

Theory and Evidence..

Analyst Coverage of Real Estate Investment Trusts

by

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Abstract

Despite the increasing popularity of REITs on Wall Street, little research has been done evaluating the relationship between analysts and the REITs that they cover. This study reviews several different variables to determine those that are most significant to analysts as they make recommendations and set target prices. This relationship was analyzed by reviewing ten years of Investext reports for six of the REITs that are currently members of the S&P 500. The results of this study reveal that a higher P/NAV does consistently lead to lower ratings and targets by analysts. The second conclusion that can be drawn is that a prior banking relationship does not have a positive impact on ratings and targets. Furthermore, those analysts who used NAV calculations in their valuation made lower recommendations and set their target prices lower relative to those who did not use NAV. Each of these REITs joined the S&P within the past five years, and this membership had a negative impact on ratings and targets. The results of this study did not make it clear whether bulge-bracket firms are more inclined to issue more positive ratings and targets, but in those analyses where it was significant, bulge-bracket firms were more negative in their ratings and targets.

Introduction

REITs have a unique relationship with Wall Street because their structure requires that 90 percent of earnings be paid out as dividends. As a result, REITs have limited cash flow or retained earnings for operations and the acquisition of additional real estate assets. In order to overcome these limits, REITs have to plan for expansion by issuing secondary offerings in the future (App. Figure 1).ⁱ

I believe that REIT guidelines create a unique relationship between the REIT and the investment banks that handle these secondary offerings. REITs constantly return to the financial markets to raise equity, and my research shows that most of the analysts who cover REITs are employed by the same banks providing investment banking services to these REITs. After the recent upheaval throughout the Wall Street banking community, a number of steps have been taken to ensure that each bank's investment banking division does not influence the recommendations of equity research analysts. Anatole Pevnev, CEO of Interactive Digital Properties Group and formerly an analyst with McDonald Investments, believes "the new rules

are trying to put a wedge between the bankers and the analysts, and they add a layer of complexity and time to the research that needs to be done.”ⁱⁱ

After a preliminary review of my data, I question if the rules that Pevnev describes are effective in preventing bankers and analysts from communicating with one another. It is my suspicion that the prevalence of equity analysts covering REITs who work at banks handling secondary offerings will lead analysts to view these REITs with the most favorable outlook possible.

REIT’s began to be included in the S&P 500 in 2001, and their growth displays the increasing importance of the real estate sector in public capital markets today. REITs, alongside other mainstream industries, are now widely acknowledged for the integral role they play, both in the economy and in diversified investment portfolios.ⁱⁱⁱ However, there has not been a significant amount of research focusing on analyst coverage of the REITs in the S&P, despite the fact that the number of analysts covering REITs is expected to increase significantly, which is why I am conducting this study. Richard Imperiale, president of Uniplan Real Estate Advisors, Inc., expects “the coverage to expand along with the sector.” He believes, “we’re just at the beginning of a long-term trend, in the early part of an expansion of publicly traded real estate. Ten years ago, there were probably three REIT analysts, and now there are a dozen or so. In another 10 years there will probably be three times as many analysts covering REITs.”^{iv}

REITs in the S&P indices receive more coverage, and this could be because these REITs are larger and banks seek a relationship with them. Chris Lucas, an analyst with Ferris, Baker, Watts, reported to NAREIT that as the firms grow larger, there is more supplemental data available concerning the larger REITs than the smaller REITs. He readily admits that the market cap of a REIT does have an impact on who will cover the REIT.^v This study hopes to reveal

some of the factors that are influential to the relationship between REITs and the analysts that cover them, and some of the factors that are important to analysts when making recommendations and setting target prices.

Literature Review

It is no secret that analysts covering stocks had a close relationship with the investment bankers working with the same companies. Scott Estes, who was a former REIT analyst with Deutsche Bank and is currently vice president at Health Care REIT, Inc., described the relationship in more detail in an interview with NAREIT.^{vi} He said:

"In the simplest sense, the old way Wall Street used to work was the buddy-buddy way. Analysts were sharing information based on their relationships with managers and information was learned on a personal level. Now the SEC regulations mean that all information must be disseminated to the general public at the same time and that there is no longer any preferential disclosure. This means there's a lag in information time and that everything needs to be documented."

Hopefully, it will become clear whether these SEC regulations have had the expected impact of reducing preferential disclosure. Previous studies, such as Chui, Titman, and Wei's *The Cross-Section of Expected REIT Returns*, found that companies with analyst coverage outperformed companies without analyst coverage. Given that the number of REITs more than tripled from the 1980s to the 1990s, the total number of analysts who follow REITs has increased very significantly.^{vii} This study hopes to determine if increased analyst coverage has a positive or negative impact on REIT recommendations and target prices since analyst coverage may be expected to increase further once these REITs became members of the S&P. An older study conducted in 1995 examined the REIT market microstructure and its relationship to stock returns. Wang, Erickson, Gau, and Chan found that REIT stocks that are followed by more security analysts tend to perform better than other REIT stocks.^{viii}

One of the initial drivers for this study was to gain a better understanding of the role of

NAV to an analyst and to determine how common it is for the stock price of a REIT to trade below the published NAV estimates of the analysts covering the REIT. REITs are unique compared to other public companies because REIT analysts can perform regular valuations of the property holdings of the REIT to determine an appropriate value. The NAV per share is the value of a REIT's total assets, minus liabilities, divided by the number of shares outstanding. Bear Stearns defines NAV "as market-based, going concern breakup value. It is essentially the public real estate company proxy for book value."^{ix} Therefore, the value of a REIT is based on tangible real estate holdings.^x

It is clear that REIT stock prices deviate substantially from NAV for extended periods of time, but a recent study provides compelling proof that NAV matters a lot. In *REIT Reversion: Stock Price Adjustments to Fundamental Value*, conducted by Gentry, Jones, and Mayer, they found large positive excess returns to a strategy of buying stocks that trade at a discount to NAV and shorting stocks trading at a premium to NAV.^{xi} The paper examined a portfolio strategy based on buying REITs that trade at the biggest discounts to NAV and shorting those trading at the largest premiums since 1990. Interestingly, the quartile of REITs trading at the biggest discounts to NAV outperformed the quartile trading at the biggest premiums by an average of 14-22% per year. Therefore, it is my expectation that analysts covering these REITs in the S&P will have lower recommendations and will set lower target prices for REITs with a P/NAV higher than 1 and vice versa.

There are times when analysts will attempt to justify a stock price higher than the NAV. One such example involved an analyst report published by Raymond James concerning EQR. Paul Puryear, the lead analyst, wrote that "EQR should garner a premium to its peers and its NAV because it possesses (a) the industry's largest owned portfolio, (b) balanced geographic

diversification, (c) a significant development pipeline, (d) a stellar management team, and (e) superior trading liquidity.^{xii} Clearly, there are several factors an analyst considers besides the P/NAV on the REIT. Nonetheless, it can be seen from the Gentry study that buying REITs that are trading at a discount to NAV offers large positive excess returns, so I would expect those REITs with a P/NAV lower than 1 to have a higher rating and a target price set higher relative to more expensive REITs.

However, it may not be possible to make broad statements concerning the stock price and NAV. Capozza and Lee's study *Property Type, Size and REIT Value* indicates that retail REITs trade at significant premiums relative to the average REIT while industrial REITs trade at discounts.^{xiii} Small REITs trade at significant discounts while large REITs trade at premiums. The REITs in this study are all large REITs, but their type is not the same. AIV is an apartment REIT, EOP is an office REIT, and SPG is a REIT with various types of retail properties for example. These differences could affect the results of this study.

My research finds that it was not uncommon for the REITs in the S&P 500 to trade below most analyst estimates of NAV for months at a time and up to several consecutive years, which is a contrast to most of the 1990s when REITs traded at significant premiums to NAV (App. Figure 2).^{xiv} REITs may have been trading at a premium because investors were pricing them as growth stocks based on the belief that REITs created value beyond their current property portfolio through acquisitions, development, refinancing, and management expertise.^{xv} However, the situation reversed in late 1997 and early 1998 as prices and premiums on NAV began to fall. Clayton and MacKinnon discuss the effects of the downturn on REITs and the argument that many make that REITs are undervalued and are "too low" relative to per share NAV.^{xvi} They find that since early 1999, most REITs have traded at a discount to NAV.

As one would expect, the REITs in the S&P 500 were no different than the REITs discussed above in Clayton and MacKinnon's study. AIV saw an average NAV estimate that was 88% of stock price between August 2002 and March 2003. There are several other examples of REITs trading below analyst NAV for extended periods. Between February 2001 and July 2003, the P/NAV on EOP did not once rise over 100%. From May 1999 to January 2002, the P/NAV of PLD did not ever rise over 100% and averaged 91% with a median of 93%. ASN traded below NAV in all but a few instances from January 1999 to February 2002. SPG saw a P/NAV below 100% from August 1998 through March 2002.

Problem Statement

While there are several questions that can be answered using the data gathered from the Investext reports, this study hopes to reveal what factors influence analyst ratings and target prices on these six REITs in the S&P 500 by doing three separate analyses. As discussed above, there are several metrics considered by analysts when making recommendations and setting target prices for REITs. The expected affect on rating and target price of the variables discussed above, along with some others, are discussed here.

Rating Analysis

The first analysis deals with the ratings on each REIT. Over ten years of Investext reports, 2037 in total, were reviewed for these companies, and only 31 reports contained a recommendation as strong as "sell" out of the 2037 reports. These 31 reports were issued by two banks: Smith Barney and Deutsche Bank. It is possible that these seven REITs simply did not deserve a rating as negative as sell, but several of these REITs saw their FFO drop significantly after 2000 (App. Figure 3). Jonathon Litt at Smith Barney was the only analyst to place a sell rating on AIV, despite the fact that AIV analyst FFO estimates fell drastically from their peak of

\$5.63 per share, eventually reaching approximately \$2.80 in the period from 2001 to 2004. Litt was also the only analyst to rate PLD a sell in his reports in 2003 and 2004, although PLD never did see the decrease in FFO that AIV experienced. Louis Taylor at Deutsche Bank rated ASN a sell in his reports from the end of 2003 to the start of 2004 as its FFO estimates fell from over \$2.40 in 2001 to about \$1.70 in 2003.

These findings lead me to ask the question what variables are the most important to analysts as they make their recommendations on REITs. In order to answer this question, I took into consideration several variables. The first was growth in FFO estimates between the current and following year. One would think that this would clearly be the most influential factor to an analyst as a rating is placed on the REIT. I also tested to see if use of NAV, commonly used by the analysts to determine if a REIT was undervalued or overvalued, was influential on the REITs' rating.

I then considered some variables that may explain the lack of sell ratings in the face of a fall in FFO. First, I considered if there was an investment banking relationship that existed between the bank issuing the report and the REIT being covered. Second, I wanted to evaluate if being a bulge-bracket firm had any influence on the REIT rating. This analysis was considered again with the variables above in addition to the influence of S&P 500 membership on the recommendation. It is my hypothesis that S&P membership will affect the recommendation positively since funds that track the S&P will be forced to begin purchasing the REIT shares.

Price/NAV on Rating

Another question to be considered is if the Price/NAV of a REIT is influential when analysts are making their ratings on these REITs. If the P/NAV exceeds 1, it means that the stock price of the REIT exceeds its liquidity value and investors are paying a premium for the

underlying real estate, which is understandable as REITs are capable of adding value through development, refinancing, and because of management expertise for example.^{xvii}

However, there are several instances where a REIT trades below its NAV for extended periods of time as discussed above. One would expect that when a REIT begins to trade below its NAV estimates, the rating on the stock would rise because analysts would expect the REIT stock price to be valued at least as highly as the liquidity value of the underlying real estate. In addition to the effect of P/NAV on rating, S&P membership will once again be evaluated to determine if it has any positive influence on the rating.

Target Price Analysis

Most analysts covering a REIT, or any stock for that matter, issue a target price for the REIT for the next 12-18 months. The estimates for the future price normally vary significantly, however, I thought those analysts who used a P/NAV might be less likely to set their targets to such lofty prices as those analysts who do not consider the NAV. Since the underlying real estate value is being considered, it would be difficult for an analyst to justify a high target price even when considering firm specific advantages. Variables such as the P/NAV, bank type, and existence of a prior banking relationship were evaluated to determine their affect on the spread between the current stock price and the target. S&P membership was then added to the analysis to determine its affect on the target price and to see its affect on the R^2 .

Methodology

In order to answer these questions concerning the relationship between REITs and their respective analysts, I will be reviewing ten years of data included in Investext reports for six of the seven REITs that are currently part of the S&P 500.^{xviii} Plum Creek Timber was not included in this study for two reasons: 1) lack of data 2) being a timberland owner with a natural resources

business, PCL's business does not compare easily with the other more traditional REITs in the S&P 500.

REIT	Ticker	Entrance Date
AIMCO	AIV	3/13/2003
Archstone-Smith	ASN	12/17/2004
Equity Office Properties Trust	EOP	10/1/2001
Equity Residential	EQR	11/1/2001
Plum Creek Timber, Inc.	PCL	1/16/2002
ProLogis	PLD	7/16/2003
Simon Property Group, Inc.	SPG	6/25/2002

Some of the banks covering REITs, such as Morgan Stanley and JP Morgan, do not publish their NAV calculations. Others do not choose to publish target prices, although these banks were mostly limited to JP Morgan and Raymond James.

Several factors were pulled from each report: target price, current price, analyst rating, NAV, long-term FFO growth, FFO estimates for the current and following years, and the dividend. Funds from operations (FFO) is a way financial progress can be gauged for REITs, and differs mainly from net income by excluding depreciation and amortization of real estate assets and gains and losses from most property sales.^{xix} A numerical value was assigned to each of the analyst recommendations (App. Table 1). From these factors, several different multiples could be calculated including the P/NAV and the P/FFO. In addition, the appropriate dividend yield was calculated.

Also, four variables were coded as 1 or 0 that could affect recommendations on REITs. The first was if a prior banking relationship existed within the prior 12 months as disclosed in the Investext report. The second was bank type, where bulge-bracket firms were coded as a 1 and middle and small-market banks were coded as 0 depending on how Hoover's defined each financial services company (App. Table 2).^{xx} If the firm used NAV as part of its valuation, the entry was coded as 1. Finally, if the firm was not a member of the S&P yet, it had a value of 0,

and once it joined the S&P it became a 1. The S&P variable would prove to be very significant throughout the various regressions.

In the first regression concerning rating, the rating was the dependent variable. There were four independent variables. The first was a calculation of FFO growth between the current year estimates and the following year estimates. The second was a prior banking relationship, which was either a 1 or 0. The third variable indicated if the firm issuing the report was a bulge-bracket bank. The fourth variable was if the bank used NAV in order to make recommendations and set targets. The second part of this analysis added S&P membership to the above factors. In every case but one, S&P membership increased the R^2 .

The second regression had the recommendation once again as the dependent variable. There were two independent variables. The first was P/NAV, or the current stock price over the NAV estimate provided by the analyst. The second independent was S&P membership, which once again increased the R^2 significantly when it was included as compared to when it was not.

The third regression focused on the target price set by an analyst. The percentage difference between the current stock price and the analyst target was calculated as the dependent variable. The independent variables in the first part of this analysis were the prior banking relationship, the bank type, and the use of NAV. In the second part of this analysis, the difference between the current and target price remained the dependent variable while the independent variables remained the same except for the addition of S&P membership. Once again, S&P membership proved to have a significant impact by raising the R^2 .

Results

Before each REIT is considered individually, the results from the entire sample will be reviewed. The results of the first question, which explored the factors that influence an analyst's

recommendation on a REIT such as FFO growth, a prior banking relationship, bank type, and the use of NAV, yielded an $R^2=.11$. The coefficient for FFO was a positive 4.32 and the t-stat was significant at 13.46. A prior banking relationship had a coefficient of -.12 and a t-stat of -3.21. The type of bank issuing the report, where 1 was bulge bracket and 0 was not, yielded a coefficient of -.09 and t-stat of -2.24. The third variable, which was if the bank disclosed that they had used NAV calculations to arrive at their recommendation, returned a coefficient of -.07 and t-stat of -2.06.

As expected in the first analysis, the FFO growth was a significant influential factor in the analysts' recommendations. In all but one case (SPG), the FFO growth was positive and significant. A prior banking relationship, in contrast, had a negative impact in call cases. My hypothesis was that a prior banking relationship would lead to higher recommendations, but this does not appear to be true. The negative impact of a prior banking relationship was significant and negative in all instances. The third consideration, that concerning whether it was a bulge-bracket firm, was rarely significant. In the two cases where it was significant, it had a negative impact. It was my expectation that bulge-bracket firms would be more likely to issue positive recommendations in order to win REIT business. Finally, the impact of an analyst using NAV when issuing a recommendation on a REIT was significantly negative as expected, meaning analysts using NAV do issue lower recommendations.

When S&P membership is added to the above analysis, the outcome remains mostly the same. The results yielded an $R^2=.23$, which is significantly higher than the $R^2=.11$ discussed above where S&P membership was not considered. The coefficient for FFO remained positive at 2.89 and the t-stat was significant at 9.38. A prior banking relationship remained significant and had a coefficient of -.09 and a t-stat of -2.57. The type of bank issuing the report, in contrast to

the above, was not significant. Use of NAV returned a coefficient of -.09 and t-stat of -2.76. The use of NAV once again proved to have a negative impact on the recommendation issued on the REIT as expected.

The second question considered how well the rating corresponded with the P/NAV. One would expect that if the REIT were trading below its NAV, an analyst would be more likely to provide a favorable rating since the REIT is relatively undervalued compared to the value of its underlying real estate or liquidation value. The $R^2=.15$ while the coefficient was -2.11 and the t-stat was -14.15. It appears that the relationship I expected, that as the P/NAV grows larger the expected rating falls, holds true. When S&P membership is added to this analysis, the $R^2=.24$ while the coefficient for P/NAV falls to -1.72 and the t-stat remains significant at -11.84. S&P membership had a significant negative impact. The coefficient for S&P membership was -.44 and the t-stat was significant at -10.74. S&P membership did not have the expected impact on the recommendation. One of the possible reasons for this result is that REIT returns once these REITs were added to the S&P have not been very high. FFO for most of these REITs has fallen significantly since they began being added to the S&P in 2001.

The third question, which yielded an $R^2=.07$, analyzed if the percentage difference between the current stock price and the target set by the analyst is affected by factors such as if an investment banking relationship exists, if the bank is a bulge-bracket firm, and if the analysts' use of NAV has an affect on the target price. The prior banking coefficient was .014 while the t-stat was significant at 2.05. The bank type coefficient was -.07 and the t-stat was -9.99. The NAV coefficient was .02 and its t-stat was 3.32. In this analysis, a prior banking relationship did have a positive impact on the target price as expected. This analysis confirmed the finding in the first analysis that bank type has a negative impact, in this case on the target price, which was not

expected. The use of NAV, which had a negative affect on the analyst recommendation, here had a positive affect on the target price. I expected it would have a negative effect, just as it did on recommendation, but it does not appear to be the case.

When S&P membership and the P/NAV were added to the analysis, the $R^2=.24$, increasing drastically. The prior banking coefficient was -.09 while the t-stat was significant at -2.03. The bank type was not significant with a coefficient of .01 and a t-stat of .23. The NAV coefficient was .02 and its t-stat was 3.32. S&P membership had a coefficient of -.43 and a t-stat of -10.48, displaying once again the S&P membership had a significant negative impact on the level of the target price. The P/NAV result was as expected, with a coefficient of -1.69 and a t-stat of -11.58. As the P/NAV rises, it not only leads to a lower recommendation, which was found in the second analysis, but also a lower target price. Similar to the others, this analysis revealed that a prior banking relationship does not have a positive impact on the target price as expected.

Apartment and Investment Management Company

The factors that influence an analyst's rating on a REIT on AIMCO specifically yielded an $R^2=.24$. The coefficient for FFO was a positive 5.90 and the t-stat was 7.37. The prior banking variable returned a coefficient of -.19 and a t-stat of -2.02. The type of bank issuing the report yielded a coefficient of -.31 and t-stat of -3.23. The third variable, which was if the bank disclosed that they had used NAV calculations to arrive at their recommendation, returned a coefficient of -.30 and t-stat of -3.26. The FFO growth and use of NAV had the expected affect on the rating while the bank type and prior banking relationship variables did not have the expected result in this instance.

When S&P membership was added to the analysis of AIMCO, the analysis yielded an $R^2=.58$. The coefficient for FFO was 2.90 and the t-stat was 4.71. A prior banking relationship was not significant in this case. The type of bank issuing the report yielded a coefficient of -.17 and t-stat of -2.41. The third variable, which was if the bank disclosed that they had used NAV calculations to arrive at their recommendation, returned a coefficient of -.21 and t-stat of -3.08 as expected. S&P membership had a coefficient of -1.33 and a t-stat of -17.65, which was not what I had expected would result.

The second question considered how the P/NAV affected the rating. The $R^2=.11$ while the coefficient for P/NAV was -2.51 and the t-stat was -5.17. It appears that the relationship one would expect holds true because a higher P/NAV returns a lower expected recommendation on the REIT. When S&P membership is added to this analysis, the $R^2=.41$. The P/NAV remained negative with a coefficient of -1.04 and a t-stat of -2.44. S&P membership had a coefficient of -1.14 and a t-stat of -10.02.

The third question analyzed if the percentage difference between the current stock price and its analyst target is affected by factors such as if an investment banking relationship between the REIT and the bank exists, if the bank is a bulge-bracket firm, and if the analysts' use of NAV has an affect on the target price. The $R^2=.15$ and none of the variables were significant. When S&P membership was added and P/NAV was considered instead, the $R^2=.47$, rising significantly. The prior banking relationship turned out as I expected with a coefficient of .29 and a t-stat of 3.41. The bank type coefficient was -.47 and the t-stat was -4.36. This means that a bulge-bracket firm is expected to release a lower target price on the REIT than a middle or small-market bank. The P/NAV coefficient was -.96 and its t-stat at was -2.39, clearly showing in this case that a higher P/NAV had a negative impact on the target price.

Archstone-Smith

The factors that I would expect to be relevant to an analyst rating ASN in the first analysis yielded an $R^2=.08$. The coefficient for FFO was 2.99 and the t-stat was 3.58. The prior banking variable returned a coefficient of -.14 and a t-stat of -1.22. The type of bank issuing the report yielded a coefficient of -.05 and t-stat of -.46. The third variable, use of an NAV calculation in order to make the recommendation, returned a coefficient of .15 and t-stat of 1.57. The results were the same as AIV except for the use of NAV, which was not significant in this instance and it did not have a negative impact upon the recommendation. When S&P membership was added to the analysis of ASN, the analysis yielded the same results. This is likely a result of the fact that ASN was added to the S&P at the end of the sample time period and only four reports had been issued once ASN had become a member of the S&P.

The second question considered how well the rating corresponded with the P/NAV. The $R^2=.18$, which is higher than it was on AIV. The coefficient was -1.97 and the t-stat was -6.76. It appears that the relationship one would expect holds true to some extent because a higher P/NAV returns a lower expected recommendation on the REIT. Including S&P membership had no material impact.

The third question considered target prices set by analysts and yielded an $R^2=.08$. The prior banking variable and the bank type were not significant. The NAV coefficient was .05 and its t-stat was 3.05, showing that the target price was positively affected by the analyst using a NAV calculation to value the REIT.

Equity Office Properties Trust

The first analysis evaluating the variables that impact an analyst recommendation returned an $R^2=.13$. The coefficient for FFO was 1.44 and the t-stat was 2.87. The prior banking variable and the bank type were not significant. The fourth factor, use of an NAV calculation in order to make a recommendation, returned a coefficient of .53 and t-stat of 6.40. As expected, the FFO growth was an influential factor in the analysts' recommendations. In contrast to many of the other REITs studied, use of NAV had a positive affect upon the recommendation.

S&P membership led to an $R^2=.33$. The coefficient for FFO, unlike the other REITs, was not significant. A prior banking relationship and the bank type were also not significant. NAV calculations to arrive at a recommendation returned a coefficient of .39 and t-stat of 5.24. S&P membership had a coefficient of -.82 and a t-stat of -9.71, which was not what I had expected would result but was similar to all of the other firms studied in this paper.

The second question, considering how well the rating corresponded with the P/NAV, returned an $R^2=.05$, the lowest of all six REITs. The R^2 is less than half the findings in ASN and AIV, and a fraction of PLD, ASN, and SPG. The coefficient was -1.44 and the t-stat was -3.49. It appears that the relationship one would expect, that a higher P/NAV would lead to a lower recommendation, holds true because a higher P/NAV returns a lower expected recommendation on this REIT. When S&P membership is added to this analysis, the results become more similar to the other companies. The $R^2=.32$ and the P/NAV remains negative with a coefficient of -1.40 and a t-stat of -4.55. S&P membership had a coefficient of -.62 and a t-stat of -9.21.

The third question, evaluating the analyst target, returned an $R^2=.29$. The R^2 in this case was larger than any other company for this analysis. The prior banking coefficient was .11 while the t-stat was 5.72. The bank type coefficient was -.15 and the t-stat was -6.44. This means that a bulge-bracket firm is expected to return a lower target on the REIT than a middle or small-

market bank. The NAV coefficient was .11 and its t-stat at was 7.12, showing that the target price is positively affected by the analyst using an NAV calculation to value the REIT.

Adding S&P membership and the P/NAV resulted in an $R^2=.40$. The prior banking relationship had a coefficient of -.33 and a t-stat of -4.01. The bank type coefficient was .39 and the t-stat was 4.69. This means that a bulge-bracket firm is expected to release higher target prices on this REIT than a middle or small-market bank. The P/NAV coefficient was -1.30 and its t-stat at was -4.41, clearly showing in this case that a higher P/NAV had a negative impact on the target price.

Equity Residential

The first analysis concerning the relevant variables involved in making a recommendation on EQR yielded an $R^2=.25$. The coefficient for FFO was a 7.76 and the t-stat was 9.17. With EQR, the FFO growth appears to be an important consideration for analysts making a recommendation, which is consistent with my expectations. The prior banking relationship variable returned a coefficient of -.18 and a t-stat of -2.28. I expected this variable to remain positive, but the negative relationship could result from the fact that those firms with a relationship with EQR had better information as its earnings fell significantly. The type of bank issuing the report yielded a coefficient of -.12 and t-stat of -1.46. The third variable, use of an NAV calculation when making a recommendation, was not significant.

When S&P membership was added to the analysis, the results yielded an $R^2=.46$. The coefficient for FFO was 1.60 and the t-stat was 1.75. It does not appear that FFO growth had a significant impact when S&P membership was added. A prior banking relationship, the type of bank issuing the report, and the use of NAV were not significant in this case. S&P membership

had a negative impact just as it did with AIV, with a coefficient of -.91 and a t-stat of -10.99, which was not what I had expected.

The second question evaluated the relationship between the rating and the P/NAV. The $R^2=.10$ and the coefficient was -1.48 and the t-stat was -4.58. It appears that the relationship one would expect, that a higher P/NAV would lead to a lower recommendation, holds true because a higher P/NAV returns a lower expected recommendation on this REIT. When S&P membership is added to this analysis, the $R^2=.36$. The P/NAV remained negative with a coefficient of -.49 and a t-stat of -1.65. S&P membership had a coefficient of -.68 and a t-stat of -8.58.

The third question, analyzing the difference between the current stock price and its analyst target, returned an $R^2=.08$. The first variable, if an investment banking relationship exists between the REIT and the bank, returned a coefficient of -.03 and a t-stat of -1.89. The bank being a bulge-bracket firm returned a coefficient of -.05 and t-stat of -2.97. The NAV coefficient was .02 and its t-stat at was 1.22. When S&P membership is added to the analysis along with P/NAV, the $R^2=.39$. The P/NAV remained negative with a coefficient of -.55 and a t-stat of -1.89. S&P membership had a coefficient of -.70 and a t-stat of -8.76. The prior banking relationship was not significant while the bank type had a positive impact with a coefficient of .22 and a t-stat of 2.66. With EQR, it appears S&P membership once again had a negative impact while the bank type had the expected positive effect on the target price.

ProLogis

The variables reviewed in the first analysis involving the analyst recommendation on PLD yielded an $R^2=.14$. The coefficient for FFO was 4.56 and the t-stat was 3.73. The FFO growth appears to be an important consideration, similar to all of the REITs except for SPG. The prior banking relationship variable returned a coefficient of -.34 and a t-stat of -3.49, which I

expected to be positive. The type of bank issuing the report and use of an NAV calculation when making a recommendation were not significant.

The analysis yielded an $R^2=.27$ when S&P membership was added. The coefficient for FFO was 2.96 and the t-stat was 2.58. A prior banking relationship and the type of bank issuing the report were not significant in this case, similar to EQR. The expected outcome resulted when analysts published an NAV, with the NAV variables returning a coefficient of -.34 and a t-stat of -3.63. S&P membership had a negative impact with a coefficient of -.60 and a t-stat of -6.56.

The second analysis evaluated the relationship between the rating and the P/NAV. The $R^2=.28$ and the coefficient was -3.29 and the t-stat was -7.37. It appears that the relationship one would expect holds true in this case since it is clear that a higher P/NAV returns a lower expected recommendation on PLD. When S&P membership is added to this analysis, the $R^2=.28$, increasing only slightly. The P/NAV remained negative with a coefficient of -2.23 and a t-stat of -3.52. S&P membership had a coefficient of -.36 and a t-stat of -2.01.

The third question returned an $R^2=.07$. The variables for an investment banking relationship between the REIT and the bank and NAV use were not significant. The bank being a bulge-bracket firm was significant and negative. This factor returned a coefficient of -.07 and t-stat of -3.00. When S&P membership and P/NAV was added, the $R^2=.31$, increasing significantly. The P/NAV was negative with a coefficient of -2.08 and a t-stat of -3.29. S&P membership was actually not significant, and bank type was not significant either. ASN was the only other REIT where S&P membership was not significant, but that was because it joined the S&P at the end of the time period in this study. A prior banking relationship was significant with a coefficient of -.30 and a t-stat of -2.17.

Simon Property Group, Inc.

The results for SPG differed from the other REITs in the sample most likely because it was the only firm that had in increasing FFO for the entire duration of the study. SPG did not experience the drastic fall in FFO that many of the other companies did, and the results are interesting to note. The factors that influence an analyst's rating on SPG yielded an $R^2=.03$, significantly lower than the other REITs. The coefficient for FFO was $-.14$ and the t-stat was $-.76$. This is the only REIT where FFO growth was not positive and significant. The prior banking factor and the type of bank issuing the report were not significant either. The final variable, which was if the bank published an NAV estimate, returned a coefficient of $-.15$ and t-stat of -2.67 .

When S&P membership was added to the analysis of SPG, the $R^2=.28$. However, use of NAV and S&P membership were the only two significant factors. Use of NAV calculations to arrive at a recommendation returned a coefficient of $-.22$ and t-stat of -4.54 , as expected. S&P membership had a coefficient of $-.53$ and a t-stat of -11.00 , which was not what I would have expected, especially in the case of SPG that performed reasonably well.

The second question considered how the P/NAV affected the rating on SPG, and in this analysis SPG behaved similarly to the other REITs. The $R^2=.31$ while the coefficient for P/NAV was -1.68 and the t-stat was -7.93 . A higher P/NAV returns a lower expected recommendation on the REIT. When S&P membership is added to this analysis, the $R^2=.32$. The P/NAV remained negative with a coefficient of -1.32 and a t-stat of -4.54 . S&P membership had a coefficient of $-.18$ and a t-stat of -1.85 .

The third question, evaluation of the analyst target price, returned an $R^2=.05$. Both the prior banking relationship and use of NAV were not significant, while the bank type had a coefficient of $-.06$ and a t-stat of -3.80 . When S&P membership was added and P/NAV was

considered, the $R^2=.44$, significantly higher than the previous analysis. The P/NAV coefficient was $-.77$ and its t-stat was -2.67 , showing once again that a higher P/NAV leads to lower target prices. S&P membership had a coefficient of $-.28$ and a t-stat of -3.09 . The prior banking relationship resulted with a coefficient of $-.17$ and a t-stat of -2.12 . The bank type coefficient was $-.26$ and the t-stat was -3.06 .

Conclusions

My first hypothesis was that a $P/NAV > 1$ would lead to lower analyst ratings. This was confirmed and was very significant. When the P/NAV exceeded 1, it led to a lower recommendation on the REIT in all instances.

My second hypothesis was that a prior banking relationship with the REIT would have a positive impact on the recommendation and target for a particular REIT. This hypothesis was rejected. AIV was the only REIT where a prior banking relationship was significant and resulted in a higher expected target price. Where the t-stat was significant, the impact of a prior banking relationship was actually negative in all other cases. My original thought was that the investment banks covering these REITs might raise their rating to win banking business. A problem may arise in this study because once they have the REIT business, they may issue lower ratings because they have access to information that banks without a relationship did not have access to at the time. During this study, the FFO for most of these REITs fell, so banks with a relationship could have been more likely to cut their targets and rating because they were aware of the problems these REITs were going to face in the near future. Further research in this area could be done to determine how banking relationships affect recommendations and target prices once the investment bank has the REIT as a client.

My third hypothesis was that bulge-bracket firms would be more inclined to issue positive ratings and targets. It appears there is more support to reject this hypothesis. In the first analysis on analyst recommendations, the bulge-bracket firms were more likely to issue lower recommendations. In the second analysis evaluating target price, the bank type had a significant negative impact when S&P membership was not considered, and it was not significant when S&P membership was added to the analysis.

My fourth hypothesis was that use of NAV would prevent analysts from overvaluing a REIT and therefore would prevent an analyst from making recommendations that are too high or setting targets that are too lofty. This hypothesis was confirmed. It does appear that those analysts who use NAV have a more realistic understanding of the underlying value of the real estate, and in this case issue more negative recommendations and targets as a result.

Finally, my last hypothesis was that S&P membership would lead to higher recommendations and target prices. Since funds that track the S&P would be required to purchase these shares, I thought that analysts would begin to value these shares more positively. However, my hypothesis was not confirmed. In every case where S&P membership was significant, the result of S&P membership was actually negative. However, this could be a result of the fact that these REITs performed poorly on an FFO basis once they had been added to the S&P. Therefore, S&P membership occurred at the same time as performance began to suffer.

Another possibility is that these REITs were exposed to more scrutiny once they became members of the S&P. Chris Lucas, an analyst with Ferris, Baker, Watts, reported to NAREIT that as the firms grow larger, there is more supplemental data available concerning the larger REITs than the smaller REITs.^{xxi} This supplemental data could explain the negative impact of S&P membership since analysts had more data available to value the REIT appropriately.

Further research could be done once more time has passed and more data is available to see how S&P membership impacts analyst recommendations and target prices.

There remain many issues and questions to be analyzed concerning analyst coverage of REITs. In order to better answer this question, this study could be expanded by reviewing reports from banks that were not included in this study due to lack of available data. For example, both Goldman Sachs and Lehman Brothers were not included, however, they are clearly influential banks that could affect the outcomes of this research. Unfortunately, these companies do not make their reports available as easily as the other companies included in this study.

Further questions could be answered using the data collected, but due to time constraints, they could not be analyzed. After reviewing more than 2,000 Investext reports, it became clear that the analysts remained the same while the banks at which they worked may have changed during the time period. Most analysts covering the REITs in this study worked at some institution covering REITs for almost all ten years. Ralph Block, author of *Investing in REITs*, describes the movement as, “musical chairs are happening a bit, with analysts leaving one company for another.”^{xxii} This leads me to believe that relationships, while not proven in this study, do play an important role in analyst coverage of REITs.

The sample of companies could be expanded as well. While this study analyzed only six REITs in the S&P 500, there are 10 REITs in the S&P 400 Mid Cap Index and 13 in the S&P 600 Small Cap Index. All of these REITs were added to these respective indices after the year 2000. Stock market performance once these REITs became part of these indices from 2001 to the end of the study in 2004 may not be long enough to truly determine if S&P membership has a positive or negative influence on REIT performance. Once more data is available, the findings may change as REITs are studied during a time period when the S&P indices are doing well.

Finally, this study did not differentiate between the various REIT types. This study analyzed office REITs in the same manner as an apartment REIT for example. Other studies, such as those conducted by Green Street Advisors, control for different REIT types.^{xxiii}

Appendix

Figure 1:

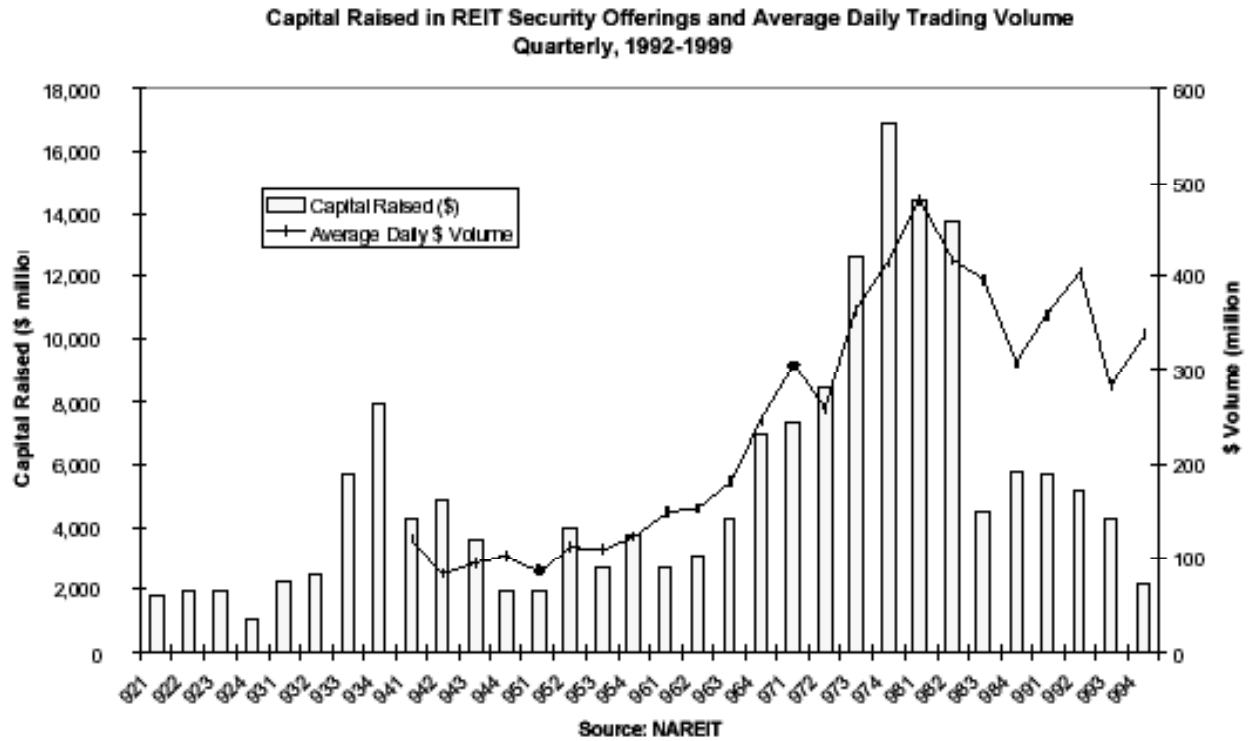


Figure 2:

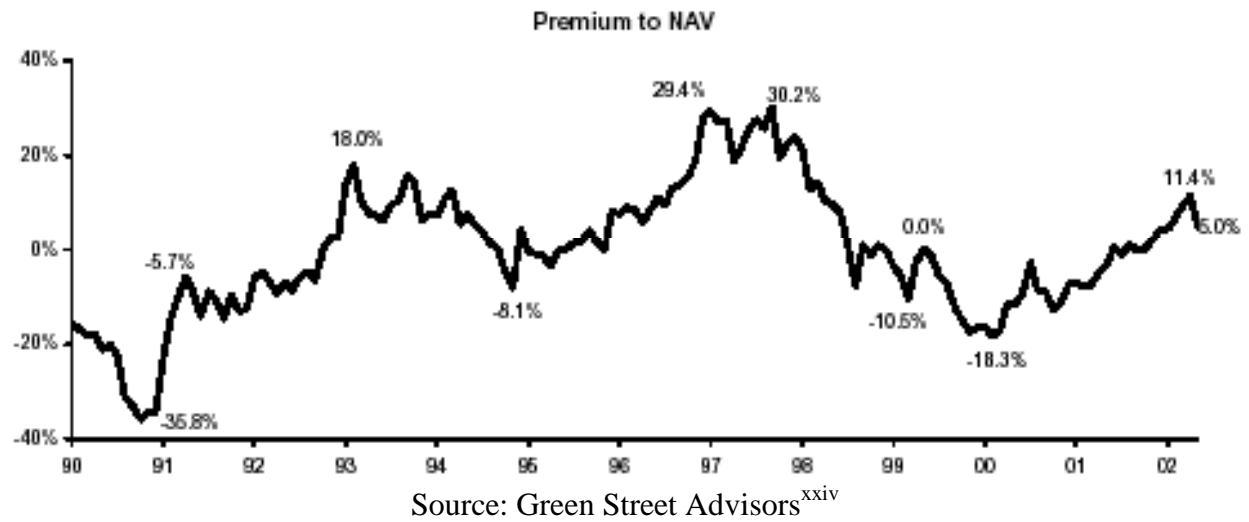


Figure 3: Actual FFO and Expectations: 1994-2004

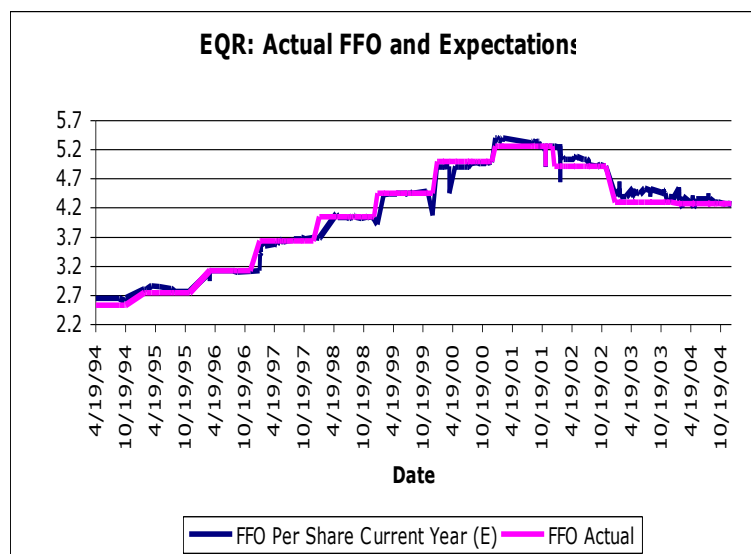
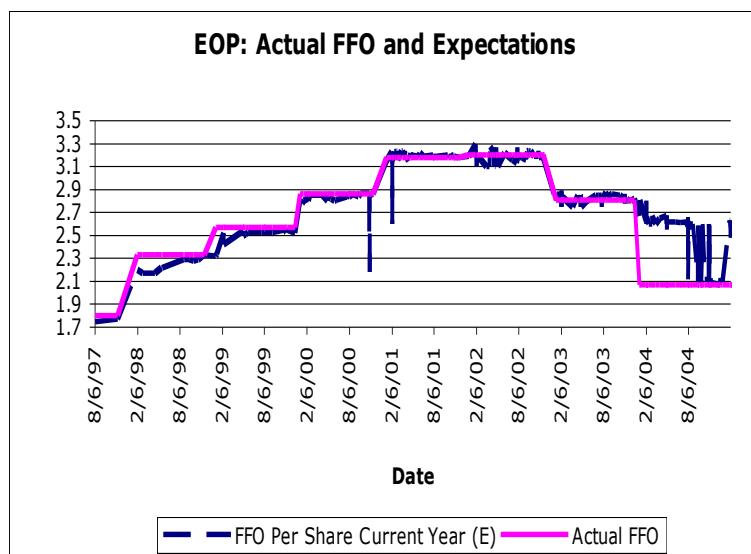
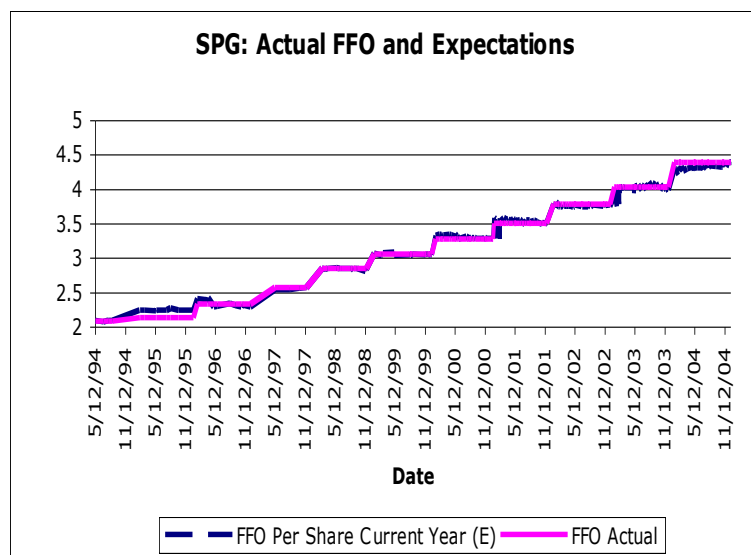
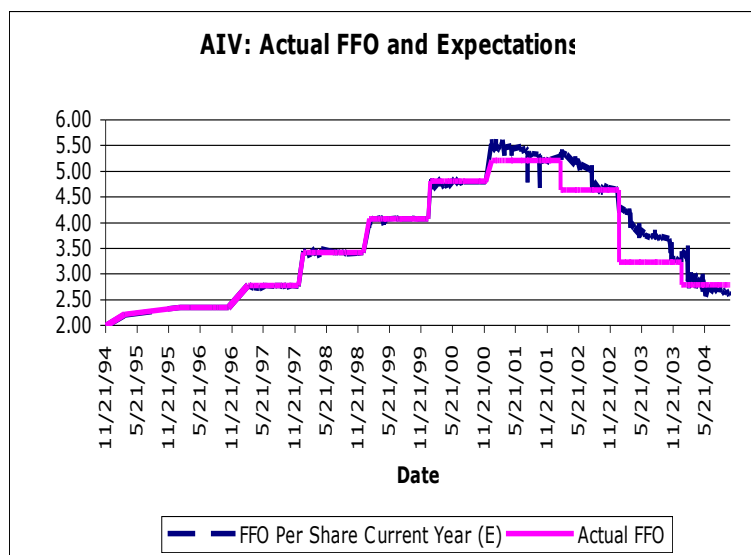
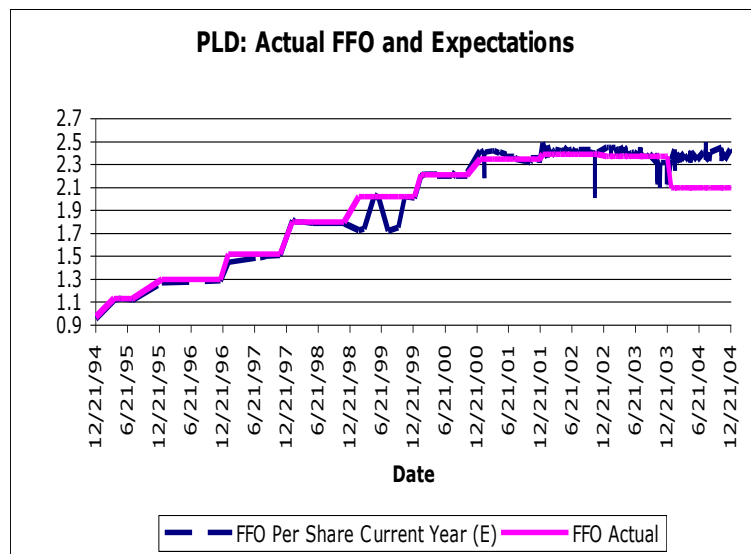
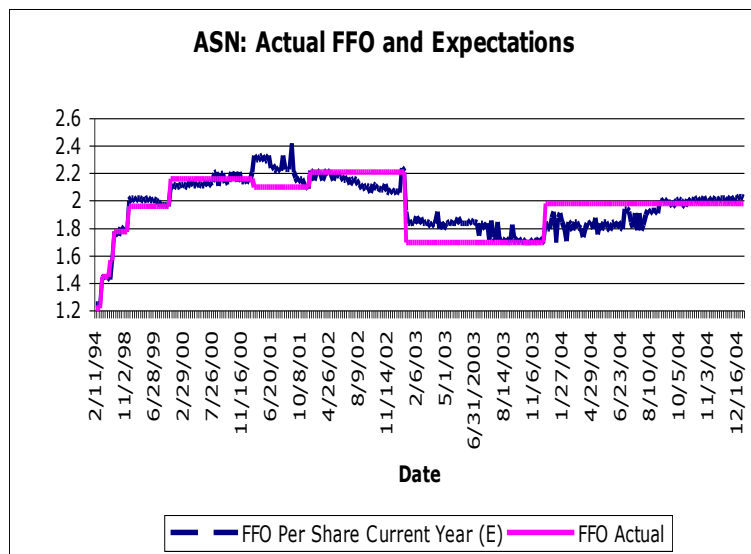


Table 1: Assignment of Numerical Values to Analyst Recommendations:

- 5: strong buy
- 4: buy, attractive, outperform, overweight, accumulate
- 3: neutral, equal-weight, hold, market perform, market weight, peer perform
- 2: underperform, underweight
- 1: sell

Table 2: Investext Reports of Investment Banks Covering REITs in the S&P 500

Large-Market Investment Banking as defined by Hoover's:^{xxv}

Bear Stearns, Credit Suisse First Boston, Deutsche Bank, DLJ, JP Morgan, Morgan Stanley Dean Witter, Painewebber, Prudential Financial, UBS Warburg, US Bancorp Piper Jaffray, Smith Barney

Middle-Market and Small-Market Investment Banking as defined by Hoovers:^{xxvi}

ABN Amro, AG Edwards, Alex, Brown & Sons, Argus, BB&T Capital Markets, BancBoston Robertson Stephens, CIBC Oppenheimer, Everen Securities, First Union, Hilliard Lyons, ING Barings, Jefferies & Company, Legg Mason, Maxcor, McDonald & Company, Morgan Keegan, Putnam, Lovell, de Guardiola & Thornton, Inc, Raymond James, RBC Capital Markets, Robinson-Humphrey, Sutro & Company, Wachovia Securities, WR Hambrecht & Company

Endnotes

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- ^v Darby, Courtney. "Slim Coverage for Small REITs." <http://www.nareit.com/portfoliomag/04mayjun/feat4side_b.shtml>, May/June 2004
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