

Overoptimism Around REIT Equity Offerings

Erik Devos^a

Seow Eng Ong^b

and

Andrew C. Spieler^{c,#}

January 2008

Key Words: REIT, Overoptimism, IPO, SEO, Analyst Forecasts

The authors gratefully acknowledge the contribution of Thomson Financial for providing earnings per share forecast data available through the Institutional Brokers Estimate System. This data has been provided as part of a broad academic program to encourage earnings expectations research. Spieler gratefully acknowledges a Summer Research Grant from the Frank G. Zarb School of Business. An earlier version of this paper was titled 'Do REITs underperform after equity offerings? Evidence from Analyst Forecasts'. We thank David Downs and participants at the 2007 APRU Symposium on Real Estate Research for comments.

^a Department of Economics and Finance, University of Texas – El Paso, El Paso, TX 79968

^b Department of Real Estate, National University of Singapore, Singapore

^c Department of Finance, Frank G. Zarb School of Business, Hofstra University, Hempstead, NY 11549

[#] Corresponding author

Overoptimism around REIT Equity Offerings

Abstract

Equity issuance is often characterized by information uncertainty about the future prospects of the firm. This effect is magnified around an IPO due to the large potential differences in information sets between the firm and outsiders. The goal of this paper was to help fill the large gap in the extant real estate literature concerning analyst forecasts around equity offerings. We examine analyst forecast properties around IPOs and SEOs. Our overall results indicate that analysts are systematically optimistic following an IPO but tend to be pessimistic around seasoned offerings. These results are independent of REIT type and continue to hold in a multivariate setting, controlling for possible endogeneity between analyst following and (under/over) performance.

Overoptimism around REIT Equity Offerings

Underperformance after equity issues is a well studied phenomena in the corporate finance literature (e.g. Ritter (1991), Spiess and Affleck-Graves (1995), and Loughran and Ritter (1995)). However, there is no consensus in this literature on whether stocks actually underperform after equity issues. Similarly, in the real estate literature there is no consensus on this issue. Howton, Howton, and Friday (2000) find evidence of underperformance whereas Li and Ong (2006) do not find evidence consistent with underperformance. Buttimer, Hyland and Sanders (2005) examine long run returns after REIT IPOs and report no findings of under (or over) performance. One of the possible explanations for post issue underperformance (if it exists) is that investors may be too optimistic about the future prospects of the firm¹.

We investigate this claim for a comprehensive sample of REITs by analyzing analyst earnings forecasts around equity issues. By doing so we use analyst forecasts as a proxy for market expectations and analyzes forecast errors before and after the equity offering. In the general finance literature this approach is not uncommon. Ali (1996) for example finds that analyst forecasts have greater optimistic bias for issuers than for non-issuers and suggests that these findings may be related to underperformance in the post issue period.

In addition to looking at the extent of overoptimism, we also add to the literature investigating analyst behavior for REITs. Devos, Ong and Spieler (2007) and Juergens (2000) are two of the very few papers that examine analyst behavior for REIT analysts. However, neither study investigates analyst behavior around equity offerings. Equity offerings form an interesting setting to investigate REIT analyst behavior. While Devos et al. (2007) find that

¹ Others have claimed that the finding of apparent underperformance is the result of poor benchmarking (i.e. Fama (1998), Eckbo, Masulis and Norli (2000) and Brav, Geczy and Gompers (2000)) or poor test statistics (i.e. Mitchell and Stafford (2000)).

forecast errors are relatively small (at least when compared with forecast errors for regular stocks), Juergens (2000) reports that forecast errors for REITs are larger than a matched sample of stocks. The former result is consistent with the transparent nature of REITs and their operations. In addition, equity offerings are understood to be undertaken in periods with relatively high information asymmetry (Ghosh, Nag, and Sirmans (2000)). By comparing analyst forecasts around IPOs and SEOs with forecasts issued when no offering is occurring we are able to shed light on this phenomenon.

Accordingly, we examine analyst forecast properties around IPOs and SEOs. Our overall results indicate that analysts are systematically optimistic following an IPO but tend to be pessimistic around seasoned offerings. These results are independent of REIT type. To control for possible endogeneity issues between analyst forecasts (suggesting possible under/over performance) and analyst following we also employ a 3SLS system. Our findings remain robust.

The remainder of the paper proceeds as follows. In the next section we will describe our hypotheses and methodology. In Section III we outline our sample selection procedure, describe the variables and provide descriptive statistics. Section IV contains the results of our univariate and multivariate analysis. Finally, Section V concludes.

II. Hypotheses and Methodology

While documenting underperformance after equity issuance (i.e. Ritter (1991), Spiess and Affleck-Graves (1995), and Loughran and Ritter (1995)), several authors suggest that investors are overoptimistic about the future of the firm (for example Ali (1996)). However, there exists a substantial literature that attributes these underperformance findings as a result of poor benchmarking or poor test statistics (i.e. Fama (1998), Eckbo et al. (2000), Brav et al. (2000), and Mitchell and Stafford (2000)). Similar to this literature, the real estate literature has not established whether underperformance after equity offerings exists. Some have suggested that underperformance exists (Howton et al. (2000) for SOEs) while others suggest otherwise (Butimer et al. (2005) for IPOs and Li and Ong (2006) for SEOs). Yet, whether investors are too optimistic after these REIT issues has not been investigated. To do so is important as it may shed light on the market's expectations of the future performance of the REIT.

Our first hypothesis is that the market is too optimistic after an IPO or SEO. If the stock market is overoptimistic we would expect analysts to have high earnings forecasts, relative to periods where no stock is issued by the firm. To test whether there are differences in investor expectations we compare analyst forecast errors up to three years after the stock offering with analyst forecast errors in other periods.² We define the analyst forecast error as follows:

$$AFE = \frac{\text{actual earnings} - \text{median estimate of earnings}}{\text{share price}} \quad (1)$$

² The use of analyst reports as a proxy for market expectations or investor expectations is commonplace in finance and accounting literature. (e.g. Elton, Gruber, and Gultekin (1984), O'Brien (1988) and evidence that the market incorporates analyst reports is provided by authors such as Womack (1996), Francis and Soffer (1997) and Asquith, Mikhail, and Au (2005).

where the median forecast estimate of earnings is the analyst consensus forecast of current year earnings (from I/B/E/S) per share; actual earnings per share is the corresponding earnings per share that were reported by the firm (from I/B/E/S as well); and share price is the stock price at the beginning of the month in which the forecast was issued. Note that overoptimism will manifest itself in a negative AFE.

Our univariate and multivariate tests will compare AFE for periods post-SEO and post-IPO. If there is (more) overoptimism after the offering we expect AFE to be (more) negative after the SEO and/or IPO, relative to forecasts issued when no equity is offered in the 3 year time span around the forecast date. We make this comparison because it is well known that analysts are positively biased (Devos et al. (2007) show this for REITs) and making this comparison allows us to control for this potential (optimistic) bias.

Devos et al. (2007) finds that different REIT types exhibit different analyst behavior. Specifically, mortgage REITs are more transparent (analyst forecasts are more accurate and less biased) when compared with equity and hybrid REITs. These REITs operate under fundamentally different environments and so investors may price these REITs differently. Therefore we test whether optimism is different for this type of REITs however we do not have an a priori expectation on how they may be different (directionally).

Our second hypothesis tests whether information asymmetry increases around the time of an equity offering. Equity offerings, particularly IPOs, are characterized by a high degree of information asymmetry (Rock (1986)). This information asymmetry has led to several theories explaining capital structure choice (e.g. Myers and Majluf (1984), Krishnaswami, Spindt and Subramaniam (1999) and others). In order to determine whether information asymmetry increases around equity offerings for REITs we compare analysts forecast errors in the three

years around the offering (before and after the SEO and after the IPO³). Again, we also investigate whether there are differences between mortgage REITs and other types.

III. Sample Selection and Descriptive Statistics

The initial dataset merges the CRSP REIT database with Compustat for the years 1985-2004. This yields 374 distinct REITs. From the I/B/E/S summary tapes we collect all current year EPS forecasts for these sample REITs⁴. We impose the condition that the summary forecasts reported on I/B/E/S have accompanying actual earnings as well as a report date for the actual earnings announcement. Finally we delete observations for which the price at the beginning of the forecast month (our deflator, from CRSP) is missing. This results in a sample of 10,116 forecasts for 253 different REITs (all representing forecasts in the years 1985-2004).

We describe the characteristics of the 10,116 forecasts in Table 1. In Panel A we show that the average (median) number of analysts that follow the firm is 2.53 (2.00). The mean consensus earnings forecast is \$1.45 or 8.73 % of share price whereas the medians are \$1.22 and 6.67%. The mean (median) forecast errors are -\$0.37 and -1.73% (-\$0.05 and -.25%)⁵. All these numbers are comparable to those in Devos et al. (2007). The distribution of these forecasts over the sample period is shown in Panel B. All years are represented but the number of forecasts increases dramatically in 2003 and 2004. In Panel C we stratify the sample by type of REIT and find approximately 73% of our forecasts are for Equity REITs whereas Mortgage REITs represent about 21% of the sample. In Table 2 we show some characteristics of the 253 REITs that are represented in the sample. We find that at the beginning of the month of the first

³ Note that for IPOs there generally are no analyst forecasts available as the analysts do not start coverage until the firm is listed.

⁴ The I/B/E/S tapes available to us contain forecasts and actual data up to March 2005.

⁵ Note that we winsorize AFE at 5% and 95% to minimize the effect of outliers.

available forecast the equity market value has a mean (median) of \$343 mm (\$180 mm) whereas the stock price at that date has a mean (median) of \$18.12 (\$17.88). When we look at the distribution of the first forecasts per REIT by year we find all years are represented but that there seems to be a major spike in analyst coverage in the mid to late 1990s a finding consistent with strong growth in the REIT industry. Again, we find (as shown in Panel C) that most of our sample REITs are equity REITs. About 80% of the REITs are Equity REITs whereas Mortgage REITs form about 15% of the sample. These percentages are similar to those in Table 1 which suggests that all REITs categories have roughly the same number of available forecasts.

In order to investigate the forecast errors around the SEO and after the IPO we generate a list of 766 SEOs from SDC that were undertaken by our sample REITs. This list is created by intersecting all SEOs (with at least some primary shares being offered, from SDC) with our 253 sample REITs. We use the issue date as the date of the offering. The IPO date is simply the beginning date as reported on CRSP. Table 3 shows some characteristics of the SEOs undertaken by the 253 REITs in our sample, as well as the distribution over time of these SEOs and IPOs. Panel A shows that the average proceeds were over \$86 mm. and the offerprice had a mean of \$26.40. In Panel B we show the distribution of these 766 SEOs. We note that the number of SEOs increases drastically in the latter part of the 1990s. This can partly be explained by the fact that many of the REITs in our sample had undertaken an IPO and are publicly trading. Panel B shows that the IPOs in the sample REITs tend to appear in waves. Notably, 1985-1986, 1993-1994, and 1997-1998 experience heightened IPO activity. Also 33 of our sample REITs were listed prior to 1982.

In Panel C we show the distribution of the 766 REIT seasoned offerings by our 253 REITs. The data indicate that SEOs range from 0 to more than 5 with reasonable frequency in

each category. 35 REITs have only 1 SEO, whereas 22 REITs have 2 SEOS. For 24, 21, and 16 REITs we find 3, 4, and 5 SEOs, respectively. 48 REITs have undertaken more than 5 SEOs and 87 REITs never undertake an SEO over the sample period.

IV. Results

In this section we present the results of our empirical analysis. In the first part we show our univariate analysis, whereas the second part contains our multivariate analysis.

Univariate Analysis

In order to test our first hypotheses we label each of our forecast errors based on the chronological proximity to either an SEO or IPO. We employ the following algorithm to label each of 10,116 forecast errors in our sample. First we match all forecasts with our 766 SEO dates (based on issue date). We then find out whether the forecast date falls in the period from 2 to 3 years prior to an SEO of the firm for which the analysts forecast earnings. If so, we label the forecast Pre-SEO Year -3. If we find an SEO in the period from 1 year to 2 years prior to the forecast we label the forecast Pre SEO Year -2. Similarly, if we find that the firm undertook an SEO in the year prior to the forecast date we label the forecast Pre-SEO Year -1. We then look at the time lapsed between the forecast and the first SEO after the forecast date. If we find that this is between 2 and 3 years we label the forecast Post SEO Year 3. If this time is between 1 and 2 (0 and 1 years) we label the forecast Post SEO Year 2 (Year 1). Finally we look at the time between the IPO date (begindate on CRSP) and the forecast date. If this value is between years 2 and 3 (1 and 2, 0 and 1), we label the forecast Post-IPO Year +3 (+2, +1). The result is 5,843 forecasts now are associated with an offering and are labeled either Pre-SEO Year -3, -2, -1, +1,

+2, +3 or Post-IPO Year +1, +2, or +3 whereas the remaining 4,273 forecasts are not associated with an offering (we label these forecasts “other”).

Table 4 provides forecasts errors for all these subgroups. Several interesting patterns emerge in Panel A. First, Pre-SEO and Post-SEO forecasts do not seem to be overoptimistic. The mean (median) of the forecast error of the Pre-SEO is -0.90 (-0.09) and the corresponding forecast errors for the Post-SEO forecast are -0.94 and -0.13. These results are in stark contrast with post-IPO forecasts where we find a mean of -2.66 and a median of -0.87. For forecasts that are issued in times other than around equity issues (“Other”) we find that the mean (median) forecast error is -2.02 (-0.27). So at first glance it seems that only forecasts that are issued after the IPO are dramatically more optimistic. It does not appear that forecasts before and after an SEO are particularly optimistic.

When we investigate the differences between these sub-samples in Panel B, the optimistic forecasts post-IPO remains. We find statistical differences between most sub-samples, allowing for the following conclusions. First, there does not appear to be much difference between forecasts pre and post-SEO and both these sets of forecasts are not very optimistic to begin with. Hence, there does not seem to be much evidence of an increase in information asymmetry around the SEO. Second, only post-IPO we find an increase in optimism. Also, we replicate this analysis using consensus forecasts for the current quarter, rather than current year forecasts. Doing so reduces the sample for 4,145 forecasts. The results remain materially the same. To conserve space we have not added a table, but the results are available upon request.

To ensure that our findings are not the results of inappropriate benchmarks we show univariate results while employing a matched REIT approach. For each of our sample forecast errors we get all forecast errors for REITs that do not have an equity offering in the 3 year time

span around the forecast date. Of these forecasts we select the closest in equity value while being of the same type (Equity, Hybrid, or Mortgage). We show the results of this analysis in table 5. Our results show that around the SEO analysts tend to be more pessimistic, but after the IPO they are relatively optimistic (i.e. the forecast errors are significantly more negative). These results confirm our earlier findings.

As mentioned earlier in the paper there is a well documented positive bias in analyst reports. In our analysis, this bias may be exacerbated by forecasts that come from analysts that work for the investment banks that are underwriting the particular issue. Given that we use the summary IBES file we do not know the identities of the individual analysts that make the forecasts of which the median consensus consists. Indirectly we can investigate whether this may be an issue. Median consensus forecasts that are the result of forecasts by few analysts are more likely to be affected by this problem than median consensus forecasts that are generated by more analysts. Our results in Table 6 show that for most subsamples, when few analysts are following the firm the analysts they tend to be more optimistic. However, even when a relatively larger number of analysts follow the REIT we find the same patterns as before. After the IPO analysts are more optimistic and this is not the case around the SEO.

In table 7 we split the sample by the different type of REIT. As mortgage REITs are very different in nature than equity and hybrid REITs we expect that there may be substantial differences in performance. We find that forecasts for equity REITs exhibit similar behavior as forecasts for the whole sample (as described in the previous table). Mortgage REITs on the other hand exhibit a different optimism pattern. During the last two years prior to the SEO analyst become pessimistic about the earnings of the REIT, as evidenced by positive significant (for both

medians and the mean of Year -1) forecast errors. Post-SEO and Post-IPO there does not seem to be too much of a difference with the equity REITs.

Multivariate Analysis

In Table 8 we present the results of OLS regressions with the forecast error as the dependent variable. Models 1, 2, 3 and 4 include dummies, depending on whether the forecast is labeled Pre- or Post-SEO or IPO (including the year). To proxy for size we include the (log of) the number of analysts, (log of) total assets, and (log) of equity market value in the different models. In the last 3 Models we include dummies equal to 1 denoting the type of REIT.

The results are consistent with our findings in the univariate analysis. We find that in most years around the SEO the market seems to be relatively pessimistic (relative to forecasts that are not issued around equity offerings), whereas they seem to be very positive and optimistic in the years after the IPO (significant in Years 1 and 3). Furthermore our results in the second model show that controlling for the REIT type does not alter these conclusions. In addition the second model suggests that analysts are in general more optimistic about the prospects of Hybrids and Mortgage REITs. Consistent with our univariate findings, related to our earlier discussion on the effects of affiliated analysts, we find that when few analysts are following the firm the analysts they tend to be more optimistic. Because the REIT environment has changed over the sample period we include a dummy in the regressions in the table when the forecast year is prior to 1992. Ling and Naranjo (2003) label the post 1992 period the “modern era”. We find that this dummy is positive and significant. This suggests that analyst were more pessimistic during this period.

In our analysis, we use the monthly summary files as provided by IBES. As the earnings announcement date nears the forecasts (and hence possible bias) may change⁶. As a robustness check we added the log of the difference between forecast date and the earnings announcement date in our regressions. The results are shown not shown in the table but are available upon request. Consistent with earlier literature we find that as the difference in days gets smaller the amount of optimism decreases. However, our main findings do not change.

Previous researchers have advanced several theories on the impact of analyst following including increased investor recognition (Merton (1987)), reducing agency costs (Chung and Jo (1996)) and increased liquidity (Brennan and Subrahmanyam (1995)). Therefore it is necessary to control for possible endogeneity as a result of including analyst following as an independent variable. Empirically, Devos et al (2007) find evidence that REIT analyst following is systematically influenced by firm value (measured by Tobin's q), profitability, return variance and others. Accordingly, we estimate a 3SLS system of regressions where Analyst Following is now included as an additional dependent variable.

The results in Table 9 support our previous findings. Specifically, the coefficients (and significance) on the Pre and Post SEO dummy variables in the Forecast Error equation are very similar to the regression output in Table 8. The same pattern holds for the Post IPO dummy variables. Note that the log of analyst following is positive and highly significant ($p=.01$). Similarly, Forecast Error also enters the Analyst Following equation positive and highly significant ($p=.01$). The remaining control variables in the Analyst Following equation are mostly significant and of the expected sign. Overall, the 3SLS results support the findings of the OLS in a more robust environment by controlling for the endogeneity between forecast errors and analyst following.

⁶ We thank the referee for bring this point to our attention.

V. Conclusions

Equity issuance is often characterized by information uncertainty about the future prospects of the firm. This effect is magnified around an IPO due to the large potential differences in information sets between the firm and outsiders. The goal of this paper was to help fill the large gap in the extant real estate literature concerning analyst forecasts around equity offerings. Accordingly, we examine analyst forecast properties around IPOs and SEOs. Our overall results indicate that analysts are systematically optimistic following an IPO but tend to be pessimistic around seasoned offerings. These results are independent of REIT type. Furthermore, the main empirical findings continue to hold after controlling for the potential endogeneity between analyst following and forecast errors. The results of 3SLS with analyst following as a second dependent variable are qualitatively and quantitatively similar.

References

- Ali, A. (1996), "Bias in Analysts' Earnings Forecasts as an Explanation for the Long-Run Underperformance of Stocks following Equity Offerings", University of Texas – Dallas – working paper.
- Asquith, P., M. Mikhail, and A. Au (2005), "Information Content of Equity Analyst Reports", *Journal of Financial Economics* v75, n2 (February 2005): 245-282.
- Brav A., C. Geczy, and P. Gompers (2000), "Is the Abnormal Return Following Equity Issuances Anomalous", *Journal of Financial Economics*, v56, n2 (May 2000): 209-49.
- Brennan, M. and A. Subrahmanyam (1995), "Investment Analysis and Price Formation in Securities Markets," *Journal of Financial Economics* v38, n3 (July 1995): 361-381.
- Buttner, R., D. Hyland, and A. Sanders (2005), "REITs, IPO Waves and Long-Run Performance", *Real Estate Economics* v33, n1 (Spring 2005): 51-87.
- Chung, K.H., and H. Jo (1996), "The impact of security analysts' monitoring and marketing functions on the market value of firms," *Journal of Financial and Quantitative Analysis* v31, n4 (December 1996): 493-512.
- Devos E., S. Ong, and A. Spieler (2007), "Analyst Activity and Firm Value: Evidence from the REIT Sector", *Journal of Real Estate Finance and Economics* v35, n3 (October 2007): 333-356.
- Eckbo, E., R. Masulis, and O. Norli (2000), "Seasoned Public Offerings: Resolution of the 'New Issues Puzzle", *Journal of Financial Economics* v56, n2 (May 2000): 251-91.
- Elton, E., M. Gruber, and B. Gultekin (1984). "Professional Expectations: Accuracy and Diagnosis of Errors", *Journal of Financial and Quantitative Analysis* v19, n4 (Spring 1984): 351-363.
- Fama, E. (1998), "Market Efficiency, Long-Term Returns, and Behavioral Finance", *Journal of Financial Economics* v49, n3 (September 1998): 283-306.
- Francis, J., and L. Soffer (1997), "The Relative Informativeness of Analysts' Stock Recommendations and Earnings Forecast Revisions", *Journal of Accounting Research* v35, n2 (Autumn 1997): 193-211.
- Ghosh C., R. Nag, and C.F. Sirmans (2000), "A Test of the Signaling Value of IPO Underpricing with REIT IPO-SEO Pairs", *Journal of Real Estate Finance and Economics* v20, n2 (March 2000): 137-54.

- Howton S., S. Howton, and S. Friday (2000), "Long Run Underperformance in REITs Following Seasoned Equity Offerings", *Journal of Real Estate Portfolio Management* v6, n4 (October-December 2000): 355-63.
- Juergens, J., (2000), "The information content of analysts' forecasts of REIT earnings", Pennsylvania State University - working paper.
- Krishnaswami, S., P. Spindt, and P., V. Subramaniam (1999), "Information Asymmetry, Monitoring, and the Placement Structure of Corporate Debt", *Journal of Financial Economics*, 51: 407-434.
- Li, Y. and S. Ong (2006), "Market Timing Behavior of REITs Secondary Equity Offerings", National University of Singapore - working paper.
- Ling, D. and A. Naranjo (2003), "The Dynamics of REIT Capital Flows and Returns", *Real Estate Economics* v31, n3 (Fall 2003): 405-436.
- Loughran, T. and J. Ritter (1995), "The New Issues Puzzle", *Journal of Finance* v50, n1 (March 1995): 23-51.
- Merton, R.C., (1987), "Presidential address: A simple model of capital market equilibrium with incomplete information," *Journal of Finance* v42, n3 (July 1987): 483-510.
- Mitchell, M. and E. Stafford (2000), "Managerial Decisions and Long-Term Stock Price Performance", *Journal of Business* v73, n3 (July 2000): 287-329.
- Myers, S. and N. Majluf (1984), "Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have", *Journal of Financial Economics* v13, n2 (June 1984): 187-221.
- O'Brien. P. (1988), "Analysts' Forecasts as Earnings Expectations", *Journal of Accounting and Economics* v10, n: 53-83
- Ritter, J. (1991), "The Long-run Performance of Initial Public Offerings", *Journal of Finance* v46, n1 (March 1991): 3-27.
- Rock, K. (1986), "Why New Issues are Underpriced", *Journal of Financial Economics*, vol. 15(1-2):187-212.
- Spiess, K. and J. Affleck-Graves (1995), "Underperformance in Long-Run Stock Returns Following Seasoned Equity Offerings", *Journal of Financial Economics* v38, n3 (July 1995): 243-67.
- Womack, K. (1996), "Do Brokerage Analysts' Recommendations have Investment Value?", *Journal of Finance* v51, n1: 137-167.

Table 1
Forecast Characteristics and Distribution

The sample consists of 10,116 analyst forecasts for 253 different REITs during 1985-2004. The sample is generated by intersecting I/B/E/S, CRSP, and Compustat and summary forecasts for current year earnings, with available actual earnings, actual earnings announcement date, and available beginning of the month price are included. Panel A presents mean, median, Q1, Q3, and the number of observations of the number of analysts following the stock, the median consensus earnings forecast per share (in \$ and as % of the beginning of the month stock price), and the forecast error which is defined as actual earnings per share minus median forecasted earnings per share (in \$ and as % of the beginning of the month stock price). Panel B presents the distribution of the forecasts over the sample period whereas Panel C presents the sample by REIT type.

	Mean	Median	Q1	Q3	N
Panel A: Summary Statistics 10,116 Forecasts					
Number of Analysts	2.53	2.00	1.00	3.00	10,116
Median Consensus Forecast (\$)	1.45	1.22	0.71	1.79	10,116
Median Consensus Forecast (%)	8.73	6.67	3.75	10.43	10,116
Forecast Error (\$)	-0.37	-0.05	-0.31	0.05	10,116
Forecast Error (%)	-1.73	-0.25	-1.84	0.28	10,116
Panel B: Distribution by Year					
	Number of Obs.		%		
1984	195		1.93		
1985	282		2.79		
1986	350		3.46		
1987	477		4.72		
1988	552		5.46		
1989	586		5.79		
1990	587		5.80		
1991	408		4.03		
1992	451		4.46		
1993	474		4.69		
1994	493		4.87		
1995	405		4.00		
1996	238		2.35		
1997	228		2.25		
1998	378		3.74		
1999	494		4.88		
2000	242		2.39		
2001	379		3.75		
2002	807		7.98		
2003	922		9.11		
2004	1,168		11.55		
<i>TOTAL</i>	10,116		100.00		
Panel C: Distribution by Type of REIT					
<i>Type</i>					
Equity	7,374		72.89		
Hybrid	630		6.23		
Mortgage	2,112		20.88		
<i>TOTAL</i>	10,116		100.00		

Table 2
REIT Characteristics and Distribution

The sample consists of 253 different REITs during 1985-2004. The sample is generated by intersecting I/B/E/S, CRSP, and Compustat. Panel A presents mean, median, Q1, Q3, and the number of observations of the equity market value and share price (at the beginning of the month of the first available forecast). Panel B presents the distribution of the forecasts over the sample period whereas Panel C presents the sample by REIT type.

	Mean	Median	Q1	Q3	N
Panel A: Summary Statistics 253 REITs					
Market Value of Equity (\$mln.)	343.19	180.02	76.24	361.31	253
Share Price	18.12	17.88	13.00	23.38	253
Panel B: Distribution by Year					
	Number of Obs.			%	
1984	21			8.30	
1985	8			3.16	
1986	7			2.77	
1987	19			2.51	
1988	12			4.74	
1989	9			3.56	
1990	4			1.58	
1991	2			0.79	
1992	4			1.58	
1993	6			2.37	
1994	42			16.60	
1995	20			7.91	
1996	13			5.14	
1997	17			6.72	
1998	22			8.70	
1999	16			6.32	
2000	1			0.40	
2001	8			3.16	
2002	8			3.16	
2003	10			3.95	
2004	4			1.58	
<i>TOTAL</i>	253			100.00	
Panel C: Distribution by Type of REIT					
<i>Type</i>					
Equity	201			79.45	
Hybrid	13			5.14	
Mortgage	39			15.42	
<i>TOTAL</i>	253			100.00	

Table 3
REIT IPO and SEO Characteristics and Distribution

The sample consists of 253 different REITs during 1985-2004. The sample is generated by intersecting I/B/E/S, CRSP, and Compustat. These 253 REITs have 766 SEOs during 1982-2006 (form SDC). Panel A shows the mean, median, Q1, Q3, and number of observations of the Proceeds and the offer price for the SEOs in the sample. Panel B shows the distribution of the IPOs (using CRSP begindate) and SOEs (using SDC). In Panel C we show the number of SEOs per REIT.

	Mean	Median	Q1	Q3	N
Panel A: Summary Statistics for 766 SEOs					
Proceeds (\$mln.)	86.32	58.40	31.60	98.90	766
Offer Price	26.40	25.00	17.88	32.75	766
Panel B: Distribution by Year					
Year	IPO		SEOs		
<1982	33				
1982	2		1		
1983	2		3		
1984	6		1		
1985	18		2		
1986	12		3		
1987	8		4		
1988	9		1		
1989	6		2		
1990	0		5		
1991	5		3		
1992	5		6		
1993	41		11		
1994	38		20		
1995	7		25		
1996	8		45		
1997	24		68		
1998	16		116		
1999	6		137		
2000	0		12		
2001	0		6		
2002	4		44		
2003	5		47		
2004	0		69		
2005	0		66		
2006	0		32		
TOTAL	253		766		

Table 3 Cont'd

Panel C Number of SEOs per REIT

	Number of REITs
1	35
2	22
3	24
4	21
5	16
>5	48
REITS with no SEO	87
TOTAL	253

Table 4
Optimism in Analyst Forecasts around IPO and SEO

The sample consists of 10,116 analyst forecasts for 253 different REITs during 1985-2004. The sample is generated by intersecting I/B/E/S, CRSP, and Compustat and only summary forecasts for current year earnings, with available actual earnings, actual earnings announcement date, and available beginning of the month price are included. The table presents mean, median, Q1, Q3, and the number of observations of the forecast error which is defined as actual earnings per share minus median forecasted earnings per share (as % of the beginning of the month stock price). Forecasts are defined as Pre SEO (Year -1,-2, or -3), Post SEO (Year 1,2, or 3) or Post IPO (Year 1,2, or 3). We also show the results for forecasts that are issued in years not close to either an IPO or SEO. In Panel B we show differences between the various subsamples.

	Mean	Median	Q1	Q3	N
Panel A: Levels					
<u>Pre SEO</u>					
Year -3	-2.28***	-0.47***	-2.98	1.74	267
Year -2	-0.50***	0.00	-0.75	0.59	361
Year -1	-0.50***	-0.02	-0.73	0.71	545
All	-0.90***	-0.09***	-1.00	0.54	1,173
<u>Post SEO</u>					
Year 3	-1.18***	-0.15***	-1.21	0.21	349
Year 2	-1.25***	-0.12	-1.40	0.24	712
Year 1	-0.76***	-0.13***	-0.95	0.24	1,648
All	-0.94***	-0.13***	-1.05	0.24	2,709
<u>Post IPO</u>					
Year 3	-3.03***	-0.71***	-3.89	0.18	676
Year 2	-2.23***	-0.87***	-3.44	0.05	831
Year 1	-2.88***	-1.40***	-3.93	0.00	454
All	-2.66***	-0.87***	-3.51	0.07	1,961
Other	-2.02***	-0.27	-1.85	0.34	4,273
Panel B: Differences					
		T		Z	
Pre SEO vs. Other		9.02***		5.50***	
Post SEO vs. Other		11.43***		3.19***	
Post IPO vs. Other		-4.79***		-9.89***	
All SEO and IPO vs. Other		5.61***		0.89	
Post SEO and Post IPO vs. Other		3.78***		3.20***	
Post SEO and Post IPO vs. Pre SEO		-6.73***		-8.12***	
Post SEO vs. Pre SEO		-0.37		-3.59***	

***, **, * denotes significance at 1, 5, and 10%

Table 5
Optimism in Analyst Forecasts around IPO and SEO (Pairwise Comparison)

The sample consists of 10,116 analyst forecasts for 253 different REITs during 1985-2004. The sample is generated by intersecting I/B/E/S, CRSP, and Compustat and only summary forecasts for current year earnings, with available actual earnings, actual earnings announcement date, and available beginning of the month price are included. The table presents mean, median, and the number of observations of the forecast error which is defined as actual earnings per share minus median forecasted earnings per share (as % of the beginning of the month stock price). Forecasts are defined as Pre SEO (Year -1,-2, or -3), Post SEO (Year 1,2, or 3) or Post IPO (Year 1,2, or 3). We show the results for the Sample, a time and size control sample and the difference between the sample and control REIT.

	Sample		Control		Difference		N
	Mean	Median	Mean	Median	Mean	Median	
<i>Pre SEO</i>							
Year -3	-2.28***	-0.47***	-3.56***	-0.85***	1.28***	0.22*	267
Year -2	-0.50***	0.00	-3.09***	-0.73***	2.59***	0.74***	361
Year -1	-0.50***	-0.02	-1.40	-0.26	0.90***	0.16*	545
All	-0.90***	-0.09***	-2.41***	-0.56***	1.51***	0.38***	1,173
<i>Post SEO</i>							
Year 3	-1.18***	-0.15***	-1.53***	-0.18***	0.26	-0.00	349
Year 2	-1.25***	-0.12	-1.87	-0.32	0.62***	0.10*	712
Year 1	-0.76***	-0.13***	-0.84***	-0.25***	0.06	0.04	1,648
All	-0.94***	-0.13***	-1.19***	-0.25***	0.25***	0.05	2,709
<i>Post IPO</i>							
Year 3	-3.03***	-0.71***	-3.57***	-0.51***	0.54*	0.00	676
Year 2	-2.23***	-0.87***	-1.59***	-0.18***	-0.64***	-0.64***	831
Year 1	-2.88***	-1.40***	-0.97***	-0.03***	-1.91***	-0.80***	454
All	-2.66***	-0.87***	-2.13***	-0.23***	-0.52***	-0.42***	1,961

***, **, * denotes significance at 1, 5, and 10%

Table 6
Optimism in Analyst Forecasts around IPO and SEO by Analyst Following

The sample consists of 10,116 analyst forecasts for 253 different REITs during 1985-2004. The sample is generated by intersecting I/B/E/S, CRSP, and Compustat and only summary forecasts for current year earnings, with available actual earnings, actual earnings announcement date, and available beginning of the month price are included. The table presents mean, median, and the number of observations of the forecast error which is defined as actual earnings per share minus median forecasted earnings per share (as % of the beginning of the month stock price). Forecasts are defined as Pre SEO (Year -1,-2, or -3), Post SEO (Year 1,2, or 3) or Post IPO (Year 1,2, or 3). We also show the results for forecasts that are issued in years not close to either an IPO or SEO. We split the sample by the number of analysts following the firm. Low (High) analyst following is defined as less than 3 (more than 2) analysts.

	Low Analyst following			High Analyst Following		
	Mean	Median	N	Mean	Median	N
<i>Pre SEO</i>						
Year -3	-0.026***	-0.005***	186	-0.15***	-0.004***	81
Year -2	-0.006***	0.000	250	-0.003	0.000	111
Year -1	-0.006***	-0.001	400	-0.003*	0.000	145
<i>Post SEO</i>						
Year 3	-0.014***	-0.001***	227	-0.007***	-0.002***	122
Year 2	-0.018***	-0.002***	455	-0.004***	0.000	257
Year 1	-0.009***	-0.002***	1,003	-0.005***	-0.000***	645
<i>Post IPO</i>						
Year 3	-0.033***	-0.009***	484	-0.023***	-0.002***	192
Year 2	-0.026***	-0.016***	575	-0.015***	-0.001***	256
Year 1	-0.027***	-0.016***	307	-0.032***	-0.012***	147
Other	-0.026	-0.004	2,815	-0.009***	-0.002***	1,458

***, **, * denotes significance at 1, 5, and 10%

Table 7
Optimism in Analyst Forecasts around IPO and SEO for different REIT Types

The sample consists of 10,116 analyst forecasts for 253 different REITs during 1985-2004. The sample is generated by intersecting I/B/E/S, CRSP, and Compustat and only summary forecasts for current year earnings, with available actual earnings, actual earnings announcement date, and available beginning of the month price are included. The table presents mean, median, and the number of observations of the forecast error which is defined as actual earnings per share minus median forecasted earnings per share (as % of the beginning of the month stock price). Forecasts are defined as Pre SEO (Year -1,-2, or -3), Post SEO (Year 1,2, or 3) or Post IPO (Year 1,2, or 3). We also show the results for forecasts that are issued in years not close to either an IPO or SEO. We split the sample by REIT type.

	Equity REITs			Hybrid REITs			Mortgage REITs		
	Mean	Median	N	Mean	Median	N	Mean	Median	N
<i>Pre SEO</i>									
Year -3	-2.56***	-0.53***	203	-6.30**	-2.67**	12	-0.29	0.32	52
Year -2	-0.58***	-0.16***	288	-16.49	-16.49	1	0.04	0.28***	72
Year -1	-0.82***	-0.15***	439	0.66***	0.66***	9	0.85***	0.80***	97
<i>Post SEO</i>									
Year 3	-0.83***	-0.10***	285	-0.30***	-0.41***	12	-3.31***	-1.63***	52
Year 2	-1.05***	-0.14***	613	-0.15	0.00	12	-2.85***	-0.00***	87
Year 1	-0.72***	-0.18***	1,371	0.17***	0.11***	12	-0.99***	-0.00	265
<i>Post IPO</i>									
Year 3	-3.66***	-0.98***	383	-1.16***	-0.54*	61	-2.48***	-0.21***	230
Year 2	-2.32***	-1.29***	564	-1.40**	-1.56**	31	-2.13***	-0.23***	236
Year 1	-2.58***	-1.46***	301	N.A.	N.A.	0	-3.48***	-1.37***	153
Other	-1.90***	-0.24***	2,925	-3.26***	-0.43***	480	-1.76***	-0.25***	868

***, **, * denotes significance at 1, 5, and 10%

Table 8
Multivariate Results

The sample consists of 10,116 analyst forecasts for 253 different REITs during 1985-2004. The sample is generated by intersecting I/B/E/S, CRSP, and Compustat and only summary forecasts for current year earnings, with available actual earnings, actual earnings announcement date, and available beginning of the month price are included. The table presents the results of OLS regressions where the dependent variable is the forecast error which is defined as actual earnings per share minus median forecasted earnings per share (as % of the beginning of the month stock price). Independent variables are dummies depending of whether the forecast was issued Pre SEO (Year -1,-2, or -3), Post SEO (Year 1, 2, or 3) or Post IPO (Year 1, 2, or 3). We also include the log of the number of analysts (total assets, and market value of equity) as independent variable (to proxy for size), as well dummies equal to 1 if the forecast is for a Hybrid or Mortgage REIT and a dummy equal to 1 if the forecast is made before 1992.

	Model 1	Model 2	Model 3	Model 4
Intercept	-0.027***	-0.026***	-0.144***	-0.033***
<u>Pre SEO</u>				
Pre SEO Year -3 dummy	-0.002	-0.003	-0.001	-0.001
Pre SEO Year -2 dummy	0.016***	0.015***	0.015***	0.017***
Pre SEO Year -1 dummy	0.016***	0.016***	0.014***	0.016***
<u>Post SEO</u>				
Post SEO Year 3 dummy	0.009***	0.008***	0.003	0.009***
Post SEO Year 2 dummy	0.008***	0.007***	0.004**	0.008***
Post SEO Year 1 dummy	0.013***	0.012***	0.007***	0.013***
<u>Post IPO</u>				
Post IPO Year 3 dummy	-0.009***	-0.009***	-0.006***	-0.001***
Post IPO Year 2 dummy	-0.001	-0.002	0.002	0.001
Post IPO Year 1 dummy	-0.008***	-0.009***	-0.002	-0.007***
Hybrid REIT dummy		-0.001	-0.002	-0.008
Mortgage REIT dummy		-0.012***	-0.008***	0.001
Log of # analysts	0.008***	0.008***		
Log of market value of equity			0.009***	
Log of total assets				0.002***
Pre 1992 dummy	0.002**	0.003***	0.014***	0.002*
Adjusted-R ²	0.046	0.049	0.094	0.034
N	10,116	10,116	10,116	9,429

***, **, * denotes significance at 1, 5, and 10%

Table 9
3SLS Regression Results

The sample consists of 10,116 analyst forecasts for 253 different REITs during 1985-2004. The sample is generated by intersecting I/B/E/S, CRSP, and Compustat and only summary forecasts for current year earnings, with available actual earnings, actual earnings announcement date, and available beginning of the month price are included. The table presents the results of 3SLS regressions where the dependent variables are the Forecast Error which is defined as actual earnings per share minus median forecasted earnings per share (as % of the beginning of the month stock price) and the log of Analyst Following (the number of analysts). Independent variables are dummies depending of whether the forecast was issued Pre SEO (Year -1,-2, or -3), Post SEO (Year 1, 2, or 3) or Post IPO (Year 1, 2, or 3), dummies equal to 1 if the forecast is for a Hybrid or Mortgage REIT, the log of return variance, advertising ratio, the log of trading volume and inverse share price. Total Assets, Advertising (as a ratio of Total Assets) are all measured at the beginning of the year of the forecast and are from Compustat. The Log (Return Variance) and Trading volume (in M) in the 250 days prior to the fiscal year end, and the NYSE Dummy (1, if the firm is traded on the NYSE) are all from CRSP. The share price is measured at the beginning of the month of the forecast and a dummy equal to 1 if the forecast is made before 1992.

Forecast Error Equation		Analyst Following Equation	
Intercept	-0.040***	Intercept	1.722***
<i>Pre SEO</i>			
Pre SEO Year -3 dummy	0.001	Forecast error	21.650***
Pre SEO Year -2 dummy	0.016***		
Pre SEO Year -1 dummy	0.013***	Log of Return Variance	0.199***
<i>Post SEO</i>		Advertising ratio	-3.498***
Post SEO Year 3 dummy	0.008***	Log (Trading Volume)	0.044***
Post SEO Year 2 dummy	0.006***	NYSE Dummy	0.005
Post SEO Year 1 dummy	0.009***	1/Share Price	0.126
<i>Post IPO</i>		Log of total assets	0.068***
Post IPO Year 3 dummy	-0.008***		
Post IPO Year 2 dummy	0.001		
Post IPO Year 1 dummy	-0.009***		
Hybrid REIT dummy	-0.001		
Mortgage REIT dummy	0.001		
Log (Analyst Following)	0.026***		
Pre 1992 dummy	0.009***		
Weighted R ²	0.127		
N	9,132		

***, **, * denotes significance at 1, 5 ,and 10%