

THE USE OF UNSECURED DEBT IN REITS

by

Michael J. O'Connell

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University College Cork, 1986

Submitted to the Department of Urban Studies and Planning
in partial fulfillment of the requirements for the Degree of

MASTER OF SCIENCE
in Real Estate Development
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Signature of Author _____
Department of Urban Studies and Planning
August 11, 1995

Certified by _____
Timothy J. Riddiough
Assistant Professor of Real Estate Finance
Department of Urban Studies and Planning
Thesis Supervisor

Accepted by _____
William C. Wheaton
Chairman
Interdepartmental Degree Program in Real Estate Development

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ABSTRACT

Over the last two years, the use of unsecured debt in Real Estate Investment Trusts (REITs) has greatly expanded. Many real estate professionals are watching this new development with interest. Why is this happening and how does it affect the REIT industry? On the one hand, unsecured debt allows a greater degree of operational flexibility than secured debt. On the other hand, the introduction of debt into the REIT's capital structure may serve to reduce the growth opportunities of the REIT.

In order to explore these issues, statistical studies were performed to investigate the market reaction to announcements of Initial Public Offerings of unsecured debt by REITs. Negative Average Abnormal Returns are observed for a sample of twenty one REITs. These negative reactions are closely correlated with the ratio of the amount of unsecured debt offered to the total asset value of the REIT. These results provide evidence in support of two theories; one, that the market no longer regards REITs as growth stocks, and two, that the majority of REIT investors are taxable entities which realize a higher rate of return when investing in corporations with lower levels of debt.

Interviews with REIT professionals indicate a growing awareness of financing options and a thorough understanding of capital structure theory. There is a rationale for the introduction of debt into the capital structure of a REIT, though the amount thereof depends upon the asset characteristics of the REIT and the tax status of the REIT investors. However, the additional scrutiny of management's activities incurred by introducing unsecured debt may reduce the growth prospects of the REIT.

Finally, the pricing of unsecured debt in relation to secured debt is in accordance with the risk-return rationale of modern financial theory, from the point of view of both the bondholders and the REIT.

Thesis Supervisor: Timothy J. Riddiough
Title: Assistant Professor of Real Estate Finance

If I was to individually acknowledge all of the people involved in this thesis, it would double the size of the document. However, there are some people that I want to thank for making this experience what it was,

Mum and Dad, without whom I couldn't have started this year,

Tim Riddiough, without whom I couldn't have ended this year,

and my classmates, without whom I couldn't have got through this year.

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INTRODUCTION

The Real Estate Investment Trust structure is unique in the corporate world in that it is a slave to external capital sources. Since it is legally required to distribute at least 95% of taxable income in the form of dividends, it cannot generate significant amounts of internal capital. Failure to distribute 95% of income results in loss of its tax-exempt status. Accordingly, cost of external capital is one of the most important factors in a REIT's ability to grow.

Towards the end of 1994, REITs could no longer look to the public equity markets as a source of inexpensive capital. As banks and other sources of capital returned to the real estate market, investors suspected that REIT growth opportunities were diminishing. This had the effect of raising the REIT's required rate of return, which caused REIT stock prices to adjust downward. Because of these higher equity costs, REITs looked to the debt markets as an alternative source of capital. For those REITs able to secure investment grade ratings, unsecured debt became a viable source of new capital. Last year (1994) REITs offered \$1.6 billion of senior and subordinated unsecured notes¹, and by the end of June this year, there had been nineteen offerings of unsecured debt for a total of over \$1.8 billion².

The use of unsecured debt in REITs is a relatively new phenomenon. Traditionally, REITs had used equity or secured debt to finance acquisitions and developments. This new strategy begs the following questions: Why are REITs now using unsecured debt? What are the operational advantages of unsecured debt? How does the marketplace perceive the use of unsecured debt in REITs?

¹ Commercial Mortgage Alert. April, 1995

² Merrill Lynch Research. June, 1995

Three theories immediately come to mind with which to explain the use of unsecured debt in REITs. The first are signaling theories, whereby management, through its actions, sends signals to the marketplace about the financial health of the company. In one case, the signal sent could be a positive one. If a REIT determines that it needs debt capital, then its choice of inexpensive unsecured debt may be a signal that it is able to operate successfully under this debt load. On the other hand, one theory of corporate borrowing is that firms with high growth opportunities use equity as a capital source, and those with lower growth potential use debt as a capital source. Therefore, the REIT's use of unsecured debt may be a signal that it no longer has the growth opportunities it once had.

The second theory is that, with interest rates at relatively low levels, REITs are using this cheaper, long term debt to pay off existing higher rate secured loans and to simply add more capital to its financial base.

The third theory is that, since this form of debt is far less restrictive than secured debt, it provides a greater degree of operational flexibility for the REIT. However, there is presently much debate within the REIT community as to whether or this is so. This theory will be more closely examined in the interviews with REIT professionals.

This thesis will attempt to answer these questions in the context of theory by investigating the reaction of the marketplace to public announcements of unsecured debt by REITs and by conducting interviews with several REIT analysts and REIT CFOs.

Chapter One will provide an overview of the REIT industry and review the reasons for the explosive growth of the industry from 1992 to 1994. It will explain the term "unsecured debt", and will elaborate on why REITs may be using this form of debt now.

Chapter Two will review the existing research that has been done in the field of corporate debt. It will review the work that has been done in corporate signaling, a field that is central to capital structure theory. It will also explain from an academic viewpoint why REITs, a non-taxable entity, should be using debt.

Ultimately, we will need to examine how the existing equity investors perceive the use of unsecured debt. Accordingly, Chapter Three will analyze the reaction of the marketplace to announcements of unsecured debt. In particular, it will explain the sources of data and how the data was identified and gathered and discuss the results in the light of the theories presented in Chapter 2.

Chapter Four will contain discussions with selected REIT professionals. Issues discussed will include the maturity of the industry, the optimal capital structure of a REIT, and the increasing use of unsecured debt. Some of the arguments presented will be analyzed in regard to classical finance theory.

Finally, Chapter Five will briefly summarize the study and provide some conclusions for the REIT industry.

THE REIT INDUSTRY AND UNSECURED DEBT

1.1 THE PROLIFERATION OF REITs

The period 1992 to 1994 saw explosive growth in the REIT industry. Industry capitalization increased from \$15.7 billion to approximately \$45 billion over that time period³, and the number of publicly traded REITs went from 142 to 226⁴. Figure 1 indicates these growth rates.

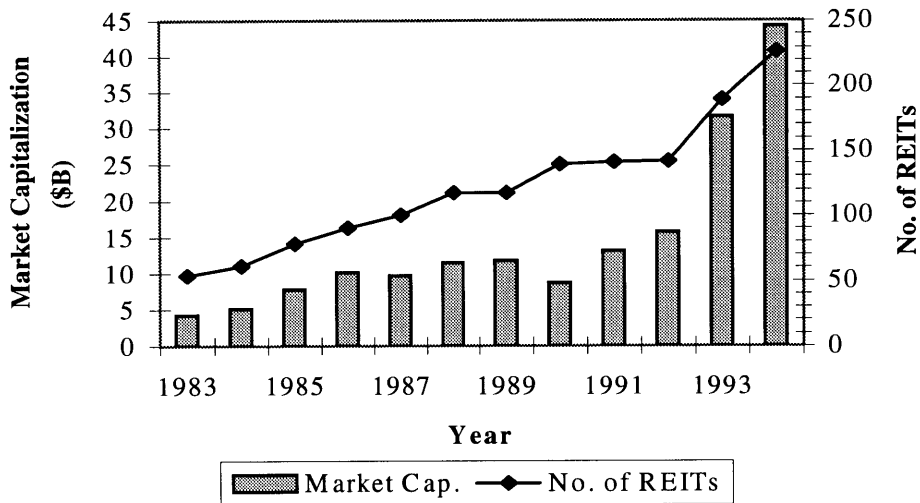


Figure 1. REIT Industry Growth⁵

“For almost two years, there was an average of \$1 billion a month in REIT stock being issued”, said Mr. Richard Schoninger, Managing Director and head of the real estate

³ Cohen & Steers. “Real Estate Securities, Status of the US Market”. February, 1995.

⁴ Merrill Lynch. “Sizing up the Equity REIT Industry”. August, 1994.

⁵ Cohen & Steers. “Real Estate Securities, Status of the US Market”. February, 1995.

banking group at Prudential Securities⁶. Why did the industry proliferate so much at this time? What economic factors were in place so that this tremendous growth could occur?

In order to answer these questions, it will be useful to examine why capital flowed into real estate during the early and mid-1980s, and the subsequent recession of the late 1980s. There were many factors involved, the first of which was the deregulation of the Savings and Loan industry in the mid-1970s. In response to the high interest rates and inflation of the 1970s, Congress repealed Regulation Q, which had limited the investment activities of the Savings and Loan industry. This caused great changes in the Savings and Loan industry and encouraged the thrifts to increase the supply of private debt capital to the real estate industry.

A second factor was the effect of the Employee Retirement Income Security Act (*ERISA*) on real estate investment. Up to the passage of *ERISA* in 1974, pension funds and other institutional investors' portfolios had primarily consisted of stocks and bonds. *ERISA* however, mandated a balanced and fully diversified portfolio for pension funds. Real estate has historically experienced low correlation with both stocks and bonds, and had shown itself to be an excellent hedge against inflation during the early 1970s, thus providing evidence that it is indeed a valuable component of a well diversified investment portfolio. Accordingly, institutional investors became extensive sources of real estate equity capital.

Finally, the third factor was the passage of the Economic Recovery Tax Act (*ERTA*) in 1981. *ERTA* was designed to boost the economy after the downturn of the late 1970s, and real estate industry lobbyists were very successful in garnering very favorable tax treatment of real estate investment. It shortened depreciation schedules to fifteen years, the shortest they have ever been, and permitted the use of accelerated depreciation. It also allowed unlimited passive loss deductions, which meant that the non-cash losses

⁶ National Real Estate Investor. May, 1995.

generated by real estate could be used to offset taxable gains made elsewhere. These tax provisions made real estate investment very profitable for private equity sources.

Five years later, the consequences of these favorable provisions became very apparent. The real estate development industry was unique at this time in that the supply of real estate was dictated not by demand, but rather by the incentives created through tax laws and banking de-regulation. This caused tremendous levels of building activity, which, in turn caused vacancy rates to reach record levels. Then in 1986, the Tax Reform Act (*TRA*) was introduced, which completely reversed the legislative treatment of real estate investment. It eliminated the ability to use all forms of accelerated depreciation, lengthened the depreciation schedules of all forms of real estate, and modified passive loss laws to make real estate investment far less favorable than other forms of investment. The modification of the passive loss laws virtually halted the supply of private equity capital into real estate overnight. Furthermore, these changes combined to force numerous developments into default. Since a significant portion of these severely troubled properties had been financed by non-recourse Savings and Loan debt, these high rates of default played a major role in the Savings and Loan collapse, which was to ultimately cost the American taxpayers over \$300 billion⁷.

The collapse of the Savings & Loan industry had three long-lasting effects. One, an enormous supply of non-performing real estate came on the market as the RTC began liquidating the failed Savings and Loans' Real Estate Owned (*REO*) portfolios. Two, regulators quickly introduced stricter capital standards that all deposit-based institutions and insurance companies had to maintain, which significantly reduced the availability of debt capital for real estate. Furthermore, the 'fear factor' associated with lending in real estate so soon after the recession proved to further reduce the availability of private real estate debt.⁸ Finally, the Federal Reserve Bank lowered short term interest rates to the lowest levels they had been at in thirty years (See Figure 2). However, this had very little

⁷ Cohen & Steers. "Real Estate Securities, Status of the US Market". February, 1995.

⁸ Arnold. "Real Estate Investors Deskbook". 1993.

effect on the amount of private debt capital available, as all of the banks had been discouraged from real estate lending by the new capital standards.

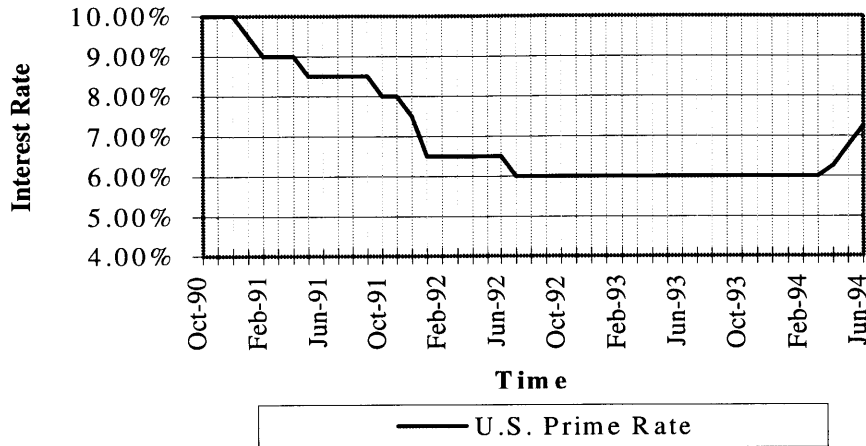


Figure 2. Federal Reserve Bank Interest Rates. October 1990 - June 1994

Apart from the effects that the S & L collapse had on the private debt markets, there was one other factor which contributed to the rapid growth of the REIT industry, and that was the reluctance of institutional to fund real estate in the early 1990s, due largely to the huge drop in real estate values during the recession.

Consequently, by the beginning of the 1990s, there was very little private real estate capital to be found. Private equity had been forced out by the tax laws, and private debt had been forced out by regulatory pressure and fear.

All of these factors combined to force real estate developers and operating companies to turn to Wall Street and the securitized public equity markets. For many real estate entities, Wall Street and securitization was the only source of capital available with which to continue operations. Others saw Wall Street as a way of re-capitalizing the enormous debt loads that they had placed on their portfolios. In November 1991, Kimco Realty

Corporation became the first REIT of the 1990s, and started an avalanche of new REIT IPOs. Many investors, disillusioned at the low returns provided by traditional investment vehicles such as CDs, jumped at the prospect of earning an 8% to 10% dividend on their investment in a relatively low interest-rate environment. Not only did the REIT vehicle offer the individual investor a superior rate of return, but it also offered him the opportunity to invest in real estate at a level appropriate to his investment portfolio. Furthermore, REIT investors realized that this was probably a very good time to invest in real estate. There was an abundance of property on the market, all being offered at very low prices by owners who had suffered considerable losses and who simply wanted to get out of real estate. Therefore, the growth opportunities for REITs were enormous; investors not only received relatively large cash dividends, but could also expect a considerable return of capital upon sale.

Finally, a pricing disparity had evolved between Wall Street and Main Street which further enhanced the growth opportunities of REITs. Because of his Cost of private Capital, the private real estate operator was able to purchase properties, depending on location and quality, at anything from a 10% to 13% 'Cap Rate'. However, since REIT investors were quite content earning an 8% to 10% dividend, the REIT could typically outbid the private investor because its Cost of Capital was much lower.

1.2 THE IPO SLOWDOWN

In late 1994, this REIT boom suddenly came to a halt. A number of potential REITs that were in the IPO process simply shelved their plans to go public. There were several reasons for this, the first of which was the rise in interest rates. (See Figure 3)

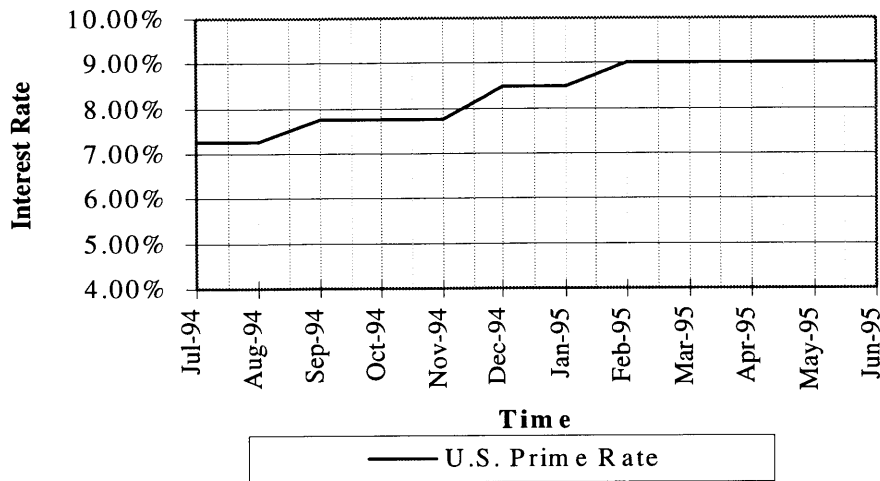


Figure 3. Federal Reserve Bank Interest Rates. July 1994 - June 1995

In 1994, in order to maintain control of a rapidly growing economy, the Federal Reserve Bank raised interest rates six times for a total hike of 250 Basis Points (BP). This was an enormous jump in one year, and it hit REITs in two ways. One, it reduced the attractiveness of traditional REIT yields in comparison to other forms of investment. In order to adequately compensate investors, REITs had to offer an appropriate risk premium over safer forms of investment which were now offering higher rates than before. However, with inflation remaining low throughout the 1990s, REIT income was not rising at the same rate as expenses, so potential REITs were unable to guarantee the high dividend yields needed to create sufficient investor interest, thus killing their proposed offerings.

The second effect of the interest rate hikes affected existing REITs more than the new IPO plans. The higher rates caused floating rate debt service costs to rise considerably. However, with many REITs owning properties on long term lease contracts, they were unable to raise rental income to cover these increased costs. This put pressure on the REIT to maintain dividends, causing investor confidence to fall.

The second reason for the IPO slowdown was the re-emergence of the banks and institutional investors as sources of private debt in the real estate lending arena. This re-emergence was brought on by the expectation in mid-1994 that real estate had reached the bottom of the cycle. Therefore, any real estate loans made were probably some of the safest loans these institutions would ever make. With these new sources of debt capital available, many private operators returned to the market and began to bid up the prices of real estate again, further reducing the REIT's ability to make positive spread investments.

Perhaps the most telling statistic of the maturity of the REIT industry is the movement of the correlation coefficient of Equity REIT returns to the Wilshire Small Cap Stock Index. (See Figure 4) In 1990, this correlation coefficient was over 0.90, indicating that REITs were behaving like small cap stocks. By early 1995, this correlation coefficient had fallen to 0.20⁹, evidence that the industry is beginning to mature and move away from the rapid growth of the early 1990s.

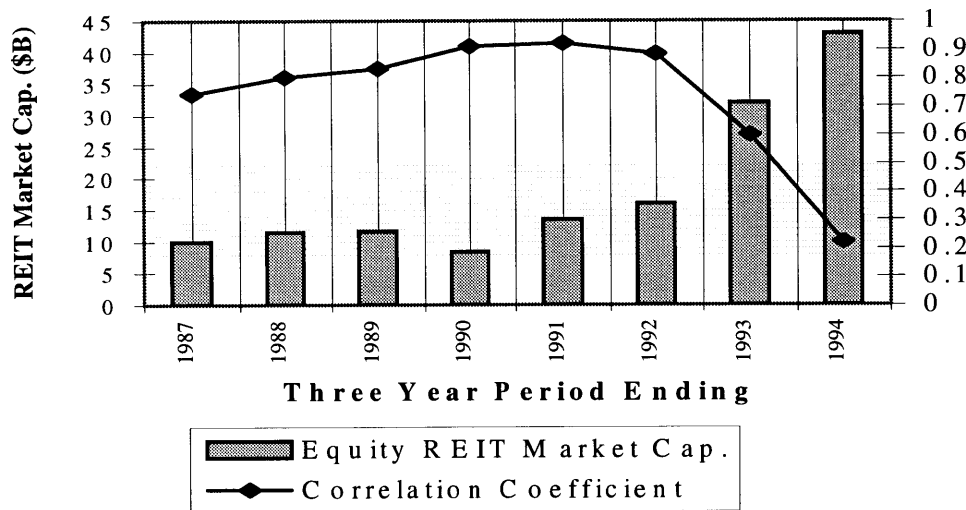


Figure 4. Correlation of Equity REIT Returns with the Wilshire Small Cap. Stock Index

⁹ Cohen & Steers. "Real Estate Securities. Status of the US Market". February, 1995.

What does all of this mean for REITs? It means that investors are looking for larger and more stable REITs with a consistently solid performance. They are looking for conservative levels of debt, evidenced by the fact that the 89 largest equity REITs have an average debt to market capitalization ratio of approximately 34%. While this is still higher than the similar ratio for the companies in the S & P 500, which is about 20%, it is far lower than traditional levels of real estate debt¹⁰.

1.3 WHAT IS UNSECURED DEBT?

Due to the large market capitalization and management expertise of some of the larger REITs, unsecured debt is emerging as a new source of capital. Though it is a viable form of new capital for the appropriate REIT, it can be considered riskier than secured debt for the following reasons. One, unsecured debt is lower in priority of repayment. If the REIT goes bankrupt, secured note-holders are senior in compensation priority. Two, a default under unsecured debt puts a lien on the entire REIT and affects all operations, whereas a default under secured debt puts a lien only on the collateralized asset, allowing the REIT to maintain operations on its other assets to cure the default. However, evidence shows that the risk premia for both secured and unsecured debt are somewhat comparable. The reason for this may be that unsecured debt restricts the activities of management and ensures that the interests of the bond-holders are maintained.

1.4 WHY ARE REITS USING UNSECURED DEBT NOW?

It is only in the last few years that many REITs have been able to obtain an investment grade credit rating which makes this form of debt capital cost effective. Up to now, the traditional view of real estate was somewhat distrustful, as evidenced by Fitch in its report "Rating Unsecured REIT Debt", when it stated,

¹⁰ Merrill Lynch. "Sizing up the Equity REIT Industry". August, 1994.

“REITs generally are controlled by real estate developers and developer families. As a general rule, developers have a reputation for aggressive business strategies. In fact, most developers and their lenders have suffered the consequences of excess leverage placed on property in the 1980s, which was facilitated by developer’s optimism and unrealistic cash flow projections.”¹¹

However, for the appropriate REIT, unsecured debt offers several advantages over both secured debt and equity. REITs can use this form of debt to improve its cash flow by paying down more expensive existing secured debt and reduce debt service. Furthermore, with equity investors looking for yields of up to 12% on REIT stocks today, unsecured debt is a far less expensive form of capital than equity, sometimes by as much as 300 or 400 BP¹². The second advantage is that it offers the REIT additional flexibility at the asset level. Proceeds from the sale of an asset can be put to other corporate uses and do not have to be applied to the unsecured debt service. The third advantage is that, in today’s relatively low but uncertain interest rate environment, unsecured debt can allow the REIT to lock into quite low interest rates and refinance much of its higher rate debt.

Apart from the relative advantages of unsecured debt over other forms of capital, another reason that could be behind the use of unsecured debt, and by far the most subtle, is that it may be a signal to the marketplace that the REIT has limited growth opportunities. When REITs were experiencing high growth, they didn’t necessarily need flexibility, since they were able to attract equity capital in amounts sufficient to maintain growth. Now that this growth phase has ended, they need the operational flexibility afforded by unsecured debt to maintain their position in the market. However, the next question is, what will investors look for in REIT stocks now that growth has slowed considerably? It cannot be

¹¹ Fitch Research. “*Rating Unsecured REIT Debt*”. September, 1994.

¹² We do, however, recognize that, in accordance with Modigliani Miller Proposition II, the introduction of lower cost debt will not lower the overall required rate of return of the REIT, but rather will increase the required rate of return on equity. This matter will be more closely examined later in this thesis.

the relatively high yields and growth prospects that were offered in the early 1990s.
Perhaps it is the value of a component of a fully diversified investment portfolio.

PREVIOUS RESEARCH

In order to better understand and focus on the questions posed in the previous chapter, a review of the relevant academic studies is helpful. This review is divided into three sections. The first is a review of the literature concerning corporate capital structure, where we examine the rationale for levels of debt and equity. This section will also contain a review of REIT capital structure. The second section will focus on the signaling effects of corporate security issuances, where the authors have developed models to predict the behavior of market values in response to security issuances. Finally, the third section will contain a study of market reactions for REIT stocks and offer theories to explain these reactions.

2.1 THEORIES OF CORPORATE CAPITAL STRUCTURE

Much work has been done in the field of corporate financial structure since Modigliani & Miller published their famous indifference propositions in their papers “*The Cost of Capital, Corporation Finance, and the Theory of Investment*” in 1958, and “*Dividend Policy, Growth and the Valuation of Shares*” in 1962. Their first proposition stated that, in the absence of any taxes, corporation values were indifferent to capital structure. Their second proposition stated, however, that in the presence of corporate taxes, companies should borrow as much as possible, since the debt service payments could be used to reduce taxable earnings. However, this was an unreasonable conclusion, as Jensen and Meckling observed in 1975,

“Since we know that debt was commonly used prior to the existence of the current tax subsidies on interest payments, this

theory does not capture what must be some important determinants of the corporate financial structure.”¹³

Indeed, we observe sizable amounts of debt in REITs today, which do not pay corporate taxes. Therefore, we need to further examine the theory behind the use of debt and offer some solutions as to why debt exists in the capital structure of both taxable and non-taxable corporations.

2.1.1 Myers¹⁴

Myers considers the value of a firm by dividing it into two sections, assets that the firm already has in place, and growth opportunities, or ‘*real options*’, and develops a model which shows that corporate borrowing is inversely related to the proportion of the market value of firm that is accounted for by ‘*real options*’. A firm looking at a new investment opportunity has the option to go ahead if the project is beneficial for the shareholders and will provide growth in the company. In some states of nature, the firm will exercise its options to invest or proceed with a new development, and in other states, it will not.

The paper explains why it is rational to limit corporate debt, even in the presence of taxes, and it specifies an asset characteristic that encourages heavy borrowing. It shows that the amount of debt “*supported by*” growth opportunities will be less than that supported by assets in place, all things held equal. It also shows that companies with very valuable growth opportunities should never issue risky debt, and that the existence of debt can actually serve to reduce the value of the company.

The presence of debt will change the firm’s actions in some circumstances. It can create situations where management can serve the interests of the shareholders only by making sub-optimal investment decisions, i.e., certain investment decisions are passed up because

¹³ Jensen & Meckling. “*Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*”. Journal of Financial Economics, Vol. 3, 1976.

¹⁴ Myers. “*Determinants of Corporate Borrowing*”. Journal of Financial Economics, Vol. 5, 1977.

they are deemed too risky for the existing stockholders, even though they offer a positive Net Present Value (*NPV*) to the company.

These results are very applicable to the REIT industry. High growth firms and industries, such as the REIT industry historically, should be predominantly financed by equity alone. Lower growth industries should generally have a greater amount of debt on their capital structure. If we look at some financial statistics, we can see that this is, in fact, the case. Companies with a high proportion of ‘assets in place’, such as utility companies, would have very small growth prospects, and so would be expected to have relatively high debt levels in their capital structure. The Electrical Utility Industry Average Debt-to-Equity ratio was 0.55 for the year 1993¹⁵. Compare this to the average Debt-to-Equity ratio of the companies in the Wilshire Small Cap Growth Index, which was 0.31 in 1994.¹⁶

Finally, since a default under unsecured debt will place a lien on the entire REIT, we can argue that unsecured debt is riskier than secured debt. The presence of risky debt will reduce the ‘attractiveness’ of growth opportunities, so by issuing unsecured debt, the REIT is limiting its growth opportunities.

2.1.2 Maris & Elayan¹⁷

Maris & Elayan investigated the rationale for REITs to use financial leverage. They hypothesized that agency costs and leveraging clienteles are the reasons why REITs would use debt.

The agency theory rationale for corporate capital structure had been used by Titman¹⁸, Myers and Majluf¹⁹, and Titman & Wessels²⁰. This theory suggests that, if a firm’s

¹⁵ Moody’s Public Utility Manual, 1994.

¹⁶ Mr. Jeffrey Ennis. Wilshire Associates, Inc.

¹⁷ Maris & Elayan. “*Capital Structure and the Cost of Capital for Untaxed Firms: The Case of REITs*”. AREUEA Journal, Vol. 18, 1990.

¹⁸ Titman. “*The Effect of Capital Structure on a Firm’s Liquidation Decision*”. Journal of Financial Economics, Vol. 13, 1984.

bankruptcy created high costs for its customers, then it should use relatively little debt, as the issuance of risky debt increases the possibility of bankruptcy. Conversely, if bankruptcy would have little effect on the firms customers, then it should choose a higher debt/equity ratio. Maris & Elayan stated that REITs should fall into the latter category, and so should maintain a level of debt in its capital structure.

The leveraging clientele theory is best put by Kim et al.²¹ when they state that,

*“...investors in high tax brackets will prefer to hold shares in unlevered firms, while investors in low tax brackets will prefer to hold shares of levered firms..”*²²

Maris and Elayan found in the 1985 REIT Fact Book that untaxed investors such as pension funds are attracted to REITs, suggesting a clientele favoring leveraged REITs. They performed a statistical regression analysis on sixty one qualified REITs during the period 1981 through 1987, and found that the leverage favoring clientele effect was strong in the rationale for the use of debt in REIT capital structures. However, they found no evidence in favor of the agency theory.

However, the latest evidence on REIT investors would suggest that, unlike 1985, taxed investors, such as mutual funds and private individuals are the primary investors in REIT stocks. Many industry analysts point to the fact that the REIT market is still too illiquid for large institutions to enter. Therefore, the leveraging clientele theory would suggest that REIT investors prefer to invest in unlevered firms, suggesting negative reactions from the marketplace to debt announcements.

¹⁹ Myers & Majluf. “*Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have*”. Journal of Financial Economics, Vol. 13, 1984.

²⁰ Titman & Wessels. “*The Determinants of Capital Structure Choice*”. Journal of Finance, Vol. 43, 1988.

²¹ Kim et al. “*Financial Leverage Clienteles, Theory and Evidence*”. Journal of Financial Economics, Vol. 7, 1988.

²² Ibid.

2.1.3 Jaffe²³

Jaffe developed a theoretical proof that the use of leverage in REITs should not affect its value. It begins by developing a valuation model for simple partnerships in a taxable world, and proves that the value of the levered partnership is equal to the value of the unlevered partnership in a taxable world by showing that the shareholder can undo the corporate leverage decision by lending if the corporate leverage is too high and borrowing if the corporate leverage is too low²⁴. It then goes on to develop this argument in the case of REITs.

The key to Jaffe's paper is that the individual investor gets the same tax deduction whether he borrows or the partnership borrows. He does however, review some of the complications of taxation in REITs, and shows that in certain situations, an all-equity REIT may be more attractive to the investor if he is taxed.

Finally, Jaffe states that tax ramifications are not the only reason for employing debt. There are others, such as underwriting costs and bankruptcy costs which also play a major part in the decision.

If we follow Jaffe's logic in our particular study, the individual investor may find it more attractive to borrow to invest in an all-equity REIT. Accordingly, we should find somewhat negative reactions to debt announcements, as we have seen that the majority of REIT investors are taxable entities or individuals.

2.2 THEORIES ON SIGNALING EFFECTS

When analyzing signals that may be sent to the marketplace by management through their actions, we assume that the investor is both rational and well-informed, and will always

²³ Jaffe. "Taxes and the Capital Structure of Partnerships, REITs and Related Entities". *Journal of Finance*, Vol. 46, 1991.

²⁴ Ibid.

act to protect his interests. Therefore, management needs to be careful when deciding what courses of financial action the company should take. This paper analyzes these signaling effects and offers an explanation for certain financial strategies that corporate management has taken.

2.2.1 Myers & Majluf²⁵

Myers & Majluf develop a model to explain corporate financial behavior when a company must issue stock to undertake a new valuable investment opportunity. The model shows that, in some states, firms may refuse to issue stock, and therefore may pass up valuable investment opportunities. The model assumes that management acts in the interests of the 'old' shareholders and assumes that they are 'passive' investors, where they will not rebalance their portfolio in response to the new securities. It examines the effects of asymmetric information, where the managers are assumed to know far more than the investor about the company and the investment opportunity.

The model is able to explain several aspects of corporate behavior, including the tendency to rely on internal sources of capital and to prefer debt issuances to equity if external financing is required. It shows that, if the firm holds 'financial slack', in the form of cash and short-term marketable securities or unused non-risky debt, then the decision to issue equity to finance a new project sends a strong negative signal to the market. By issuing equity, the company is effectively saying to that it would rather use someone else's capital than its own to finance this new development, as it is unsure that the return offered will be commensurate with the risks incurred. The presence of cash therefore introduces a financial discipline into the company. It will not allow the company to take advantage of investors by issuing stock only when it is overvalued; if investors know that the firm does not need external capital to invest, then any attempt to do so sends a strong negative signal.

²⁵ Myers & Majluf. "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have". *Journal of Financial Economics*, Vol. 13, 1984.

What are the ramifications for the REIT industry within the parameters of this model? The first issue that immediately comes to mind for the industry is that REITs are, by law, unable to amass large amounts of cash and marketable securities by retaining earnings - they are mandated to distribute at least 95% of taxable income as dividends. Accordingly, REITs need to return to the external markets each time they need capital. The paper shows that the REIT's decision to issue equity should be poorly received by the marketplace, and firms that issue debt send, at a minimum, 'not as negative' signals to the market. However, the REIT has the choice of two forms of debt to issue, secured or unsecured. As previously argued in this thesis, secured debt is less risky for the REIT. Therefore, the use of secured debt would be more aligned with the interests of the equity holders of the REIT than unsecured debt.

2.3 PRICE REACTION STUDIES

The REIT structure offers us a unique opportunity to study these hypotheses and theories on corporate financial structure in the absence of corporate taxes.

2.3.1 Howe & Shilling²⁶

Howe & Shilling examined stock price reactions to new security offerings, both debt and equity, by REITs. They hypothesized that, since REITs are tax-exempt firms and cannot utilize debt interest expenses as tax-shields, they have a considerable disadvantage when competing with taxable firms in debt markets. Accordingly, REIT stock prices should exhibit negative reactions when debt is issued.

Howe & Shilling analyzed forty three NYSE or ASE listed REITs that announced both debt and equity security offerings over the time period 1970 through 1985. Within this REIT sample, there were over one hundred financing events. Seventy three of these were

²⁶ Howe and Shilling. "Capital Structure Theory and REIT Security Offerings". Journal of Finance, Vol. 43, 1988.

debt offerings, and twenty seven were equity offerings. Howe & Shilling found a strong positive reaction to debt announcements, a complete contrast to the expected results and the recent studies of Eckbo²⁷ and Mikkelson and Partch²⁸.

In order to explain the market reaction to the debt announcements, Howe & Shilling divided the debt offerings into short term debt and long term callable bonds. They noted that the positive reactions were in response to the short term offerings, which was consistent with the signaling theory developed by Myers and Majluf²⁹ and Flannery³⁰. This theory states that when insiders, such as company management, know the firm to have better credit quality than the market perceives, they will regard the market premia (on debt of differing maturities) as excessive. However, the least unreasonable of these premia is on short term debt. Howe and Shilling also offered two further explanations. One, the fact that the short term debt may reduce the uncertainty involved with the repayment of the debt and overall company performance, and two, the fact that the use of short term debt may serve as an additional 'watchdog' on management, perhaps because bankers are good monitors of management behavior³¹. Therefore, the selection of short term debt will serve as a signaling device to the market that the firm is actually better off than the market perceives.

A summary of these theories is presented in Figure 5. These results leave open the room for this thesis. We are searching for a market reaction to the use of unsecured debt specifically, both long and short term.

²⁷ Eckbo. "Valuation Effects of Corporate Debt Offerings". Journal of Financial Economics, Vol. 15, 1986.

²⁸ Mikkelson & Partch. "Valuation Effects of Security Offerings and the Issuance Process". Journal of Financial Economics, Vol. 15, 1986

²⁹ Myers & Majluf. "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have". Journal of Financial Economics, Vol. 13, 1984.

³⁰ Flannery. "Asymmetric Information and Risky Debt Maturity Choice". Journal of Finance, Vol. 41, 1986.

³¹ Howe and Shilling. "Capital Structure Theory and REIT Security Offerings". Journal of Finance, Vol. 43, 1988.

Author	Paper	Expected Reaction to Unsecured Debt Offering	Reason
Myers	<i>Determinants of Corporate Borrowing</i>	Negative	Debt should not be present in the capital structure of growth companies, since it causes management to make 'sub-optimal' investment decisions on behalf of the shareholders.
Maris & Elayan	<i>Capital Structure and the Cost of Capital for Untaxed Firms; The Case of REITs</i>	Negative	Taxable Investors will experience diminished earnings if the REIT takes on debt.
Jaffe	<i>Taxes and the Capital Structure of Partnerships, REITs, and Related Entities</i>	Negative	Similar to the arguments in Maris & Elayan above.
Myers & Majluf	<i>Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have</i>	Negative	The use of risky debt, where default places a lien on the entire company, is not in the best interests of the equity holders.
Howe & Shilling	<i>Capital Structure Theory and REIT Security Offerings</i>	Negative	Similar to the arguments in Maris & Elayan above.

Figure 5. Summary of Academic Arguments.

ANALYSIS OF STOCK PRICE REACTIONS TO UNSECURED DEBT ANNOUNCEMENTS

3.1 IDENTIFICATION CRITERIA

A list of REIT debt offerings for the period April 1989 through December 1994 was obtained from the National Association of Real Estate Investment Trusts (*NAREIT*). The unsecured debt offerings noted in this data-set were checked against a list of unsecured debt offerings obtained from *Commercial Mortgage Alert*. A list of post-1994 offerings was obtained from Merrill Lynch Investment Bankers.

A total of forty nine unsecured debt offerings were obtained from these sources. Since we want to study the market reaction to new corporate strategy, as indicated by the decision to issue unsecured debt, we only include the Initial Public Offerings (*IPOs*) of REIT unsecured debt. Twenty nine of these offerings were IPOs of unsecured debt. Three IPOs were from foreign corporations, and were not included in the data set. One was issued by a REIT that had been public for only one month, so there was not enough time for the REIT stock to develop an effective beta (β). Another was from a private REIT, and stock prices for three other REITs were not available. For an offering to be included in the sample set, the stock must have at least thirty daily returns in the entire sample period, and no missing return data in the last thirty days. A summary of these offerings is shown on Figure 6. This subset formed our data-set.

Announcements of these initial offerings were gathered from three sources, the *Wall Street Journal (WSJ)*, the *Dow Jones News Retrieval Service (DJNS)*, and the *Bloomberg News Service (BBS)*, with each news source being used as a cross-check for the other two. Typically, the two on-line news services, DJNS and BBS, would have reported the offerings on the same day as the REIT made the announcements, whereas the WSJ would contain the announcement the day after the REIT management made the announcement.

Unsecured REIT Debt

Issue Date	Issuer	Ticker	Amount (\$Mil)	Interest (%)	Fixed/Float	Rating (S & P)	Term (Yrs)	REIT Focus
4/19/95	Associated Estates Realty Corp.	AEC	75.00	8.38	Fixed	BBB-	5	Multi-Family
10/9/90	American Health Properties	AHE	100.00	10.41	Fixed	BBB-	9	Health Care
12/6/94	Developers Diversified Realty	DDR	100.00	LIBOR+0.85	Float	BBB-	1	Retail
5/17/94	ERP Operating LP	EQR	125.00	8.50	Fixed	BBB-	5	Multi-Family
1/11/95	Federal Realty Trust	FRT	100.00	8.88	Fixed	BBB+	5	Retail
9/24/93	First Union Real Estate Investments	FUR	100.00	8.88	Fixed	BBB-	10	Diversified
3/20/89	Health Care Property Investors	HCP	75.00	9.88	Fixed	BBB+	8	Health Care
6/13/94	Health & Rehabilitation Properties	HRP	125.00	LIBOR+0.72	Float	BBB	5	Health Care
9/28/93	Kimco Realty Corp.	KIM	100.00	6.50	Fixed	A-	10	Retail
6/20/95	Merry Land & Investment Co.	MRY	120.00	7.25	Fixed	BBB+	7	Multi-Family
12/10/90	Meditrust	MT	100.00	-	Fixed	BBB-	10	Health Care
3/30/95	New Plan Realty Trust	NPR	100.00	7.75	Fixed	A+	10	Diversified
2/1/94	Property Trust of America	PTR	100.00	6.80	Fixed	A-	14	Multi-Family
1/4/93	Rouse	ROUS	3.00	8.50	Fixed	BBB	10	Shopping Malls
2/23/95	Security Capital Industrial Trust	SCN	50.00	7.50	Fixed	BBB+	20	Industrial
9/29/93	Taubman Realty Group	TCO	200.00	8.00	Fixed	BBB+	5	Super-regional Malls
12/23/94	National Golf Properties	TEE	30.00	8.68	Fixed	-	10	Golf Courses
2/25/93	United Dominion Realty Trust	UDR	52.00	7.30	Fixed	BBB+	5	Multi-Family
2/17/94	Western Investment Real Estate	WIR	50.00	7.90	Fixed	BBB	10	Retail/Shopping Center
5/10/95	Weingarten Realty Investors	WRI	25.00	6.82	Fixed	A+	5	Diversified
12/30/94	Wellsford Residential Property Trust	WRP	100.00	T+1.65	Float	BBB-	7	Multi-Family

28

Figure 6

3.2 METHODOLOGY AND ANALYSIS

A standard event study methodology³² is used to examine the wealth effects of unsecured debt issuance. The event date (day 0) is defined as either the date that the offering is reported in the DJNS or the BBS or, as explained above, the day before the offering is reported in the WSJ.

To estimate the abnormal returns associated with unsecured debt issuance, the market model is used. The abnormal return is estimated as the difference between the actual market return on the security and the expected return according to the Capital Asset Pricing Model (*CAPM*) theory. Day '0' is defined as the day of the announcement of unsecured debt. For each REIT, a maximum of 80 daily return observations is used for the period around the event, starting at day -70 and ending at day +10 relative to the event. The first 65 days are designated the 'estimation period', and the following 15 days are designated the 'event period'. The market model parameters, α and β , are estimated on daily returns from the estimation period.

Therefore, the daily abnormal return (*AR*) for firm *j* on day *t* is defined as:

$$AR_{jt} = R_{jt} + (\hat{\alpha}_j + \hat{\beta}_j R_{mt})$$

where R_{jt} is the market return for security *j* for day *t*, R_{mt} is the return on the equal-weighted market index, and α and β are the ordinary least squares (*OLS*) estimates of firm *j*, estimated using standard estimation-period regression analysis. The Standard and Poors 500 (*S & P 500*) index is used as a proxy for the equal-weighted market index. Since the dividends for each company in the S & P 500 are added into the index, each REIT's dividend is added to the market price at the date of payment to ensure that the total return of the REIT is evaluated.

³² Brown and Warner. "Using Daily Stock Returns: The Case of Event Studies". *Journal of Financial Economics*, 1985.

In some cases during the estimation period of certain REITs, announcements were made by the REIT management which could affect the returns for that day and the previous and following days. In these cases, the returns for these three days are eliminated from the analysis in order to better evaluate α and β .

The average abnormal returns (AAR_t) for each day t over all the firms in the sample are given by the following equation

$$AAR_t = \frac{1}{N_t} \sum_{j=1}^{N_t} AR_{jt}$$

where N_t is the number of firms in the sample. The cumulative average abnormal returns (CAR) for the event period [day -5 to day +10] are defined as

$$CAR(-5,+10) = \sum_{t=-5}^{t=+10} AAR_t$$

3.3 TEST STATISTICS UNDER THE NULL HYPOTHESIS

Given the excess returns generated by the above methodology, the statistical significance of the event period excess returns is assessed for the sample. The null hypothesis to be tested is that the Average Abnormal Return (AAR_t) for each day within the event period is equal to zero. The Test Statistic (TS_t) is the ratio of the day t Average Abnormal Return (AAR_t) to its estimated Standard Deviation $S(AAR_t)$; the Standard Deviation is estimated from the time-series of mean excess returns. The Test Statistic (TS_t) for any event day t within the period (-5 to +10) is,

$$TS_t = \frac{AAR_t}{\hat{S}(AAR_t)}$$

where the Average Abnormal Return (AAR_t) was previously defined, and where N_t is the number of sample REITs whose excess returns are available at day t ³³.

The Expected Return, ER , is defined as

$$ER = \frac{1}{65} \sum_{t=-70}^{t=-6} AAR_t$$

and the Standard Deviation $\hat{S}(AAR_t)$ is defined as

$$\hat{S}(AAR_t) = \sqrt{\frac{\sum_{t=-70}^{t=-6} (AAR_t - ER)^2}{64}}$$

If the Average Abnormal Returns (AAR_t) are independent, identically distributed and normal, the Test Statistic is distributed Student-t under the null hypothesis³⁴.

3.4 RESULTS

We observe an Average Abnormal Return (AAR_0) on day 0 of -0.521% over the twenty one REIT sample set, with a t-statistic of -1.50. This is significantly different from zero at the 15% level-of-confidence interval.

The AARs and CARs for each individual REIT are shown in Appendix A. Of the twelve REITs which exhibited negative AAR_{0s} , they ranged from -0.089% in the case of Federal Realty Trust, to -4.944% in the case of The Taubman Company. These offerings varied in size from \$25 million in the case of Weingarten Realty Investors, to \$200 million in the case of The Taubman Company. All of the REITs that exhibit negative Average Abnormal Returns on day 0 also exhibit negative Cumulative Abnormal Returns except

³³ Ibid.

³⁴ Ibid.

for two - Equity Residential Properties, which had a positive CAR of 1.134%, and United Dominion Realty, which had a positive CAR of 2.175%. All of the other REITs had negative CARs ranging in magnitude from -0.945% in the case of First Union Real Estate, to -5.929% in the case of Kimco Realty Corporation.

These results present some weak evidence that the market does not look favorably upon the issuance of unsecured debt by REITs. Perhaps a larger REIT stock sample might provide more significant results, but unsecured debt issuance by REITs is a relatively new occurrence, and the sample set has not yet reached a significant size.

Given that these results are suggestive over such a small sample of REIT stocks, we further investigate whether there is any correlation between the individual AAR_0 for each REIT and the financial characteristics for that REIT. The AAR_0 for each REIT is regressed against the following variables for each REIT;

1. The amount of unsecured debt issued. We want to gauge the market reaction to the effect on the REIT's capital structure. As more debt is issued in this initial offering, the debt level in the capital structure is probably higher, all else equal.
2. Whether the debt coupon was fixed or floating. During one of my interviews with REIT professionals, Mr. David Hegarty, President of Health and Retirement Properties, Inc., told me that typically, the floating rate debt allows prepayment without any penalty, whereas the fixed rate debt will only allow prepayment with a yield maintenance penalty. Therefore, if the unsecured debt issuance can be paid off in the short term, then we may observe a positive, or at least 'not as negative' reaction.
3. The Standard and Poors debt rating, with dummy variables introduced. A rating of A or above is given a dummy value of 1, and any rating below A is given a dummy value of 0. This coefficient should account for the role of the

rating agency. Obviously, with a lower credit rating, we would expect a more negative response from the market.

4. The term of the debt. This coefficient relates to the rationale behind the second statistic above, where we try to isolate the reaction to the announcements of either short or long term debt.
5. The most recent total asset value of the REIT prior to the announcement of debt issuance. This data is *book* value, and not *market* value, and is obtained from the most recent 10-Q reports issued by the REIT or the most recent annual report issued when the 10-Q was not available. This coefficient relates to the capital structure of the company. We would expect that the higher valued REITs would be able to support a higher amount of debt.
6. The ratio of the REIT's amount of unsecured debt to the total asset value of the REIT. Since these were unseasoned unsecured debt offerings, the total amount of unsecured debt was simply the value of this offering, and the total asset value was taken from the most recent financial reports. This coefficient is a proxy for the capital structure of the REIT, and again, the rationale is that the higher the level of debt in the capital structure, the more negative the response from the market.
7. The business focus of the REIT. Since a large number of the issuers were Health Care REITs, we set the dummy variable equal to 1 for all Health Care REITs, and 0 for any other REIT focus. The reason behind this coefficient is that, typically, the health care REIT has short term tenants. Accordingly, the earnings from the properties are perhaps not as stable as the earnings from a large shopping mall with long term leases on investment grade tenants. Therefore, we would expect more negative reactions to unsecured debt offerings by health care REITs.

The regression data and the results of the regression are shown in Appendix B. These results indicate a strong negative reaction to the ratio of unsecured debt to asset value (the coefficient is -0.113), and is statistically different from zero at the 7% level-of-confidence interval, with a t-statistic of -1.95. While the coefficient for total asset value is also negative, it is quite small (2.32×10^{-5}). However it too, is statistically different from zero at the 9% level-of-confidence interval.

The coefficients for the other variables were not statistically significant. The coefficient for the REIT focus had a t-statistic of -0.38 (71% level-of-confidence interval), the coefficient for the term of the debt had a t-statistic of 0.37 (71% level-of-confidence interval), the coefficient for the REIT credit rating had a t-statistic of -0.23 (82% level-of-confidence interval), and the coefficient for whether the debt was fixed or floating rate had a t-statistic of -1.59 (13% level-of-confidence interval).

3.5 DO THE STOCK PRICE REACTIONS CONFORM TO THEORY?

In the analysis of REIT stock price reactions, we note a negative reaction to announcements of unsecured debt issuances. Myers, in his paper “*Determinants of Corporate Borrowing*”, argues that growth firms, i.e., firms where the largest component of overall firm value is from growth opportunities should maintain very low debt levels on their balance sheets. The negative returns exhibited by the REIT stock prices provide weak evidence in support of this theory. In the REIT financial statistics regression, we note a negative reaction to ratio of the amount of unsecured debt to the asset value of the REIT. This result provides further evidence in favor of Myers’ argument.

We also note a weak negative reaction to the size, or asset value of the REIT. This may be due to the fact that the larger REITs are under the scrutiny of more investment and portfolio managers, so the market reaction to their announcements may be faster and more definite than the smaller REITs.

Up to now, REITs have grown at relatively high rates, with acquisitions making up the major portion of that growth. Now, with the reduced availability of positive spread investments, the REIT industry may be moving from the growth phase towards the mature phase. These results suggest that the market recognizes this, a fact that may be further supported by the graph of the correlation of Equity REIT Returns to the Wilshire Small Cap Stock Index as shown in Chapter 1, where the correlation went from over 0.90 in 1990 to 0.20 in early 1995.

Maris and Elayan, in their paper “*Capital Structure and the Cost of Capital for Untaxed Firms: The Case of REITs*”, Jaffe, in his paper “*Taxes and the Capital Structure of Partnerships, REITs, and Related Entities*”, and Howe and Shilling, in their paper “*Capital Structure Theory and REIT Security Offerings*”, present arguments that the taxable status of most REIT investors, such as mutual funds and retail investors, would be better served by lower levels of debt in the REIT capital structure. Their arguments are similar to Modigliani-Miller Proposition II, where the overall financial returns on the investment are evaluated through the corporation to the investor. The negative returns elicited in the study are not inconsistent with these tax-based theories.

Finally, Myers and Majluf, in their signaling paper “*Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have*”, extend Myers’ argument about negative reactions to debt offerings. They argue that the use of risky debt in investments is not beneficial for the existing shareholders, and as such, any announcements of risky debt should be negatively received by the market. If we follow the argument that unsecured debt is riskier for the equity holders than secured debt, then the negative reactions experienced by the REIT stocks in our study would also support this signaling theory.

In summary, these results point to two issues within the REIT industry - growth and investor leveraging clientele. If we look at the issue of industry growth, it is obvious that the industry grew at an astronomical rate over the past few years. This growth rate could not be sustained. In mid-1994, many REIT commentators expressed concern that many

REITs were coming public with sub-investment grade assets in their portfolio. If this had continued, it could have harmed investor confidence in the REIT industry. Now that this explosive growth has slowed considerably, the market will evolve and consolidate, with some of the stronger REITs taking over some of the weaker performers. In fact, this has already happened, with Wellsford Residential Property Trust acquiring Holly Residential Properties at the end of 1994. While the negative stock returns suggest reduced growth in the industry, it is not a negative in itself. Rather, it simply corroborates other evidence in the market that the industry is maturing.

The second issue that should be addressed are the leveraging clientele theories that were presented in this thesis. The REIT is a very appropriate real estate investment vehicle for non-taxable institutional investors such as pension funds. However, the industry has not yet reached a market capitalization which will provide these investors with the liquidity that they desire. Now that growth has slowed, it may take even more time before the market capitalization will grow to a level which is appropriate for these investors.

CASE STUDIES

While it is helpful to gauge the investor's reaction to the issuance of unsecured debt, it may not tell the complete story. In order to obtain a better picture of what is happening in the REIT industry, it may also be valuable to investigate the rationale behind the issuances. Consequently, I spoke with three REIT CFOs and a REIT industry analyst and asked several questions about the state of the REIT market today and the rationale for issuing unsecured debt. In these discussions, some REIT professionals had interesting theories on REIT capital structure which are discussed from a theoretical capital structure and efficient market point of view.

4.1 WHAT HAS CHANGED?

Almost everyone I spoke with agreed that the increasing use of unsecured debt is a sign of the growing maturity of the REIT industry and a more complete awareness of all of the financing options available to these new publicly traded companies. 90% of REITs, prior to going public, had been private developers or operating companies. The traditional source of capital available to these entities, and that which everyone had been most familiar with, had been secured debt, or mortgages. Accordingly, the easiest method of raising capital for these new REITs was to continue to issue secured debt. Mr. Mike Kirby of Green Street Advisors put it very well when he said,

“During round one of the REIT industry, all of the REITs took the path of least resistance and went with secured debt. Now in round two, the big question is, “How do I get cheap capital?”. REITs are now taking the time to review all of the financing options, and for those with the ability to issue unsecured debt, it is the least expensive choice of external capital.”

While this may provide a rationale for the increasing use of unsecured debt versus secured debt, we should also examine why REITs are not using equity capital. Several factors have combined to raise the required return on equity to levels where it is uneconomical for the REIT to issue it. They are the same factors that caused the REIT IPO slowdown - the re-emergence of private debt and equity, the emergence of new secured debt in the form of mortgage conduits, and finally the rise in interest rates which has reduced the risk premium offered by REIT yields.

Mr. Kirby also recognizes the *ability* of the REIT to issue unsecured debt. Clearly, not every REIT is either able or suitable to issue unsecured debt. Those that do so appear to have made the successful transition from private real estate developer to public real estate corporation. As REITs have gone public, they have realized that SEC disclosure has reduced the freedom that traditional developers are used to, and found it difficult to participate in some of the riskier investments that they would have in the past. Now that some REITs have issued unsecured debt, they have introduced the additional scrutiny of the rating agencies. While the traditional developer may not regard this as a positive step, many would contend that it will force the public real estate industry to adopt more conservative corporate behavior and better management policy than the traditional private developer.

Finally, it is only in the last few years that REITs, and the overall REIT market, have reached a capitalization value that warrants the attention of the rating agencies. Until recently, there has simply not been enough equity in the industry and REITs had not achieved a proven track record. Therefore, coupled with the REIT's indifference to unsecured debt was the rating agencies' unwillingness to issue REITs investment grade ratings.

4.2 WHAT IS THE REIT'S OPTIMUM CAPITAL STRUCTURE?

A REIT's optimum capital structure is dependent upon several factors. At first glance, since the REIT is a non-taxable entity, it is unable to fully utilize the tax shields generated by debt interest payments. Therefore, the REIT, in competition with taxable entities, may find itself at a disadvantage in the debt capital markets. I raised this point during some of the interviews I had with REIT professionals, and both Mr. Bernard Winograd, CFO of The Taubman Company, and Mr. Scott Wolstein, CFO of Developers Diversified Realty Corporation explained to me that REITs are not in competition with taxable firms in the debt capital markets. There is not such a finite supply of debt that taxable firms are able to bid up the price to levels where it is unattractive for REITs. The cost of debt is more dependent upon external factors such as the Federal Reserve Banks' borrowing rates and the risk profile of the REIT, and less dependent upon aggregate supply/demand competition for debt capital.

They explained how a REIT may be at an advantage over taxable companies when it maintains a certain level of debt in its capital structure. REITs must pay out, in the form of dividends, a minimum of 95% of *taxable income*. This taxable income is reduced by whatever interest payments are made by the REIT, and any distributions made in excess of taxable income are deemed a Return of Capital to the investor. Therefore, all else equal, if a REIT continues to payout the same dividends with debt in its capital structure as when it was all-equity financed, investors will realize a Return of Capital, and are able to defer capital gains tax until the time of sale. REITs are at an advantage over industrial companies in that, with higher non-cash deductions such as depreciation and amortization, they may find it easier to distribute a Return of Capital. Therefore, there is a *tax advantage to the shareholder* if the REIT maintains a level of debt in its capital structure.

They cite the blended, or Weighted Average Cost of Capital (WACC) as the indicator of optimum debt levels. Since debt is typically cheaper than equity, it is claimed that a level of debt can be acquired which will not cause the required return on equity to rise to levels

which increase the overall WACC. This claim was corroborated by Mr. Bob Lieber, of Lehman Brothers, who stated recently in a presentation at MIT,

“Equity investors in REITs do not appear to require any additional returns for REITs with debt levels of up to about 20% of market capitalization.”

However, this claim is inconsistent with modern corporate capital theory. Clearly, the required return on equity should rise in inverse proportion to the level of debt in the REIT. Remember that the WACC of the REIT should theoretically be independent of the capital structure. So the introduction of more debt into the capital structure of the REIT *should not reduce the overall required return on the assets, but rather should increase the required return of the equity holders.*

Perhaps it can be explained by the fact that the equity investors are being compensated for the increase in debt by the increase in deferred capital gains. If this is the case, then the introduction of debt, up to certain levels, *can* lower the overall WACC of the REIT. The elusive question then becomes, what is the maximum debt level of the REIT that will minimize the overall WACC? The precise level of debt will depend on several factors, including the asset type and the age of the properties and the tax status of the shareholders. For those properties with high appreciation potential, the Return of Capital can accrue at a faster rate for the shareholder, so a lower level of debt is required to effect the same capital gain.

Both Mr. Winograd and Mr. Wolstein agreed that a REIT needs to decide which credit rating to aim for depending upon its asset base. It needs to weigh the cost advantages of each discrete credit rating and decide which level of Debt Service Coverage it can maintain without compromising operations. The asset mix will play a major role in the REIT's credit rating. To use Mr. Wolstein's example,

“A major shopping mall owner with investment grade tenants on long term leases has a far more stable and secure cash stream than perhaps a golf course owner.”

The shopping mall REIT is better equipped to maintain an investment grade credit rating than REITs in other industry sectors, so the industry’s tendency to ‘decide’ on an overall debt-to-equity ratio ceiling of 50% is somewhat inappropriate given the diverse asset base of the different REITs.

Mr. Kirby hinted at the ‘growth/debt’ issue when he said, *“many REITs made the mistake of coming public with already high levels of debt on the balance sheet”*. If we return to Modigliani-Miller Proposition II, we can see that high debt levels raise the required rate of return on the REIT equity. This makes it very difficult for the REIT to make positive spread investments, which then, in turn, reduces the availability of external capital. If we expand this to include unsecured debt, we can argue that the risk to the shareholders is greater when there is unsecured debt on the books, further raising the required rate of return on the REIT equity.

4.3 WHY ARE REITs ISSUING UNSECURED DEBT?

Perhaps the main reason that REITs are turning to unsecured debt as a form of external financing is that, for the appropriate REIT, it offers a larger degree of operational flexibility than secured debt. Mr. Winograd said,

“We think that having the ability to finance by the use of our balance sheet rather than property by property is one of the significant advantages to being a public company. In general, we felt that the flexibility rather than the price was the principal advantage relative to secured financing. Pricing never has been materially better than what we could achieve with secured

financing, and in some cases marginally worse, but the flexibility has several aspects to it.”

One aspect of the flexibility concerns the fact that the cash flow from an asset that is encumbered by secured financing will, to a large amount, go to the debt service for that particular loan. On the other hand, if the property is financed using unsecured debt, then its cash flow will be available for general corporate use.

The second aspect of the flexibility is the ability to freely sell the assets on the portfolio. With secured financing, the proceeds from the sale of an asset will typically go towards paying down the mortgage on that property. Furthermore, if the property is financed by a fixed rate, secured loan and is sold prior to the loan maturity, payoff would typically require a yield maintenance payment, thus further decreasing the cash proceeds available to the REIT after the sale. On the other hand, the proceeds from the sale of an unsecured asset are available for general corporate use, with no obligation to use these proceeds to pay down the unsecured loan. While this ability to freely sell assets may not appear to be of benefit to many REITs which do not have asset disposition plans, it is a factor that is looked upon very favorably by the rating agencies as it gives the REIT the ability to raise cash by means other than traditional sources of debt and equity.

The third aspect to this flexibility is the fact that the administration costs tend to be far less with unsecured debt than those associated with secured financing. Again, these costs may vary from REIT to REIT. A REIT with numerous properties would probably see more cost benefits with unsecured financing than securing each individual property on the portfolio. Not only are the actual costs less, but also the time costs associated with unsecured financing are typically far less than those associated with secured financing. Depending upon property type and size, a secured financing may take anywhere up to six months, whereas, once the rating agencies have rated the REIT, the unsecured financing process can take as little as a couple of weeks.

While these advantages are certainly obvious, it can be argued that they do not fully compensate for the extra risks incurred by the REIT. As previously mentioned, the main disadvantage of unsecured debt is that a default triggers a lien on the entire REIT, causing widespread and costly damage. Myers argues that risky debt reduces management's ability to make optimal investment decisions on behalf of the existing shareholders. This may reduce the growth potential of the REIT, a theory that may be supported by the results of our stock price and statistical studies.

I spoke with Mr. Wolstein about the pricing aspect of unsecured debt. He told me that, at the moment, senior unsecured debt is more expensive than comparable secured financing. There is a spread of approximately 145 Basis Points (*BP*) over Treasuries for BBB- rated unsecured financing, and a comparable secured financing deal would cost approximately 100 BP over Treasuries. However, in the light of modern risk/return analysis, we would expect this pricing premium to exist. Since the unsecured debt holders are lower in repayment priority than the secured debt holders, they assume more risk, and this premium compensates these investors for this additional risk.

A second reason for issuing unsecured financing is the possibility that equity capital may be unavailable at the time. *"The debt window is usually open, while the equity window is open only occasionally"*, said Mr. David Hegarty, President of Health and Retirement Properties, Inc. Faced with the prospect of acquiring a \$320 million portfolio from the Marriot Corporation, Health and Retirement Properties had to devise a financing plan. *"We decided to raise as much equity as the market would take,"* said Mr. Hegarty. *"We realized that the market would not absorb an equity offering of \$320 million in one shot, so we put together a \$175 million equity offering. We had an investment grade tenant in the portfolio, so we were able to get an investment grade rating from the agencies, and then issued unsecured debt to cover the rest of the transaction."*

4.4 ARE THE COVENANTS ON UNSECURED DEBT MORE OR LESS RESTRICTIVE THAN THOSE ON SECURED DEBT?

During a review of the unsecured debt covenants, we examine the ramifications from a growth perspective, since the REIT industry has traditionally been one of growth.

“Unsecured debt covenants, as written, look far less constraining than ones written in a secured debt agreement.... The practical effect of covenants on secured property is that there are very few constraints imposed on corporate behavior.”³⁵

The implication is that unsecured debt covenants, by their very nature, are imposed at the corporate level, and need to be addressed on an individual REIT basis. Take for example Health and Retirement Properties. Prior to its unsecured debt offering, it had a conservative Debt-Equity ratio of 0.16. The covenants on its unsecured debt offering limits its Debt-Equity ratio to 1.5, so considerable room remains for the addition of further debt into its capital structure. Furthermore, the addition of this unsecured debt offering raised the Debt-Equity ratio to 0.26, well within the region that the REIT industry finds attractive.

Apart from the REIT-specific restrictions that are imposed by unsecured debt, everyone agrees that the issuance of unsecured debt has introduced a new watch-dog - the rating agencies. Once the REIT issues unsecured debt, it needs to be more conservative than it might otherwise have been in order to maintain its credit rating. This concerns corporate behavior, whereas the secured financing specifically deals with asset specific behavior. The REIT must maintain conservative debt levels so as to keep its Debt Service Coverage Ratio (*DSCR*) at similarly conservative levels. On the offering prospectae that were examined in the course of this thesis, the minimum Debt Service Coverage Ratios varied from 1.5:1 to 2.0:1, though clearly the REIT would suffer from a downgrade by the rating agencies well before the *DSCR* reached these levels.

³⁵ Mr. Bernard Winograd, CFO of The Taubman Company.

The effects of a rating downgrade are widespread. Not only will the future cost of debt capital, both secured and unsecured, get more expensive, but also the present cost of unsecured debt capital rises. Furthermore, the required rate of return on equity will also rise in order to compensate for the increased risk and earnings volatility.

4.5 WILL REITs CONTINUE TO USE UNSECURED DEBT?

Everyone I spoke with agreed that the REIT market and REITs' use of unsecured debt will continue to expand. As mentioned previously, REITs must constantly return to the external capital markets. Reducing a REIT's dividends, while advantageous to the extent that it provides the REIT with a certain amount of internal capital, will not reduce the REIT's dependence upon external markets to any great extent. Mr. Wolstein remarked,

“Reducing dividends is purely a cosmetic activity. If we reduce our payout ratio, we can maybe save up to \$20 million per year. We spend an average of \$200 million on acquisitions every year, so a reduced payout ratio will provide, at a maximum, 10% of our annual capital needs.”

Unsecured debt is not for every REIT. The CFO must look carefully at the REIT's business focus and examine whether or not his REIT can operate successfully within the corporate confines of these covenants and the additional scrutiny of the rating agencies.

CONCLUSION

This thesis has attempted to explore the rationale for issuing unsecured debt and the ramifications for the REIT industry. In order to do so, two statistical analyses on REIT stocks were conducted. The first was an analysis of the REIT stock price reactions to announcements of initial public offerings of unsecured debt. The second was a statistical regression of the abnormal returns obtained in the first analysis against several financial characteristics of the REIT. The results of both analyses suggest that REIT stocks react negatively to these IPO announcements. These negative reactions provide evidence in support of several theories presented by academics in the field of corporate finance. The first theory, presented by Myers, argues that firms with growth opportunities should maintain a low level of debt in their capital structure. The negative reactions elicited in the study suggest that REITs which issue unsecured debt may be signaling lower growth opportunities in the future.

The second theory, presented in various forms by Maris & Elayan, Jaffe, and Howe & Shilling, argues that taxable investors are financially better off investing in all-equity REITs. The negative returns suggest that the majority of REIT investors are taxable individuals, who decide to liquidate their holdings when the REIT announces its intention to issue unsecured debt.

The ramifications of these negative stock price reactions were discussed with respect to the growth of the REIT industry. Taken at face value, they simply provide further evidence of the maturity and evolution of the industry. While this in itself is not a negative point, it does however mean that we will probably not see the industry achieve the near-term growth expected by Mr. Mark Decker, President of NAREIT, when he said,

“While it is not likely that the REIT industry will progress to a trillion dollar total asset industry, I believe it will reach the \$200 to \$500 billion asset threshold in the next 10 to 20 years.”³⁶

This study of the REIT investor’s perception of unsecured debt was counterbalanced by interviews with REIT professionals. Among the topics discussed were the health of the industry and the increasing use of unsecured debt in REITs. The general consensus was that the rapid growth of the REIT industry has come and gone, and it is now entering a period of maturity.

There is agreement that it is rational to include debt in certain REITs’ capital structure. The presence of debt, secured or unsecured, and the amount thereof, depend upon several factors, including the REIT’s investor profile and the asset quality and mix.

The arguments presented were analyzed and found to conform to modern capital theory *if* certain assumptions are made. In the light of evidence existing in the market, these assumptions may be valid. However, I am not fully convinced that the consequences of default under unsecured debt are being fully considered. I would argue that unsecured debt will force the REIT to adopt more conservative behavior than it otherwise would, causing a further reduction in the REIT’s growth prospects. This is not only due to the additional scrutiny of the rating agencies, but also the risk characteristics of unsecured debt.

5.1 AREAS OF FUTURE STUDY

While this study has provided us with some thought-provoking results, another useful study might be to investigate the purpose of the REIT’s issuance of unsecured debt. If a REIT uses the proceeds to retire existing higher cost debt, secured or otherwise, then the

³⁶ NAREIT. “*The REIT Report.*” Vol. 8, No. 3. 1993

market may look upon this announcement favorably. If, on the other hand, the REIT uses the proceeds to simply add more debt to its capital structure, then the proposed debt level in the REIT's capital structure should be ascertained, and the market reaction to this announcement should be investigated. However, a study of this nature should not be undertaken until the sample of REITs offering unsecured debt has reached a significant size.

APPENDIX A
INDIVIDUAL REIT AARS AND CARs

DAY	AEC	
	AAR	CAR
-5	1.495%	1.495%
-4	-0.063%	1.433%
-3	-0.099%	1.333%
-2	1.014%	2.347%
-1	-0.504%	1.843%
0	0.781%	2.623%
1	0.653%	3.277%
2	-0.801%	2.476%
3	-0.959%	1.516%
4	0.810%	2.326%
5	-0.620%	1.706%
6	0.005%	1.711%
7	-0.019%	1.692%
8	1.388%	3.080%
9	-0.570%	2.510%
10	-0.407%	2.103%

AHE	
AAR	CAR
-	0.000%
-	0.000%
-0.143%	-0.143%
-2.112%	-2.255%
1.530%	-0.725%
-1.753%	-2.478%
1.264%	-1.214%
1.301%	0.087%
1.153%	1.240%
-0.991%	0.249%
0.037%	0.285%
-2.288%	-2.003%
0.857%	-1.146%
0.292%	-0.854%
2.634%	1.780%
2.040%	3.820%

DDR	
AAR	CAR
0.591%	0.591%
-0.734%	-0.143%
-1.585%	-1.728%
1.422%	-0.306%
1.057%	0.751%
1.526%	2.277%
-1.183%	1.093%
0.264%	1.357%
-0.330%	1.028%
-0.390%	0.638%
1.042%	1.680%
0.945%	2.626%
3.735%	6.361%
1.805%	8.166%
1.868%	10.034%
0.157%	10.191%

EQR	
AAR	CAR
3.011%	3.011%
2.043%	5.054%
-0.584%	4.470%
0.094%	4.564%
-0.971%	3.593%
-2.459%	1.134%
-1.645%	-0.512%
-2.471%	-2.983%
-0.297%	-3.280%
0.466%	-2.814%
-0.095%	-2.909%
-0.448%	-3.358%
-1.758%	-5.116%
0.494%	-4.622%
-2.946%	-7.567%
-0.003%	-7.570%

DAY	FRT	
	AAR	CAR
-5	-0.963%	-0.963%
-4	1.174%	0.210%
-3	-0.771%	-0.561%
-2	0.498%	-0.063%
-1	-3.233%	-3.295%
0	-0.089%	-3.384%
1	0.545%	-2.839%
2	2.229%	-0.610%
3	-3.188%	-3.798%
4	-0.215%	-4.013%
5	-0.611%	-4.624%
6	0.995%	-3.629%
7	0.306%	-3.323%
8	-0.861%	-4.184%
9	-1.314%	-5.498%
10	0.205%	-5.293%

FUR	
AAR	CAR
1.170%	1.170%
-1.100%	0.070%
1.178%	1.248%
-2.272%	-1.025%
2.335%	1.310%
-2.255%	-0.945%
1.158%	0.214%
2.317%	2.531%
-1.099%	1.432%
1.160%	2.592%
-1.118%	1.473%
0.017%	1.490%
0.018%	1.508%
2.292%	3.801%
-1.086%	2.715%
0.011%	2.726%

HCP	
AAR	CAR
-0.135%	-0.135%
-0.035%	-0.170%
0.857%	0.688%
-1.094%	-0.406%
0.689%	0.283%
-2.793%	-2.510%
-0.586%	-3.096%
-0.009%	-3.106%
0.017%	-3.089%
0.882%	-2.207%
-0.081%	-2.288%
-0.071%	-2.359%
-1.024%	-3.382%
1.346%	-2.036%
1.897%	-0.139%
-3.386%	-3.525%

HRP	
AAR	CAR
0.084%	0.084%
0.808%	0.892%
-0.760%	0.132%
-1.137%	-1.005%
-0.306%	-1.311%
0.607%	-0.704%
-1.604%	-2.309%
1.019%	-1.289%
-0.401%	-1.690%
-0.330%	-2.021%
1.265%	-0.756%
-0.208%	-0.965%
0.351%	-0.613%
-0.321%	-0.935%
1.169%	0.234%
-4.399%	-4.165%

DAY	KIM	
	AAR	CAR
-5		0.000%
-4	-0.747%	-0.747%
-3	-1.840%	-2.587%
-2	-1.300%	-3.887%
-1	-0.716%	-4.602%
0	-1.326%	-5.929%
1	0.992%	-4.937%
2	-0.364%	-5.301%
3	-0.828%	-6.129%
4	-0.290%	-6.419%
5	0.038%	-6.381%
6	0.018%	-6.363%
7	-1.738%	-8.101%
8	-1.253%	-9.354%
9	-0.259%	-9.613%
10	-1.317%	-10.930%

MRV	
AAR	CAR
-5	-0.803%
-4	-1.317%
-3	-0.131%
-2	-0.167%
-1	-1.419%
0	1.104%
1	-0.102%
2	-1.447%
3	-0.096%
4	-1.243%
5	-0.090%
6	-0.160%
7	-0.722%
8	2.871%
9	-2.476%
10	0.495%

MT	
AAR	CAR
-5	3.208%
-4	-1.575%
-3	-0.373%
-2	0.041%
-1	2.098%
0	2.487%
1	-1.731%
2	-0.392%
3	-1.920%
4	-0.470%
5	2.050%
6	1.557%
7	0.593%
8	-0.672%
9	-2.125%
10	1.449%

NPR	
AAR	CAR
-5	0.669%
-4	0.368%
-3	-0.603%
-2	0.036%
-1	-0.495%
0	0.119%
1	-1.590%
2	0.587%
3	0.942%
4	-0.982%
5	1.236%
6	-0.510%
7	0.042%
8	-0.466%
9	-0.584%
10	-0.034%

DAY	PTR	
	AAR	CAR
-5	0.931%	0.931%
-4	-0.230%	0.701%
-3	0.196%	0.897%
-2	0.521%	1.418%
-1	-1.616%	-0.198%
0	0.403%	0.205%
1	1.735%	1.941%
2	2.881%	4.822%
3	1.083%	5.905%
4	1.085%	6.990%
5	0.218%	7.208%
6	-2.021%	5.187%
7	0.685%	5.872%
8	0.561%	6.432%
9	-1.162%	5.271%
10	1.050%	6.321%

ROUS	
AAR	CAR
-5	0.021%
-4	-1.784%
-3	1.707%
-2	1.908%
-1	0.054%
0	-0.984%
1	0.252%
2	-1.407%
3	2.681%
4	-2.748%
5	0.618%
6	1.758%
7	-2.378%
8	-0.185%
9	0.021%
10	-0.234%

SCN	
AAR	CAR
-5	1.583%
-4	0.018%
-3	0.629%
-2	-0.665%
-1	0.051%
0	-3.717%
1	0.784%
2	0.731%
3	3.920%
4	-0.747%
5	-0.006%
6	3.017%
7	0.008%
8	-0.066%
9	0.025%
10	-1.455%

TCO	
AAR	CAR
-5	3.176%
-4	4.080%
-3	-4.055%
-2	-0.423%
-1	0.026%
0	-4.944%
1	-2.561%
2	8.936%
3	-4.209%
4	-0.865%
5	-0.840%
6	-2.524%
7	2.637%
8	1.727%
9	-0.026%
10	-0.039%

DAY	TEE	
	AAR	CAR
-5	-2.237%	-2.237%
-4	0.063%	-2.175%
-3	1.338%	-0.837%
-2	3.557%	2.720%
-1	0.611%	3.331%
0	0.552%	3.883%
1	2.785%	6.669%
2	0.687%	7.356%
3	-2.369%	4.986%
4	5.533%	10.519%
5	-6.238%	4.281%
6	-0.159%	4.122%
7	-0.562%	3.560%
8	-0.047%	3.514%
9	-0.030%	3.484%
10	-0.092%	3.392%

UDR	
AAR	CAR
0.996%	0.996%
0.319%	1.315%
-0.574%	0.741%
1.419%	2.160%
0.600%	2.761%
-0.586%	2.175%
-0.568%	1.607%
-0.452%	1.155%
0.143%	1.297%
0.363%	1.660%
-0.424%	1.236%
0.489%	1.725%
0.481%	2.206%
-0.030%	2.175%
0.798%	2.973%
0.542%	3.515%

WIR	
AAR	CAR
-0.629%	-0.629%
0.146%	-0.484%
4.114%	3.630%
0.105%	3.735%
3.014%	6.749%
4.875%	11.625%
1.174%	12.798%
1.786%	14.585%
2.788%	17.373%
-2.057%	15.315%
0.123%	15.438%
-1.557%	13.881%
-1.440%	12.441%
-0.705%	11.736%
-0.628%	11.107%
0.126%	11.233%

WRI	
AAR	CAR
-0.692%	-0.692%
-0.418%	-1.110%
-0.156%	-1.266%
0.278%	-0.988%
-0.951%	-1.939%
-0.593%	-2.532%
0.363%	-2.169%
-1.675%	-3.844%
-0.690%	-4.535%
-0.721%	-5.255%
-0.723%	-5.978%
0.654%	-5.324%
0.691%	-4.633%
0.406%	-4.227%
0.669%	-3.558%
1.419%	-2.139%

DAY	WRP	
	AAR	CAR
-5	-0.964%	-0.964%
-4	-0.983%	-1.947%
-3	-0.519%	-2.466%
-2	1.541%	-0.925%
-1	0.857%	-0.068%
0	2.113%	2.044%
1	0.243%	2.287%
2	0.784%	3.071%
3	-0.363%	2.708%
4	0.221%	2.929%
5	-0.342%	2.587%
6	-0.999%	1.588%
7	2.030%	3.618%
8	2.999%	6.617%
9	-2.643%	3.974%
10	1.277%	5.251%

APPENDIX B
REGRESSION DATA

Ticker	AAR	Amount (\$M)	Fixed	A=1 B=0 Rating	Term (Yrs)	Assets (\$M)	Amt/Assets	HC = 1 Type
AEC	0.781%	75	1	0	5	268.00	0.28	0
AHE	-1.753%	100	1	0	9	515.00	0.19	1
DDR	1.526%	100	0	0	1	534.00	0.19	0
EQR	-2.459%	125	1	0	5	760.00	0.16	0
FRT	-0.089%	100	1	0	5	754.00	0.13	0
FUR	-2.255%	100	1	0	10	350.00	0.29	0
HCP	-2.793%	75	1	0	8	400.00	0.19	1
HRP	0.607%	125	0	0	5	691.00	0.18	1
KIM	-1.326%	100	1	1	10	531.00	0.19	0
MRY	-1.354%	120	1	0	7	829.00	0.14	0
MT	2.487%	100	1	0	10	762.00	0.13	1
NPR	0.119%	100	1	1	10	678.00	0.15	0
PTR	0.403%	100	1	1	14	890.00	0.11	0
ROUS	-2.530%	120	1	0	20	2,940.00	0.04	0
SCN	-3.717%	50	1	0	18	1,194.00	0.04	0
TCO	-4.944%	200	1	0	5	387.00	0.52	0
TEE	0.552%	50	1	0	10	257.00	0.19	0
UDR	-0.586%	52	1	0	5	390.00	0.13	0
WIR	4.875%	50	1	0	10	309.00	0.16	0
WRI	-0.593%	25	1	1	5	688.00	0.04	0
WRP	2.113%	100	0	0	7	506.00	0.20	0

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.614286981
R Square	0.377348495
Adj. R Sq.	0.11049785
Std. Error	0.021451993
Observations	21

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	6	0.0039045	0.0006507	1.4140813	0.276789399
Residual	14	0.0064426	0.0004602		
Total	20	0.0103471			

	<i>Coefficients</i>	<i>Std. Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.000%</i>	<i>Upper 95.000%</i>
Intercept	0.047839361	0.0205122	2.3322405	0.0351317	0.003845049	0.091833674	0.003845049	0.091833674
Fixed	-0.02424988	0.0152707	-1.587997	0.1346089	-0.057002384	0.008502622	-0.057002384	0.008502622
Rating	-0.00303116	0.0132164	-0.229349	0.8219147	-0.031377563	0.025315233	-0.031377563	0.025315233
Term (Yrs)	0.000594795	0.0016026	0.371139	0.71609	-0.002842487	0.004032077	-0.002842487	0.004032077
Assets (\$M)	-2.3199E-05	1.275E-05	-1.819036	0.0903555	-5.05527E-05	4.15449E-06	-5.05527E-05	4.15449E-06
Amt/Assets	-0.11299124	0.0580199	-1.947457	0.071822	-0.237431652	0.011449174	-0.237431652	0.011449174
Type	-0.00470832	0.0125476	-0.375238	0.7131071	-0.031620183	0.022203538	-0.031620183	0.022203538

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