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**REIT IPOS:
THEIR RELATIVE AND ABSOLUTE PERFORMANCE**

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ABSTRACT

The purpose of this paper is to extend the work on recent REIT market performance. However, unlike previously published work, the focus is on the performance of REIT IPOs relative to non-REIT IPOs in an attempt to establish whether the American equity capital markets are more adept at pricing REIT IPOs or non-REIT IPOs.

In this paper, the performance of recent equity REIT IPOs in the first year following the IPO is compared with non-real estate operating company IPOs issued on the same day as the REIT IPOs. The paper analyzes: the relative price performance of REIT vs. non-REIT IPOs; the relative volatility of REIT vs. non-REIT IPOs, both in an absolute and relative sense; and, whether the volatility of REIT IPO prices and volume increases or declines through time.

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Introduction

The decade of the 1990s has seen an explosion in Initial Public Offerings (IPOs) of Real Estate Investment Trusts (REITs) in the American capital markets. While REITs have existed for a very long period of time, their recent popularity is substantially due to the American banking crisis of the late 1980s. Stung by large numbers of non-performing real estate loans, American financial institutions sharply curtailed their real estate lending. Real estate companies seeking capital, especially to grow their businesses, found that “going public” with an equity REIT IPO was an appropriate and attractive alternative to more traditional financing methods.

A number of authors have studied the pricing and performance of REIT IPOs including: Ling and Ryngaert (1997) who found that REIT IPOs in the 1990s have been underpriced by an average of 3.6%; Shelor and Anderson (1998) who note a substantial decline in both the average returns and cumulative average returns during the 20-25 days following the IPO; and, Kim and Ritter (1999) who establish that P/E multiples using forecasted earnings aid in the accurate valuation of IPOs.

Wang and Chan (1992), Bhasin, Cole and Kiely (1996, 1997), Ghosh, Nag and Sirmans (1997), Glascock, Hughes and Varshney (1998), among others, have all studied REIT IPOs with varying results. The purpose of this paper is to extend the work of these authors as well as that of Below, Kiely and McIntosh (1996), and, Liang and McIntosh

(1998) who have comprehensively reviewed recent REIT market performance. However, unlike previously published work, the focus is on the performance of REIT IPOs relative to non-REIT IPOs in an attempt to establish whether the American equity capital markets are more adept at pricing REIT IPOs or non-REIT IPOs.

Data

Sample Selection

This study covers U.S. REIT and Non-REIT IPOs during the period from 1995 to 1998. Starting from an initial sample of more than 100 REIT IPOs, the final sample was selected from the following criteria: 1) at least one year's worth of continuous price and volume data following the IPO were available; and, 2) a corresponding non-REIT IPO (for which there was at least one year's worth of continuous price and volume data) must have been issued on the same day the REIT went public. In those cases in which more than one non-REIT IPO went public on the same day as the REIT IPO, a random number generator was used to select the non-REIT IPO.

A total of 30 REIT IPOs met the above criteria. Table 1 shows the IPO dates, REIT IPOs and corresponding non-REIT IPOs.

Price Characteristics

Table 2 shows the average closing prices for both the REIT and non-REIT IPOs for each of the first ten trading days following the IPO as well as for the thirtieth trading day and for one year subsequent to the IPO.

Several striking results are worth noting. First, the capital markets did a superb job at pricing the REIT IPOs. The average REIT IPO closed its first day of trading

almost exactly where it opened (0.9992). And, by the tenth day, the average closing price of a REIT IPO was still nearly exactly where it opened (0.9949). By the thirtieth day, the average REIT IPO was still trading almost exactly at its open (0.9921).

The capital markets appear to have done an equally fine job of pricing the non-REIT IPOs. The average non-REIT IPO closed the first day at almost exactly the open (1.0064) and showed a similar pattern throughout the first 30 days – closing on the tenth day at 1.0080 of the opening price and on the thirtieth day at 1.0073 of the opening price.

Divergence does occur one year out, however. The average REIT IPO was trading at 0.9494 of its open a year later, while the average non-REIT IPO was trading at 1.1948 of its open a year later. Part of this divergence may be attributed to the fact that REITs pay large dividends to their stockholders (95% of earnings must be distributed for a REIT to maintain its tax-exempt status) while most non-REIT IPOs pay a very nominal dividend or no dividend at all. The REIT and Non-REIT IPO prices relative to their open for the first through tenth trading days, the thirtieth trading day, and one year after the IPO are illustrated graphically in Figure 1.

The price declines for REITs also reflect the general disfavor that REIT stocks have endured in the capital markets in the second half of the decade as equity investments with perceptibly greater long-term growth opportunities have substantially outperformed the REIT category.

Volatility

Table 3 shows the REIT versus Non-REIT IPOs' average price volatility (defined as the ratio of (daily high minus daily low) divided by the daily opening price) for the first through tenth trading days as well as the thirtieth trading day and the trading day one year after the IPO. In general, the REIT IPOs' price volatility settles down after the first trading day to a remarkably steady level - around 2 percent – extending out through the thirtieth trading day. By the end of one year, however, average daily price volatility rises to an average about 3 percent.

For the Non-REIT IPOs, daily price volatility is higher – averaging 6 percent on the first day, settling down to around 3.5 percent from trading days three through nine, and to about 3 percent on the thirtieth day. As with the REIT IPOs, price volatility rises by the end of one year – in the case of the Non-REIT IPOs to a level of approximately 5 percent.

The daily price volatility for both the REIT and Non-REIT IPOs is illustrated graphically in Figure 2. The comparatively low price volatility of the REIT IPOs may be explained by the fact that these stocks are generally “income plays” where the dividend is a substantial portion of the security's total return while the Non-REIT IPOs are generally “growth plays” where most or all of the total return comes from price appreciation.

Trading Volume

Table 4 shows the average trading volume for the REIT and Non-REIT IPOs in the sample for the second through tenth trading day as well as the thirtieth trading, and the average trading volume for the first year. The trading volume values are expressed as a ratio of the trading volume on the IPO date (first trading day).

Trading volume for the REIT IPOs declines rapidly through the seventh trading day and remains less than 20 percent of the trading volume on the IPO date through trading day ten. On trading day thirty, average trading volume is less than 10 percent of the IPO date. However, for the first year following the IPO, average daily trading volume is slightly less than 15 percent of the IPO date.

For the Non-REIT IPOs, average trading volume declines throughout the second through tenth trading days, and, by day thirty, is only about 8 percent of the trading volume on the IPO date. Interestingly, for the Non-REIT IPOs, average daily trading volume for the first year is less than 4 percent of the trading volume on the IPO date.

IPO trading volume characteristics are illustrated graphically in Figure 3.

Price Volatility – A Closer Look

In addition to average closing prices relative to the initial opening price for the REIT and Non-REIT IPOs, Table also shows the maximum and minimum values among the 30 stocks in each sample for the first through tenth trading days as well as the thirtieth trading day and one year after the IPO. In general, the REIT IPO maximum and minimum values vary over a narrower range throughout the first ten trading days with none of the REIT IPO stocks closing at more than 112.5 percent of their initial opening price any time during the first ten days. By contrast, one of the Non-REIT IPOs closed more than 33 percent higher than its initial open on trading day 7.

Similarly, on the down side, none of the REIT IPOs closed at less than 86.25 percent of their initial open any time during the first ten trading days while at least one Non-REIT IPO closed at less than 80 percent of its initial open twice during the first ten

trading days. And, for every one of the first ten trading days, the range of maximum and minimum values was greater for the Non-REIT IPOs than for the REIT IPOs.

The ranges of closing prices for the thirty REIT IPOs are illustrated in Figure 4; and, for the Non-REIT IPOs in Figure 5.

Synthesis

The preliminary analysis of the thirty REIT IPOs and their corresponding thirty Non-REIT IPOs issued on the same trading day yield some interesting results. First, the capital markets appear to have done a very good job of initially pricing both the REIT and Non-REIT IPOs. Contrary to some IPOs of the past few years which have closed the first trading day substantially higher than their initial offering prices, this sample contains few examples of such volatile pricing. In fact, both the REIT and Non-REIT IPOs in this sample show remarkable price stability, especially over the critical first ten trading days.

Further, intraday price volatility is similarly non-dramatic with the average REIT IPO showing very modest price swings. While the Non-REIT IPOs demonstrate greater intraday price volatility, their average volatility does not appear terribly significant either. As far as trading volume is concerned, both the REITs and the Non-REITs show a substantial decline in trading volume by the seventh trading day. And, by the thirtieth trading day, trading volume, on average, for both the REITs and Non-REITs is less than 10 percent of the IPO date.

Future Research

Several refinements and extensions to this work are suggested. First, the pricing data needs to be supplemented with return data and indexed to determine if REIT IPO buyers

experienced positive or negative Sharpe's Alphas in the period after the IPO date – both in an absolute sense, and in comparison to the alphas experienced by buyers of Non-REIT IPOs. Second, the sample may be subdivided to determine if particular types of REITs – equity versus mortgage REITs or apartments versus office REITs – display differing pricing, volume and return behaviors following the IPO.

Finally, it may be useful to extend the research to include a larger sample and longer time frame to determine if the capital markets have improved or worsened their ability to price REIT IPOs. It would appear that this sample fared better, in terms of subsequent pricing, than the samples of REITs used by Ling and Ringaert (1997), and Shelor and Anderson (1998).

Table 1

| Date | REIT IPO | NON REIT IPO |
|--------------------|--|---------------------------------|
| June 21, 1995 | Sovran Self Storage | Global Direct Mail |
| August 4, 1995 | Redwood Trust, Inc. | Oakley, Inc. |
| August 11, 1995 | Sunstone Hotel Investors, Inc. | Atlas Air, Inc. |
| August 17, 1995 | Hospitality Properties Trust | AVX Corporation |
| September 27, 1995 | Patriot American Hospitality, Inc. | Everest Reinsurance Holdings |
| October 18, 1996 | Prentiss Properties Trust | Carson, Inc. |
| October 30, 1996 | Boykin Lodging Company | Midway Games Inc. |
| January 30, 1997 | Kilroy Realty Corporation | Administaff, Inc. |
| May 8, 1997 | Great Lakes REIT | Knoll, Inc. |
| May 16, 1997 | Westfield America, Inc. | General Cable Corporation |
| June 18, 1997 | Boston Properties, Inc. | ARM Financial Group, Inc. |
| July 8, 1997 | Equity Office Properties Trust | Metals USA, Inc. |
| July 15, 1997 | Prison Realty Trust, Inc. | Sulzer Medica Ltd. |
| August 15, 1997 | SL Green Realty Corp. | TV Azteca S.A. de C.V. |
| October 8, 1997 | Annaly Mortgage Management, Inc. | American Italian Pasta Company |
| October 17, 1997 | Imperial Credit Commercial Mortgage Investment Corp. | C.H. Robinson Worldwide, Inc. |
| October 29, 1997 | American Residential Investment Trust Inc. | Group 1 Automotive, Inc. |
| November 12, 1997 | Prime Group Realty Trust | Group Maintenance America Corp. |
| November 14, 1997 | Captec Net Lease Realty, Inc. | Friendly Ice Cream Corporation |
| November 18, 1997 | Entertainment Properties Trust | International Home Foods |
| November 21, 1997 | AMB Property Corp. | Affiliated Managers Group |
| November 25, 1997 | LASER Mortgage Management Inc. | Rayovac Corporation |
| January 27, 1998 | ElderTrust | Keebler Foods |
| January 30, 1998 | Cabot Industrial Trust | Integrated Electrical Services |
| February 13, 1998 | Capital Automotive REIT | First Consulting Group |
| March 24, 1998 | Anthracite Mortgage Capital Inc. | Freedom Securities Corp. |
| April 1, 1998 | Wilshire Real Estate Investment Trust, Inc. | Horizon Offshore, Inc. |
| May 7, 1998 | Amresco Capital Trust | Verio, Inc. |
| May 13, 1998 | Philips International Realty Corp. | Sauer Inc. |
| May 14, 1998 | Equity One, Inc. | Unicapital Corp. |

Table 2
REIT vs. Non-REIT Closing Prices Relative to Initial Open
(Sample Size = 30)

| Trading Day | Average | | Maximum | | Minimum | |
|--------------------|----------------|------------------|----------------|------------------|----------------|------------------|
| | REITs | Non-REITS | REITs | Non-REITS | REITs | Non-REITS |
| Day 1 | 0.9992 | 1.0064 | 1.0703 | 1.1177 | 0.9479 | 0.9375 |
| Day 2 | 1.0026 | 1.0115 | 1.0625 | 1.1765 | 0.9583 | 0.9519 |
| Day 3 | 1.0004 | 1.0144 | 1.0859 | 1.2059 | 0.9375 | 0.8836 |
| Day 4 | 1.0004 | 1.0085 | 1.1250 | 1.2059 | 0.9028 | 0.8974 |
| Day 5 | 0.9985 | 1.0002 | 1.1083 | 1.1985 | 0.9167 | 0.8214 |
| Day 6 | 0.9999 | 1.0055 | 1.1016 | 1.2206 | 0.9167 | 0.8348 |
| Day 7 | 0.9980 | 1.0132 | 1.0833 | 1.3309 | 0.8889 | 0.7949 |
| Day 8 | 0.9951 | 1.0077 | 1.0792 | 1.3235 | 0.9110 | 0.8077 |
| Day 9 | 0.9949 | 1.0087 | 1.0938 | 1.2721 | 0.9097 | 0.8590 |
| Day 10 | 0.9921 | 1.0080 | 1.0938 | 1.2647 | 0.8625 | 0.7946 |
| Day 30 | 0.9939 | 1.0073 | 1.0891 | 1.2941 | 0.8625 | 0.8036 |
| 1 Year | 0.9494 | 1.1948 | 1.5998 | 2.5147 | 0.2188 | 0.2628 |

Table 3
REIT vs. Non-REIT Price Volatility (High-Low)/Open
(Sample Size = 30)

| Trading Day | REITs | Non-REITS |
|--------------------|--------------|------------------|
| Day 1 | 0.0307 | 0.0600 |
| Day 2 | 0.0258 | 0.0426 |
| Day 3 | 0.0205 | 0.0324 |
| Day 4 | 0.0204 | 0.0387 |
| Day 5 | 0.0177 | 0.0326 |
| Day 6 | 0.0180 | 0.0335 |
| Day 7 | 0.0201 | 0.0346 |
| Day 8 | 0.0177 | 0.0348 |
| Day 9 | 0.0189 | 0.0328 |
| Day 10 | 0.0195 | 0.0285 |
| Day 30 | 0.0189 | 0.0301 |
| 1 Year | 0.0301 | 0.0491 |

Table 4
REIT vs. Non-REIT Trading Volume
As Ratio of First Day
(Sample Size = 30)

| Trading Day | REITs | Non-REITS |
|--------------------|--------------|------------------|
| Day 2 | 0.5743 | 0.6994 |
| Day 3 | 0.3199 | 0.4212 |
| Day 4 | 0.2151 | 0.3722 |
| Day 5 | 0.1960 | 0.2579 |
| Day 6 | 0.1847 | 0.2408 |
| Day 7 | 0.1418 | 0.2058 |
| Day 8 | 0.1999 | 0.1831 |
| Day 9 | 0.1502 | 0.1591 |
| Day 10 | 0.1716 | 0.1026 |
| Day 30 | 0.0834 | 0.0820 |
| 1 Yr Average | 0.1417 | 0.0382 |

Figure 1

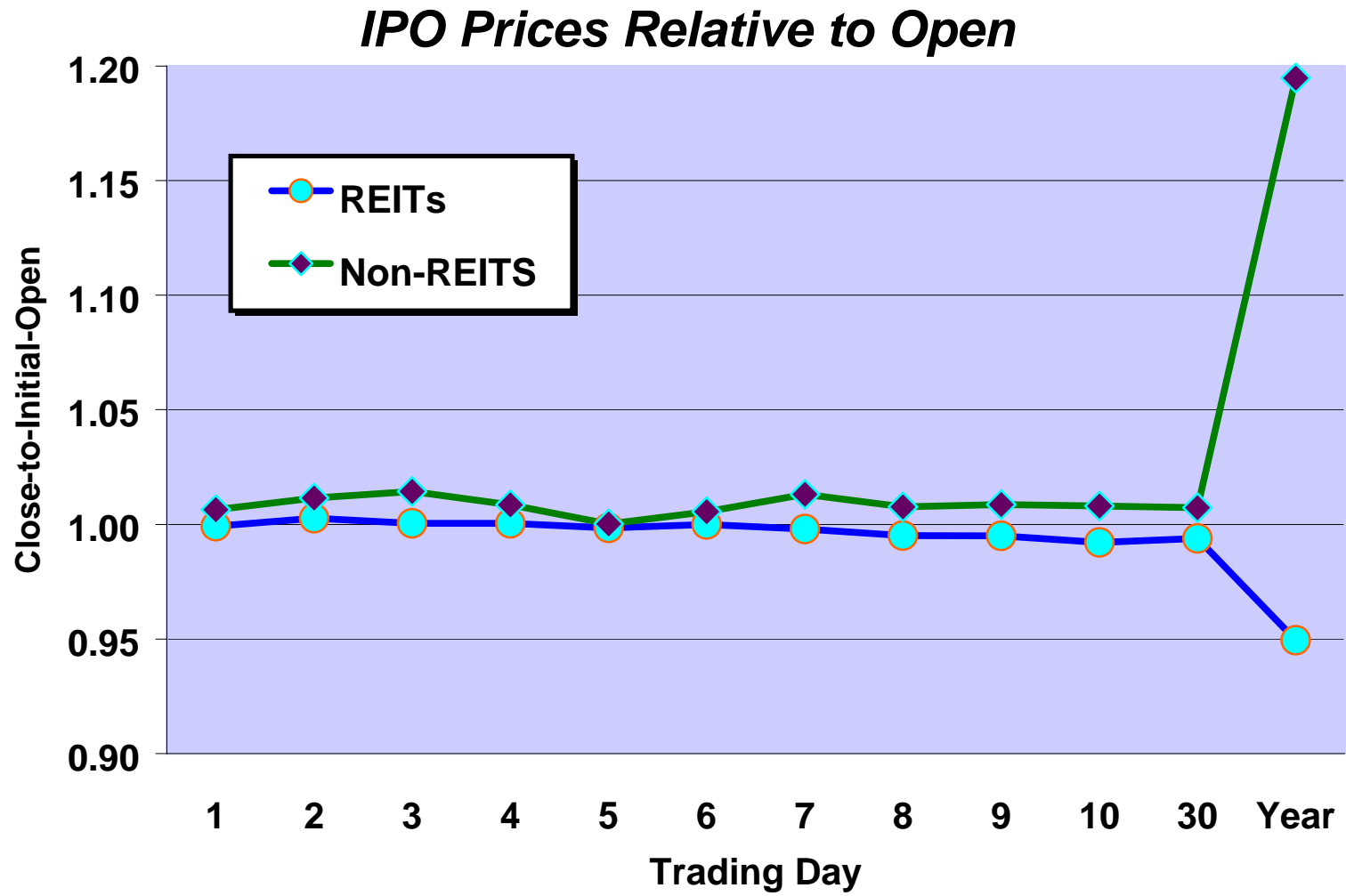


Figure 2

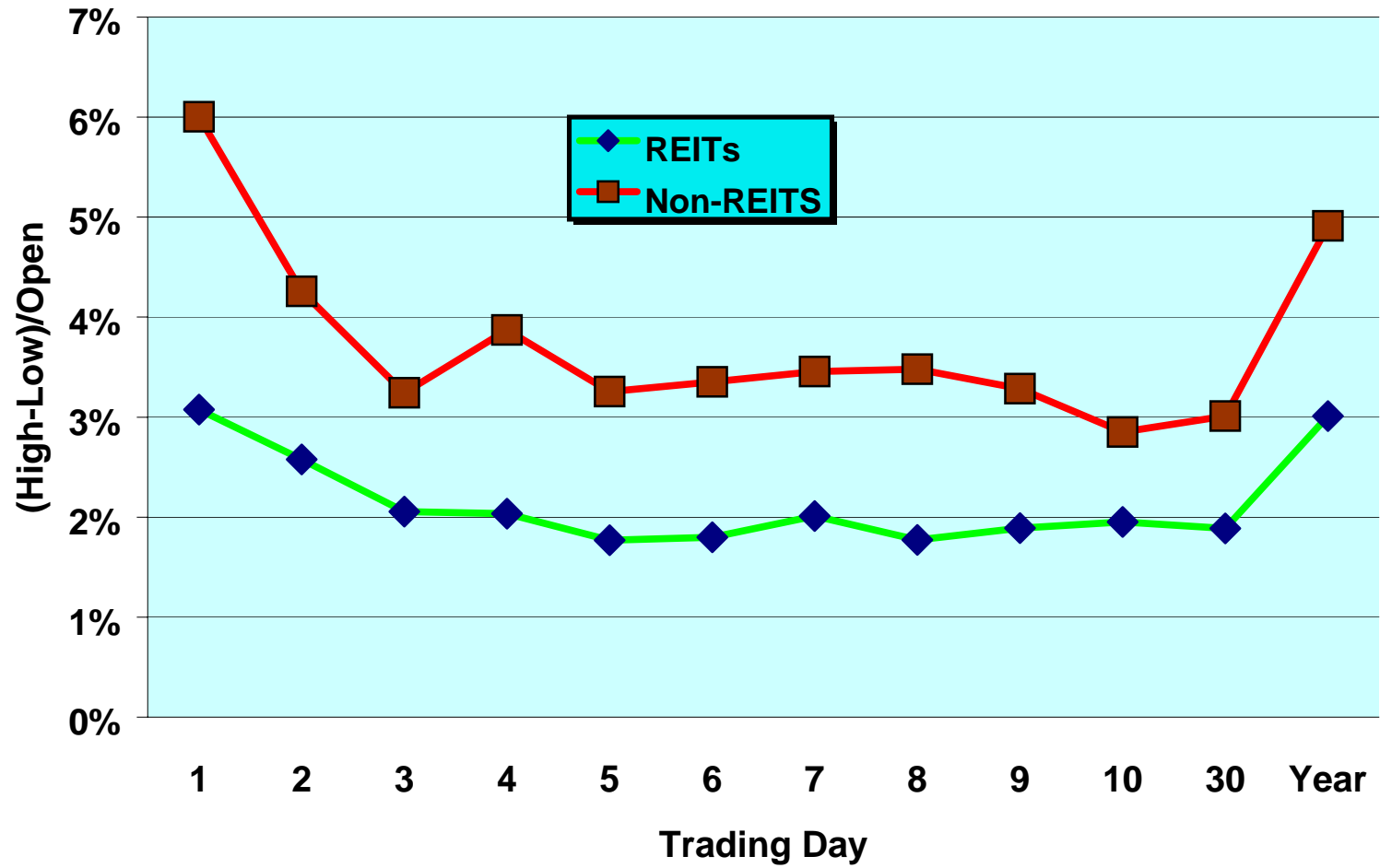
IPO Daily Price Volatility

Figure 3

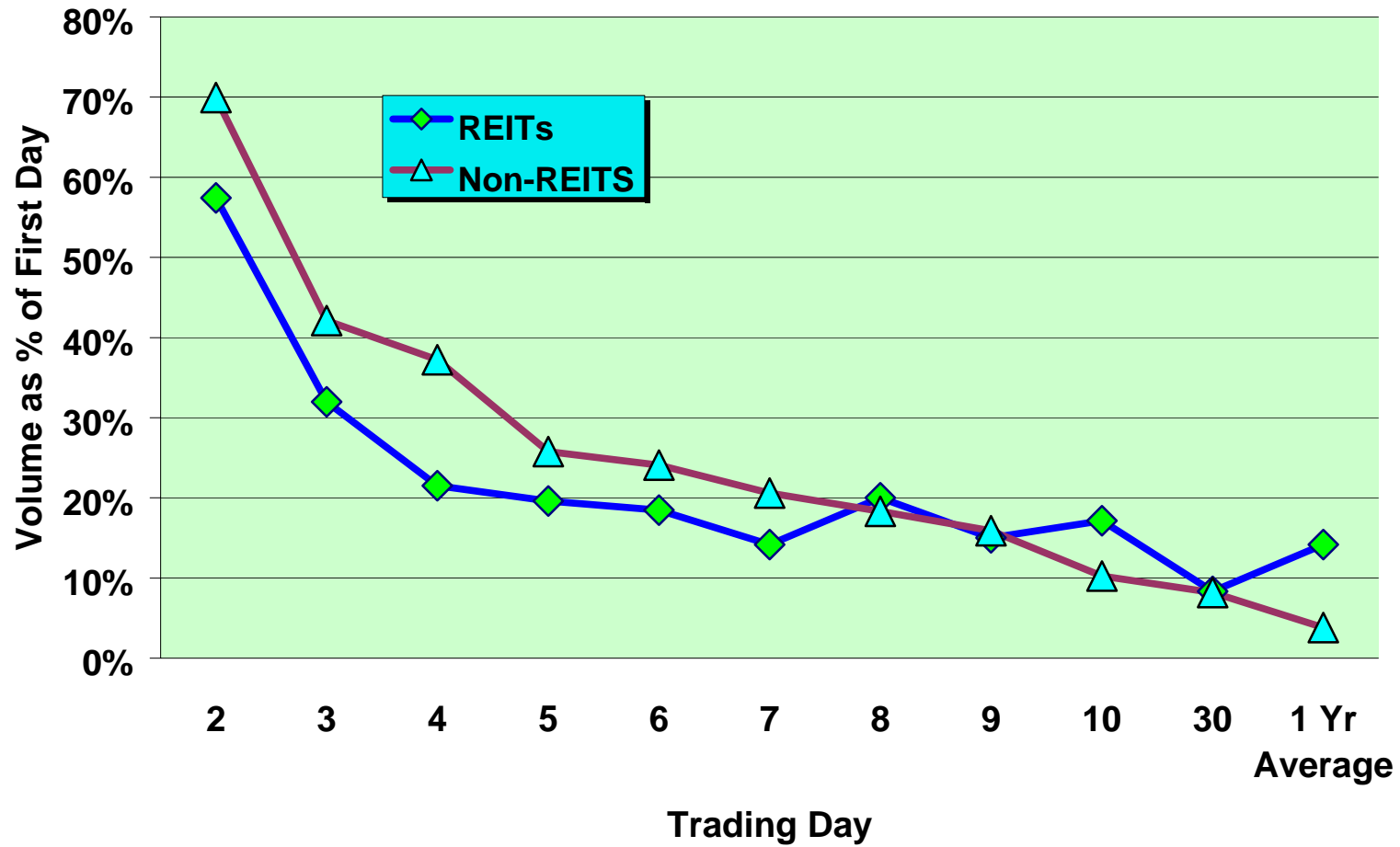
IPO Trading Volume

Figure 4

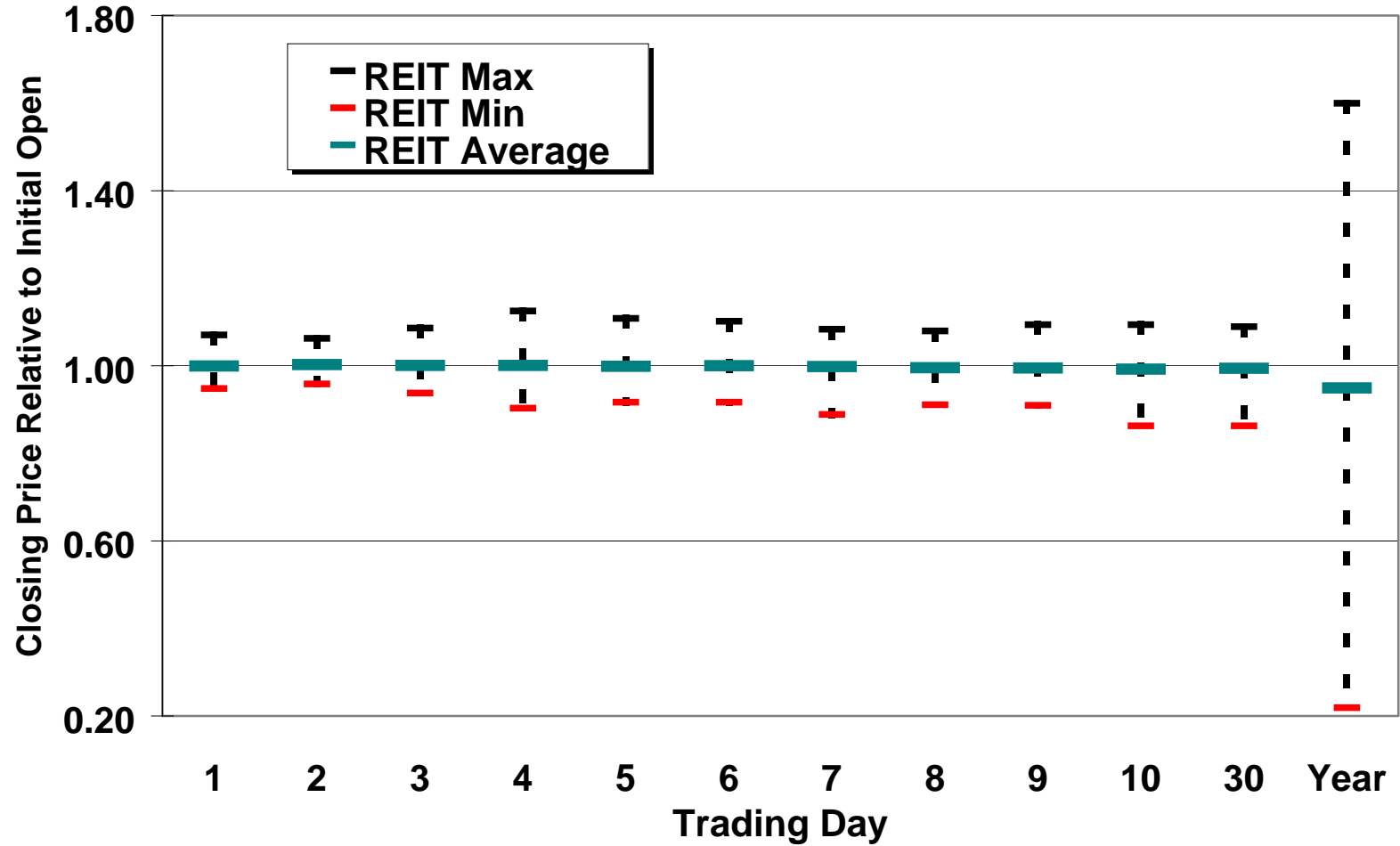
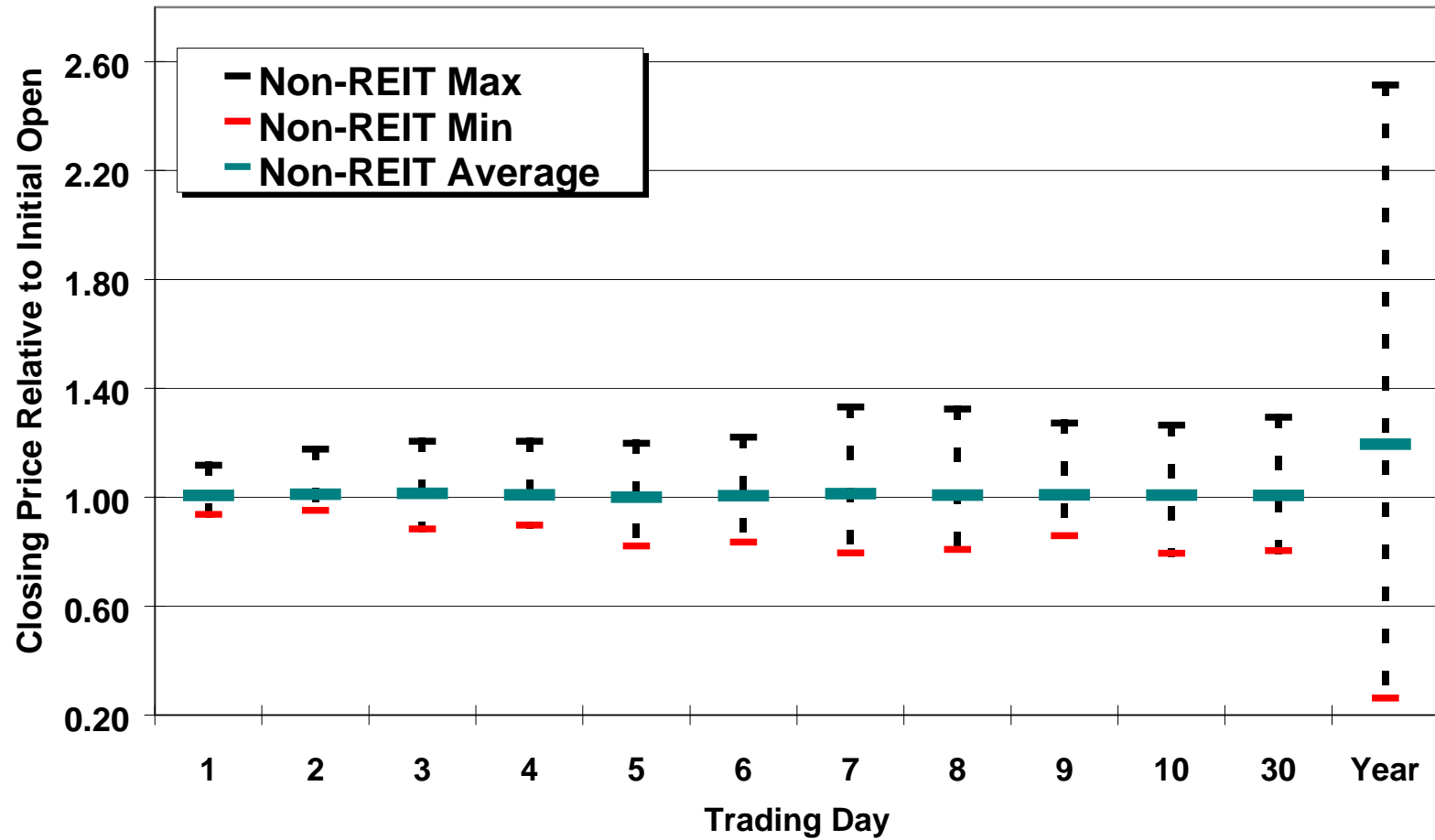
REIT Closing Price Range by Trading Day

Figure 5

Non-REIT Closing Price Range by Trading Day

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