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance	Collinearity Statistics VIF	Collinearity Statistics Minimum Tolerance
	depCAP 50	-.015(x)	-0.108	0.915	-0.019	0.91	1.099	0.702
	PERINSID	-.002(x)	-0.011	0.991	-0.002	0.748	1.337	0.704
	NEWENG	-.005(x)	-0.035	0.973	-0.006	0.922	1.085	0.691
	VISION	.184(x)	1.384	0.176	0.241	0.978	1.023	0.706
	INDYCHR	.098(x)	0.675	0.505	0.12	0.86	1.162	0.683
	INDMID	.051(x)	0.356	0.725	0.064	0.881	1.134	0.699
	STRUCT	-.002(x)	-0.011	0.991	-0.002	0.687	1.455	0.652
	AVGYRS	-.142(x)	-0.909	0.37	-0.161	0.731	1.367	0.659
	DISCLOSE	-.117(x)	-0.824	0.416	-0.146	0.888	1.126	0.695
	A&DLEV	-.151(x)	-1.042	0.305	-0.184	0.837	1.195	0.699
	MINEXT	-.058(x)	-0.411	0.684	-0.074	0.898	1.114	0.708
25	INVGRAD	-.067(x)	-0.407	0.687	-0.073	0.667	1.5	0.597
	INSTOWN	-.044(x)	-0.268	0.79	-0.048	0.669	1.495	0.608
	TRADEVOL	.022(x)	0.153	0.879	0.028	0.856	1.169	0.678
	UPVALUEP	.063(x)	0.361	0.72	0.065	0.589	1.699	0.589
	PERDEBT	.147(x)	0.992	0.329	0.175	0.812	1.232	0.688
	SOCAL	.047(x)	0.34	0.736	0.061	0.933	1.072	0.681
	CHGMGMT	.038(x)	0.275	0.785	0.049	0.93	1.075	0.691
	MDCORP	-.266(x)	-1.934	0.062	-0.328	0.863	1.159	0.624
	NEWSTOC	.072(x)	0.419	0.678	0.075	0.61	1.638	0.553
	SURPRISE	.103(x)	0.746	0.461	0.133	0.939	1.065	0.671
	FARM	.120(x)	0.883	0.384	0.157	0.96	1.041	0.706
	NOCAL	-.072(x)	-0.518	0.608	-0.093	0.938	1.066	0.69
	OLDSOU	-.224(x)	-1.53	0.136	-0.265	0.794	1.26	0.673

Appendix 7a - '97-'99 Regression Results
Dependent Variable: Price to FFO Multiple
Independent Variable: Original (Control) Variables

FFO OUTPUT B - (FFO Output 1 Run #19)

Removed Variables: SLFMGMT, NEWENG, OWNIMP, OWNINSTN, EBITINT, TRADENO, DEBTTAV, NOANAL, OPUNITSoutstanding

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Condition Index
19	.895(s)	0.802	0.766	1.062	16.888

ANOVA(t)

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	300.866	12	25.072	22.227	.000(s)
19	Residual	74.45	66	1.128		
	Total	375.316	78			

s Predictors: (Constant), BENTOP6, SURPRISE, SOCAL, DICLOSE, VISION, FARM, PERDEBT, GANOI, FOCUS, AVGYRS, TOTALCAP, MIDATL
t Dependent Variable: FFOMULT

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	13.939	0.601		23.21	0		
	FOCUS	-1.586	0.29	-0.36	-5.476	0	0.694	1.441
	MIDATL	2.43E-02	0.005	0.349	5.145	0	0.654	1.529
	FARM	0.117	0.057	0.126	2.044	0.045	0.797	1.255
	SOCAL	1.63E-02	0.005	0.195	3.081	0.003	0.753	1.328
	PERDEBT	-0.146	0.012	-0.789	-12.106	0	0.707	1.414
19	TOTALCAP	4.91E-04	0	0.569	6.957	0	0.45	2.222
	GANOI	0.137	0.039	0.206	3.555	0.001	0.892	1.121
	AVGYRS	7.17E-02	0.023	0.197	3.135	0.003	0.764	1.308
	SURPRISE	0.371	0.105	0.226	3.521	0.001	0.729	1.372
	VISION	-0.665	0.132	-0.403	-5.035	0	0.47	2.127
	DICLOSE	-0.214	0.077	-0.166	-2.791	0.007	0.852	1.174
	BENTOP6	4.08E-02	0.021	0.129	1.951	0.055	0.692	1.445

Excluded Variables(s)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
	INDMID	.029(r)	0.446	0.657	0.055	0.702	1.425	0.446
	VARDEBT	.012(r)	0.181	0.857	0.022	0.738	1.355	0.411
	MDCORP	-.051(r)	-0.731	0.467	-0.09	0.624	1.601	0.449
	INDYCHR	-.018(r)	-0.288	0.775	-0.036	0.784	1.276	0.443
	INDEX_2	-.054(r)	-0.643	0.522	-0.08	0.427	2.34	0.414
	NOCAL	-.009(r)	-0.144	0.886	-0.018	0.737	1.357	0.433
	MINEXT	.007(r)	0.106	0.916	0.013	0.713	1.403	0.444
	STRUCT	.003(r)	0.043	0.966	0.005	0.645	1.55	0.438
19	PAYRATIO	-.005(r)	-0.08	0.936	-0.01	0.806	1.241	0.419
	INSTOWN	-.032(r)	-0.483	0.631	-0.06	0.674	1.483	0.411
	INVGRAD	.072(r)	0.932	0.355	0.115	0.5	1.999	0.33
	DEVCAP	.011(r)	0.173	0.863	0.021	0.762	1.312	0.429
	NEP	.046(r)	0.588	0.559	0.073	0.497	2.011	0.449
	depCAP 50	-.064(r)	-1.068	0.29	-0.131	0.832	1.202	0.449
	GEOGRAP	.053(r)	0.827	0.411	0.102	0.739	1.354	0.398
	OLDSOU	-.027(r)	-0.35	0.728	-0.043	0.506	1.975	0.444
	PERINSID	.065(r)	1.016	0.313	0.125	0.74	1.352	0.447
	TRADEVOL	.097(r)	1.453	0.151	0.177	0.658	1.52	0.445

Dependent Variable: Price to FFO Multiple
Independent Variable: Orig. (Control) + New Variables

NEW FFO OUTPUT B - (NEW FFO Output 3, Run #6)

Removed Variables: SLFMGMT, NEWENG, DEBTTAV, EBITINT, OWNINSTN, NOANAL, TRADENO, OPUNITS, OWNIMP, INDEX_2, OLDSOU, NEP, DEPCAP50, INVGRAD

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Condition Index
16	.895(p)	0.802	0.766	1.062	16.888

ANOVA(q)

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	300.866	12	25.072	22.227	.000(p)
16	Residual	74.45	66	1.128		
	Total	375.316	78			

p Predictors: (Constant), SOCAL, SURPRISE, FARM, GANOI, DICLOSE, VISION, FOCUS, AVGYRS, BENTOP6, PERDEBT, MIDATL, TOTALCAP
q Dependent Variable: FFOMULT

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	13.939	0.601		23.21	0		
	PERDEBT	-0.146	0.012	-0.789	-12.106	0	0.707	1.414
	TOTALCAP	4.91E-04	0	0.569	6.957	0	0.45	2.222
	GANOI	0.137	0.039	0.206	3.555	0.001	0.892	1.121
	AVGYRS	7.17E-02	0.023	0.197	3.135	0.003	0.764	1.308
	SURPRISE	0.371	0.105	0.226	3.521	0.001	0.729	1.372
16	VISION	-0.665	0.132	-0.403	-5.035	0	0.47	2.127
	DICLOSE	-0.214	0.077	-0.166	-2.791	0.007	0.852	1.174
	BENTOP6	4.08E-02	0.021	0.129	1.951	0.055	0.692	1.445
	FOCUS	-1.586	0.29	-0.36	-5.476	0	0.694	1.441
	MIDATL	2.43E-02	0.005	0.349	5.145	0	0.654	1.529
	FARM	0.117	0.057	0.126	2.044	0.045	0.797	1.255
	SOCAL	1.63E-02	0.005	0.195	3.081	0.003	0.753	1.328

Excluded Variables(p)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
	STRUCT	.003(o)	0.043	0.966	0.005	0.645	1.55	0.438
	MINEXT	.007(o)	0.106	0.916	0.013	0.713	1.403	0.444
	VARDEBT	.012(o)	0.181	0.857	0.022	0.738	1.355	0.411
	INDYCHR	-.018(o)	-0.288	0.775	-0.036	0.784	1.276	0.443
	PAYRATIO	-.005(o)	-0.08	0.936	-0.01	0.806	1.241	0.419
	INSTOWN	-.032(o)	-0.483	0.631	-0.06	0.674	1.483	0.411
	INDMID	.029(o)	0.446	0.657	0.055	0.702	1.425	0.446
16	NOCAL	-.009(o)	-0.144	0.886	-0.018	0.737	1.357	0.433
	GEOGRAP	.053(o)	0.827	0.411	0.102	0.739	1.354	0.398
	NEWSTOC	-.046(o)	-0.594	0.554	-0.074	0.503	1.989	0.317
	MDCORP	-.051(o)	-0.731	0.467	-0.09	0.624	1.601	0.449
	DEVCAP	.011(o)	0.173	0.863	0.021	0.762	1.312	0.429
	ADLEVL	.078(o)	1.029	0.307	0.127	0.524	1.908	0.45
	PERINSID	.065(o)	1.016	0.313	0.125	0.74	1.352	0.447
	TRADEVOL	.097(o)	1.453	0.151	0.177	0.658	1.52	0.445

Hartzell, Shulman, Wurtzebach Economic Region Definition

Eight-Region Segmentation
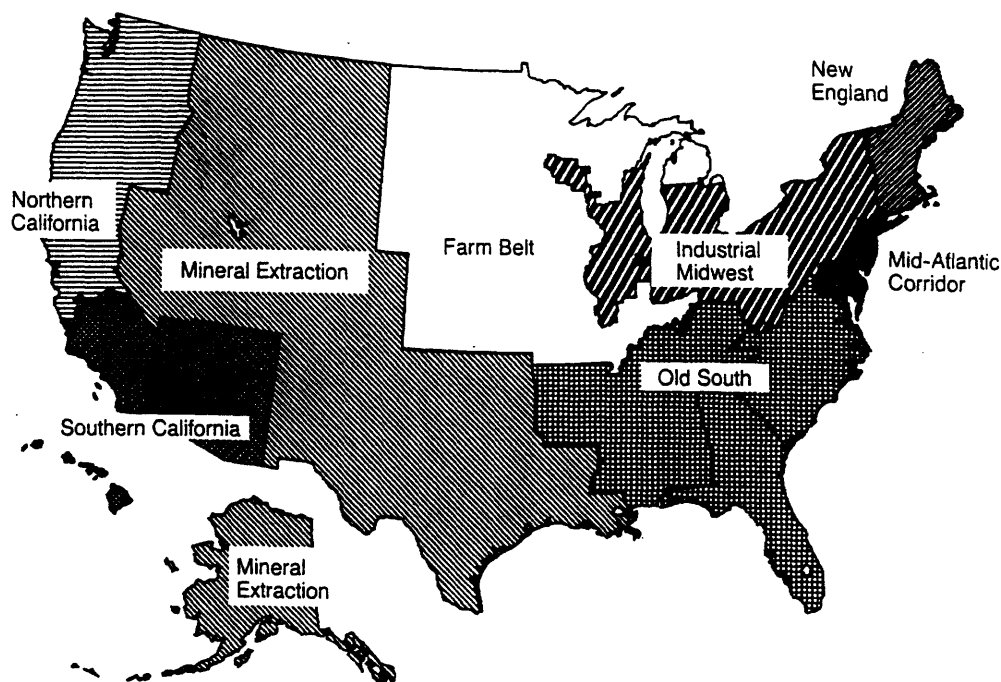
Description of Regions

We have divided the U.S. into eight cohesive economic activity regions that are mapped in Exhibit 1. We define our regions as New England, Mid-Atlantic Corridor, Old South, Industrial Midwest, Farm Belt, Mineral Extraction Area, Southern California and Northern California. In doing this we have, in many cases, ignored state boundaries. For example, we classify eastern Pennsylvania as part of the Mid-Atlantic Corridor and western Pennsylvania as part of the Industrial Midwest. Similarly, California has been divided into northern and southern portions with the southern portion including Arizona and southern Nevada. The northern portion includes Oregon, Washington and northern Nevada.

New England This region includes all of the New England states with the exception of Fairfield County, Connecticut, which is part of the Mid-Atlantic Corridor. The employment base here has shifted dramatically from old-line manufacturing to high-technology production and business, financial and education services. The high education level of the region and the willingness of its huge college student population to settle after graduation has created the basis for a post-industrial economy. The infrastructure is old and the combination of an already built-up environment and strong land use regulation make additions to supply difficult. Harsh winter weather makes this region a net energy importer. Defense spending, especially in Connecticut and Massachusetts, is an important contributor to New England's economic well-being.

Mid-Atlantic Corridor This region stretches along the Atlantic Coast from Fairfield County, Connecticut to Northern Virginia. The region is dominated by financial and business services in the greater New York City area and government/defense in the Washington, D.C. area. The region has benefited from the import boom by serving as the East Coast port of entry

for imported goods and from the explosion of debt caused by the budget and trade deficits and the deregulation of financial services. The region has the densest population in the U.S. and it is a net energy importer. The infrastructure is old and the cities historically have centralized around an extensive system of public transportation. This has changed recently as rapid development along the Washington, D.C. beltway and the highway corridors of New Jersey took place.

Old South This region stretches from Virginia south to Florida and west to Arkansas and grew rapidly in the 1970s as manufacturing companies relocated from the North. This movement created the need for infrastructure that basically has been put in place within the last two decades. The region is characterized by heavy federal investment in military bases, highways and electric power. There is a higher percentage of low-income nonunion workers here than in other parts of the country. As a result, the region has lower production and living costs than the rest of the country. The region's economic growth has spurred the development of an office economy that did not exist twenty-five years ago and would not exist, were it not for the widespread use of air conditioning since the 1960s.

Industrial Midwest This is the industrial heartland of the United States. It encompasses the Ohio and northern Mississippi valleys and is dominated by the unionized mass production industries. Employment is based on steel, automobiles, machinery and farm equipment. The region has been the hardest hit by cyclical declines and global competition. There is a dense transportation system for the movement of goods from the major cities of Chicago and Detroit. The area is a net energy importer and lost both population and employment from the late 1970s to the mid-1980s. However, the decline has abated and several of the area's major cities have been restructured into service economies. The region will benefit the most from a lower exchange value of the dollar.

Farm Belt This region is dominated by the production and processing of agricultural commodities and is typified by mostly rural areas with sparse population on the flat land of the Great Plains. The agricultural depression of the 1980s led to an outmigration of population. The major urban area within this region is Kansas City.

Mineral Extraction Area Stretching from Louisiana to Montana and including Alaska, this area rose and fell with the price of oil. In the 1970s the region achieved an unprecedented prosperity only to see it evaporate in the mid-1980s. The boom left in its wake the largest amount of overbuilding in the United States. However, the 1970s boom enabled many of the larger cities in the region to achieve a critical mass in finance, business services and, to some extent, high-technology production. The presence of these other industries along with a gradual recovery in energy[1] will enable the region to gradually recover.

Southern California This region is the United States capital of the Pacific Basin and includes Arizona, southern Nevada and Hawaii. It is the focus of trade and financial relations with the Far East. As a result, it has benefited from the United States trade deficit. The region has grown rapidly in the past by attracting people from all over the United States and the rest of the world. It has the highest concentration of Mexican-Americans in the United States and their presence has enabled many low-wage manufacturing and service industries to succeed. The region also has the highest concentration of defense production in the United States. Both land prices and incomes are high and in recent years there have been strong movements to restrict growth by controlling land use.

Northern California In addition to northern California this area includes northern Nevada, Oregon and Washington. The region is characterized by high education levels, a strong defense industry and modern infrastructure. Although it has lost market share to southern California, finance and business services remain strong industries here. In addition, there is a focus on renewable resources in the form of lumber and hydroelectric power that gives the region stronger environmental concerns than elsewhere. Foreign trade remains an important part of the economy and this region too has been a major beneficiary of the import boom.

Appendix 9
Capital Deployment:
2000E Acquisitions Development Consensus

Name	Ticker		Acquisitions & Development, As Calculated By:					11 Acq.&Dev.	
			Morgan Stanley	Merrill Lynch	Lehman Bros.	Legg Mason	Data Count	Mean	Std Dev
Associated Estates Realty Corporation	AEC	Apt				($42.0)	1	($42.0)	$0.00
Apartment Investment and Management Company	AIV	Apt					0		$0.00
Amli Residential Properties Trust	AML	Apt			$0.0		1	$0.0	$0.00
Arden Realty Inc.	ARI	Office	$2.1		$208.4		2	$105.3	$145.86
Archstone Communities Trust	ASN	Apt		$412.5	$635.9	$350.7	3	$466.4	$150.05
Avalon Bay Properties Inc.	AVB	Apt		$0.0	$411.2	$154.2	3	$188.5	$207.72
Brandywine Realty Trust	BDN	Office		($18.8)	$92.1		2	$36.7	$78.36
Bedford Property Investors, Inc.	BED	Office			$24.3		1	$24.3	$0.00
BRE Properties, Inc.	BRE	Apt		$80.0		$48.9	2	$64.5	$21.99
Boston Properties, Inc.	BXP	Office	$18.6	$222.7	$413.3		3	$218.2	$197.35
Mack-Cali Realty Corporation	CLI	Office	($2.2)	$135.0	$76.5		3	$69.8	$68.83
Cornerstone Properties, Inc.	CPP	Office	$7.2				1	$7.2	$0.00
Camden Property Trust	CPT	Apt		$120.0	$145.9	($55.0)	3	$70.3	$109.28
CarrAmerica Realty Corporation	CRE	Office	$4.0	$131.3	$74.6	($147.4)	4	$15.6	$120.47
Duke Realty Investments, Inc.	DRE	Office	$25.3	$188.6	$605.4	$234.0	4	$263.4	$245.03
Equity Office Properties Trust	EOP	Office	$36.6	$289.0	$129.7	$377.1	4	$208.1	$153.47
Equity Residential Properties Trust	EQR	Apt		$420.0	$23.3		2	$221.6	$280.53
Essex Property Trust, Inc.	ESS	Apt		$70.0	$58.8		2	$64.4	$7.91
Gables Residential Trust	GBP	Apt		($93.8)	$87.6	($90.0)	3	($32.0)	$103.66
Great Lakes REIT, Inc.	GL	Office			$0.0		1	$0.0	$0.00
Highwoods Properties, Inc.	HIW	Office		$272.6	$248.6	($171.5)	3	$116.6	$249.77
Home Properties of New York, Inc.	HME	Apt					0		$0.00
Koger Equity, Inc.	KE	Office					0		$0.00
Kilroy Realty Corporation	KRC	Office	$7.8	$0.0	$218.3		3	$75.3	$123.84
Mid-America Apartment Communities, Inc.	MAA	Apt		$15.2	$60.9		2	$38.0	$32.35
Parkway Properties, Inc.	PKY	Office			$0.0		1	$0.0	$0.00
Prentiss Properties Trust Inc.	PP	Office			$60.1		1	$60.1	$0.00
Post Properties, Inc.	PPS	Apt		$207.5	$624.5	$185.5	3	$339.2	$247.34
Reckson Associates Realty Corporation	RA	Office		$23.6	$74.8	($129.0)	3	($10.2)	$106.05
SL Green Realty Corp.	SLG	Office			$0.0	($89.2)	2	($44.6)	$63.07
Summit Properties, Inc.	SMT	Apt		$112.5	$131.6		2	$122.0	$13.49
Spieker Properties, Inc.	SPK	Office	$15.4	$283.5	$321.5		3	$206.8	$166.82
Charles E. Smith Residential Realty, Inc.	SRW	Apt			$62.5	$87.8	2	$75.1	$17.84
Cornerstone Realty Income Trust Inc.	TCR	Apt					0	#DIV/0!	$0.00
Town and Country Trust	TCT	Apt			$0.0		1	$0.0	$0.00
United Dominion Realty Trust, Inc.	UDR	Apt		($96.7)	$88.8	($94.0)	3	($34.0)	$106.33

Count: No. of REITs in study:	36		9	21	29	15	Average	83.82
							Standard Deviation	89.23
							Minimum	0.00
							Maximum	280.53