

Unsecured REIT Debt and Its Role in REIT Capital Structure

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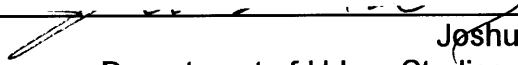
MASTER OF SCIENCE
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ABSTRACT:

The trend of increased use of unsecured debt by Real Estate Investment Trusts (REITs) is continuing. Many real estate practitioners and academics are observing this new phenomenon with great interest. Two important questions in this regard are why is this happening and what does it mean for the REIT Industry? On one hand, REIT management claims that unsecured debt has a lower cost of capital and provides greater operational flexibility than secured debt. On the other hand, the use of unsecured debt introduces several unique constraints on REIT management, and may be a signal of reduced growth opportunities for the REIT.

This thesis explores the equity market's reaction to these debt offerings, the cause of this reaction, and the determinants of the debt issue's yield at issuance. Negative average abnormal returns are observed in a sample of twenty three initial public offering events during the five day period leading up to the offering date (days -4 to 0), indicating a negative market reaction. These negative abnormal returns are most closely correlated with the ratio of market value to book value of the REIT, which serves as a proxy for the market's perception of a REIT's growth opportunities. In addition, regression analysis using a sample of thirty two unsecured debt IPOs reveals the two most significant determinants of IPO pricing to be the term structure of interest rates and the percentage of unencumbered assets dedicated to repayment of the debt.

These results support the hypothesis that REIT's choice to issue unsecured debt provides information to the market concerning that REIT's future growth prospects. In particular, we conjecture that REITs that choose to finance with unsecured debt are signaling to the market a reduction in firm future growth opportunities. Our results indicate that those firms with the largest perceived growth potential, as indicated by the market value to book value ratio, suffered the largest negative abnormal stock price returns.

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UNSECURED REIT DEBT AND ITS ROLE IN REIT CAPITAL STRUCTURE

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Chapter 1

Introduction

Two prominent features differentiate the REIT structure from the typical corporate structure. The REIT is tax exempt, and the REIT is required to pay out 95% of its taxable income through dividends. Because of the operating nature of REITs and the required 95% dividend payout, REITs must continually access the capital markets to fund ongoing acquisition and capital expenditures.

Until recently, REITs have relied almost exclusively on equity or traditional secured debt financing to fund ongoing capital needs. Following the expansion of equity issuance among REITs and a lower interest rate environment, REITs are increasingly accessing capital by issuing unsecured debt rather than through the equity and the traditional mortgage market.

This thesis explores several issues concerning the forces motivating REITs to access the unsecured debt market versus the equity and traditional mortgage markets for funding. An event study is used to document market reaction to unsecured debt issuance, as observed through stock price change, to hypothesize about the signals management may provide the marketplace concerning long run growth prospects of the REIT. In addition, regression analysis is used to study the determinants of the abnormal returns as well as the determinants of unsecured debt pricing. Independent variables for the regressions include macroeconomic factors, financial ratios, and unsecured debt covenants.

The Equity REIT Market: Historical Trends

The asset value of the 176 equity REITs, as reported by NAREIT, reached approximately \$62 billion by the end of 1995. Equity REITs began a rapid growth period in 1992; however, in 1994, the pace of equity REIT IPOs slowed

significantly. A number of potential REITs that were in the IPO pipeline were forced to postpone or cancel their plans to go public.

Re-Emergence of Private Capital

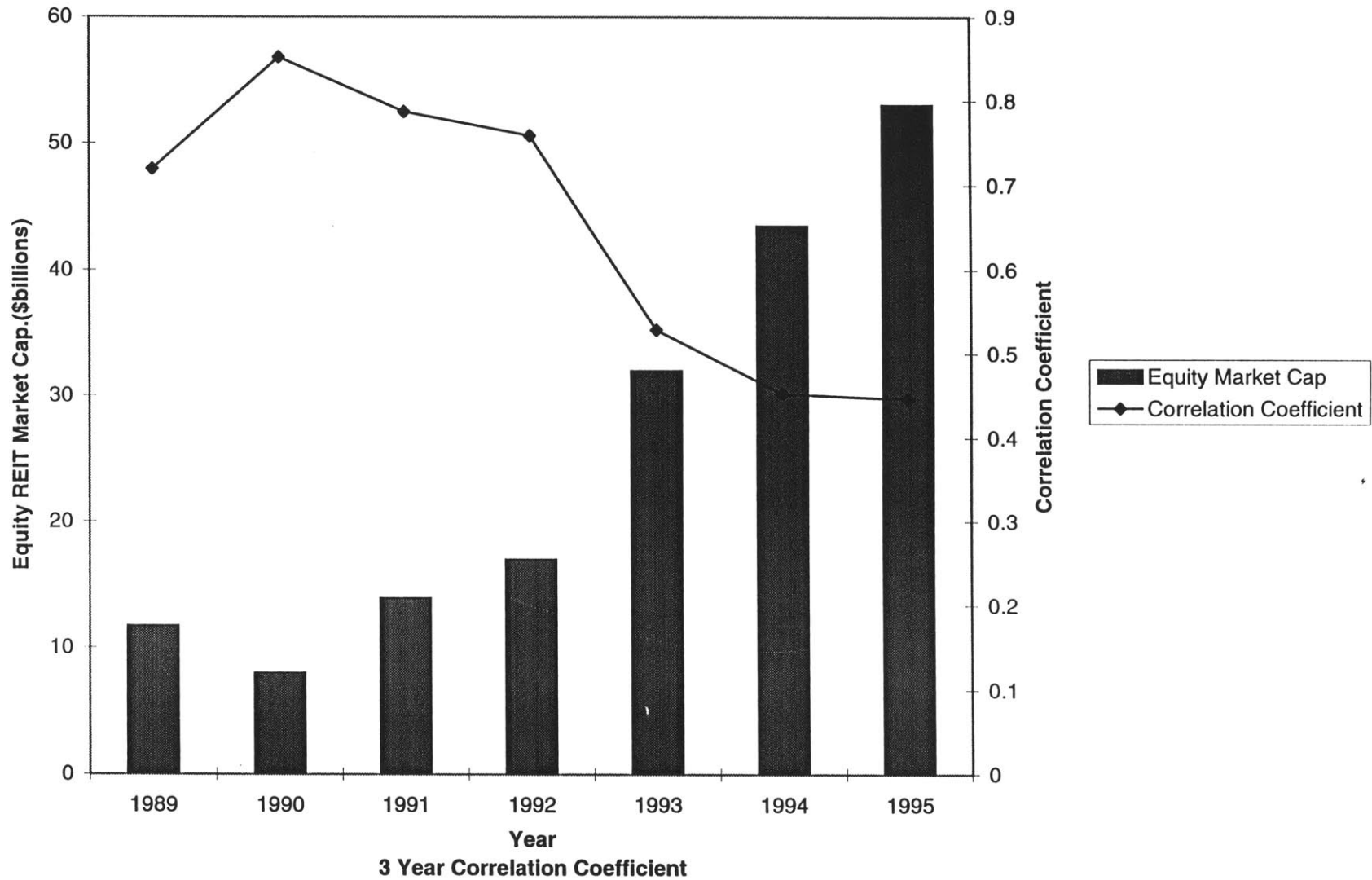
By mid 1994, the perception that the real estate cycle had bottomed-out brought about an increased availability of both private debt and equity capital. Owners were no longer forced to access the public markets as a last ditch recapitalization strategy. Many were then able to refinance existing mortgages with private debt. In addition, as more capital entered the market, property prices were bid up, thus eliminating the arbitrage opportunities that the REITs had exploited in the early 1990's. As property prices were bid up as a result of increased competition from the private market and from other REITs, growth potential for REITs began to decline.

REIT's Changing Relationship to Small Cap Stocks

This decline in growth is demonstrated through REIT's changing relationship with small-cap stocks. Until recently, REIT stocks behaved like small-cap stocks and displayed many of the same characteristics, including high growth potential, small turnover ratios, lower institutional investor participation and a relatively small following among security analysts.¹ In 1990 the correlation coefficient of Equity REIT returns to the Wilshire small Cap Stock Index was approximately .85, but by the end of 1995, as growth potential declined, it had fallen to about .45 (see Exhibit 1A on page 6).

¹ Sagalyn, L. B., 1996, "Institutional Options: Publicly Traded REITs and Privately Held Real Estate Investments," NAREIT Publication, 10.

Exhibit 1A
Correlation of NAREIT Equity REIT Index with the Wilshire Small Cap. Stock Index



REIT Use of Unsecured Debt

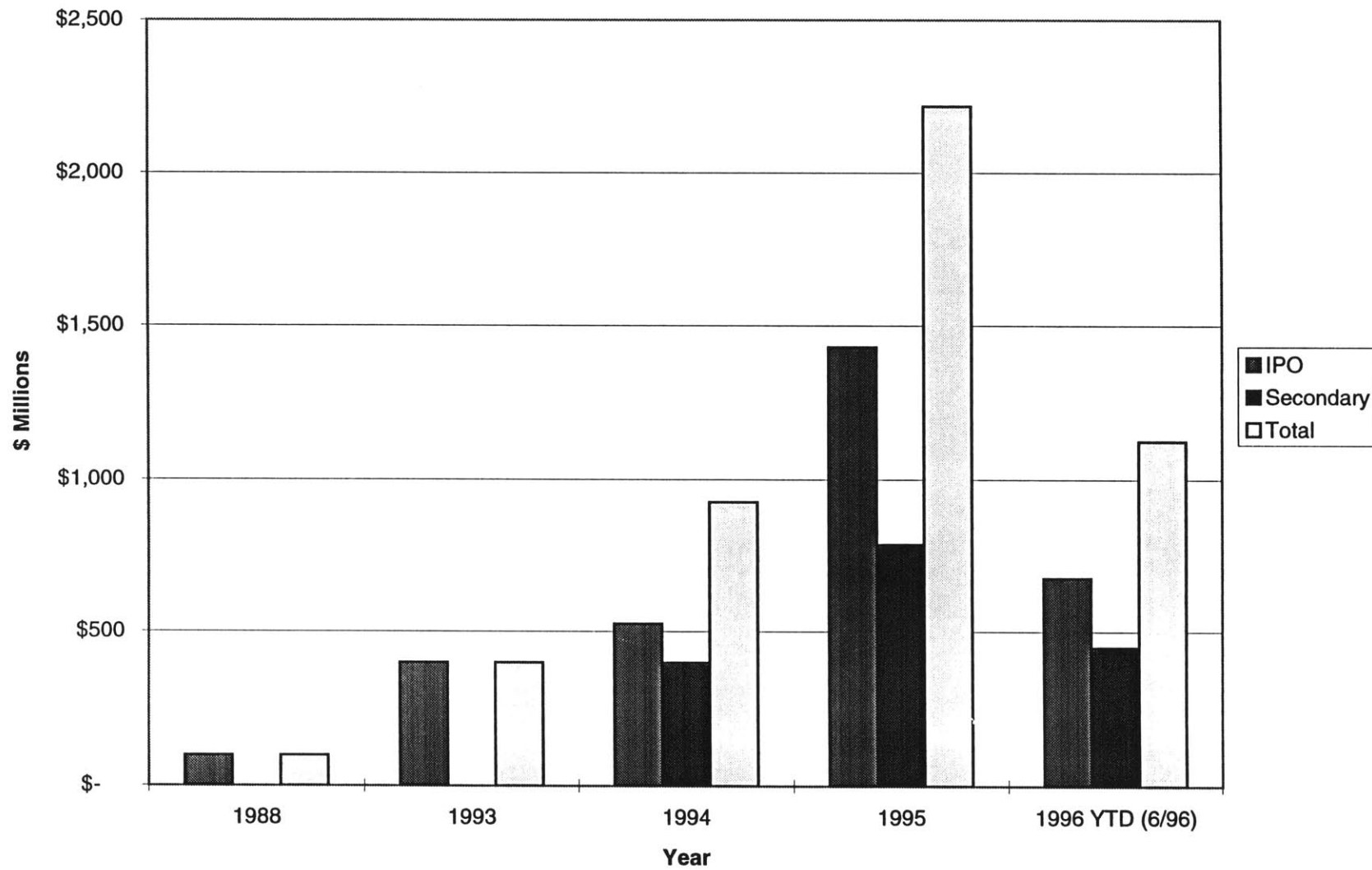
REITs are required to pay out 95% of net taxable income in the form of dividends to retain their tax exempt status. This limits REIT's ability to internally generate capital for portfolio expansion and capital improvements on existing properties. Since 1993, equity REITs have increasingly turned to unsecured debt, rather than secured debt or equity to fund capital needs. The REIT industry is on track to match 1995 unsecured debt issuance levels, which exceeded \$2 billion (see Exhibit 1B on page 8).

What forces are motivating REITs to fund capital requirements with unsecured debt rather than traditional secured debt or equity? REIT management claims that unsecured debt provides a lower cost of capital and greater operational flexibility. We will explore the validity of this first argument in terms of existing theory and literature related to REIT capital structure by first documenting the market reaction to REIT unsecured debt issuance, and then isolating those factors driving the market reaction. We will examine the extent to which unsecured debt affords management a greater degree of operational flexibility through an examination of the restrictive covenants in REIT unsecured debt IPOs.

Theoretical Motivation for REITs use of Unsecured Debt

Three areas of capital structure research and theory will be explored to explain the market reaction to unsecured debt issuance in terms of the signaling hypothesis; corporate capital structure under taxation, agency conflicts, and asymmetric information.

Exhibit 1B
REIT Unsecured Debt Issuance (\$Millions)



Corporate Capital Structure under Taxation

Modigliani and Miller in "The Cost of Capital, Corporation Finance and the Theory of Investment (1958)," started the thinking on modern capital structure theory. Modigliani and Miller's first proposition (MM I) argues that, in a marketplace without frictions or taxes, firm value is unaffected by capital structure.² This argument is based on the assumption that investors can effectively undo the effects of corporate leverage by borrowing at the investor level.

Modigliani and Miller's second proposition (MM II) states that any increase in expected return is exactly offset by an increase in risk and is reflected through a higher required return on equity. In an efficient market, stock price per share will not change under different capital structures. Cash flows will be discounted at an appropriately higher discount rate to compensate for any change in the equity risk. With minimal debt levels, the relationship between return on equity and debt is approximately linear. The required rate of return on the debt, however, will increase at a rate exceeding the linear relationship at some point where debt holders demand to be compensated for high marginal increases in risk levels. This risk comes through an increased probability of financial distress

Modigliani and Miller, argue that capital structure does not matter in an efficient marketplace without taxes and that raising capital through debt at lower interest rates does not reduce the firm's weighted average cost of capital. However, a later work by Modigliani and Miller in "Some Estimates of the Cost of Capital to the Electric Utilities Industry (1966),"³ argues that firms can increase their value

² Modigliani, F. and M. Miller, 1958, "The Cost of Capital, Corporation Finance and the Theory of Investment," American Economic Review, 53, 261-297.

³ Miller, M. and F. Modigliani, 1966, "Some Estimates of the Cost of Capital to the Electric Utilities Industry, 1954-1957," American Economic Review, 56, 333-391.

through the use of debt by creating a tax shield. In an effort to maximize firm value, firms should borrow as much as possible.

In a later paper titled "Debt and Taxes (1977),"⁴ Miller contradicted this earlier conclusion.

The Relative Advantage of Debt

$$1 < (1 - T_{pe}) / (1 - T_p) * (1 - T_c)$$

Based on differences between the tax rate on capital gains (T_p) and the tax rate on interest income (T_{pe}), Miller hypothesizes that the debt holder must be compensated for the higher taxes paid on interest income versus the taxes paid on capital gains. Miller describes the optimal corporate debt level to exist at an equilibrium between aggregate supply and demand. This equilibrium is achieved when corporate savings resulting from the debt tax shield equals the additional taxes paid by the debt holders. Beyond this point, a firm benefits by taking on additional debt. This hypothesis, however, addresses the aggregate debt levels of firms, not debt levels on the individual firm level.

Modigliani and Miller, and Miller base their arguments for optimal corporate debt level based on the value of a tax shield. The REIT structure, however, is not taxed at the corporate level and therefore has no use for a tax shield. In fact, based on the relative advantage of debt as presented by Miller, REITs would have a relative disadvantage from using debt. This finding is consistent with S.C. Myers and R. A. Brealy who conclude that "for companies that do not expect to use the corporate tax shield, there is a moderate tax disadvantage."⁵

⁴ Miller, M., 1977, "Debt and Taxes," Journal of Finance, 32, 261-275.

⁵ Brealy, R.A. and S.C. Myers, 1991, "Principles of Corporate Finance, Fourth Edition," McGraw-Hill Book Company, 433.

Agency Conflicts

A firm's future growth potential is a product of that firm's future positive investment opportunities as well as the likelihood the firm will act on those opportunities in an optimal manner. A firm which has included risky debt in its capital structure, as argued by Myers in "Determinants of Corporate Borrowing,"⁶ effectively splits the benefits from positive NPV projects between equity and bondholders. When debt levels are sufficiently high, bondholders capture a greater portion of the benefits from a positive NPV investment. As a result, equity holders and management will be motivated to make sub-optimal investment decisions through underinvestment in positive NPV projects and through asset substitution.

A highly leveraged firm essentially owns a call option on corporate assets. The extent to which this call option is in the money is a determinant of a firm's motivation to make optimal investment decisions. If shareholders are left with an out of the money call option, any investment which does not sufficiently raise the value of the call option will not be undertaken. Positive NPV projects will be rejected, despite the fact they will increase overall firm value, if the benefits of investment are disproportionately allocated to the bondholders.

An at the money or out of the money call option increases in value as the underlying asset's return becomes more volatile. Thus, a firm with a sufficiently high level of risky debt can increase shareholder value by increasing the volatility of cash flows. Riskier assets will replace safer investments in an effort to increase volatility and call option value. To the extent that asset substitution benefits shareholders, a bondholder's in the money put option will suffer. Additionally, with increased asset volatility, the likelihood of financial distress increases, further eroding the bondholders position.

⁶ Myers, S.C., 1977, "Determinants of Corporate Borrowing," *Journal of Financial Economics*, 5, 147-175.

Myers claims agency conflicts can be controlled by including less debt in a firm's capital structure, restrictive covenants in its indenture agreement, and by shortening the maturity of debt. The market reaction to an unsecured debt offering may therefore be contingent on the debt levels of the issuing firm, the degree to which the restrictive covenants protect shareholder's interests, and the length of the debt maturity

Asymmetric Information

Myers and Majluf⁷ explore the effects of asymmetric information and the signals about a firm's growth potential that management provides the market through its method for raising capital. Myers and Majluf⁸ hypothesize that when managers have information that investors do not have (asymmetric information), management will act in the best interests of existing shareholders. In this case, management with positive information concerning the firm's investment prospects will seek to retain that upside for the existing shareholders by first issuing risk free debt, then risky debt, and lastly equity.

When equity is used to raise additional capital, the market assumes management is acting in the best interests of existing shareholders, and will adjust share value down. In support of this claim, Myers' and Majluf's event study results indicate that "(w)hen managers have superior information, and stock is issued to finance investment, stock price will fall, other things equal. If the firm issues safe (default-risk-free) debt to finance investment, stock price will not fall." Thus, management's method for raising additional capital may provide information to the market concerning firm growth and investment prospects. We will argue that unsecured REIT debt is a riskier form of debt for the REIT than traditional secured debt. Therefore, a REIT's decision to issue unsecured debt

⁷ Myers, S.C. and N.S. Majluf, 1984, "Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have," *Journal of Finance*, 13, 187-221.

over secured debt may be a signal to the market of a reduction in firm growth prospects.

Issuance Cost

Issuance cost of unsecured debt relative to secured debt and equity may be a contributory factor to unsecured debt issuance growth. Based on issuance and transaction costs of equity, secured financing, and unsecured financing, the ability to act on NPV projects will be impacted. The lower the issuance costs, the more positive NPV projects can be undertaken, as less of the bottom line is eroded by transaction and underwriting fees. The fact that REITs are moving to unsecured debt may signal REITs' need to find cheaper debt vehicles out of necessity, the positive NPV projects are getting smaller, or management's expertise in maximizing shareholder wealth is increasing. There may be some of each going on.

Why are REITs using unsecured debt over secured debt?

REIT managers maintain that unsecured financing can provide advantages over secured financing. The usual rationale is twofold; unsecured debt has a lower cost of capital and provides greater operational flexibility than secured debt.⁹ However, the use of unsecured debt introduces several unique constraints on REIT management.

First, unsecured debt covenants are at least as limiting as secured debt restrictions and affect overall operations on both the property and corporate levels. Second, because unsecured debt issuance requires a credit rating, the rating agencies are introduced as an additional level of oversight. Finally, because maximum debt ratios are imposed, the use of unsecured debt can force

⁹ Fitch Research, 1994, "Rating Unsecured REIT Debt," September.

parallel equity financing when REITs borrow; as a result, REIT growth will be severely constrained if the equity window closes.¹⁰

Why are REIT managers willing to accept the operational and possible growth restrictions imposed by the use of unsecured debt in exchange for a slightly lower cost of debt capital? We anticipate that the results of our event study will help us answer this question. One possible reason is that the decrease in REIT's external growth opportunities have greatly reduced the real costs of these constraints.

Factors That Affect the Pricing of Unsecured REIT Debt at Issuance

The required yield on debt is a function of the risks the lender incurs, which include default risk, the cost of financial distress, and agency costs.¹¹ These risks are then translated into a risk premium over the treasury security of corresponding duration. The magnitude of these risks and therefore the pricing of any distinct unsecured debt issuance is influenced by conditions at three interdependent levels; the macroeconomic environment, the individual firm, and the specific debt offering.

Macro level variables that we consider include: the term structure of interest rates, the level of long term interest rates, the growth rate of GDP, and the rate of inflation. At the firm level, areas for evaluation include the property type, quality and geographic location of the assets, management quality, and the credit-worthiness of the REIT. Within the framework of ratio analysis, a determination can be made regarding management performance and the ability of the firm to pay its financial obligations as they mature. The ratios that we consider include: total debt / market value of assets, market value of assets /

¹⁰ Nomura Research, 1995 "Unsecured REIT Debt: A Cautionary Note for Equity Investors and REIT Management," January.

¹¹ Fisher, L., 1959, "Determinants of Risk Premiums on Corporate Bonds," *Journal of Political Economy*, 67, 217-237.

book value of assets, income available for total fixed charges / fixed charges, and the NIBITDA / market value of assets.

The final determinants of pricing are the terms of the specific unsecured debt offering. Factors include its S&P rating, level of seniority, maturity date, stated use of proceeds, and its restrictive bond covenants. These covenants include maximum allowable levels of debt, minimum DSC ratio, restriction on distributions, and a requirement for maintaining unencumbered assets. By restricting financial ratios to certain parameters as well as imposing other disciplines upon management, these covenants function to ensure that the REIT will be able to perform its financial obligations.

Chapter 2: Price Reaction Studies to changes in capital structure

There is significant evidence that changes in a firm's capital structure convey new information to investors and affect stock prices. Research by Masulis (1980)¹² and Dann (1981)¹³ document positive abnormal returns when taxable firms decrease their equity positions through stock repurchase. Negative abnormal stock price returns were recorded by Asquith and Mullins (1986)¹⁴ in response to a firm issuing seasoned common stock and thus lowering the debt to equity ratio.

The REIT tax exempt status, however, provides a different environment in which to observe the market reaction to a change in corporate capital structure. In order to examine the market reaction to a REIT's shift to include unsecured debt in its capital structure, an event study is conducted which examines a firm's stock price reaction to the announcement of its unsecured debt offering. Further, in an effort to disentangle those forces guiding the market reaction, cross sectional regressions are used to relate the offering induced abnormal stock returns to characteristics of the debt offering and firm financial ratios.

Event Study Design

Sample Construction

A list of 64 public unsecured REIT debt offerings for the period 1988 through April 1996 was obtained from Dean Witter Reynolds Inc. The offerings in this data set were checked against a list obtained from Merrill Lynch, Pierce, Fenner & Smith, Inc. Ten of these offerings were excluded from abnormal return calculations: six were from Health Care REITs and were excluded from our

¹² Masulis, R.W., 1980, "The Effects of Capital Structure change on Security Prices: A Study of Exchange Offers," *Journal of Finance*, 8, 139-178.

¹³ Dann, L.Y., 1981, "Common Stock Repurchases: An Analysis of Returns to Bondholders and Stockholders," *Journal of Finance*, 9, 113-138.

¹⁴ Asquith, P. and D.W. Mullins, Jr., 1986, "Equity Issues and Offering Dilution," *Journal of Financial Economics*, July.

analysis as were four issuing firms in which a non-interrupted 48 day daily return series was not available. Although this provided 54 offerings to study, many firms had multiple offerings on the same day thus further narrowing the data to include 38 offering events; 23 unsecured debt IPO and 15 secondary unsecured debt offerings (see Exhibit 2A & 2B on pages 18 and 19).

Exhibit 2A
IPO Data Set

Offer Date	Issuer	\$ Amount	Offer Price	Offer Yield	Coupon	Maturity	Spread	Rating(S&P)	Dividend Day
9/24/93	First Union Real Estate Investments*	\$ 100	99.19%	9.00%	8.80%	10	352	BBB-	0
9/28/93	Kimco Realty Corp	\$ 100	98.74%	6.68%	6.50%	10	125	A-	NONE
2/1/94	Security Capital Pacific Trust*	\$ 100	99.69%	6.92%	6.88%	14	120	A-	(1)
2/1/94	Security Capital Pacific Trust*	\$ 100	98.90%	7.61%	7.50%	20	120	A-	(1)
2/16/94	Western Investment Real Estate*	\$ 50	99.71%	7.92%	7.88%	10	200	BBB	3
3/30/94	United Dominion Realty Trust*	\$ 75	99.83%	7.29%	7.25%	5	108	BBB+	(5)
9/29/93	Taubman Realty Group*	\$ 200	99.79%	7.00%	7.00%	8	120	BBB+	(3)
12/13/94	Developers Diversified Realty Corp.*	\$ 100	100.00%	float	float	1	float	BBB	(1)
1/11/95	Federal Realty Investment Trust	\$ 100	99.82%	8.92%	8.88%	5	110	BBB+	(10)
1/23/95	Wellsford Residential Property	\$ 100	99.40%	9.50%	9.38%	7	165	BBB-	(24)
2/23/95	CP Limited Partnership/Chateau Prop.	\$ 75	99.82%	8.80%	8.75%	5	165	BBB-	NONE
2/24/95	Security Capital Industrial	\$ 50	100.00%	9.34%	9.34%	20	175	BBB+	(16)
2/24/95	Security Capital Industrial	\$ 150	100.00%	8.72%	8.72%	14	140	BBB+	(16)
3/30/95	New Plan Realty	\$ 100	98.64%	7.95%	7.75%	10	78	A+	(14)
4/19/95	Associated Estates Realty	\$ 75	99.58%	8.48%	8.38%	5	165	BBB-	(6)
6/20/95	Merry Land & Investment*	\$ 120	99.56%	7.31%	7.25%	10	118	BBB+	(5)
9/13/95	Avalon Properties	\$ 100	99.84%	7.41%	7.38%	7	130	BBB-	(29)
9/19/95	Duke	\$ 50	99.58%	7.33%	7.25%	7	125	BBB	(24)
9/19/95	Duke	\$ 100	99.15%	7.50%	7.38%	10	135	BBB	(24)
10/27/95	Price REIT	\$ 100	99.05%	7.48%	7.25%	5	160	BBB-	(29)
11/21/95	Franchise Finance Corp	\$ 50	99.79%	7.91%	7.88%	10	198	BBB-	(9)
11/21/95	Franchise Finance Corp	\$ 150	99.19%	7.20%	7.00%	5	150	BBB-	(9)
12/6/95	Spieker Properties	\$ 110	100.00%	6.95%	6.95%	7	140	BBB	NONE
12/6/96	Spieker Properties	\$ 100	99.86%	6.68%	6.65%	5	120	BBB	NONE
12/6/96	Spieker Properties	\$ 50	99.89%	6.82%	6.80%	6	130	BBB	NONE
1/23/96	Chelsea GCA Realty	\$ 100	99.59%	7.85%	7.75%	5	250	BB+	(18)
3/21/96	IRT Property Company	\$ 50	99.83%	7.49%	7.45%	5	145	BBB-	(23)
4/24/96	Sun Communities	\$ 65	99.86%	7.41%	7.38%	5	108	BBB-	(28)
4/24/96	Sun Communities	\$ 85	99.69%	7.68%	7.63%	7	120	BBB-	(28)
5/17/96	TriNet Corp. Realty Trust	\$ 100	99.76%	7.36%	7.30%	5	95	BBB-	(36)
5/17/96	TriNet Corp. Realty Trust	\$ 50	99.85%	7.97%	7.95%	10	132	BBB-	(36)
	* indicates a dividend was declared by the issuing firm within a five day period of the unsecured debt offering.								

Exhibit 2B
Secondary Offering Data Set

Offer Date	Issuer	\$ Amount	Offer Price	Offer Yield	Coupon	Maturity	Spread	Rating(S&P)	Dividend Day
2/3/94	Kimco Realty Corp	\$ 100	99.77%	float	float	5	float	A-	(6)
2/3/94	Kimco Realty Corp	\$ 50	100.00%	float	float	4	float	A-	(6)
9/20/94	United Dominion Realty Trust	\$ 150	99.69%	8.55%	8.50%	30	100	BBB+	NONE
6/22/94	Taubman Realty Group*	\$ 200	99.95%	8.01%	8.00%	5	120	BBB+	2
10/28/94	Taubman Realty Group	\$ 100	99.84%	float	float	3	float	BBB+	(22)
5/9/95	Security Capital Industrial	\$ 75	99.50%	7.94%	7.88%	14	135	BBB+	(6)
5/9/95	Security Capital Industrial	\$ 18	99.59%	7.35%	7.25%	5	135	BBB+	(6)
5/9/95	Security Capital Industrial	\$ 18	99.52%	7.40%	7.30%	6	135	BBB+	(6)
5/9/95	Security Capital Industrial	\$ 15	99.91%	7.16%	7.13%	3	135	BBB+	(6)
5/10/95	Developers Diversified Realty Corp	\$ 100	99.69%	7.70%	7.63%	5	145	BBB	(41)
5/31/95	New Plan Realty	\$ 81	99.61%	6.87%	6.80%	7	70	A+	NONE
6/22/95	Taubman Realty Group*	\$ 100	99.68%	7.56%	7.50%	7	165	BBB+	4
8/21/95	Wellsford Residential Property	\$ 70	98.79%	7.93%	7.75%	10	140	BBB	(38)
8/21/95	Wellsford Residential Property	\$ 55	98.38%	7.40%	7.25%	5	110	BBB	(38)
11/3/95	Merry Land & Investment	\$ 40	99.30%	6.98%	7.25%	9	106	BBB+	(37)
11/3/95	Merry Land & Investment	\$ 40	99.90%	6.89%	7.25%	8	102	BBB+	(37)
11/10/95	Associated Estates Realty Corp	\$ 10	100.00%	7.10%	7.10%	7	125	BBB-	(21)
12/4/95	Federal Realty Investment Trust	\$ 40	100.00%	0.66%	6.63%	10	101	BBB+	NONE
1/19/96	Spieker Properties	\$ 100	99.60%	6.97%	6.90%	8	147	BBB	(7)
5/14/96	Security Capital Industrial	\$ 50	98.88%	7.28%	7.25%	6	90	BBB+	(7)
5/14/96	Security Capital Industrial	\$ 100	98.83%	7.97%	7.95%	12	132	BBB+	(7)
5/14/96	Security Capital Industrial	\$ 50	99.71%	8.68%	8.65%	20	175	BBB+	(7)
2/20/96	Security Capital Pacific Trust	\$ 50	99.89%	7.17%	7.15%	14	117	A-	(13)
2/20/96	Security Capital Pacific Trust	\$ 100	99.87%	7.91%	7.90%	20	145	A-	(13)
	* indicates a dividend was declared by the issuing firm within a five day period of the unsecured debt offering.								

Excess Return Measure

Event study methodology¹⁵ was used to determine abnormal daily stock returns around the day of the unsecured debt offerings. The market model was used to measure abnormal daily stock price returns for the event period (days -5 to 5). Abnormal returns are defined as the difference between a stock's actual total daily return (R_t) and the expected daily return, as predicted by the Capital Asset Pricing Model. A total return series for individual firms and the S&P 500 were calculated assuming immediate dividend reinvestment. The daily abnormal return (AR_{jt}) for firm j on day t is defined as the residual of the actual daily return and the estimated daily return:

$$AR_{jt} = R_{jt} - (\alpha_j + \beta_j * R_{mt})$$

R_{jt} is defined as the actual daily stock return for firm j on day t , with $\alpha_j + \beta_j$ as the ordinary least squares estimate of the daily total return for firm j . Both α_j and β_j are estimated during the observation period (days -42 to -6). Standard estimation period regression analysis is used during this time period in which the stock's total daily return is the independent variable and the Standard and Poor 500 total daily return series is the dependent variable.

The average abnormal return (AAR_t) for each day t over all the firms in the sample with N_t firms are defined as:

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

¹⁵ Brown and Warner, 1985, "Using Daily Stock Returns: The Case of Event Studies," *Journal of Financial*, 14, 3-31.

Test Statistic Under the Null Hypothesis

The null hypothesis to be tested is that the mean day t excess returns equal zero. The test statistic (TS_t) used to check the statistical significance of the event period average abnormal returns is the ratio of the day t excess returns to the standard deviation, which is estimated from the time series of mean excess returns. P equals the number of days in the observation period. If the average abnormal returns are independent, identically distributed and normal, the test statistic (TS_t) is distributed Student-t under the null hypothesis.¹⁶

$$TS_t = AAR_t / S(AAR_t)$$
$$AAR_t = \frac{1}{N_t} \sum_{j=1}^{N_t} AR_{jt}$$
$$S(AAR_t) = \sqrt{\sum (AAR_t - \bar{A})^2 / P - 1}$$
$$\bar{A} = \frac{1}{P} \sum_{t=-42}^{t=-6} AAR_t$$

Potential Measurement Problems

The event day 0 represents the day in which the unsecured debt offering occurred, not when the offering became public information. The Wall Street Journal typically reported the event one day prior to the offering (day -1). Information, however, was often available to the investor prior to the Wall Street Journal announcement. Dow Jones News Retrieval Service provides information to subscribers by reporting on the events leading up to an issuance. On an inconsistent basis, Dow Jones reported on a REIT filing a shelf registration to issue unsecured debt and later the rating a REIT received for its planned unsecured debt issue, which typically occurred between days -14 and

¹⁶ Ibid

-10. Due to the inconsistency in which this type of information was available to the public, day -1 was found to be most relevant.

Event Study Results

Average abnormal return calculations were conducted on the 38 events in a number of permutations. IPOs were broken out of the group as an IPO of unsecured REIT debt may signal a change in corporate strategy, while secondary offerings only confirm a continuation of this strategy (see Exhibits 2A & 2B).

A number of firms timed the offering date on the unsecured debt to closely coincide with quarterly dividends. Six of the first seven REIT unsecured debt IPOs were timed to occur within 5 days of an ex-dividend day (see Exhibits 2A & 2B). For this reason, there may be a confounding effect on stock price for these firms around the event period, both as a result of the debt issuance and as a result of the dividend.

The trading volumes of firms on their dividend dates were examined for those firms that issued dividends between days -42 and -6. Trading volume for some of these firms showed marked increases just prior to and on the dividend day, while others showed normal trading patterns. Due to the inconsistency volume in which a REIT traded on its ex-dividend day, abnormal return calculations were also conducted on all IPOs and secondary offerings, as well as without those firms that timed their offering to coincide with dividends.

IPOs

A total of 23 REIT unsecured debt IPOs was included in the abnormal return calculations. Average abnormal returns for the IPOs were consistently negative between days -4 and 1. The most notable negative average abnormal returns

occurred on day -1, the day the event became public information in the Wall Street Journal. Day -1 average abnormal returns had a t-statistic of -1.72, which is statistically significant at the 10% confidence level (see Exhibit 2C on page 24).

These results provide evidence that the market views an initial shift in REIT capital structure to include unsecured debt as an unfavorable event (see Exhibit 2C). Although each of the negative average abnormal returns on days -4 to 0, in isolation, provides weak evidence of a negative reaction to unsecured debt IPOs, five consecutive days of negative returns peaking the day on which the information becomes public, however, is significantly more convincing. The results suggest that there is a degree of leakage up until the offering date. Two days after the offering (day 2), there is a rebound in which significantly positive abnormal returns were observed. Days 3, 4, and 5 provide abnormal returns of no consistency or significance.

The negative stock price reaction to unsecured debt IPOs, excluding those firms which offered dividends around the event day, was substantially more pronounced (see Exhibit 2D on page 25). When firms were excluded that issued dividends between days -6 and 5 the t-statistic on day -1 was -2.67, which is significant at the 2% confidence level.

Exhibit 2C
Average Abnormal Return Results

Data Series		Total	
Number of Data Points		38	
Day	AAR _t	TSt	
-5	0.499%	2.787709	
-4	-0.214%	-1.19687	
-3	0.284%	1.58751	
-2	-0.400%	-2.23335	
-1	-0.064%	-0.35784	
0	-0.048%	-0.26705	
1	-0.124%	-0.69068	
2	0.488%	2.723921	
3	0.052%	0.289344	
4	0.229%	1.278097	
5	-0.100%	-0.55877	
Sum(-4,0)	-0.442%		

Data Series		IPO	
Number of Data Points		23	
Day	AAR _t	TSt	
-5	0.455%	1.673886	
-4	-0.003%	-0.01245	
-3	-0.312%	-1.14978	
-2	-0.320%	-1.17976	
-1	-0.469%	-1.72793	
0	-0.019%	-0.07086	
1	-0.028%	-0.10382	
2	0.617%	2.270445	
3	0.158%	0.580991	
4	0.110%	0.406319	
5	-0.057%	-0.20875	
Sum(-4,0)	-1.124%		

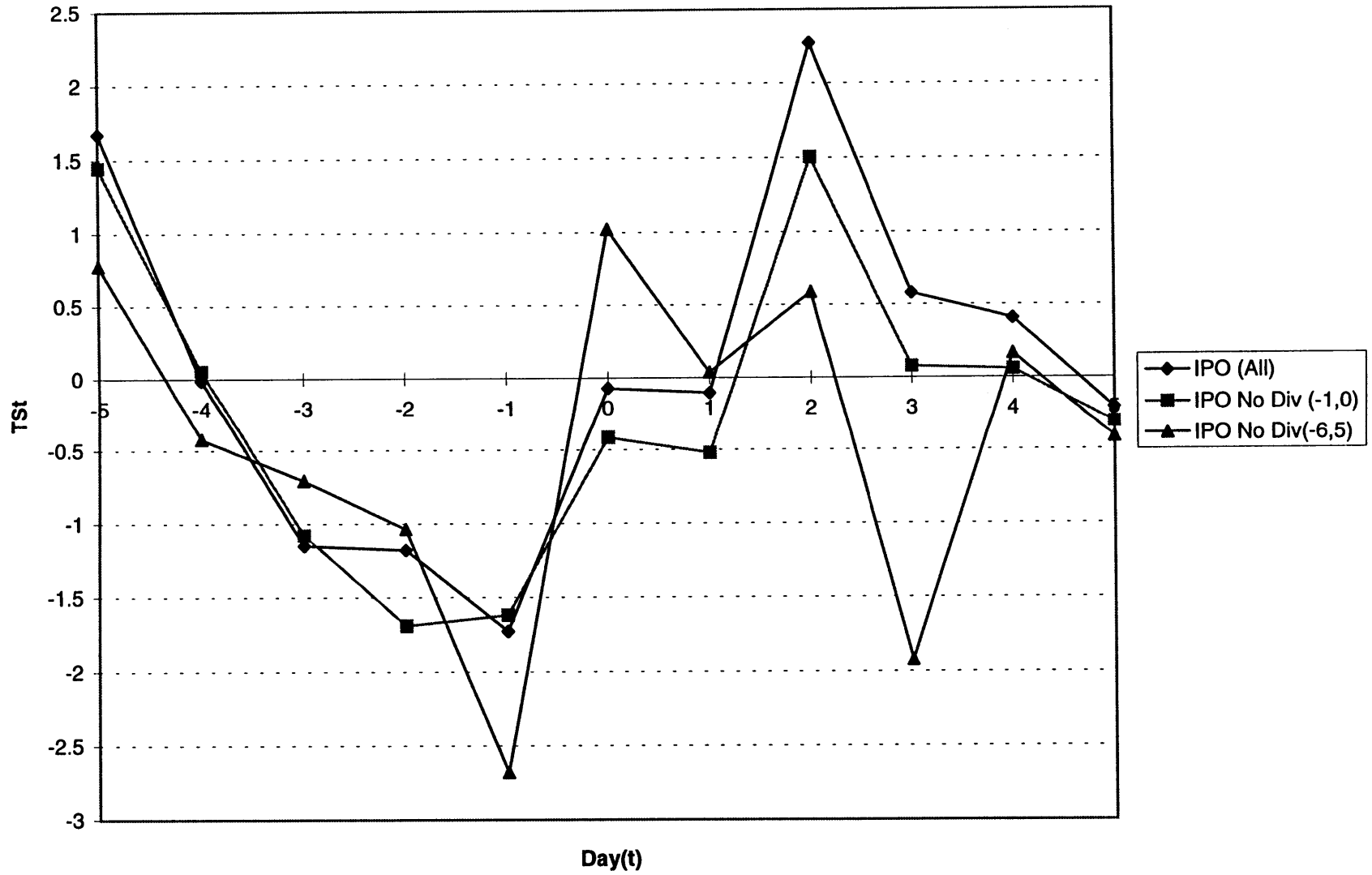
Data Series		Secondary+	
Number of Data Points		15	
Day	AAR _t	TSt	
-5	0.531%	1.556401	
-4	-0.482%	-1.41072	
-3	1.100%	3.222246	
-2	-0.357%	-1.04543	
-1	0.393%	1.150609	
0	-0.039%	-0.11461	
1	-0.314%	-0.91848	
2	0.183%	0.534499	
3	-0.019%	-0.05535	
4	0.339%	0.993248	
5	-0.062%	-0.18056	
Sum(-4,0)	0.615%	1.802099	

Data Series		Total No Div(-4,0)	
Number of Data Points		35	
Day	AAR _t	TSt	
-5	0.391%	1.822182	
-4	-0.312%	-1.45386	
-3	0.363%	1.690541	
-2	-0.424%	-1.97527	
-1	-0.111%	-0.5155	
0	0.056%	0.258827	
1	-0.151%	-0.70268	
2	0.240%	1.115485	
3	-0.019%	-0.08647	
4	0.180%	0.83667	
5	-0.054%	-0.25129	
Sum(-4,0)	-0.428%		

Data Series		IPO No Div (-4,0)	
Number of Data Points		20	
Day	AAR _t	TSt	
-5	0.286%	0.930406	
-4	-0.185%	-0.60168	
-3	-0.190%	-0.61766	
-2	-0.475%	-1.54296	
-1	-0.488%	-1.58804	
0	0.127%	0.411697	
1	-0.029%	-0.09373	
2	0.282%	0.917888	
3	-0.018%	-0.05956	
4	0.060%	0.195191	
5	-0.048%	-0.15668	
Sum(-4,0)	-1.211%		

Data Series		Secondary+No Div(-4,0)	
Number of Data Points		15	
Day	AAR _t	TSt	
-5	0.531%	1.556401	
-4	-0.482%	-1.41072	
-3	1.100%	3.222246	
-2	-0.357%	-1.04543	
-1	0.393%	1.150609	
0	-0.039%	-0.11461	
1	-0.314%	-0.91848	
2	0.183%	0.534499	
3	-0.019%	-0.05535	
4	0.339%	0.993248	
5	-0.062%	-0.18056	
Sum(-4,0)	0.615%		

Exhibit 2D
T-Statistic (IPOs)

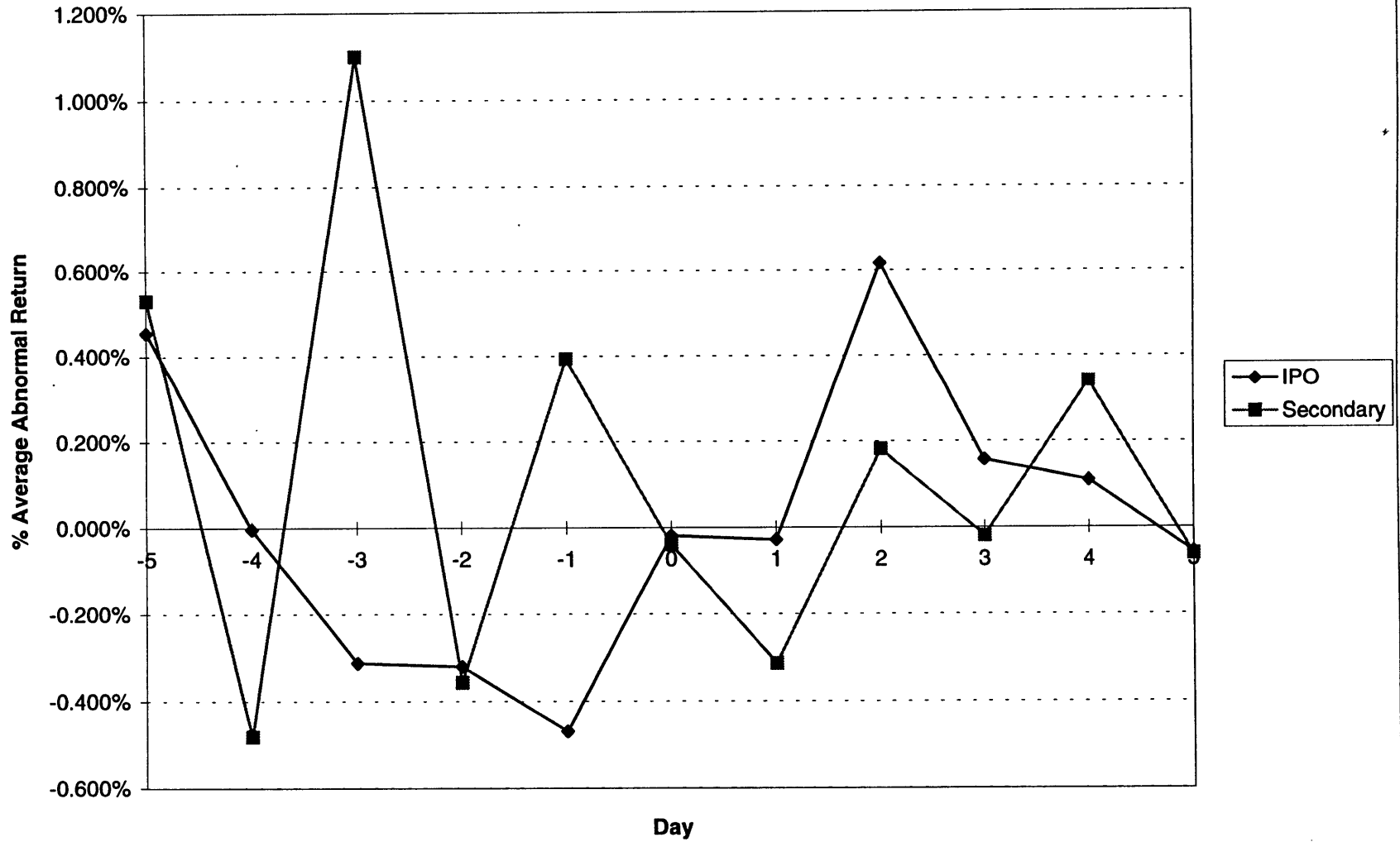


Secondary Offerings

The event study on secondary offerings, unlike the IPOs, does not provide any conclusive evidence concerning whether the markets view secondary unsecured debt offerings as a negative or as a positive event. Increased return volatility during the event period, however, indicates that the market does react to and recognize the offering as an important event (see Exhibit 2C). Average abnormal returns are uniformly alternating positive to negative consecutively from days -5 to day 0, thus suggesting an abnormally higher level of stock price volatility as well as suggesting a random walk. Average abnormal returns after day -1 are increasingly insignificant, marking a move away from higher levels of return volatility (see Exhibit 2E on page 27).

Similar calculations with secondary offerings were performed without those firms paying dividends around the event date, but the results provided no additional insights other than those previously observed. The results were not significantly different and further reduced an already small sample size.

Exhibit 2E
Average Abnormal Return (IPO and Secondary Offerings)



Interpretation of Results

Assuming that unsecured debt is a riskier form of debt than traditional secured financing at comparable debt levels, signaling theory would predict a negative stock price reaction. The issuance of riskier debt signals to the market a reduction in a firm's growth prospects. The greater the market assumption about a REIT's growth potential, the more severe the negative impact on stock price to the issuing firm of unsecured debt.

Consistent with Brealy and Myers¹⁷, the negative market reaction to unsecured debt IPOs could also be a result of the moderate tax disadvantage that tax exempt entities, such as REITs, experience by taking on debt. This particular issue, however, can best be addressed by examining the REIT's stated use of funds for offering proceeds. In particular, are offering proceeds used to pay down existing debt and is that debt long or short term, or are the additional debt proceeds used for acquisition and capital expenditure, thus increasing total debt levels? Regression analysis will be used to identify whether the use of funds plays a determining role in the market reaction to the debt offering.

The market reaction to an unsecured debt IPO may also be a reaction to a change in corporate strategy or a reaction to a relatively untested debt vehicle for REITs. A further examination of the specifics of the unsecured debt offerings and the financial characteristics of the issuing firms provides further insight into the market reaction to both IPO and secondary offerings. Cumulative average abnormal returns from days -4 to 0 are regressed against the characteristics of the offerings and the REITs in order to determine those factors that contribute to the market reaction.

¹⁷ Brealy, R.A. and S.C. Myers, 1991, "Principles of Corporate Finance, Fourth Edition," McGraw-Hill Book Company, 433.

Determinants of Negative Abnormal Returns: Regression Analysis

Firms which timed their debt offering with dividends between days -4 and 0 were excluded. This included 3 offerings: First Union Real Estate Equities, Security Capital Pacific Trust, and Taubman Realty group. First Union's cumulative abnormal returns were negative at -1.29% and Security Capital Pacific were positive at .82%. The exclusion of these two offerings significantly improved regression results. Taubman was excluded for consistency but its exclusion did not improve the R squared. Taubman had a highly negative cumulative abnormal return at -4.35 (see Appendix 1 on page 58).

Firm Specific Characteristics

REIT Growth Options

Market value to book value ratio (MV/BV RATIO) is used as a proxy for a REIT's market perceived growth prospects. We estimated the market value of a REIT's assets as the undepreciated book value of assets less the book value of equity plus the market value of equity prior to the offering. We assume the market has priced growth potential assets into the market value of the equity, whereas it is not included on the firm's balance sheet. The market to book value ratio is the calculated market value of the REIT divided by the undepreciated book value of assets.

Use of Debt Proceeds

To isolate whether a firm is shifting capital structure from long term debt to short term debt, we use the percentage of proceeds to pay down long term secured debt (PAY LTS). The percentage of proceeds to pay down both short and long term debt (PAY DEBT) is also considered as it indicates whether the REIT will be indirectly increasing its after issue debt to market value ratio.

Financial Ratios

The ratio of total debt to market value (D/MV RATIO) of the firm's real estate assets is considered. We believe this ratio to be indicative of the default risk borne by the unsecured bondholders as well as indication to the degree in which the firm is penalized for using debt without the benefit of a tax shield.

REIT Product Focus

The REIT product focus is modeled with dummy variables. REIT focus is grouped as Office, Residential, and Retail. Similar to the debt to market value ratio, the higher the sector debt to market capitalization ratio, the more the market would react negatively to an unsecured debt offering. The average debt to market capitalization ratio is highest for retail (43.9%), followed by residential (40.3%) and lastly office (30.6%)¹⁸. The retail coefficient, and to a lesser extent, the residential coefficient are expected to be negative relative to office based on this rationale.

Offering Characteristics

Debt Maturity

Myers (1977) argues that the underinvestment problem is a result of a firm's disincentive to make optimal investment decisions. Myers argues that a firm can control this potential conflict by issuing shorter term debt and by placing restrictive covenants in its indenture agreements.

When a firm chooses to issue short term debt over long term debt, the underinvestment problem is mitigated, in that the price at which that short term debt can be repurchased is fixed relative to long term debt. This allows

¹⁸ Merrill Lynch & Co., 1996, "Comparative Valuation of REITs," April.

management to capture more of the benefits of new positive NPV projects, rather than spending money on repurchasing its increasingly valuable long term debt.

Maturity choice can also be a signal concerning firm growth prospects. Howe and Shilling¹⁹ hypothesize that a firm's choice of short term debt versus long term debt provides information to the market in terms of that firm's long term growth prospects and financial health, consistent with signaling theory developed by Myers and Majluf (1984)²⁰ and Flannery (1986)²¹. Firms with positive inside information concerning future growth prospects will be better off using short term debt and revisiting maturity choice at a later time. Once the market recognized firm growth prospects, longer term debt may be available at a significantly lower interest rate. It is at this point, when the market has fairly assessed firm growth prospects, that longer term debt is fairly priced. As such, firms that issue short term unsecured debt over long term unsecured debt may provide information to the market concerning its future growth prospects.

Rating

As discussed in terms of signaling theory, debt maturity choice may provide a signal as to the REIT's management quality (increased monitoring), long term growth prospects (asymmetric information), and credit quality (refinance risk). Flannery argues a firm with higher potential information asymmetries is more likely to issue short term debt over long term debt. Diamond argues, due to the cost of refinance risk, only high quality and low quality firms will issue short term debt, while firms of medium quality will issue long term debt. For this reason, the S&P credit rating of the issuing company, as well as the term of the debt are considered as separate variables. The ratings range from BB+(1) to A+(7).

¹⁹ Howe, J.S. and J.D. Shilling. 1988, "Capital Structure Theory and REIT Security Offerings," *Journal of Finance*, 43, 983-993.

²⁰ Majluf, N.S. and S.C. Myers, 1984 "Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have," *Journal of Finance*, 13, 187-221.

²¹ Flannery, 1986, "Asymmetric Information and Risky Debt Maturity Choice," *Journal of Finance*, 41, 19-37.

Restrictive Debt Covenants

Two restrictive covenants are examined for each debt offering:

1. The maximum allowable ratio of debt to undepreciated book value total assets (MAX DEBT). This ratio has a range of 50% to 65%.
2. The required multiple of unencumbered real estate assets to be held at any given time by the REIT (% FREE). The range for this covenant falls between 0% to 200%.

Smith and Warner (1979) argue that riskier firms benefit from placing more restrictive covenants in their indenture agreements. These covenants act to reduce the agency conflict issues, both underinvestment and asset substitution, that occur after debt is issued. More restrictive covenants are expected to have a positive effect on average abnormal returns for lower quality firms and very little effect on high quality firms that do not need covenants to guide optimal investment behavior.

Offering Underwriter

J.P. Morgan and Merrill Lynch Capital Markets are both involved in a significant number of unsecured debt offerings. Each offering was modeled with dummy variables to indicate if either J.P Morgan and/or Merrill Lynch or any other firm was involved in the offering. The ability of each underwriting firm to market and time the offering is thought to be captured through this variable.

Offer Date

The use of unsecured debt by REITs is a somewhat new phenomenon. The offer date is used to capture any effect resulting from the maturity of the market between 1993 and 1996. It is expected that as the market becomes more familiar with unsecured debt, the reaction may be less drastic.

Table 1 Regression Results

Dependent Variable CAR (-4,0)

Independent Variable	Variable Range	Predicted Sign	Coefficient	T-Stat	P-Value
Intercept	N/A	N/A	.103	1.47	.165
<i>MV/BV RATIO</i>	.95 to 1.94	<i>Negative</i>	-.133	-3.87	.002
PAY DEBT	0 to 100%	Positive	.006	.53	.600
PAY LTS	0% to 75%	Positive	.071	2.71	.018
<i>D/MV RATIO</i>	6.9 to 52.2%	<i>Negative</i>	-.112	-1.99	.069
Residential (dummy)	N/A	Negative	-.007	-.67	.511
Retail (dummy)	N/A	Negative	-.017	-1.26	.230
Issue Maturity	5 to 20 years	Negative	-.002	-1.18	.260
Rating	1 to 7	Positive	.001	.20	.846
MAX DEBT	50 to 65%	Negative	.185	1.80	.096
% FREE	0 to 200%	Positive	.004	.44	.661
J.P. Morgan (dummy)	N/A	Neutral	-.025	-2.92	.230
Merrill Lynch (dummy)	N/A	Neutral	.003	.422	.511
Offer Date	9/93 to 5/96	Positive	-.000007	-.26	.793
R Square			.781		

Regression Results and Conclusions

Overall, regression results were promising with an R square of 78%. The predicted coefficient signs were based on theory and consistent with regression results with the exception of one variable, the maximum debt to market capitalization ratio.

Market Value to Book Value

The most significant regression variable is the market to book value ratio, which supports the hypothesis that a REIT's shift to unsecured debt provides information to the market concerning firm growth prospects. The higher the ratio prior to the unsecured debt issue, the greater the market revision down of REIT value. REITs with relatively low market perceived growth opportunities, as is indicated by a low market to book value ratio, were least penalized by the market for an unsecured debt offering. The ratio has a test statistic of -3.87 with a negative coefficient of -.133. A 10% increase in the market to book value ratio prior to issue would result in a -1.3% contribution to a firm's cumulative abnormal returns.

Use of Debt Proceeds

The use of debt proceeds used to pay down long term secured debt is also significant. Every 10% of offering proceeds allocated to pay down long term secured debt, resulted in a .70% positive cumulative abnormal return. Unsecured debt may be available to an issuing REIT at a lower interest rate than outstanding secured debt. Thus, by paying down secured debt, a REIT may be able to reduce interest expense and grow FFO.

Debt to Market Value Ratio

The higher a firm's debt to market value ratio, the stronger the market's negative reaction the unsecured debt offering, which is consistent with theory on capital structure under taxation. For firms with higher debt levels, particularly firms that are increasing their debt to market value ratio by not paying down secured debt with offering proceeds, an unsecured debt offering is viewed as a more severe negative event. A 10% higher debt to market value ratio prior to issuance would result in a -.10% cumulative abnormal return for the issuing REIT.

Covenant: Maximum allowable Debt to Market Capitalization Ratio

The maximum allowable debt to market capitalization ratio was the most significant debt offering characteristic. The coefficient was positive rather than the expected negative with a t-statistic of 1.80. It is possible that the limitation on debt levels is considered restricting in terms of operating flexibility.

A more plausible explanation, according to Smith and Warner, is that lower quality firms benefit most from restrictive covenants. As such, lower quality firms may be forced to accept a lower allowable debt to market value ratio (50%) while higher quality firms do not gain from imposing this restriction and opt for a higher ratio (65%).

Debt Maturity

Debt maturity, consistent with the results of Howe and Shilling and the signaling theory presented by Masulis, Dann, Vermaelen, and Diamond, had a negative coefficient of $-.002$ with a T-statistic of -1.18 . These findings suggest that higher quality firms with greater information asymmetries do choose shorter term debt over longer term debt. Diamond also suggests the lowest quality firms also, reluctantly, use shorter term maturity, while middle quality firms choose longer term debt. This may explain the relatively low T-statistic of this variable.

Offering Underwriter

Also of interest are the coefficient results concerning issue underwriters. When J.P. Morgan was involved in the underwriting, the cumulative abnormal returns were found to be substantially negative relative to other underwriters with the exception of Merrill Lynch. Merrill Lynch was found to be a positive contributor to a firm's cumulative abnormal returns.

Chapter Summary

The event study documents the market's negative reaction to unsecured debt IPOs through the observation of average abnormal returns prior to and leading up to the event day 0. Negative average abnormal returns are observed between days -4 to 0 with the most significant negative reaction occurring on day -1, the day in which the offering became public information through the Wall Street Journal.

The fact that the average abnormal returns are consistently negative for a five day period leading up to the event more convincingly documents the market's negative reaction to REIT unsecured debt IPOs than does the degree negative average abnormal returns are observed on any single day during this same period. When average abnormal returns were calculated excluding those firms which timed their unsecured debt offering to coincide with their ex-dividend day, the market's negative reaction to unsecured debt offerings appeared more severe. This indicates that coinciding the timing of both events may have been done deliberately by REIT management to obscure the resulting signals that the shift in corporate strategy would provide investors.

Regression analysis, in conjunction with event study results, supports the theory that a REIT's IPO of unsecured debt provides a signal to the market concerning its future growth prospects. Regression results indicate the market value to book value ratio (MV/BV RATIO), which is used as a proxy for a firm's growth prospects, is the most significant factor in predicting the market reaction to unsecured debt. The greater the ratio prior to the unsecured debt issue, the more severe the market revision down of REIT value. The debt to market value ratio (D/MV RATIO) was also significant and provide support for our taxation argument. We were not, however, fully able to determine to what extent the

market reaction to unsecured debt IPOs is explained by signaling theory or as a consequence of higher debt levels placed on the balance sheet of tax exempt firms.

Chapter 3: Analysis of the Factors Affecting the Pricing of Unsecured REIT Debt at Issuance.

Overview

The pricing of a particular issue of unsecured debt is primarily dependent on three elements: (1) the required rate of return on riskless debt with comparable maturity and cash flow characteristics; (2) the probability that the firm will experience financial distress and not be able to meet its financial obligations; and (3) the various provisions and restrictions contained in the indenture that deal with the agency conflicts between the shareholders and the bondholders. The first element is determined by a set of exogenous variables and is beyond the theoretical scope of this paper; however, the macroeconomic environment is considered through the rate of inflation and the term structure of interest rates. The second element is examined in terms of financial statement analysis, including the ratios of total debt / market value and market value / book value. The third element is investigated in the context of the debt's characteristics, with particular emphasis on restrictive bond covenants.

Conflicts between bondholders and shareholders

With the use of risky debt, REIT management has incentives to maximize shareholder value by configuring the firm's operating procedures and financial characteristics in ways that might be detrimental to bondholders. Because investment and financing decisions are endogenous, three primary sources of conflict exist between bondholders and shareholders²²:

²² Smith, C. W. Jr., and J. B. Warner, 1979, "On financial contracting: An analysis of bond covenants," *Journal of Financial Economics* 7, 117-161.

Claim dilution If a firm sells bonds that are priced assuming a maximum debt to asset ratio, the bondholder's position is eroded by the issuance of additional debt of equal or higher priority.

Asset substitution If bonds are issued for the stated purpose of acquiring assets of a certain risk level, the value of the bondholders' position can be reduced if management uses the proceeds to invest in assets that are riskier.²³

Underinvestment As previously mentioned, a substantial portion of the value of the firm may be composed of intangible assets in the form of future investment opportunities. A firm with outstanding bonds may have incentive to reject projects which have a positive net present value if the benefit from accepting the project accrues, in too great a proportion, to the bondholders.²⁴

The flexibility issue

A paramount issue to consider when evaluating the merits of secured debt versus unsecured debt is the trade-off between bondholder risk (which affects pricing) and flexibility. The inclusion of a security provision in a debt contract functions to mitigate some of the inherent conflicts between stockholders and bondholders that arise with the use of risky debt. On the other hand, REIT managers claim that unsecured debt allows them the flexibility to react relatively quickly to a changing business environment.

Unsecured debt covenants that prudently stipulate the firm's investment decisions could effectively prevent asset substitution; however, such covenants would be expensive to monitor. The use of secured debt limits asset substitution

²³ Jensen, M.C., and W.H. Meckling, 1976, "Theory of the firm: Managerial behavior, agency costs and capital structure," *Journal of Financial Economics* 3, 305-360

²⁴ Myers, S. C., 1977, "Determinants of corporate borrowing," *Journal of Financial economics* 5, 147-175.

in a way that is not as expensive to monitor as alternative forms of unsecured debt covenants which achieve the same end.²⁵ In addition, because secured debt encumbers specific collateral, these debtholders would not benefit from new investments, thus limiting the underinvestment conflict. From a flexibility standpoint, one must also consider that the use of secured debt gives management an individual put option on each asset. In the event that a debt maturity approaches and the capital markets will not provide a refinancing, the use of secured debt provides the flexibility to default on an individual asset without encumbering the rest of the portfolio.

Unsecured debt may facilitate management efficiency by allowing management to more easily alter the composition of the REIT's portfolio; however, the use of unsecured debt also introduces several unique constraints on REIT management. First, unsecured debt covenants are at least as limiting as secured debt restrictions, and affect overall operations on both the property and corporate levels. Second, because unsecured debt issuance requires a credit rating, the rating agencies are introduced as an additional level of oversight. Finally, because maximum debt ratios are imposed, the use of unsecured debt can force parallel equity financing when REITs borrow; as a result, REIT growth will be severely constrained if the equity window closes.²⁶ Moreover, many unsecured offerings include a covenant requiring the REIT to retain unencumbered assets, the value of which is a multiple of the value of the unsecured debt offering. Only REITs with these unencumbered assets will have the flexibility to repay maturing unsecured notes with secured debt, if necessary.

Because unsecured covenants are as least as limiting as secured debt covenants, and the unsecured debtholders effectively have a senior position on the unencumbered assets, one wonders if unsecured debt might not be more

²⁵ Stulz, R.M., and H. Johnson, 1985, "An analysis of secured debt," *Journal of Financial Economics*, 14, 501-521.

²⁶ Nomura Research, 1995, "Rating Unsecured REIT Debt: A Cautionary Note for Equity Investors and REIT Management," January.

restrictive at the corporate level. Secured debt does not have any covenants or operating restrictions at the company level; however, unsecured financing restricts the REIT at the property as well as the company level. In addition, unsecured financing increases equity risk by imposing exogenously driven limitations upon a REIT management's flexibility to optimize leverage.²⁷

Restrictive debt covenants

Since the ground breaking work of Modigliani and Miller (1958, 1962), capital structure theorists have discussed the impact of indenture provisions on the allocation of risk between bondholders and stockholders. There appears to be general agreement in the literature that prices in the corporate debt market are affected by the debtholder's expectations about the stockholder's behavior after the bonds are issued, and that restrictive covenants can help ensure that the value of the bondholders position is not eroded through management's behavior. Without these covenants, bondholders would require a higher yield. This prompts the question as to which covenants are more valuable to the bondholders and as a result, have a greater impact on required yields.

The Methodology

To analyze the factors that affect the pricing of fixed rate unsecured REIT debt at issuance, a multivariate regression analysis is performed. The fixed yield spread above U.S. Treasury securities of comparable maturity is regressed against three categories of variables: macroeconomic data, financial ratio's of the REITs, and characteristics of the debt offerings.

²⁷ Ibid.

The Data

A list of public unsecured REIT debt offerings for the period February 1988 through April 1996 was obtained from Dean Witter Reynolds Inc. The offerings noted in this data-set were checked against a list obtained from Merrill Lynch, Pierce, Fenner & Smith, Inc.

A total of sixty four unsecured debt offerings was obtained from these sources. Since we are studying the pricing determinants of a relatively new REIT financing strategy, we include only the Initial Public Offerings (IPOs) of REIT unsecured debt. Thirty seven of these offerings were IPOs of unsecured debt. Three IPOs were from Health Care REITs , and due to the controversy regarding their real estate classification, they were excluded from the data-set. Two IPOs had a floating interest rate, and because the dependent variable in our analysis is the fixed spread above Treasury securities, they were also excluded from the data-set. A summary of the remaining thirty two offerings (see Exhibit 3A on page 43).

Exhibit 3A
IPO Offerings

Number	Offer Date	Issuer	Ticker	(000)'s	Offer Price	Offer Yield	Coupon	Maturity	Spread	Rating(S&P)
				Amount						
1	9/24/93	First Union Real Estate Investments	FUR	\$ 100.00	99.19%	9.00%	8.80%	10	352	BBB-
2	9/28/93	Kimco Realty Corp	KIM	\$ 100.00	98.74%	6.68%	6.50%	10	125	A-
3	2/1/94	Security Captial Pacific Trust	PTR	\$ 100.00	99.69%	6.92%	6.88%	14	120	A-
4	2/1/94	Security Captial Pacific Trust	PTR	\$ 100.00	98.90%	7.61%	7.50%	20	120	A-
5	2/16/94	Western Investment Real Estate	WIR	\$ 50.00	99.71%	7.92%	7.88%	10	200	BBB
6	3/30/94	United Dominion Realty Trust	UDR	\$ 75.00	99.83%	7.29%	7.25%	5	108	BBB+
7	6/22/94	Taubman Realty Group	TCO	\$ 200.00	99.95%	8.01%	8.00%	5	120	BBB+
8	1/11/95	Federal Realty Investment Trust	FRT	\$ 100.00	99.82%	8.92%	8.88%	5	110	BBB+
9	1/23/95	Wellsford Residential Property	WRP	\$ 100.00	99.40%	9.50%	9.38%	7	165	BBB-
10	2/23/95	CP L.P. - Chateau Properties	CPJ	\$ 75.00	99.82%	8.80%	8.75%	5	165	BBB-
11	2/24/95	Security Capital Industrial	SCN	\$ 50.00	100.00%	9.34%	9.34%	20	175	BBB+
12	2/24/95	Security Capital Industrial	SCN	\$ 150.00	100.00%	8.72%	8.72%	14	140	BBB+
13	3/30/95	New Plan Realty	NPR	\$ 100.00	98.64%	7.95%	7.75%	10	78	A+
14	4/19/95	Associated Estates Realty	AEC	\$ 75.00	99.58%	8.48%	8.38%	5	165	BBB-
15	6/20/95	Merry Land & Investment	MRY	\$ 120.00	99.56%	7.31%	7.25%	10	118	BBB+
16	9/13/95	Avalon Properties	UDR	\$ 100.00	99.84%	7.41%	7.38%	7	130	BBB-
17	9/19/95	Duke	DRE	\$ 50.00	99.58%	7.33%	7.25%	7	125	BBB
18	9/19/95	Duke	DRE	\$ 100.00	99.15%	7.50%	7.38%	10	135	BBB
19	10/27/95	Price REIT	RET	\$ 100.00	99.05%	7.48%	7.25%	5	160	BBB-
20	11/21/95	Franchise Finance Corp	FFA	\$ 50.00	99.79%	7.91%	7.88%	10	198	BBB-
21	11/21/95	Franchise Finance Corp	FFA	\$ 150.00	99.19%	7.20%	7.00%	5	150	BBB-
22	12/6/95	Spieker Properties	SPK	\$ 110.00	100.00%	6.95%	6.95%	7	140	BBB
23	12/6/96	Spieker Properties	SPK	\$ 100.00	99.86%	6.68%	6.65%	5	120	BBB
24	12/6/96	Spieker Properties	SPK	\$ 50.00	99.89%	6.82%	6.80%	6	130	BBB
25	1/23/96	Chelsea GCA Realty	CCG	\$ 100.00	99.59%	7.85%	7.75%	5	250	BB+
26	2/15/96	Camden Property Trust	CPT	\$ 100.00	99.56%	6.73%	6.63%	5	150	BBB-
27	3/7/96	Tanger Properties L..P.	SKT	\$ 75.00	99.30%	8.93%	8.75%	5	325	BB+
28	3/21/96	IRT Property Company	IRT	\$ 50.00	99.83%	7.49%	7.45%	5	145	BBB-
29	4/24/96	Sun Communities	SUN	\$ 65.00	99.86%	7.41%	7.38%	5	108	BBB-
30	4/24/96	Sun Communities	SUN	\$ 85.00	99.69%	7.68%	7.63%	7	120	BBB-
31	5/17/96	TriNet Corp. Realty Trust	TRI	\$ 100.00	99.76%	7.36%	7.30%	5	95	BBB-
32	5/17/96	TriNet Corp. Realty Trust	TRI	\$ 50.00	99.85%	7.97%	7.95%	10	132	BBB-

Information necessary to construct the variables was gathered from the following sources:

- U.S. Treasury interest rates, U.S. Government Index data, and stock prices were obtained from the Bloomberg Information Service.
- Data necessary to compute financial ratios was obtained from 10-K and 10-Q filings, and annual reports. When an offering date was not during a REIT's first fiscal quarter, annualized data was reconstructed from the above sources.
- Specific offering characteristics were obtained from the offering Prospectus and Prospectus Supplement.

Variables used in the regression

The following is an explanation of the dependent and explanatory variables used in the regression, and their expected coefficient signs: (see Exhibit 3B on page 49).

BPs OVER The dependent variable is calculated by subtracting the yield on the U.S. Treasury Security of comparable maturity from the yield on the unsecured debt at issuance. The difference, reported in basis points (BP's), is a measure of the market's perception of the risk inherent in the debt issue. This variable has a value range of 78 BP's - 352 BP's.

Δ CPI (+) The effect of inflation is captured by the annualized percentage change in the CPI (All Items Price index). The range of values for this variable is 2.69% - 4.54%. In an inflationary economic environment, the real rate of return on fixed rate debt is eroded over time. As the inflation rate increases, the capital

market should require an interest rate premium to compensate for this loss. A higher inflation rate should require a higher premium.

20YR - 3MO (-) The term structure of interest rates, graphically depicted as the Yield Curve, reflects the capital market's expectations about the level of interest rates in the future. If the Yield Curve is relatively flat or inverted, borrowers will prefer to lock-in their cost of capital with long term debt; however, lenders will prefer to lend short-term. The opposite is true when the Yield Curve is upward sloping. To entice borrowers to issue long term debt in a rising Yield Curve environment, lenders must afford borrowers a pricing discount relative to the cost of short term debt. As the slope of the Yield curve increases so should the discount. This variable has a range of .38% - 3.38% and is defined as the difference between interest rates for the 20 year Treasury Bond and the 3 month Treasury Bill at the time of the unsecured debt issuance.

PAY DEBT (-) This variable is defined as the percentage of the debt issuance proceeds that is used to repay all categories of debt as opposed to being used for operations, and ranges in value from 0% - 100%. New debt that is not used to repay existing debt will increase the percentage of total debt in the REITs capital structure. This will result in a decrease in debt coverage and a corresponding increase in the amount of investment risk that is borne by the bondholder. As a result, one would expect that the value of this variable and the required risk premium should have an inverse relationship.

PAY LTS (-) The range of values for this variable is 0% - 75%, and represents the percentage of the debt issuance proceeds that is used to repay long-term secured debt (mortgages). Because unsecured debt holds a lien position that is junior to secured debt, replacing long-term secured debt with long-term unsecured debt effectively enhances the lien position of the unsecured bond

holders. Consequently, as the value of this variable increases, the unsecured bondholders should require less of a risk premium.

MATURITY (+) The time to maturity of the individual debt issues varies from 5 years - 20 years. A firm's choice of maturity structure for its corporate debt, can provide information to the market concerning the growth prospects and overall financial health of the firm²⁸. Because short term borrowing subjects a firm to greater refinancing risk than long term borrowing, when risky debt of both long and short maturity is available, high quality firms will issue more short term debt and low quality firms will issue more long term debt²⁹. Rational investors understand this incentive, and one would expect them to demand an increasing risk premium as the maturity of the debt lengthens.

S & P (-) The Standard and Poor's bond ratings for the data-set range from A+ to BB+. These ratings are transformed into a numerical scale with A+ equal to 7 and declining 1 per rating grade thereafter. The relative quality of a firm's financial and business prospects can be judged from the ratings given by Standard and Poor's. Since bond ratings reflect the probability of default, one would expect a close correspondence between a bond's rating and its yield. On our scale, a higher rating should require a lower risk premium.

MAX DEBT (+) A common debt covenant is one that restricts the maximum allowable ratio of total debt to undepreciated book value of total assets. This variable represents that restriction and has a value range of 50% - 65%. By requiring a minimum equity investment in the firm, this ratio effectively acts to limit the default risk borne by the bondholders. As the value of this variable increases, so should the required risk premium.

²⁸ Howe, J. S., and J. D. Shilling, 1988, "Capital Structure Theory and REIT Security Offerings," *Journal of Finance*, 43, 983-993.

²⁹ Flannery, M. J., 1986, "Asymmetric information and risky debt maturity choice," *Journal of Finance*, 41, 19-37.

MAX MORT (-) A dummy variable representing a negative debt covenant that stipulates the maximum permitted ratio of secured debt to undepreciated book value of total assets. 1 = covenant is present ; 0 = covenant is not present. The logic for the variable is similar to that used to explain the expected sign for PAY LTS. Because unsecured debt holds a lien position that is junior to secured debt, limiting the amount of secured debt effectively enhances the lien position of the unsecured bond holders. Consequently, if this covenant exists, the unsecured bondholders should require a lower risk premium.

% FREE (-) This variable represents a positive covenant that specifies the minimum multiple of the outstanding principle amount of total unsecured debt that must be maintained in unencumbered real estate assets. The results of this covenant are: (1) to effectively give the unsecured bondholders a first lien position on those assets, and (2) to assure a source of collateral that can be mortgaged to repay the unsecured bondholders at maturity if the unsecured debt window is closed. The range of values for this variable is 0% - 200%, and one would expect that as this variable increases, the required risk premium would decrease.

D/MV RATIO(+) This variable represents the annualized ratio of total debt to the market value of assets at the time of the debt issuance, and has a value range of 6.91% - 52.19%.³⁰ Similar to the logic supporting the use of the MAX DEBT variable, one would expect that the default risk borne by the unsecured bondholders would have a direct relationship to the relative value of this variable.

³⁰ We estimate the market value of the firm's assets as the undepreciated value of total assets plus the current market value of equity minus the book value of equity.

MV/BV RATIO (+) The ratio (just prior to debt issuance) of market value of assets to the undepreciated book value of assets has a value range of 0.95 - 1.94, and is used as a proxy for the market's perception of the REIT's growth opportunities. Since a REIT's balance sheet does not include intangible assets like growth options, the more growth options the market perceives, the higher the value of this ratio.³¹ Relying on potential growth opportunities as collateral for an unsecured loan is riskier than lending on assets in place, therefore, one would assume that lenders would require a higher risk premium from firms with higher ratio values.

³¹ Barclay, M. J., and C. W. Smith, Jr., 1995, "The Priority Structure of Corporate Liabilities," *The Journal of Finance*, L, 3.

Variables not used in the regression

Data were collected for several variables that were ultimately not used in the final regression. These variables fell into two broad categories: Standard and Statistically Insignificant.

STANDARD This category includes both characteristics and covenants of the debt issues that did not vary within the data-set and includes the following:

- All of the REITs were self-administered and managed
- All of the issues paid a semi-annual dividend
- All of the issues were senior unsecured debt
- All of the issues had full call protection
- None of the issues had a sinking fund
- All of the issues had restrictions on merger, consolidation and sale
- All of the issues had requirements for:
 - maintenance of properties
 - insurance coverage
 - payment of taxes
 - furnishing financial information

Statistically insignificant This category includes variables that had very low t-Statistics and when included in the regression, negatively impacted both the value of R Square and the total number of independent variables with statistically significant t-Stats at the 5% level of confidence. The following is a brief description of each variable:

Time Index - a continuous time variable segmented into months

Δ GDP - % change in GDP over the 12 months preceding the offer date

Yield 20_yr. - the yield on the 20 year Treasury bond as of the offer date

Min DSC - the minimum permitted ratio of consolidated income available for debt service to total annual debt service

Div Limit - a dummy variable representing a covenant that restricts distributions that would cause a default of any indebtedness

Type - a dummy variable designed to isolate the dominant property type in the REIT's portfolio

Focus - a dummy variable designed to isolate REITs that are both property type and geographically specific (sharpshooters)

Fixed cover - the ratio of income available for total fixed charges to total fixed charges

NIBITDA / Market - ratio of net income before interest, taxes, depreciation and amortization to market value of total assets (profitability ratio)

It would have made sense to include a variable representing the percentage of insider ownership in each REIT. Unfortunately, due to time constraints and the difficulty of obtaining the information, we were unable to include it.

Results and conclusions

The results of the regression are shown on Exhibit 3C on page 54. In general, the model does a good job of explaining the determinants of unsecured REIT debt pricing. The R Square was 90%, and with one exception, PAY DEBT, the independent variables had statistically significant t-stats at high confidence levels.

Overall, these results indicate that the market has a strong reaction to each distinct variable. Applied individually, many of the coefficients would have a substantial impact on the dependent variable. With a t-stat of -6.75, the most statistically significant variable is % FREE. This result is meaningful for two principal reasons. First, as previously stated, this covenant effectively gives the

unsecured bondholders a first lien position on a stated dollar value of unencumbered assets. As a result, this covenant acts to upgrade the unsecured debt to a less subordinate position. Second, over time, this covenant has evolved from a completely non-existent status into an almost standard provision in unsecured REIT debt contracts (see Exhibit 3B). Once the covenant came into existence, only two offerings in our data-set (Chelsea GCA Realty and Tanger Properties L.P.) did not include it, and both paid a severe BP penalty for this omission. It appears that assuring management's flexibility to repay maturing unsecured notes is of paramount importance to unsecured bondholders.

Two of the variables, PAY DEBT and MAX DEBT, produced coefficients with unexpected signs. These results are contrary to Brealey and Myers assertions that tax exempt firms experience a moderate disadvantage from the use of debt. We offer the following rationale in an attempt to elucidate these unanticipated results:

PAY DEBT (+) As the value of PAY DEBT decreases, total firm debt increases; however, all the unsecured debt offerings in our data-set contain a covenant (MAX DEBT) that limits the maximum debt level that the REIT may incur. In addition, because access to the unsecured debt market is restricted to REITs with good quality management, bondholders should have confidence in management's ability to make positive NPV investments. Because positive NPV investments increase the bondholders coverage, one would expect that the value of this variable and the required risk premium would have a direct relationship.

MAX DEBT (-) Perhaps the explanation for this variable's sign can be found in signaling theory. According to Smith and Warner, lower quality firms benefit most from restrictive bond covenants; as a result, lower quality firms may be relegated to a lower allowable debt level while higher quality firms may opt for a

higher allowable debt level. REIT management may be sending a signal about firm quality through the value of the MAX DEBT variable. It appears that the bondholders are reacting to perceived firm quality and rewarding the higher quality firms while simultaneously penalizing the lower quality firms.

It is interesting to note that the three variables that are classified as negative debt covenants, MAX DEBT, MAX MORT, AND % FREE, all have negative coefficients. As a group, they have a greater impact on the dependent variable than any other category of variables used in the regression. It appears that these covenants do effectively act to temper the inherent conflicts between the holders of debt and equity, and that the market is cognizant of this fact. By far, the variable with the greatest potential impact on the dependent variable is MAX DEBT (t-stat -2.64). Within this variable's value range, its coefficient of -455.07 would decrease the required yield by 225 BP - 295 BP.

Exhibit 3C
Regression Results

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.95							
R Square	0.90							
Adjusted R Square	0.84							
Standard Error	23.86							
Observations	32.00							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	11.00	97,757.28	8,887.03	15.61	0.00			
Residual	20.00	11,389.59	569.48					
Total	31.00	109,146.88						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	247.23	128.22	1.93	0.07	-20.22	514.69	-20.22	514.69
CPI	8,833.93	4,263.67	2.07	0.05	-59.94	17,727.79	-59.94	17,727.79
20YR-3MO	-5,313.59	1,009.63	-5.26	0.00	-7,419.65	-3,207.54	-7,419.65	-3,207.54
PAY DEBT	24.05	18.68	1.29	0.21	-14.90	63.01	-14.90	63.01
PAY LTS	-123.01	36.77	-3.35	0.00	-199.71	-46.32	-199.71	-46.32
MATURITY	5.54	1.70	3.26	0.00	1.99	9.08	1.99	9.08
S&P	-21.35	6.44	-3.32	0.00	-34.79	-7.92	-34.79	-7.92
MAX DEBT	-455.07	172.32	-2.64	0.02	-814.52	-95.62	-814.52	-95.62
MAX MORT	-49.22	25.90	-1.90	0.07	-103.24	4.80	-103.24	4.80
% FREE	-76.18	11.29	-6.75	0.00	-99.73	-52.64	-99.73	-52.64
D/MV RATIO	271.72	76.05	3.57	0.00	113.09	430.36	113.09	430.36
MV/BV RATIO	80.56	34.44	2.34	0.03	8.72	152.39	8.72	152.39

Chapter 4: Conclusion

This thesis has explored several theoretical issues concerning the forces motivating REITs to access the unsecured debt market versus the equity and traditional mortgage markets for capital, and those factors affecting the pricing of this debt. Within this context, three analyses were performed. The first was an event study which documented market reaction to unsecured debt issuance, as observed through stock price change. In the second, the abnormal returns obtained in the first analysis were regressed against firm financial attributes and the debt offering characteristics. Finally, in an attempt to expose the determinants of debt pricing, the fixed yield spreads above U.S. Treasury securities of comparable maturity were regressed against macroeconomic variables, financial ratios of the REITs, and characteristics of the debt offerings.

The event study documents the negative market reaction to unsecured debt IPOs through the observation of average abnormal returns prior to and leading up to the event day 0. Negative average abnormal returns are observed between days -4 to 0 with the most significant negative reaction occurring on day -1, the day in which the offering became public information through the Wall Street Journal.

The fact that the average abnormal returns are consistently negative for a five day period leading up to the event more convincingly document the market's negative reaction to REIT unsecured debt IPOs than does the degree negative average abnormal returns are observed on any single day during the event period.

Early in the IPO proliferation, most firms timed their unsecured debt IPOs to coincide with dividends. When average abnormal returns were calculated

excluding those firms, the market's negative reaction to unsecured debt offerings appeared more severe. This indicates that coinciding the timing of both events may have been done deliberately by REIT management to obscure the resulting signals that the shift in corporate strategy would provide investors.

Regression analysis, in conjunction with event study results, supports the theory that a REIT's IPO of unsecured debt provides a signal to the market concerning its future growth prospects. Regression results indicate the market value to book value ratio (Tobin's Q), which is used as a proxy for a firm's growth prospects, is the most significant factor in predicting the market reaction to unsecured debt. The greater the ratio prior to the unsecured debt issue, the more severe the market revision down of REIT value.

Regression results of other variables, including the debt to market value ratio, also supported the notion that REITs do incur a slight disadvantage by taking on debt. REITs, due to their tax exempt status are not able to use the tax shield generated by debt, but do incur the agency conflicts that result from higher debt levels. Our results did not fully allow us to determine the extent to which the market reaction to unsecured debt IPOs is explained by signaling theory or as a consequence of the disadvantage higher debt levels place on tax exempt firms.

The results of the pricing determinant regression were notable in three respects. First, the model was able to explain, at high levels of statistical significance, approximately 90% of the value of the dependent variable. Second, of the three variable categories used, characteristics of the debt offerings had the greatest impact on the dependent variable; and within that category, negative covenants were the most consequential. This suggests that, although they are costly to include and monitor, restrictive covenants help protect the value of the bondholders' position, and that borrowers are rewarded with a lower interest rate for utilizing these covenants. Finally, and perhaps most important, the variable

with the highest level of statistical significance is the negative covenant, % FREE. This result implies that bondholders believe that the use of this covenant increases management's flexibility to repay unsecured debt at maturity. This tends to decrease the legitimacy of management's claim of increased flexibility as a justification for using unsecured debt, and adds validity to the argument that the use unsecured debt is a signal of decreased growth opportunities.

In conclusion, the results from the three topical areas of our analysis appear to lend support to the following assertions:

- The market reacts negatively to a REIT unsecured debt IPO.
- The use of unsecured debt by a REIT signals a reduction in future growth opportunities.
- Unsecured debt provides less operational flexibility than secured debt.

Appendix 1
Abnormal Returns (IPOs)

Ticker	FUR	KIM	PTR	WIR	UDR	TCO
<i>Abnormal Return (-5)</i>	1.007%	0.645%	0.619%	-1.026%	0.176%	2.975%
<i>Abnormal Return (-4)</i>	-0.848%	-1.397%	-0.143%	0.828%	-0.271%	4.017%
<i>Abnormal Return (-3)</i>	1.173%	-1.375%	0.482%	-1.172%	-0.272%	-2.693%
<i>Abnormal Return (-2)</i>	-2.802%	-0.911%	0.509%	-0.032%	-1.998%	-0.674%
<i>Abnormal Return (-1)</i>	1.994%	-2.002%	-0.168%	3.577%	-0.268%	0.027%
<i>Abnormal Return (0)</i>	-0.808%	-1.362%	0.014%	-0.324%	-2.898%	-5.036%
<i>Abnormal Return (1)</i>	0.622%	-0.955%	1.908%	2.874%	-4.769%	-2.557%
<i>Abnormal Return (2)</i>	2.243%	-1.387%	2.640%	4.228%	-1.208%	3.393%
<i>Abnormal Return (3)</i>	-1.218%	1.071%	-0.325%	3.322%	7.296%	0.823%
<i>Abnormal Return (4)</i>	1.187%	-0.360%	1.165%	1.790%	-2.042%	-0.864%
<i>Abnormal Return (5)</i>	-1.632%	-0.995%	-1.312%	2.756%	0.621%	-0.891%
Cumulative Abnormal Return (-4,0)	-1.291%	-7.047%	0.694%	2.878%	-5.708%	-4.359%

Ticker	DDR	FRT	WRP	CPJ	SCN	NPR
<i>Abnormal Return (-5)</i>	1.691%	-0.965%	0.541%	1.228%	0.035%	0.458%
<i>Abnormal Return (-4)</i>	-1.096%	1.233%	1.449%	-2.492%	-0.473%	0.019%
<i>Abnormal Return (-3)</i>	0.313%	-0.776%	-0.882%	-2.360%	0.813%	-0.944%
<i>Abnormal Return (-2)</i>	-0.195%	0.517%	-0.006%	0.018%	-0.086%	-0.187%
<i>Abnormal Return (-1)</i>	1.579%	-3.386%	-1.283%	-0.064%	-3.951%	-0.655%
<i>Abnormal Return (0)</i>	1.259%	-0.092%	0.792%	3.271%	0.808%	-0.044%
<i>Abnormal Return (1)</i>	1.228%	0.562%	-0.932%	1.279%	1.182%	-1.807%
<i>Abnormal Return (2)</i>	4.129%	0.620%	-2.332%	0.906%	3.816%	0.382%
<i>Abnormal Return (3)</i>	2.122%	-1.187%	-1.658%	-0.755%	-0.571%	-1.057%
<i>Abnormal Return (4)</i>	2.113%	-0.184%	-1.177%	0.774%	0.119%	0.457%
<i>Abnormal Return (5)</i>	0.287%	-0.700%	-0.114%	0.085%	3.150%	1.059%
Cumulative Abnormal Return (-4,0)	1.860%	-2.504%	0.070%	-1.627%	-2.890%	-1.812%

Ticker	AEC	MRY	AVN	DRE	RET	FFA
<i>Abnormal Return (-5)</i>	1.273%	0.610%	0.579%	0.393%	0.393%	-2.204%
<i>Abnormal Return (-4)</i>	0.006%	-1.417%	-0.622%	1.663%	-0.472%	1.806%
<i>Abnormal Return (-3)</i>	0.015%	-0.197%	-0.165%	-0.240%	-0.459%	0.554%
<i>Abnormal Return (-2)</i>	0.559%	-0.308%	1.208%	-1.029%	-0.045%	-2.462%
<i>Abnormal Return (-1)</i>	-0.706%	-1.698%	-0.181%	-0.609%	-0.489%	-0.093%
<i>Abnormal Return (0)</i>	0.619%	1.111%	-0.173%	-0.354%	-0.456%	0.565%
<i>Abnormal Return (1)</i>	0.633%	-0.109%	-0.357%	-0.453%	-0.015%	-1.309%
<i>Abnormal Return (2)</i>	-0.611%	-1.786%	2.578%	0.097%	-1.358%	1.176%
<i>Abnormal Return (3)</i>	-0.586%	-0.090%	-1.177%	-0.534%	-0.018%	-1.289%
<i>Abnormal Return (4)</i>	0.612%	-1.128%	-1.337%	-0.235%	0.886%	-0.040%
<i>Abnormal Return (5)</i>	-0.676%	-0.071%	-0.176%	-0.611%	1.302%	-2.542%
Cumulative Abnormal Return (-4,0)	0.493%	-2.508%	0.068%	-0.570%	-1.921%	0.370%

Ticker	SPK	CCG	IRT	SUI	TRI
<i>Abnormal Return (-5)</i>	-1.594%	1.476%	-0.031%	3.152%	-0.425%
<i>Abnormal Return (-4)</i>	-0.313%	-2.258%	0.078%	-0.988%	0.768%
<i>Abnormal Return (-3)</i>	0.435%	1.047%	-0.585%	0.512%	1.080%
<i>Abnormal Return (-2)</i>	-0.270%	-0.431%	0.172%	-0.509%	-0.890%
<i>Abnormal Return (-1)</i>	0.070%	-0.288%	0.219%	0.474%	-0.427%
<i>Abnormal Return (0)</i>	1.515%	0.311%	0.160%	1.055%	-1.165%
<i>Abnormal Return (1)</i>	2.602%	0.211%	1.426%	-0.995%	-0.267%
<i>Abnormal Return (2)</i>	-0.095%	0.023%	-1.232%	0.026%	-0.440%
<i>Abnormal Return (3)</i>	-0.051%	0.388%	-0.066%	-0.473%	-1.712%
<i>Abnormal Return (4)</i>	0.269%	-0.366%	0.351%	1.036%	0.590%
<i>Abnormal Return (5)</i>	0.015%	-1.464%	0.112%	-0.467%	-0.617%
Cumulative Abnormal Return (-4,0)	1.438%	-1.618%	0.044%	0.544%	-0.633%

Appendix 2
Abnormal Returns (Secondary Offerings)

Ticker	KIM2	PTR2	UDR2	TCO2	TCO3
<i>Abnormal Return (-5)</i>	0.710%	-0.158%	0.089%	0.361%	-0.755%
<i>Abnormal Return (-4)</i>	-0.609%	1.852%	-0.939%	-2.507%	1.021%
<i>Abnormal Return (-3)</i>	1.026%	3.134%	1.227%	1.864%	6.522%
<i>Abnormal Return (-2)</i>	0.743%	-0.058%	-0.016%	-1.556%	-1.401%
<i>Abnormal Return (-1)</i>	1.733%	0.551%	-0.970%	0.913%	0.616%
<i>Abnormal Return (0)</i>	-2.570%	1.820%	0.938%	-0.431%	-2.948%
<i>Abnormal Return (1)</i>	-1.651%	0.417%	0.020%	0.763%	-0.856%
<i>Abnormal Return (2)</i>	-0.537%	0.378%	0.056%	2.356%	-0.310%
<i>Abnormal Return (3)</i>	0.810%	-0.702%	-1.002%	1.265%	0.527%
<i>Abnormal Return (4)</i>	-0.186%	-0.010%	-0.945%	0.234%	-0.233%
<i>Abnormal Return (5)</i>	-0.867%	0.532%	-0.957%	0.754%	0.046%
Cumulative Abnormal Return (-4,0)	0.323%	7.300%	0.240%	-1.717%	3.810%

Ticker	TCO4	DDR2	FRT2	WRP2	SCN2
<i>Abnormal Return (-5)</i>	1.085%	1.272%	1.942%	0.779%	0.228%
<i>Abnormal Return (-4)</i>	1.208%	0.001%	0.426%	0.090%	1.600%
<i>Abnormal Return (-3)</i>	0.154%	1.503%	1.894%	-0.145%	-0.562%
<i>Abnormal Return (-2)</i>	-2.663%	-0.156%	1.022%	-0.525%	1.114%
<i>Abnormal Return (-1)</i>	-1.525%	1.962%	0.703%	-0.028%	-0.782%
<i>Abnormal Return (0)</i>	0.264%	1.408%	2.545%	0.090%	0.279%
<i>Abnormal Return (1)</i>	0.968%	0.006%	-0.608%	-0.137%	-0.605%
<i>Abnormal Return (2)</i>	-3.075%	-0.039%	0.609%	0.198%	0.263%
<i>Abnormal Return (3)</i>	-2.886%	-0.557%	2.232%	-0.038%	1.030%
<i>Abnormal Return (4)</i>	2.274%	0.462%	0.162%	-0.246%	1.783%
<i>Abnormal Return (5)</i>	-3.020%	-1.360%	1.184%	0.085%	-0.573%
Cumulative Abnormal Return (-4,0)	-2.561%	4.717%	6.591%	-0.518%	1.650%

Ticker	SCN3	NPR2	AEC2	MRY2	SPK2
<i>Abnormal Return (-5)</i>	3.731%	-0.017%	-1.373%	0.239%	-0.163%
<i>Abnormal Return (-4)</i>	-2.742%	-1.869%	-3.120%	-0.927%	-0.712%
<i>Abnormal Return (-3)</i>	0.061%	0.486%	-0.577%	-0.167%	0.086%
<i>Abnormal Return (-2)</i>	-0.618%	0.981%	-0.406%	-1.625%	-0.192%
<i>Abnormal Return (-1)</i>	1.625%	0.473%	-0.161%	-0.171%	0.955%
<i>Abnormal Return (0)</i>	-0.638%	0.660%	-2.012%	0.054%	-0.047%
<i>Abnormal Return (1)</i>	-0.684%	0.470%	-2.740%	1.067%	-1.134%
<i>Abnormal Return (2)</i>	0.788%	1.024%	0.135%	1.047%	-0.155%
<i>Abnormal Return (3)</i>	-0.642%	-0.624%	0.335%	0.443%	-0.478%
<i>Abnormal Return (4)</i>	1.574%	-0.112%	0.421%	0.123%	-0.214%
<i>Abnormal Return (5)</i>	-0.681%	-1.304%	2.519%	1.166%	1.552%
Cumulative Abnormal Return (-4,0)	-2.312%	0.731%	-6.276%	-2.837%	0.089%

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