EARNINGS MANAGEMENT IN U.S. EQUITY REITS

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Summary

This study addresses two questions: Is there earnings management in the REIT industry? How are earnings management practices affected by firm-specific factors?

Discretionary accruals methods are used to measure management in earnings. In addition, the difference between actual and expected FFO is used to capture the potential FFO manipulation. Capital market-related incentives for financial results manipulation can be divided into two types: specific event-driven and benchmark-driven. Both types of incentives are examined in this study. With regards to the specific event case, seasoned equity offering (SEO) is selected as the specific event around which financial results might be manipulated. As for the second case, zero earnings/FFO and zero growth in earnings/FFO are chosen as the two benchmarks in testing whether REITs manipulate their financial results to surpass certain thresholds.

Clear evidence of FFO manipulation around SEOs is found in this study, but the extent of earnings management is relatively weaker than that in industrial firms. It is found that REITs that issue SEOs more often are more aggressive in manipulating FFO and less so in managing earnings. Moreover, there is a notable difference between these two types of financial results manipulation. A mean-reversion trend is found in discretionary accruals, but not for FFO manipulation. Combined with the supportive findings in testing the benchmark-driven earnings management, this study demonstrates that manipulation in financial results of REITs is influenced by various factors. Financial constraints, frequent SEOs and slack governance are the features of REITs more likely to manipulate financial results.

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Chapter 1 Introduction

1.1 Motivations and Objectives

This study focuses on earnings management issues in the REIT industry. Two questions are addressed: Is there earnings management in the REIT industry? If so, how is earnings management behavior affected by various factors?

Studying earnings management in a REIT context is interesting for several reasons. First, because of the strict regulatory rules, tangible property assets and highly predictable cash flow, the REIT industry has been thought to be more transparent than other industries. In such a transparent industry with less asymmetric information, is it possible that REITs can manipulate their financial results?

Second, to maintain tax-exempt status, REITs are required to pay out a high percentage of their taxable income and hence have to rely heavily on external financing sources to fund their investments and expansions. Therefore, they are forced to go to the capital markets more frequently than general stocks. How would this difference in capital raising feature influence REITs' earnings management behavior?

Third, a unique characteristic of the REIT industry is that there are two performance measures both closely monitored by market participants: Net Income (NI) and Funds From Operation (FFO). NI is calculated within the framework of generally accepted accounting principles (GAAP), while FFO is initiated and promoted by the REIT industry itself and not ruled by GAAP. In face of these two equally important

performance measures, how would earnings management[1] behavior of REIT managers be affected, if any?

1.2 Background and Research Strategy

Earnings management issues in earnings and FFO are discussed separately in this study. Discretionary accruals methods such as cross-sectional modified Jones model (Dechow et al. 1995) and working capital accruals model (Teoh et al. 1998) are used to measure manipulation of earnings. In addition, the difference between actual and expected FFO is employed to capture the potential manipulation of FFO.

The earnings management literature can be categorized according to different incentives to manipulate financial results. Capital market incentives examine how earnings management practices are affected by factors related to the capital market while non-capital market incentives focus on internal and external contracts between different stakeholders. This study mainly focuses on capital market incentives.

The literature on earnings management driven by capital market-related incentives can be further divided into two directions: specific event-driven and benchmark-driven. They are actually two different directions in examining earnings management. The specific event direction states that firms manage their performance around specific events such as Initial Public Offerings (IPO), Seasoned Equity Offerings (SEO) and merger. The benchmark incentive indicates that firms manipulate their financial results in order to exceed certain thresholds, failing which they would be punished by the capital market. Both cases will be tested in this study. The specific event selected to test the first direction is SEO. Financial results in the five quarters

[1] In this study, manipulation of FFO is taken as a unique earnings management even though theoretically FFO is not an earnings measure. In this study, the term earnings management and manipulation are used interchangeably.

around SEOs are examined to test whether there is earnings management. To test the benchmark direction, zero earnings/FFO and zero growth in earnings/FFO are employed as benchmarks.

1.3 Results and Contributions

It is found that REITs do manage earnings around SEOs, but the extent varies. Evidence for earnings management around SEOs in the REIT industry is weaker than in industrial firms. In contrast, the extent of FFO manipulation by a REIT is positively associated with its frequency of equity offerings. The more frequently REITs go to capital market and issue seasoned equity, the more aggressive they are in manipulating FFO and the less so in manipulating earnings.

There are notable differences between manipulation of net income and FFO. There is a mean-reversion trend in discretionary working capital accruals, but not for FFO manipulation. This suggests that earnings management cannot persist for a long period, but manipulation of FFO has no such limitation. This result explains in part why the focus of manipulation shifts from earnings to FFO as SEO frequency increases. Financial manipulation in the REIT industry is influenced by various factors. Limited capability to generate cash flow, high leverage, high volatility in cash flow, frequent SEOs and slack corporate governance are the features of REITs that are more likely to manipulate financial results.

Additionally, in testing the benchmark direction, it is found that REITs manage their earnings/FFO in an attempt to avoid reporting losses or declines in earnings/FFO. High leverage, high M/B and constrained cash flow generating ability are basically associated with earnings management in these scenarios. However, the relation

between earnings management and the REIT size is mixed.

In summary, REITs with financial constraints, frequent equity offerings and weak corporate governance are more likely to manipulate financial results.

1.4 Structure of the Thesis

The next section reviews relevant literature and develops hypotheses. Section 3 discusses how to measure manipulation of earnings and FFO. Section 4 presents and interprets the empirical results of univariate analysis and multivariate regressions. Section 5 concludes.

Chapter 2 Literature Review

2.1 Earnings Management

Cash flows are a noisy measure of firm performance because there are timing and matching problems associated with cash flow recognitions. To address these problems and to mitigate timing and matching shortcomings of cash flows, General Accepted Accounting Principles (GAAP) introduce accruals to adjust the timing and matching of cash flows in calculating earnings. Earnings management is closely related to accrual accounting. Earnings are the measure of firm performance produced under the accrual basis of accounting (Dechow, 1994). This measure is believed to be more informative in evaluating performance than cash flows.

As mentioned by the FASB in various Statement of Financial Accounting Concepts, the primary focus of financial reporting is information about an enterprise's performance provided by measures of earnings and its components. The principal role of accrual accounting is to help investors better assess the entity's economic performance during a period. By using basic accounting procedures such as accrual, deferral, allocation and matching, earnings results can convey more information than merely listing the cash receipts and outlays (Dechow and Skinner, 2000). In this process, managers are allowed to use their own judgment to make financial reporting more informative for users through accounting choices or estimations.

Although managerial judgment in financial reporting can make financial results more informative, there are possible downsides. Managerial discretion over accounting choices and estimations could be used to intentionally distort information

and mislead both internal and external financial reports users. Within GAAP, managers have considerable flexibility in the choice of inventory methods, bad debt allowance, expensing versus capitalization, recognition of sales, estimation of pension liabilities, stretching out payables, delay in booking maintenance expenditures, securitizations of receivables and so on. These are all examples of earnings management. Healy and Wahlen (1999) provide a comprehensive review of the earnings management literature from the perspective of regulators and standard setters. They define earnings management as follows: “Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers”.

There are two important points in this definition to notice when analyzing earnings management. First, managerial incentives are important in the analysis of earnings management because managerial manipulation choices are affected by different incentives. Second, it is necessary to identify the accounting discretion in unexpected accruals or accounting choices. This is about how to identify earnings management. These two critical points in the definition are also reflected in the research design of this thesis in which the two problems of why and how will be discussed separately. In this section, two types of manipulation incentives are reviewed, that is, capital market-driven incentives and non-capital market incentives. In this study, more emphasis is placed on capital market-driven incentives which include two directions: the specific event direction and the benchmark direction. In section 3, the question of how to measure manipulation will be discussed in more detail. Manipulation of both earnings and FFO will be examined respectively.

2.2 Non-Capital Market Incentives

There are two major streams of incentives to manipulate financial results: non-capital market incentives and capital market incentives. The difference lies in whether the incentives are driven by capital market related factors. Non-capital market incentives, also termed as contracting theory, focus on contractual incentives to manage earnings. One function of accounting information is to help monitor and regulate the contracts between the firm and its stakeholders. For example, management compensation contracts are used to reduce the agency cost and align the incentives of management and external stakeholders. Lending covenants are specified to limit manager actions that benefit the firm's shareholders at the expense of its creditors. Government regulation can also be interpreted as another contract between the government and firms. These contracts all create incentives for earnings management. Management compensation plans (DeAngelo 1988; Dechow and Sloan, 1991), debt covenant restrictions (Watts and Zimmerman, 1986; DeFond and Jiambalvo, 1994) and government regulation (Jones 1995) may influence managerial incentive to manage earnings. The incentives for managers to make particular accounting choices depend on the terms of contracts, for example, setting executive compensation, labor wage negotiation, proxy contests and debt covenants (Chung et al, 2002).

A number of studies have examined compensation contracts to identify managerial earnings management incentives because the rewards to a firm's senior managers depend both implicitly and explicitly on the earnings achieved on their watch (Healy 1999). Healy (1985) is among the first to investigate earnings management and earnings-based bonus scheme. It is logical to suspect that managers

under such a bonus scheme would manipulate profits to smooth their remuneration so that they can get better rewards. Healy finds that managers are more likely to choose income-increasing accruals when their bonus plans have no upper bound and income-decreasing accruals when these bounds are binding. DeAngelo (1988) finds that during proxy contest managers choose to exercise accounting discretion to improve reported earnings which can benefit them as a result. Improved financial results can give them advantage in the contest. Dechow and Sloan (1991) report that CEOs in their final years in office reduce R&D spending in order to increase reported profits. They show that this behavior is consistent with the short-term nature of their compensation contracts. By reducing R& D expenses, they can boost financial results in the current period which are directly related to their own benefits. In short, evidence reported in these studies shows that managers use accounting judgment to increase earnings-based bonus awards. These are all examples of earnings management caused by management compensation contracts.

Other studies have examined whether constraints set in debt covenants would induce managers to manipulate earnings. In debt covenants, creditors impose restrictions on dividends payout, share repurchases and issuance of extra debt in order to ensure repayment of their principal and interest (Watts and Zimmerman, 1986). These restrictions are usually expressed in terms of financial ratios such as working capital ratio, interest coverage ratio and net assets. Therefore, managers would tend to choose particular accounting methods to increase reported earnings and avoid breaching such restrictions. Sweeney (1994) examines accounting changes, costs of default and accounting-based covenants violated by 130 firms that report violations in annual reports. The author finds that for firms that are approaching default, managers tend to use income-increasing accounting changes. In the analysis, earnings

management is affected by the default costs imposed by lenders and the accounting flexibility managers have. Similarly, DeFond and Jiambalvo (1994) examine a group of firms which violated their lending covenants. They find that income-increasing accruals are aggressively employed in the year prior to covenant violation. They take this behavior as evidence that firms attempt to postpone violating lending covenants as long as possible. Earnings management is one of their tools to avoid breaching restrictions set in debt contracts.

Another stream of earnings management literature is about taxation and industry regulation. The tax-related research finds evidence that firms make accounting choices to reduce tax burden. Most of the research examining the effect of government regulation on accounting choice is based upon industry-specific regulations. For instance, banking regulations require that banks satisfy certain capital adequacy requirements in terms of accounting ratios. As a response, banks tend to manage relevant accounts in order to avoid falling short of the requirements. Collins et al. (1995) find that banks that are close to minimum capital requirements tend to overstate loan loss provisions and understate loan write-offs. Similarly, firms in regulated industry such as utilities have been permitted to only a normal return on their invested assets. The normal practice in this situation would be using profit-decreasing accruals and control reported earnings within an acceptable range. It is asserted that such regulations create incentives for managers to control earnings and balance sheet variables. Jones (1991) posits that firms seeking import relief tend to defer income in the year of application. Poor financial performance would help firms to get more support from the government. Cahan (1992) find that firms under anti-trust investigation report income-decreasing abnormal accruals in investigation years. Understating earnings intentionally would benefit these firms in face of the

regulation or investigation from the government. In summary, these studies show that regulatory issues induce firms to manage earnings.

The incentives highlighted above are not driven by capital market factors and thus are included in the non-capital market incentives. As mentioned, non-capital market incentives mainly focus on contractual incentives to manage earnings. These incentives are determined by different contracts among stakeholders, that is, managers, shareholders, creditors and government, etc. Next, incentives related to capital market are introduced and analyzed.

2.3 Capital Market Incentives

In examining capital market related incentives, it is stated that managers can intentionally mislead investors about the underlying value of the firms either to obscure a firm's fundamental value or to affect resource allocation (Healy and Wahlen, 1999). The widespread use of accounting information by investors and financial analysts can create incentives for earnings management. As a result, Dechow and Skinner (2000) argue that the more fruitful way to identify firms whose managers practice earnings management is to focus more on capital market incentives.

There are basically two branches of papers that discuss capital market incentives for earnings management. The benchmark direction states that managers manipulate financial results to surpass certain benchmarks monitored by market participants or they will be punished by the capital market once falling short of these benchmarks. The specific event perspective is about earnings management around specific events such as equity offerings and takeovers. Around these specific events, managers may manipulate financial results in an attempt to mislead investors about the fair valuation

of the firm.

These two directions are quite different and this difference is also reflected in the research design of this study. This study mainly focuses on possible financial results manipulation in the REIT industry. Both cases are examined while the specific event direction has been paid more attention to. SEO is chosen as the specific event to detect possible financial results manipulation during the five quarters around SEOs. Additionally, several benchmarks are also examined in this thesis as a supplement to the findings in testing the specific event issues. Results of these two parts are finally combined into an overall conclusion about possible financial results manipulation in the REIT industry.

2.3.1 Specific Event

In the first subset of the capital market incentives, attention is paid to specific events that create opportunities for earnings management. Specific events include initial public offering (IPO), seasoned equity offerings (SEO), takeovers, etc. The intuition is that firms may take advantage of the asymmetric information and manipulate earnings in an attempt to influence the valuation of the firm and hence benefit themselves in these events.

In a paper discussing potential earnings management prior to management buyouts, Perry and Williams (1994) find that unexpected accruals are significant even when changes in revenues and depreciable capital are controlled. The results show that managers intentionally use income-decreasing accruals to reduce earnings before management buyouts. Understated financial results would drag down share prices and hence reduce their buyout costs. Erickson and Wong (1999) examine earnings

management around stock-financed acquisitions and find that there is a reversal of abnormal accruals following stock-financed acquisitions. This means managers use discretionary accruals to boost earnings before acquisitions in order to push up share prices. Therefore, they will benefit when acquisitions are financed using these stocks. These are both examples of earnings management around specific events such as Management Buyout (MBO) and merger & acquisition (M&A). Earnings management is used as a tool to manipulate stock prices in favor of management.

Equity offerings also provide a direct incentive to manage earnings. Dechow et al. (1996) suggest that one important motivation for earnings manipulation is the desire to attract external financing at low cost. If issuers can increase reported earnings, they can improve the terms on which securities are sold to the public, giving direct benefits to themselves and their firms. A higher price benefits the firm because the issuer can receive more money from the offerings. Additionally, for the same amount of money to be raised, there will be less dilution of ownership caused by the new shares. Given these incentives, it is reasonable to suspect that managers tend to manage earnings higher before issuing equity.

Recent studies have examined whether earnings are managed higher before IPO (Teoh et al., 1998a; Teoh et al. 1998) and SEO (Rangan 1998; Teoh et al. 1998b; Shivakumar 2000; Kim and Park 2005). Teoh et al. (1998) find that IPO firms, on average, have high positive issue-year earnings and abnormal accruals, followed by poor long-term performance and negative abnormal accruals. They show that these high abnormal accruals are achieved by employing income-increasing depreciation policies and reducing uncollectible accounts receivables. Teoh et al. (1998a) provide evidence that the most aggressive IPO issuers have a three-year market return of

nearly 20% less than the most conservative IPO issuers. This provides evidence that financial results are boosted by managers before IPO to improve the terms on which shares are sold.

Rangan (1998), Teoh et al. (1998b) and Shivakumar (2000) examine the relation between SEOs and earnings management. They argue that earnings management may be one explanation for the stock underperformance following SEOs. Managers overstate earnings before SEOs because of opportunism. By overstating earnings before offerings, managers try to mislead investors and issue stocks at higher prices. These authors find reported earnings of SEO firms are unusually high at the time of SEO and these high earnings are caused by abnormally high accruals.

Rangan (1998) suggests that investors can not effectively "undo" earnings management at the time of SEOs, but they are subsequently disappointed by predictable declines in earnings caused by earnings management. Rangan (1998) and Teoh et al. (1998b) both find a strong association between the extent of earnings management and the underperformance following equity offerings. Firms with higher accruals at offerings tend to have worse performance during the years after offerings. In sum, their findings support the hypothesis that investors naively extrapolate managed earnings and therefore overvalue the firms. Managers can use earnings management skills to boost financial performance before seasoned equity offerings.

Rangan (1998) examines a sample of 230 SEOs from the years 1987-1990 and finds that discretionary accruals during the offering year are negatively correlated with earnings changes in the following year. Discretionary accruals around the offering also predict poor stock returns in the following year. The ability of discretionary accruals to predict stock returns is robust to the inclusion of sales growth,

capital expenditure growth, firm size and market to book ration as additional predictors. He concludes that issuing firms can manipulate their stock prices by managing earnings and the market appears to extrapolate earnings growth associated with discretionary accruals and hence overvalues issuing firms. After the offerings, when the reversal of accruals causes earnings to decline, the market corrects its valuation errors and stock prices fall as a result.

Teoh et al. (1998b) also find evidence for earnings management at SEOs. They document that discretionary accruals grow before the offering, peak in the offering year, and decline thereafter. This accruals pattern causes earnings to grow before, peak in and decline after the offering year. The post-issue net income decline is especially profound for issuers who aggressively manage discretionary accruals before issue. Additionally, they find a negative relation between pre-issue earnings management and post-issue earnings and stock returns. This relationship remains after controlling for firm size, market to book ratio and post-issue capital expenditures. This finding is consistent with the hypothesis that investors naively trust pre-issue earnings and ignore relevant information contained in pre-issue discretionary accruals. An information imperfect market is too optimistic when equity is offered and later on becomes disappointed when the high earnings can not be sustained. This explains why there is underperformance after equity offerings.

Shivakumar (2000) points out that tests done by Rangan and Teoh et al. listed above are severely mis-specified due to the skewness in long-term returns data and the survival bias in their sample selection. Moreover, he points out that investors can rationally infer the earnings management at equity offerings announcements and hence reduce their price response to expected earnings released which is different

from the results in Rangan (1998) and Teoh et al. (1998b). As a point of departure from the above two studies, Shivakumar raises a Managerial Response Hypothesis based on the game theory and adverse selection model. It states that investors assume that firms announcing SEOs have all previously managed earnings upward, and therefore discount these firms' stock prices. In this situation, issuers who have not previously manipulated earnings would unfairly suffer stock price declines at offering announcements. As a result, it is rational for issuers to manage earnings higher before SEO announcements. He finds that earnings management by issuers is wasteful on average and can be unraveled by investors well before an equity offering, as can be explained by the rational expectations framework the author proposes. Rather than intend to mislead investors, earnings management may actually be the rational response by issuers to anticipated market behavior at offering announcements.

Previous studies (Teoh et al., 1998; Rangan, 1998; Shivakumar, 2000) examine earnings management around SEOs and find that there is a negative correlation between pre-offering earnings management and post-offering stock returns, but none of these studies directly examines the relation between earnings management and the pricing of SEOs. In contrast, Kim and Park (2005) points out earnings are managed only when equity issuers benefit from manipulation. Examining the relation between earnings management by SEO firms and the pricing of their offers is more important and direct if issuers want to manage earnings in order to boost the offering price and thus reduce the cost of capital because this is directly related to the issuer's wealth. They argue that equity issuers have incentives to boost earnings before offerings and push offer prices up to increase offering proceeds because net income is an important factor in determining the value of firms. Firms with better financial results could have more advantage in bargaining over offering price with underwriting investment banks.

Kim and Park examine a sample of 1,040 SEOs from 1989 through 2000. Their finding, so called issuer's greed hypothesis, indicates that firms opportunistically exercise accounting discretion to issue new equity at inflated prices. There is a negative relation between SEO underpricing and earnings management. The negative relation is more significant for firms with high information asymmetry. All these studies show that there is earnings management around SEOs and earnings manipulation is used by managers to change stock prices and influence valuation of the firm. However, these papers merely focus on general stocks and REITs, as a regulated industry, are normally dropped from their analysis.

Ghosh et al. (2000) examine the pricing of SEOs by U.S. equity REITs over the period of 1991-1996. They document that REIT SEOs are significantly underpriced and the underpricing extent is larger than that in 1980s. This reflects more information asymmetry for post-1990 REITs. However, earnings management has not been considered in their study.

To the best of my knowledge, few studies have discussed earnings management in the REIT industry. There are several factors that make this study interesting. In such a relatively transparent industry, is it possible for managers to manipulate financial results? Because of their tax-exempt status and the high payout ratio requirement, REITs need to issue stocks more frequently than general stocks. How would the frequency in equity offering affect earnings management practices? Moreover, how the unique dual performance measures in the REIT industry affect the earnings management choices of managers, if any. Therefore, possible earnings management around REIT SEOs is an interesting problem to explore. This study tries to fill this gap.

2.3.2 Benchmark

The benchmark-driven incentive indicates that firms are expected to meet or beat certain earnings benchmarks, if not, they will be punished by the capital market. Degeorge et al. (1999) and Dechow and Skinner (2000) summarize that there are normally three thresholds that drive earnings management: (1) avoiding losses; (2) reporting increases in seasonally adjusted quarterly earnings; (3) meeting analysts' expectations.

When a large number of firms are included in a sample, their earnings and earnings increases should be normally distributed. However, several studies report that small reported losses are unusually rare, while small profits are unusually common. At the same time, small drops in earnings are unusually rare, while small increases in earnings are unusually common (Burgstahler and Dichev, 1997; Burgstahler, 1997; Degeorge et al., 1999, Burgstahler and Eames, 2006). These findings are considered as evidence that managers manipulate earnings to avoid missing certain benchmarks. As a result of this manipulation, small positive profits and small positive profit growth are abnormally common while small negative profits and small profit declines are abnormally rare. Additionally, Degeorge et al. (1999) also find that the number of cases in which analysts' forecasts are just exactly met or slightly beaten is unusually high, while the marginal miss cases are unusually rare.

Several papers document that meeting these benchmarks is vital to market participants and managers. Barth et al. (1999) and Myers and Skinner (2000) both show that firms reporting continued growth in earnings are priced at a premium to other firms, other things being equal. The premium increases with the length of the growth string, and the premium is reduced when the string is broken. This result is

similar to the finding of DeAngelo et al. (1996) that firms breaking a pattern of consistent earnings growth experience an average 14% negative abnormal stock return in the year the pattern is broken. Skinner and Sloan (2000) find that the stock price response to earnings disappointments is disproportionally large for growth stocks. Thus, even when these firms report very small misses, they suffer abnormally large stock price declines. There seem to be strong incentives for earnings management to surpass the thresholds. If managers know that stock prices would respond strongly to adverse earnings information or negative surprises, it is natural to anticipate that they would take steps to avoid such bad news, especially if they have personal wealth increasingly associated with stock prices either in stocks or in options. One of their choices is earnings management.

Degeorge et al. (1999) try to explain these thresholds from three psychological effects. First, there is something fundamental about positive and non-positive numbers in human thought process. Hence, this dividing line carries over for the threshold on absolute earnings. Second, according to the prospect theory, individuals choosing among risky alternatives behave as if they evaluate outcomes as changes from a reference point. In the analysis context, earnings in the same quarter last year can be used as a reference point. Third, people depend on rules of thumb to reduce transaction costs. Analyst forecasts are usually used as this kind of reference in the capital market. When a firm falls short of analysts' forecasts, managers will be thought to have performed poorly. Burgstahler and Dichev (1997) also apply the prospect theory as an explanation which highlights the importance of a reference point. Zero changes of earnings and zero levels of earnings are both natural reference points. These are the two benchmarks to be discussed in this study.

Burgstahler and Dichev (1997) find that the two components of earnings, operating cash flow and changes in working capital, are used to achieve earnings surprises. Based upon former studies, Burgstahler and Eames (2006) examine both earnings management and analysts' forecast management. They indicate that both operating cash flow and discretionary accruals components of earnings are managed to realize zero or small positive earnings surprises.

Degeorge et al. (1999) provide a hierarchy among the three benchmarks discussed above. They find that the most important benchmark for managers to surpass is to avoid losses. Once profitability is achieved, it becomes important to report an increase in quarterly earnings. Once quarterly increases are in place, the goal shifts to meeting analyst forecasts. Accordingly, this study will focus on the first two thresholds, that is, to avoid losses and to avoid declines in earnings. In contrast to previous studies which only focus on general stocks, both GAAP earnings and FFO are discussed in testing the benchmark direction in this research thesis.

Given that testing earnings management around SEOs is the main focus of this thesis, the analysis of the benchmark-driven manipulation only serves as a supplement and is presented at the end of this study as a side test. In addition to the three benchmarks discussed above, there is another benchmark unique to the REIT industry, that is, managers may manipulate results to maintain their REIT status. But this unique benchmark is not examined in this study and should be a good direction for future research.

2.4 Performance Management in REITs

A distinct feature of the REIT industry is the dual performance measures. One is earnings, which is calculated within the framework of generally accepted accounting principles (GAAP). The other one is FFO initiated and promoted by the REIT industry itself and not governed by GAAP.

Claiming that net income is misleading in measuring the operating performance of real estate industry, National Association of Real Estate Investment Trusts (NAREIT) published a White Paper to give a formal definition to FFO in 1991. NAREIT argues that GAAP historical cost depreciation of real estate assets is generally not correlated with changes in the value of those assets, whose value does not diminish predictably over time, as historical cost depreciation implies. Subsequently, NAREIT has updated the White Paper several times[2] and made some revisions to the definition. NAREIT promotes FFO as an industry-specific performance measure that could resemble GAAP earnings as closely as possible. Though NAREIT does not intend FFO to be used either as a measure of cash generated by REITs or its dividend payout capacity, FFO actually reflects operating cash flow generated as a result of the REIT portfolio operation, indicating the cash-generating capability of a REIT.

Normally most REITs report quarterly results using FFO numbers. However, REIT analysts from several Wall Street firms announced in 2001 that they would include EPS estimates in REIT research reports along with FFO. Going forward, they

[2] NAREIT updated the White Paper in 1995, 1999 and 2002 consequently, making additional disclosure requirement on certain specific accounts.

would promote a consistent method for calculating EPS. This has caused a debate over which method is the better way to measure financial performance of REITs. EPS depreciation calculations can be overly conservative, but it is an audited measure which is fairly consistent from company to company. A uniform performance measure will make it easier for investors to compare REITs with other general stocks. The SEC permits REITs to disclose FFO as an industry-specific measure under the accounting standard SFAS No.131 but requires that REITs must still report GAAP earnings as their primary measure of operating performance (Gore and Stott, 1998).

Over time, FFO and changes in FFO have become two of the most common measures of REIT management performance and are used for determining the compensation level for REIT managers (Vincent 1999). Even though FFO is very popular and widely regarded by the industries as a better measure of performance than GAAP earnings, there are still some concerns about its exposure to manipulation. FFO is a non-GAAP measure, which mean its calculation and presentation are not subject to consistency rules or outstanding audits (Fields et al. 1998). For instance, FFO is not calculated consistently across REITs, and is not reconciled to net income by many REITs (Vincent 1999). Moreover, in their financial reports many REITs do not provide sufficient information about how FFO is calculated. In the absence of clear definitions about the calculation of FFO and without legal obligations to follow NAREIT guidelines, REITs managers have substantial discretion to decide which items are included or excluded when calculating FFO. By examining REITs' financial reports, it can be found that accounts such as deferred percentage lease revenue, other income/expenses from property settlement, deferred financing cost, provision for loss on impairment, other amortization items, adjustments for unconsolidated joint ventures are up to the discretion of REIT managers when calculating FFO.

Additionally, Gore and Stott (1998) find that FFO is more closely associated with stock prices than net income. This result generally supports NAREIT's claim that FFO is a more informative measure of firm performance than net income. Graham and Knight (2000) examine information content of net income and FFO. They have a similar finding that FFO is relatively more informative than net income in predicting stock return. It is natural to suspect that FFO might be more likely to be manipulated when discussing earnings management in the REIT industry.

However, the problem of earnings management in the REIT industry is largely unexplored in the literature. Fields et al. (1998) discuss FFO manipulation problems in one section of their paper and suggest that REITs with limited free cash flow which have a higher need for external financing are more likely to manage FFO. Firms with lower profitability have greater incentives to manipulate FFO upward for capital market or compensation reasons. But they merely separate the REITs sample roughly into two groups, aggressive group and conservative group, and do not provide a direct measure of FFO manipulation. This limits their findings. Another paper on FFO manipulation is Zhu (2006) which focuses on earnings management around benchmarks. The author reports that managers manipulate FFO to meet benchmarks such as analysts' forecasts and reported FFO of prior year. The results show that REIT managers exercise discretion in converting earnings to FFO to help beat analyst forecasts on FFO and to avoid FFO declines[3].

[3] Zhu (2006) finds no evidence that managers manipulate GAAP earnings, but the author just briefly mentions the finding and does not provide the detailed calculation process.

2.5 Hypothesis Development

2.5.1 Earnings Management and SEOs

Research on firms that issue SEOs finds that reported earnings of offerings firms are unusually high at the time of SEO and these high earnings are attributed to unusually high accruals. If managers decide to issue equity well before the offering announcement, they would choose to manage earnings in advance to influence investor expectations toward the firm. Dechow et al. (1996) point out that one important motivation for earnings manipulation is to attract external financing at low cost. With window-dressed financial results, issuers can have an advantage in bargaining with underwriters over the terms on which securities are sold. At the same time, a higher price benefits the firm because the issuer can receive more money from the offering. For the same amount of money to be raised, there will be less dilution of ownership caused by the new shares.

Despite the benefits from overstating earnings, there are potential costs associated with earnings management. Dechow et al. (1996) report that firms identified by SEC as earnings manipulators face higher cost of capital. Moreover, there is the possibility that qualified audit reports or lawsuits may damage the firm's image and reputation. Therefore, it is logical to expect that managers would try their best to manage financial results. It is natural to expect that earnings management will continue for several quarters because this will make the manipulation smoother and more difficult to detect. Therefore, the quarters around offering announcement are most susceptible candidate for earnings management (Rangan, 1998). In this study all the five quarters around offering announcements are examined, especially quarters closely prior to the SEO quarter.

Hypothesis 1: There is financial results manipulation around SEOs.

To maintain tax-exempt status, REITs are required to pay out a high percentage of their taxable income and hence have to rely heavily on external financing sources to fund their investments and expansions. Therefore, REITs has to go to capital market and raise fund more frequently than general stocks. As frequent SEO issuers, REITs face more scrutiny from various capital market participants. This feature is expected to influence earnings management behavior of REIT managers.

Dechow et al. (1996) suggest that managers of firms that require frequent external financing will report earnings conservatively to create a positive reputation in the market, from which they can benefit in subsequent offerings. These frequent issuers are defined as having two or more public offerings within two years. In previous studies on earnings management, SEOs that are too close to previous offerings are usually excluded from the sample, because when an offering is made, managers may have already anticipated the next offering in pipeline. This anticipation is suspected to change the managers' incentives to engage in earnings management and the extent of earnings manipulation (Shivakumar 2000). Anticipating that there will be another offering soon after the current one, managers will have to leave some leeway in earnings management because too aggressive manipulation of financial results would probably hurt the firm's reputation and thus incur higher financing costs for subsequent offerings. As discussed above, one characteristic of the REIT industry is frequent SEOs. This study will examine the relationship between REITs SEO frequency and financial results manipulation.

Hypothesis 2: REITs with higher SEO frequency practice less manipulation.

2.5.2 Earnings Management and Financial Constraints

The previous two hypotheses are mainly about variables related to SEO such as timing and frequency which are important because according to the specific event direction, SEOs provide the direct incentives for manipulation. Meanwhile, earnings management is still affected by other factors such as accounting quality, financial stability, information asymmetry and corporate governance. Factors other than SEOs can be divided into two types: financial features and information asymmetry-related governance arrangement. This section focuses on financial features related to earnings management and corporate governance-related factors are examined in the next section.

Findings from Watts and Zimmerman (1986) and DeFond and Jiambalvo (1994) indicate that financially constrained firms are more likely to manipulate financial results. Fields et al. (1998) also point out that REITs with constrained free cash flow and a higher need for external financing are more likely to manage FFO. Firms with lower profitability have greater incentives to manipulate FFO upward for capital market or compensation reasons. In this study, financial features such as profit margin, leverage ratio, cash-generating ability and cash flow volatility are used to proxy for financial constraints. REITs that are not operating well are more susceptible to earnings management. The intuition is that when a REIT is not operating well, managers tend to have more incentives to manipulate financial results. Earnings manipulation in the previous period is also considered in the analysis. This is more about the reversing characteristic of accruals. Accruals have a mean-reversion feature (Sloan, 1996). Aggressive earnings management in previous period makes it harder to do the same thing for current period. High level accruals in previous quarter will

presumably limit managers' ability to exert discretion in the current period. Therefore lagged values of earnings management measures are used in the study to control for the potential influence from prior manipulation.

Cash flow is an important factor affecting managerial earnings management decisions. Cash flow is a very important consideration for REITs. Free cash flow, together with FFO and AFFO, are usually used by analysts to investigate the profitability of REITs. Cash flow is widely used to measure the financial constraints. Additionally, Pennathur and Shelor (2002) find that that REIT manager compensation is related to stock returns and Funds from Operation for the years 1997-1999. They find no link between compensation and EPS, whether the REIT is self-managed, or type of property in which the REIT specializes. As previously noted, REITs are required to pay out a high percentage of their taxable income. At the same time, any reduction in dividends will be probably interpreted by the market as a negative signal on REIT operation. Therefore, the ability to generate cash flow and the volatility of cash flow are critical for REITs. Financially constrained firms are more likely to manipulate earnings (Fields et al., 1998), diminished cash flow and highly volatile cash flow both indicate financial constraints; hence CFO is used in this study to control for the influence of cash flow on managers' decision to manage earnings. CFO scaled by total assets is used in the study as a proxy for the firm's ability to generate cash flow. Standard deviation of cash flows over the sample period is used to reflect cash flow volatility. If a REIT has limited capability to generate cash or face volatile cash flows from operation, it is expected to have more incentives to manage financial results.

Leverage is expected to be positively correlated with earnings management.

Managers of firms facing debt covenants are more likely to use aggressive earnings management trying not to breach the debt covenants (Watts and Zimmerman, 1986). REITs with high leverage have more financial constraints which might force managers to be more aggressive in manipulating financial results. Gearing ratio is used in the study to control for the possible impact of leverage on earnings management practices.

Hypothesis 3: Financially constrained REITs tend to manipulate financial results.

Other financial variables to capture firm-specific characteristics include firm size and market to book ratio (M/B ratio). Conclusions about the relationship between firm size and earnings management are mixed so far. Watts and Zimmerman (1986) posit that large firms are more likely to manipulate earnings. However, there are other researchers suggesting that size is negatively associated with earnings management (Becker et al., 1998; DeFond and Park, 1997). In the study, total assets are used as a proxy for firm size. M/B ratio reflects the premium or discount on net assets of a REIT. A high M/B ratio indicates that investors expect more growth from current net assets. This variable is expected to be positively correlated with financial results manipulation because managers are under pressure to justify the premium over net assets reflected in M/B ratio.

2.5.3 Earnings Management and External Audit

Dechow et al. (1996) provide evidence that corporate governance structures are most commonly associated with earnings manipulation. They indicate that low managerial oversight is a significant catalyst for earnings management. They find that firms subject to SEC enforcement actions are more likely to have weaker governance

structures. REITs with more asymmetric information and weak governance are most susceptible to financial results manipulation. In this study, external audit quality is used to reflect the information asymmetry and external monitoring. Institutional investor holding ratios are used to proxy for corporate governance.

Becker et al. (1998) examine the relation between earnings management and audit quality. The results show that clients of Big 6 auditors report lower income-increasing discretionary accruals than those reported by clients of non-Big 6 auditors. Firms with lower quality auditors have been found to have higher discretionary accruals Clients of non-Big Six auditors report discretionary accruals that are, on average, 1.5-2.1 percent of total assets higher than the discretionary accruals reported by clients of Big 6 auditors. They also find that the mean and median of the absolute value of discretionary accruals are greater for firms with non-Big 6 auditors. This result also indicates that lower audit quality is associated with more "accounting flexibility".

It is a widely used assumption in accounting literature that Big 6 auditors are of higher quality than non-Big 6 auditors. To test whether this assumption holds, Kim et al. (2003) investigate whether different audit effectiveness between Big 6 and non-Big 6 auditors is influenced by a conflict or convergence of reporting incentives faced by corporate managers and external auditors. The results show that only when managers have incentives to prefer income-increasing accrual choices are Big 6 auditors more effective than non-Big 6 auditors in deterring and monitoring opportunistic earnings management. The above findings are robust to different proxies for opportunistic earnings management and different proxies for the direction of earnings management incentives. Therefore, this assumption about the relation between auditor quality and

earnings management is supported.

High auditor quality is associated with more supervision and less earnings management. In this study, external auditor quality is used to capture supervision from outside. For REITs that hire external auditors of higher quality, the monitoring is stronger and thus earnings management should be less. In contrast, more manipulation for REITs with lower audit quality is expected. Due to the fundamental changes in the auditing industry[4], a dummy variable of AUDIT is employed to reflect whether external auditors are Big 4 auditors or not.

Additionally, financial reports for the fourth quarter are normally under the scrutiny of auditors, while the statements of the other three quarters are issued without outside audit (Shivakumar, 2000). A dummy variable Q4 is introduced to explore whether there is significant difference in earnings management between the audited and unaudited quarters. It is expected that earnings management in the fourth quarter is lower than in the other three quarters. This test also reflects the relation between external audit quality and earnings management.

Hypothesis 4: REITs with high auditor quality have less manipulation.

2.5.4 Earnings Management and Corporate Governance

As REITs get increasingly accepted by institutional investors, institutional holding ratio is on the rise over time. Chan et al. (1998) document that prior to 1990, institutional investors invested more of their funds in other stocks than in REITs, whereas after 1990 they invest more of their funds in REITs than in other stocks.

[4] The Big 6 became the Big 5 in July 1998 when Price Waterhouse merged with Coopers & Lybrand to form PricewaterhouseCoopers. The Enron scandal prompted scrutiny of their financial reporting, which was audited by Arthur Andersen. Arthur Andersen was eventually indicted for obstruction of justice for shredding documents related to the audit in the 2001 Enron scandal. The resulting conviction meant the end for Arthur Andersen. Most of its business around the world has been sold to members of what is now the Big 4.

Institutional investors have the opportunity, resources and ability to monitor management. Whether institutions use these powers is partly a function of the size of their individual or collective holdings. Institutional investors with large shareholding are more likely to monitor the management because they will lose more money than investors who own a smaller shareholding and because the exit option becomes more expansive (Hsu and Koh, 2005).

When institutional investors have relatively lower holdings, there is less incentive for them to monitor managerial opportunism. Therefore, institutions with large shareholdings tend to play an active role in monitoring managerial opportunism as it relates to accounting discretion and in curtailing the earnings management behavior of managers (Chung et al., 2002). They find that institutional investors play an active role in monitoring and curtailing the opportunistic behavior of managers. To roughly capture the supervision from large stake institutional holders, the sum of the three biggest institutional investors' holding ratio is used as a proxy in this analysis. This variable is expected to be negatively correlated with earnings management, that is, REITs with higher institutional holdings have more supervision and less earnings management.

Hypothesis 5: REITs with low institutional holdings tend to manipulate financial results.

In addition, the variable "TIMESEQ" is introduced to find out if there exists a linear trend in earnings management practices over time. This is also related to the governance and regulation environment in the REIT industry. In order to help investors better understand and measure REITs' performance, NAREIT has updated its guideline about the definition of FFO and its calculation method several times

since 1991. Moreover, SEC has also made some clarifications regarding the accounting issues in the REIT industry. Yearly dummy variables are used to detect changes across different years covered in the sample.

At the same time, regulatory requirements in broader capital markets have been profoundly strengthened after a slew of financial scandals since the late 1990s. Accounting scandals at prominent companies such as Enron and WorldCom have dramatically shaken the confidence of investors. As a response, the Sarbanes-Oxley Act imposes a number of corporate governance rules on all public companies with stock traded in the US. As a result of these legislative and regulatory changes, it is reasonable to hypothesize that as time passes by, earnings management practices in REIT industry are reducing because of more restrictive regulation and more scrutiny from investors.

Hypothesis 6: Financial results manipulation is decreasing over time.

2.5.5 Earnings Management and Benchmarks

As mentioned in the literature review, Degeorge et al. (1999) summarize that there are normally three thresholds that provide incentives for earnings management: (1) avoiding losses; (2) reporting increases in seasonally adjusted quarterly earnings; (3) meeting analyst expectations. Burgstabler and Dichev (1997) and Degeorge et al. (l999) report that small declines in reported earnings are unusually rare, while small increases in reported earnings are unusually common. Dechow et al. (2003) also find that too few firms report small loss and too many firms report small profit. Shown in graphs, there will be a “kink” to the right in the distribution of net income. This means that more firms would report small positive profits or small growth in earnings. These

findings can be interpreted as evidence that managers manipulate earnings to avoid losses and earnings declines. Considering the unique characteristic of the REIT industry, where both earnings and FFO are closely monitored by market participants, it is natural to expect that REITs managers will exercise manipulation to avoid losses and declines in both earnings and FFO. The first six hypotheses will be tested using both univariate analysis and multivariate regression. Different from the hypotheses related to Specific Event theory, hypotheses 7 and 8 will be tested separately in Section 4.4.

Hypothesis 7: REITs manipulate earnings/FFO to avoid losses in earnings/FFO. Hypothesis 8: REITs manipulate financial results to avoid declines in earnings/FFO.

2.6 Chapter Summary

Chapter 2 reviews related literature on earnings management and points out that this study focuses on capital market-driven incentives. Two types of incentives for earnings management related to capital markets, termed as Specific Event and Benchmark, will be discussed in this study respectively.

Here is a summary of the hypotheses to be tested:

Hypothesis 1: There is financial results manipulation around SEOs.

Hypothesis 2: REITs with higher SEO frequency practice less manipulation.

Hypothesis 3: Financially constrained REITs tend to manipulate financial results.

Hypothesis 4: REITs with high auditor quality have less manipulation.

Hypothesis 5: REITs with low institutional-holdings tend to manipulate results.

Hypothesis 6: Financial results manipulation is decreasing over time.

Hypothesis 7: REITs manipulate earnings/FFO to avoid losses in earnings/FFO.

Hypothesis 8: REITs manipulate financial results to avoid declines in earnings/FFO.

Chapter 3 Measuring Manipulation

3.1 Measuring Earnings Management

Since earnings management can not be directly measured, researchers have developed several methods of approximating potential earnings management, including the total accruals method, the discretionary accruals method, the single accrual method, the accounting change method and the distribution method. Among them the discretionary accruals method is most widely used by researchers as the proxy for earnings management. The main task of this method is to effectively separate the discretionary part from the total accruals (Hribar and Collins 2002). As Teoh et al. (1999) point out, due to imperfections in the models used to identify discretionary accruals, the discretionary accrual proxy can be noisy, regardless of the model used. However, under most circumstances, discretionary accruals are the most effective proxies for earnings management. This is the method employed in this study. Discretionary accruals are used to reflect earnings management. REITs calculate net income using GAAP, just as other non-REIT companies. Therefore, the discretionary accruals methods developed in the broader literature for non-REITs are also applicable to REITs.

There are five time-series models of discretionary accruals in the literature: the DeAngelo (1986) model, the Healy (1985) model, the industry model used in Dechow and Sloan (1991), the Jones (1991) model and the modified Jones model (Dechow et al. 1995). Among these only the Jones and modified-Jones models are most frequently used. This time-series approach is actually a variation of the event study method. However, a limitation of this approach is that a minimum of several consecutive years

of data prior to event dates are required to determine the normal pattern of accruals for a specific firm. It is difficult to find such a clean period for REITs because of the high SEO frequency in this industry. This would dramatically reduce the sample size. Another concern about this model is the possible survivorship bias in sample selection.

Some researchers improve this model by introducing several cross-sectional versions of the Jones model. Cross-sectional versions of the Jones model are estimated using data from firms matched on time and industry. These cross-sectional models have replaced the original time-series models in recent applications (DeFond and Jiambalvo, 1994; Subramanyam, 1996; Teoh et al. 1998; DuCharme et al. 2004). Their findings demonstrate that the cross-sectional Jones model is no worse than time-series models such as the Jones model and modified Jones model. Moreover, cross-sectional method has less strict requirements for the historical data availability of sample firms and higher precision of the estimates (Kothari, 2001). The cross-section discretionary accruals model is therefore used in this study.

The intuition behind the discretionary accruals method is that accruals can be decomposed into two parts: discretionary and nondiscretionary. Nondiscretionary part is determined by external economic environment and industrial-specific situations, which are not controlled by REIT managers. What managers can influence is the discretionary part, that is, earnings management. Managers can exercise their discretion over accounting methods and accounting estimates related to discretionary accruals as well as over the timing of recognizing these accruals. According to the specific accruals being examined, the discretionary accruals method can be further differentiated into two methods. The first method is discretionary total accruals method (DTA) where total accruals (TA) are examined. The second is discretionary

working capital accruals method (DWA) where the working capital accruals (WA) are analyzed. Both methods are used in this study. DTA and DWA are the two measures of earnings management.

3.1.1 Cross-sectional Modified Jones Model

As shown in Equation (3.1) and (3.2), two independent variables are introduced in the Jones model to control for the changes in unmanaged accruals caused by external economic environment. Changes in revenue (Δrev) capture the change in working capital and the level of gross plant, property and equipment (gppe) is used to control for depreciation expenses. In this model, the implicit assumption is that revenues are nondiscretionary and difficult for managers to manipulate. This assumption makes the problem easier to analyze, however, it is not always the case in practice. As Jones recognizes[5], reported revenues may be affected to some extent by managers. For example, managers may control the timing of revenue recognition. If managers do manipulate earnings through the discretionary part of the revenues, the discretionary accruals level calculated from this model would be biased toward zero.

Dechow et al. (1995) make an improvement to the original Jones model by correcting its assumption about revenues manipulation. In calculating discretionary accruals, the changes in receivables (Δrec) are deducted from changes in revenues. This modified model implicitly assumes that all the changes in accounts receivables are caused by earnings management. Dechow et al. (2003) review this issue and state that on average a $100 change in sales will result in a $7 increase in accounts receivable, which means 93% of changes in receivables are discretionary, thus the method used in the modified Jones model is basically justified. Another paper about

[5] See Footnote 31 in Jones (1991)

specific accruals find that accounting receivables of equity issuers are extremely high (Marquardt and Wiedman 2004), which also makes it reasonable to take changes in receivables as discretionary accruals. In this study, the cross-sectional modified Jones model is used to calculate DTA.

For non-offering REITs in the same quarter, total accruals are regressed on Change in revenue (Δrev) and Gross plant, property and equipment (gppe), as shown in Equation (3.1). These two independent variables are introduced to control for changes in working capital and depreciation expenses respectively. By doing so, the normal level of nondiscretionary accruals for the industry in certain quarter can be identified. The estimated coefficients from the non-offering REITs regression are then used in Equation (3.2) to estimate DTA of offering-REITs by subtracting the estimated nondiscretionary accruals from total accruals. Following Dechow et al. (1995) and Rangan (1998), Δrev is adjusted by subtracting Change in receivables (Δrec) in an attempt to remove the effects of managerial discretion over credit sales. Discretionary working capital accruals (DWA) can be estimated in the similar way as shown in Equation (3.3) and (3.4).

3.1.2 Working Capital Accruals Model

There is another stream of earnings management literature using an alternative discretionary accruals method initiated by Teoh et al. (1998). In contrast to the discretionary total accruals method explained above, only working capital accruals are analyzed in this method. Teoh's model follows the same rationale as Jones model. As shown in Equation (3.3), working capital accruals are regressed on changes in revenues (Δrev) for all non-offering REITs in the same quarter. The relation indicated by the coefficients can be seen as an industry standard for accruals. These coefficients

from non-offering REITs are then used in Equation (3.4) to calculate discretionary working capital accruals. Rangan (1998) modifies the model by introducing changes in cost of goods sold ($\Delta cogs$) as an additional explanatory variable. However, to avoid potential multicollinearity problem[6], only changes in revenue are used in the study.

In the four papers on earnings management around SEOs, Rangan (1998) and Teoh et al. (1998b) examine DWA while Shivakumar (2000) and Kim and Park (2005) use DTA to measure earnings management. Teoh et al. (1998) states that managers have more discretion over current accruals than over long-term accruals, therefore the discretionary component of working capital accruals (DWA) may be a better proxy than that of total accruals (DTA)[7]. However, given that depreciation is a dominant component in the costs of REITs, excluding depreciation from the analysis of earnings management may result in a loss of information. Therefore, both total accruals and working capital accruals are examined in this study. Any different conclusions about earnings management for the two models would mean that depreciation expenses should account for the difference.

[6] It is found that changes in revenue and changes in COGS are highly correlated for the sample REITs which may be caused by the feature of this REIT industry that both revenues and expenses are related to the same set of properties.

[7] Working capital accruals are defined as the sum of changes in receivables, inventory and other current assets less the sum of changes in accounts payable, income taxes and other current liabilities. Total accruals equal working capital accruals less depreciation.

3.1.3 Model Settings

The two discretionary accruals models used in this study are listed below:

Modified Jones Model:

$$TA_{it} / a_{it-1} = \beta_1(1/a_{it-1}) + \beta_2(\Delta rev_{it} / a_{it-1}) + \beta_3(gppe_{it} / a_{it-1}) + \varepsilon_i \quad (3.1)$$

$$DTA_{it} = TA_{it} / a_{it-1} - b_1(1/a_{it-1}) - b_2(\Delta rev_{it} / a_{it-1} - \Delta rec_{it} / a_{it-1}) - b_3(gppe_{it} / a_{it-1}) \quad (3.2)$$

Working Capital Accruals Model:

$$WA_{it} / a_{it-1} = \beta_1(1/a_{it-1}) + \beta_2(\Delta rev_{it} / a_{it-1}) + \varepsilon_i \quad (3.3)$$

$$DWA_{it} = TA_{it} / a_{it-1} - b_1(1/a_{it-1}) - b_2(\Delta rev_{it} / a_{it-1} - \Delta rec_{it} / a_{it-1}) \quad (3.4)$$

The meanings of the parameters are:

Table 3. 1 Definition of variables in DA models

TA_{it}	total actual accruals of firm i during quarter t;
WA_{it}	working capital accruals of firm i during quarter t;
DTA_{it}	discretionary total accruals of firm i during quarter t;
DWA_{it}	discretionary working capital accruals of firm i during quarter t;
Δrev_{it}	change in revenue from quarter t-1 to quarter t;
Δrec_{it}	change in accounts receivables from quarter t-1 to quarter t;
$gppe_{it}$	Gross property, plant and equipment at the end of quarter t;
a_{it-1}	total assets at the end of quarter t-1[8]

Source: Author, 2007

Hribar and Collins (2002) suggest that discretionary accruals estimated from balance sheet data may be biased and they find that discretionary current accruals estimated from cash flow statements are lower than those estimated from balance sheet data for a sample of SEOs. As such, cash flow statements are used to calculate

[8] Scaling the variables with the total assets of previous quarters a weighted least squares (WLS) approach aimed at addressing the potential heteroedasticity problems associated with the disturbance terms in the regression.

discretionary accruals in the study.

Table 3. 2 Calculation method and data items in Compustat Manuals

	Quarterly Data Item	**Data Item #**
+	**Income Before Extraordinary Items**	**76**
+	Depreciation and Amortization	77
+	Extraordinary Items and Discontinued Operations	78
+	Deferred Taxes	79
+	Equity in Net Loss (Earnings)	80
+	Sale of Property, Plant, and Equipment and Sale of Investments-Loss (Gain)	102
+	Funds from Operations – Other	81
+	Accounts Receivable – Decrease (Increase)	103
+	Inventory – Decrease (Increase)	104
+	Accounts Payable and Accrued Liabilities – Increase (Decrease)	105
+	Income Taxes – Accrued – Increase (Decrease)	106
+	Assets and Liabilities – Other (Net Change)	107
=	**Operating Activities Net Cash Flow**	**108**

Source: Compustat, 2007

By definition, working capital accruals equal the sum of changes in receivables, inventory and other current assets less the sum of changes in accounts payable, income taxes and other current liabilities. Total accruals equal working capital accruals less depreciation. Shivakumar (2000) uses a direct way to calculate total accruals[9]. At the same time, an indirect method can be induced from the equation relationship shown in the table above[10]. All the data in this equation can be found in Compustat database. Both these two methods are used to calculate total accruals. It is found that two set of results are largely the same, but results of the indirect method are finally reported. It has less missing values and hence would provide better data quality.

9 In Shivakumar (2000), the total accruals equal #105+#106–#103-#104-#107-#77 and the working capital accruals equal #105+#106–#103-#104-#107.

10 In the indirect method, the total accruals are defined as #76+ #78+ #79+ #80+ #81+ #102- #108 and the working capital accruals equal #76+#77+ #78+ #79+ #80+ #81#102- #108

In original Jones model settings, the independent variable PPE is supposed to be the total book value of the gross property, plant and equipment. However, due to the unique characteristic of the REIT industry, there are many missing values in this particular account in the Compustat Database, at the same time, in the REIT industry, real estate properties are actually treated as long term investments which are not included in the PPE account. In order to capture the effect of depreciation and amortization, the account of other assets (Compustat Quarterly data item #43) is used as a proxy. In quarterly balance sheets, this item #43 equals the sum of long term investments, goodwill, other intangibles, and other long term assets. It is believed to be able to reflect the depreciation and amortization of REITs.

Moreover, definitions of some variables in the equations are different in the REIT context. For example, according to Compustat user manuals, the account cost of goods sold means total operating costs for non-manufacturing firms such as REITs. Therefore, the variable COGS in the above equations stands for operating expenses of REITs.

3.2 Measuring Manipulation of FFO

NAREIT published a White Paper in 1991 to give a formal definition to FFO and has updated the White Paper several times ever since. In its White Paper in 2001, NAREIT provided best practices disclosure models in order to advocate consistency in reporting. By definition, calculating FFO begins with earnings calculated in accordance with GAAP. These earnings are then adjusted to exclude gains or losses resulting from the sale of portfolio properties or from debt or financing activities. Then depreciation and amortization charges are added back to the resulting number to get FFO. However, because REITs have no legal obligation to follow NAREIT

guidelines, there is still much scope for FFO manipulation.

Table 3. 3 Definition of FFO given by NAREIT

	Net Income (GAAP)
-	**Gains(Losses) from sales of property**
+	**Depreciation and amortization**
+	**Adjustments for unconsolidated interests**
=	**Funds From Operations**

Source: NAREIT, 2007

Although FFO is widely regarded as a better measure of performance than GAAP earnings, there are some concerns about its exposure to manipulation. As Fields et al. (1998) and Vincent (1999) point out, FFO is a non-GAAP measure whose calculation and presentation is not subject to consistency rules or outstanding audits. Additionally, many REITs do not provide sufficient information about how FFO is calculated. Without legal obligations to follow NAREIT guidelines, REITs managers have substantial discretion to decide which items are included or excluded when calculating FFO. The fact that FFO is not calculated consistently across REITs is considered the main reason why it can be manipulated. NAREIT also states that the measure of FFO is not a static definition and might change from time to time to address relevant changes in accounting standards, SEC rules and regulations and periodic best practices review.

To better reflect cash profitability, many REITs also report adjusted FFO (AFFO), cash available for distribution (CAD), or funds available for distribution (FAD). None of these figures is standardized, and many REITs define them differently. Report users need to consider the details each company provides and judge by themselves how closely those details mirror the company's operation. Some of the more common items rolled into AFFO, CAD and FAD include recurring capital expenditures, straight-line rental income, tenant improvements, and leasing commissions. All of

these items are different under accrual accounting. If adjusted for, they'll decrease FFO in most cases, but to different extent.

To measure FFO manipulation, the definition given by NAREIT is used as a best practice standard in this study. The difference between the FFO actually released in financial reports and the FFO calculated according to the NAREIT definition can be used as a proxy for the manipulation of FFO (Zhu 2006). The difference between these two figures is caused by certain adjustments up to managerial discretion. Following Gore and Stott (1998), FFO is calculated from financial statement variables in accordance with the NAREIT definition[11]. The different between this expected value and the actual value released in financial reports is termed as the variable DIF[12].DIF is used in the study as a proxy for manipulation of FFO.

To make it comparable to DTA or DWA, the two measures of earnings management discussed before, DIF is scaled by total assets and market value at the beginning of the quarter, generating new variables DIFA and DIFMV respectively. These two variables are used to measure FFO manipulation in the rest of this thesis.

3.3 Chapter Summary

Chapter 3 mainly discusses how to measure manipulation in REITs' financial results. In the REIT industry, there are two performance measures both closely monitored: GAAP earnings and FFO. At the same time, they provide two channels for managers to manipulate financial performance.

To manage GAAP earnings, they can make use of discretionary accruals:

[11] FFO equals Income before extraordinary items available to common shareholders (#25) plus Minority interests (#3) plus Depreciation and Amortization of real estate property (#272) minus Gain/Loss from sales of real estate property (#271)11.

[12] In calculating DIF, both expected FFO and actual FFO are scaled by total assets or market value and the beginning of the quarter. Therefore there are two scaled DIFs in this study, DIFA and DIFMV respectively.

discretionary total accruals (DTA) and discretionary working capital accruals (DWA). Modified Jones' model and Teoh's model are used to capture these two discretionary accruals.

To manipulate FFO, managers can exercise their discretion in calculating FFO. In this study, the difference (DIF) between defined FFO and actual FFO is used as a proxy for FFO manipulation[13].

[13] In this study, the difference between actual FFO and expected FFO is used as a proxy for manipulation of FFO. This best guess is a practical choice because many REITs do not release all the details of FFO calculation in their financial statements. However, it might cause some potential bias. This problem will be discussed in Section 5.3..

Chapter 4 Empirical Results

4.1 Data Sources and Sample Description

The REITs sample as well as REIT names, exchange tickers and business sectors come from the NAREIT. All mortgage and hybrid REITs are dropped from the sample. To keep the fiscal year matched with the calendar year, REITs whose end month of the fiscal year is not December are dropped. Excluding those without qualified data series results a sample of 140 REITs.

Table 4. 1 Summary of the property sector distribution

Property Sector	Numbers	Percentage
Industrial/Office	36	25.71%
Office	23	
Industrial	6	
Mixed	7	
Retail	31	22.14%
Shopping Centers	17	
Regional Malls	9	
Free Standing	5	
Residential	26	18.57%
Apartments	21	
Manufactured Homes	5	
Others	47	33.57%
Diversified	12	
Lodging/Resorts	16	
Self Storage	5	
Health Care	11	
Specialty	3	
Total	140	

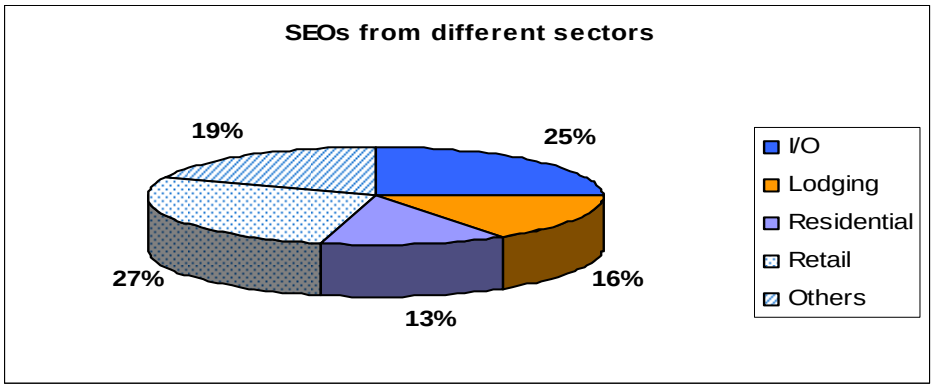
Source: NAREIT, 2007

All seasoned equity offerings data are from NAREIT. The sample contains 251 SEOs from 90 REITs. The sample period is 2001Q1 through 2006Q4, a total of 24 consecutive quarters. Quarterly financial results[14] are selected from the Compustat

[14] In Compustat Database, the quarterly financial data in Cash Flow Statement is reported on the Year-to-date pattern. The data are further processed to get the true quarterly data as needed.

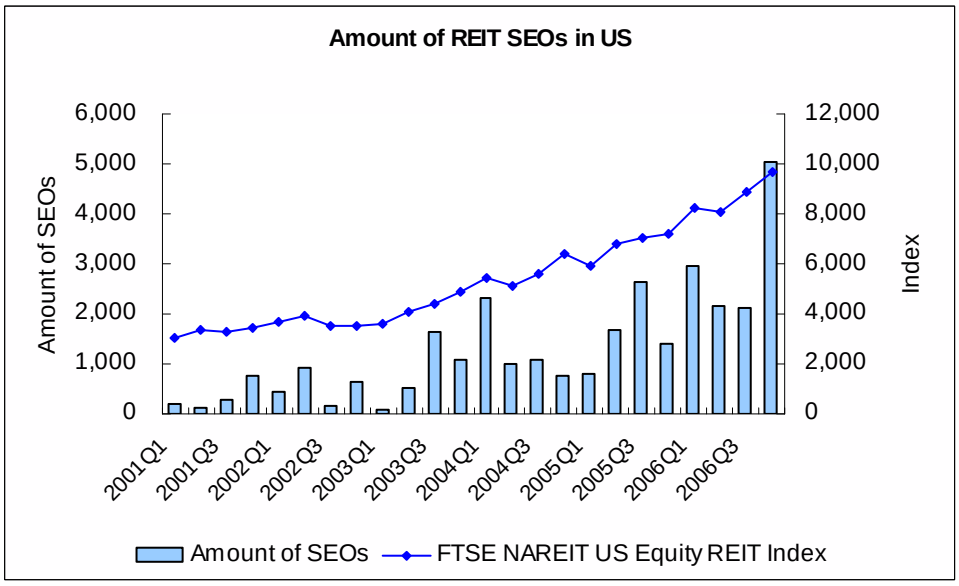
Database. Dates when REITs first publicly announce their quarterly financial results are obtained from Compustat too. Information about external auditors comes from the Audit Analytics Database. The institutional investors holding ratios are collected from Thomson Financial Ownership Database. FFO data actually released are collected from 10-Q/10-K reports in SEC's EDGAR system.

Fig 4. 1 A summary of SEOs from different sectors



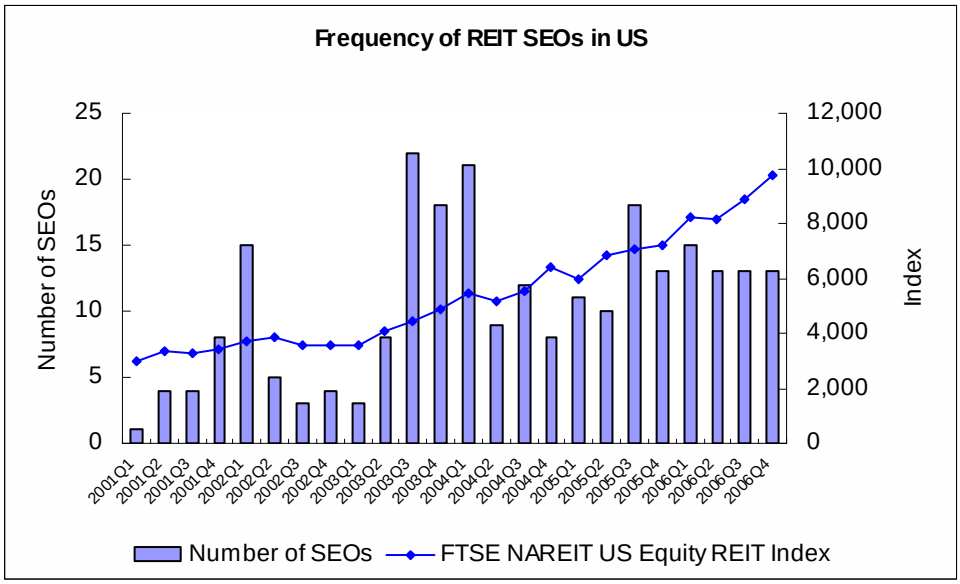
Source: NAREIT, 2006

Fig 4. 2 Amount of REIT SEOs in the US



Source: NAREIT, 2007

Fig 4. 3 Frequency of REIT SEOs in the US



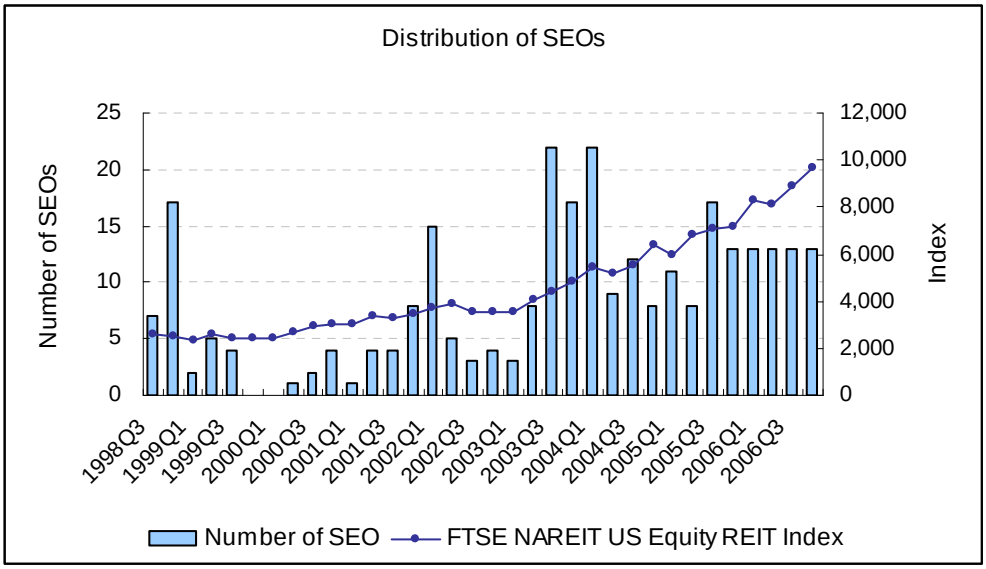
Source: NAREIT, 2007

One possible concern about this study may be related to the sample period it covers. The SEO frequency discussed above is measured by the number of SEOs during the sample period of 2001-2006. Equity offerings during a 6-year period may not fully capture the whole landscape. In fact, this period is an intended choice. Capital markets in the US experienced significant changes during the period of 1999-2000 when the turmoil in capital markets tremendously reduced the number of SEOs over that period. This structural change in the whole market also affects equity offerings in the REIT industry. As can be seen in the figure below, the number of SEOs in year 2000 is unusually small. This break in offerings can serve as a firewall and help to virtually separate the sample period from previous periods. SEO history in the past will not affect the analysis of SEOs in the new current period.

Before 2001, another important event in the REIT industry is the REIT Modernization Act of 1999. Its provisions allow a REIT to own up to 100% of stock of a taxable REIT subsidiary that can provide services to REIT tenants and others. The

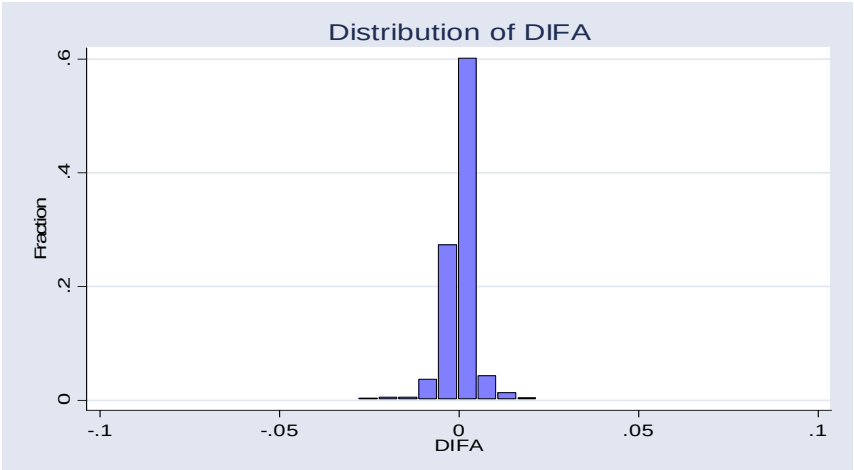
law also changed the minimum distribution requirement from 95 percent to 90 percent of a REIT's taxable income. Taken together, it is reasonable to believe that significant changes have taken place in the REIT industry over the period of 1999-2000 and have probably altered industry fundamentals. This also justified the choice of starting the sample period from 2001.

Fig 4. 4 Distribution of SEOs over 1998-2006



Source: NAREIT, 2007

Fig 4. 5: Distribution of DIFA



Source: Author, 2007

Fig4.5 above demonstrates the distribution of DIFA. As can be seen in the figure, most DIFA variables are closely bigger than zero. As a common practice in the REIT industry, REIT managers do not have to calculate FFO strictly according to the

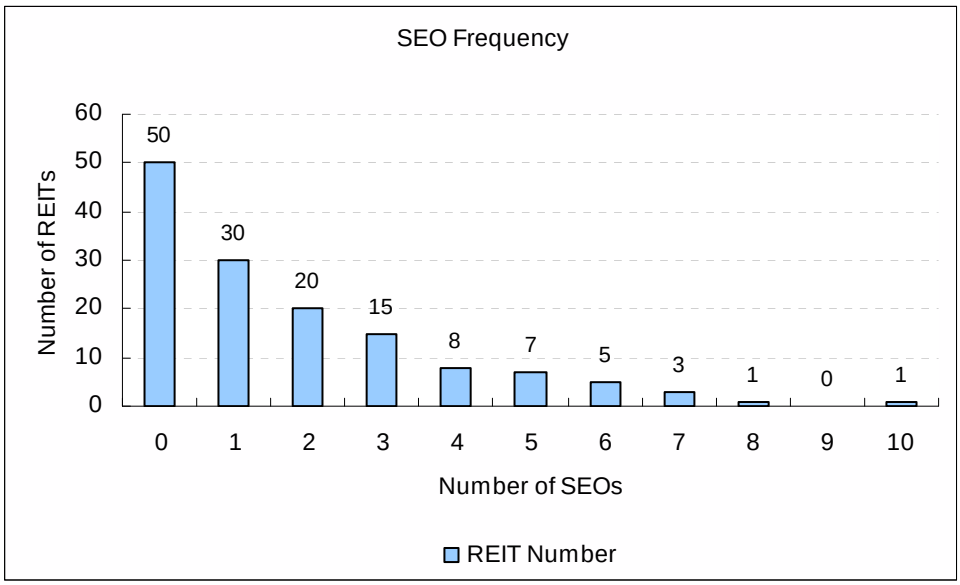
definition given by NAREIT and hence have enough scope to exert their discretion during the process.

4.2 Testing Specific Event: Univariate Analysis

This study first analyzes changes in earnings management (DTA, DWA) and FFO manipulation (DIF) around SEOs. In previous research about earnings management around equity offerings (Rangan 1998; Teoh et al. 1998b; Shivakumar 2000; Kim and Park 2005), frequent issuers which have more than one public offerings of seasoned common stock in two years are usually excluded from the analysis. Dechow et al. (1996) state that frequent issues will report their financial results more conservatively in order to create a positive reputation in the market, from which they can benefit in subsequent offerings.

Due to the high payout requirement (90% of taxable earnings), REITs rely heavily on external capital to finance their investments and expansions. Therefore, the frequency for REITs to raise capital in public market is higher than that in other industries (Li, et al. 2006). The graph below demonstrates the SEO frequency of REITs in the sample. During the 24 quarters covered in this study, most REITs have 1-6 times seasoned equity offerings. However, some REITs go to capital market much more frequently. An extreme example is the REIT which has ten SEOs over the 24-quarter period.

Fig 4. 6 SEO frequency of US equity REITs

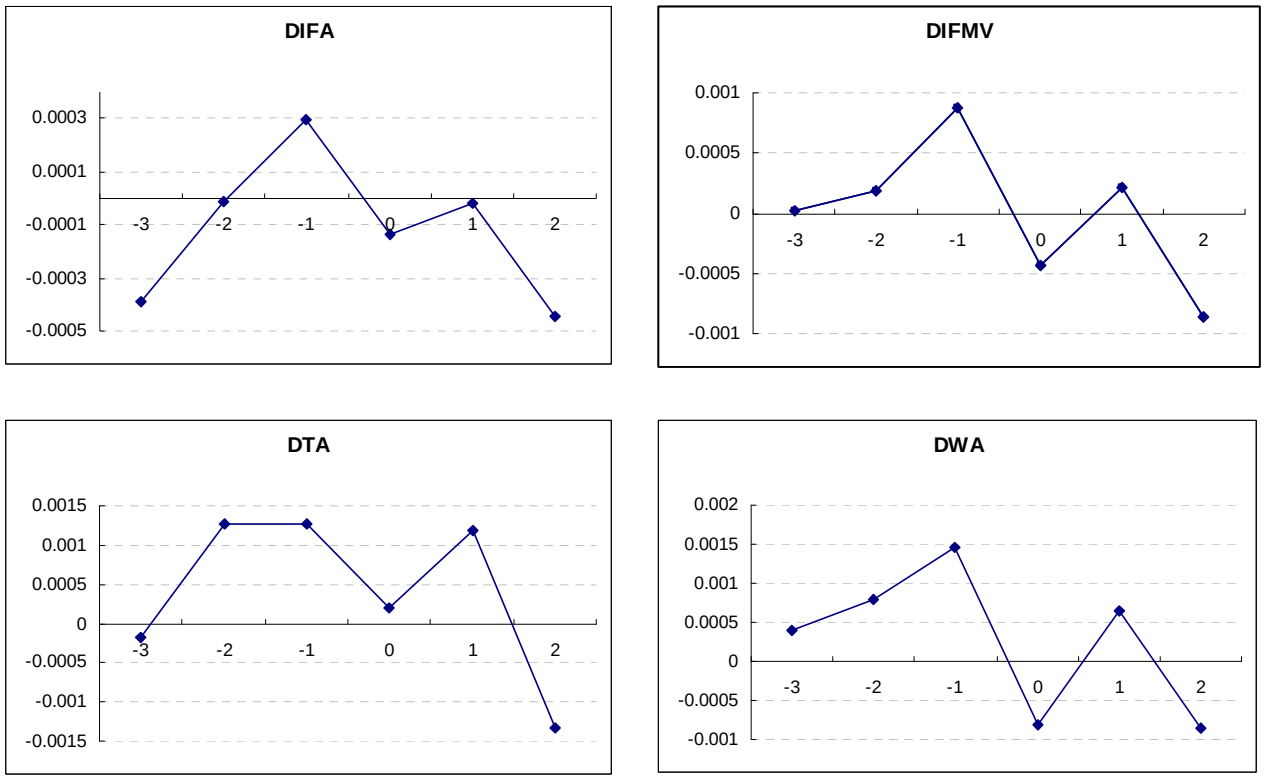


Source: NAREIT, 2007

4.2.1 Earnings Management around SEOs

Hypothesis 1 is to test whether earnings management exists around SEOs in the REIT industry. In this analysis, Quarter -1 is defined as the quarter for which the latest financial reports are available when the equity offering announcement is made. All other quarters are coded relative to this quarter. Financial results reported for Quarter -1 are most susceptible to earnings management. It is natural to expect that earnings management will continue for several quarters because this will make the manipulation smoother and more difficult to detect. Therefore, the quarters around offering announcement are most susceptible candidate for earnings management (Rangan, 1998). The Wilcoxon signed-rank and t-value tests are used to decide whether the manipulation of earnings (through DTA and DWA) and FFO (through DIFA and DIFMV) around the event quarter are significantly larger than 0.

Fig 4. 7 Earnings Management in Case 1



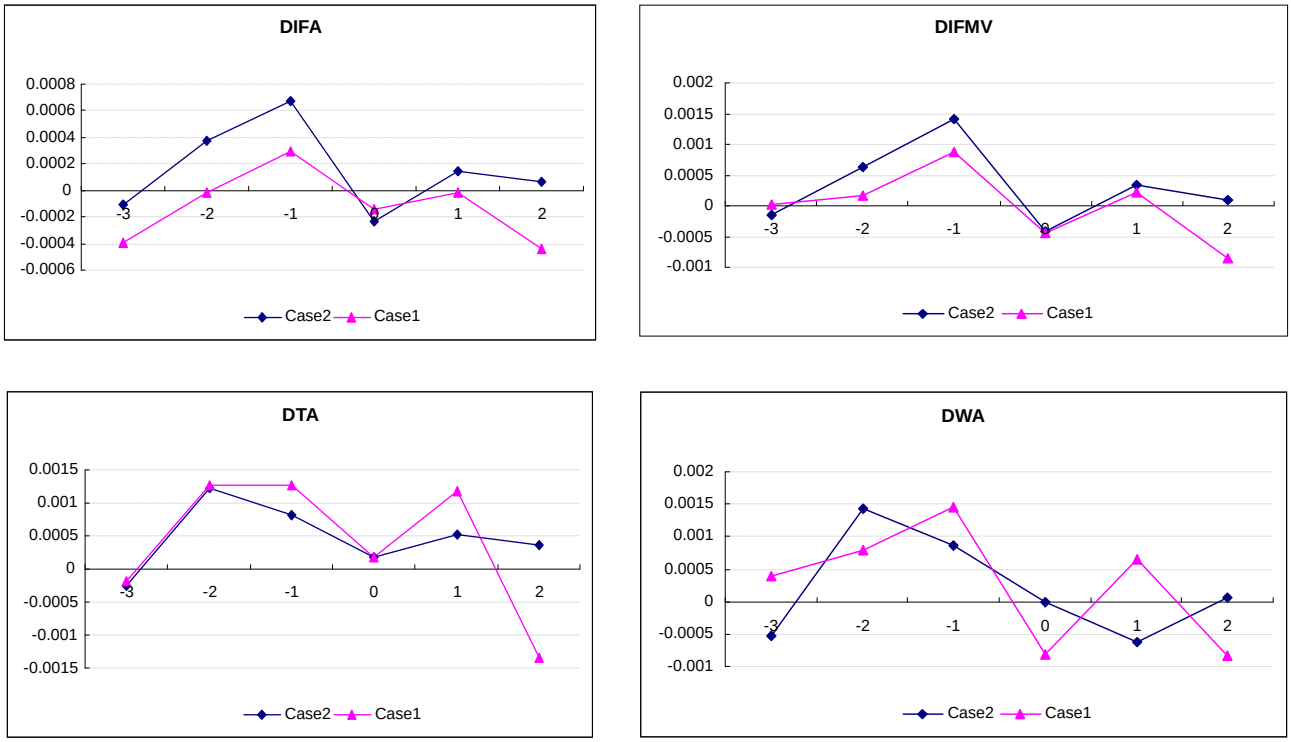
Source: Author, 2007

In the figure above is the distribution of manipulation for REITs with only one SEO. Considering the high SEO frequency in the REIT industry, this restricted sample definitely can not represent the general characteristics of the whole industry. This is the extreme case which is even more restrictive than that discussed in previous studies such as Dechow et al. (1996) and Shivakumar (2000) which focus on general stocks rather than REITs. In their studies, only frequent issuers having two or more public offerings within two years are excluded. It means SEOs that have a long interval since the previous one can still be included in the analysis. Next, this restriction will be relaxed step by step. Namely, REITs with more than one SEO will be added into the analysis subsequently.

This analysis of earnings management around SEOs is divided into three cases.

In Case 1, REITs with only one SEO during the sample period are included, that is, REITs with more than one SEO are dropped. In Case 2, only SEOs that are less than one year from the previous SEO are dropped from the original sample. Compared with Case 1, SEOs that are more than one year after that REIT's previous SEOs are added into the analysis. This is the situation that keeps comparability with previous studies on general stocks. In Case 3, all SEOs in the sample are taken into consideration. The distribution of earnings management in these three cases is demonstrated in Fig 4. 7, Fig 4. 8 and Fig 4. 9.

Fig 4. 8 Earnings management in Case 1 and Case 2



Source: Author, 2007

As can be seen in these three figures, the four measures of financial manipulation (DTA, DWA, DIFA and DIFMV) all become higher prior to quarter 0, indicating that financial results are boosted higher before SEOs, especially in quarter -2 and -1. However, although this trend is relatively clear in these figures, not all measures in the three cases are statistically significant. To test the significance of these changes in

earning management, the Signrank and T-value tests are used to examine whether the four measures are larger than zero and the results are listed in Table 4. 2.

All the four measures are not statistically significant in Case 1. In Case 2, restrictions are relaxed by adding into analysis SEOs at least one year later from previous ones. In other words, SEOs too close to the REIT's previous equity offerings are dropped from the analysis. Distribution of earnings management in both Case 1 and 2 is demonstrated in the same graph as shown in Fig 4. 8. Distribution patterns of earnings management are similar in both cases, however, manipulation of FFO (DIFA and DIFMV) are generally higher in Case 2 than in Case 1, but not for discretionary accruals measures (DTA and DWA), which reflect the potential impact SEO frequency has on earnings management practices. In Case 2, the Signrank test shows that manipulation of FFO are all significantly positive in the five quarters around SEOs, while T-test indicates that DIF is statistically positive in the two quarters immediately prior to SEOs. These results provide evidence that there is FFO manipulation around REIT SEOs. In contrast, the same tests for DTA and DWA have only one statistically significant result and the other p-values are only at 10-15% level. These findings are supportive to Hypothesis 1 that financial results are managed around SEOs.

Case 2 is comparable to previous studies on earnings management issues because the same restriction on SEO samples is applied. This result is weaker than that of general stocks examined by Shivakumar (2000) and Rangan (1998). Even though the same method is used to calculate DTA, the p-values of Signrank tests in Shivakumar's study are nearly 0 in all the eight quarters around offering announcement. Moreover, the median of DTA in the sample is lower and less statistically significant. It is the same when comparing the DWA result with that in Rangan (1998). Small sample size

may be one explanation for this difference. Another possible explanation is that discretionary accruals are less obvious in the REIT industry than in other industries. Testing results of earnings management in REITs (DTA and DWA) are weaker than in general stocks, however, the results of FFO manipulation (DIF) are significant. The Signrank test shows that FFO manipulation is all significantly positive in the five quarters around SEOs, indicating that more manipulation in the REIT industry is achieved by using discretion in calculating FFO.

Table 4. 2 Test results of earnings management

		T-Test						Signrank Test					
		-3	-2	-1	0	1	2	-3	-2	-1	0	1	2
Case 1	DIFA	0.68	0.51	0.28	0.65	0.52	0.90	0.82	0.82	0.92	0.88	0.83	0.83
	DIFMV	0.49	0.42	0.24	0.76	0.41	0.85	0.83	0.76	0.92	0.88	0.83	0.83
	DTA	0.56	0.32	0.27	0.43	0.11	0.92	0.11	0.73	0.20	0.58	0.25	0.99
	DWA	0.33	0.38	0.24	0.79	0.23	0.91	0.79	0.85	0.27	0.85	0.75	0.94
Case 2	DIFA	0.59	**0.02**	**0.01**	0.70	0.30	0.41	**0.02**	**0.01**	**0.02**	**0.04**	**0.03**	**0.00**
	DIFMV	0.55	**0.06**	**0.02**	0.67	0.24	0.41	**0.01**	**0.01**	**0.02**	**0.04**	**0.03**	**0.00**
	DTA	0.66	0.12	0.15	0.39	0.18	0.23	0.39	0.19	0.16	0.28	0.54	0.30
	DWA	0.90	**0.07**	0.11	0.51	0.83	0.43	0.86	0.24	0.38	0.66	0.91	0.26
Case 3	DIFA	0.64	**0.00**	**0.00**	0.32	0.47	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	DIFMV	0.54	**0.00**	**0.02**	0.40	0.25	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	DTA	0.73	**0.03**	**0.09**	0.16	0.13	0.17	0.22	0.20	0.26	0.28	0.30	0.23
	DWA	0.91	**0.02**	0.31	0.68	0.89	0.62	0.67	0.31	0.50	0.41	0.88	0.11

Source: Author, 2008

Table 4. 3 Comparison between the results in Case 2 and those in other papers

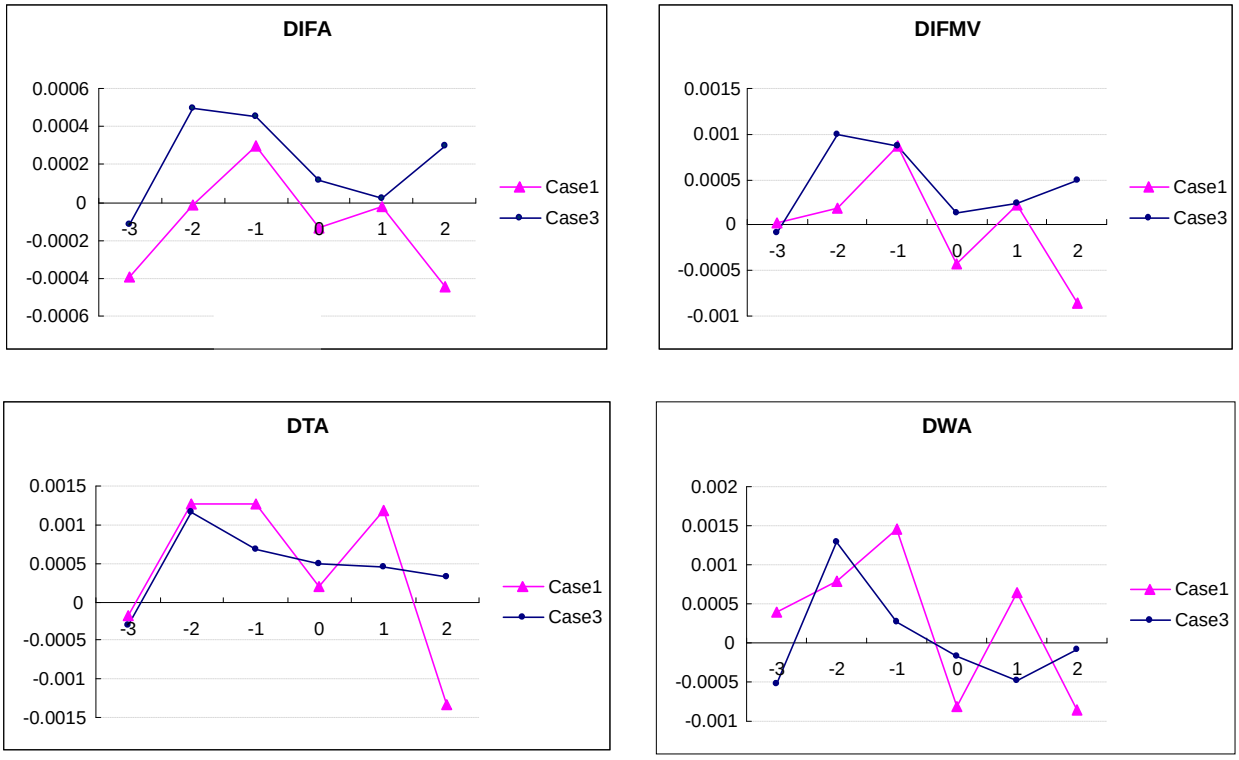
p-value	-3	-2	-1	0	1	2
DTA in this study	0.39	0.19	0.16	0.28	0.54	0.30
DTA in Shivakumar(2000)	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
DWA in this study	0.86	0.24	0.38	0.66	0.91	0.26
DWA in Rangan(1998)	0.37	0.29	0.15	**0.02**	**0.00**	0.29

Source: Author, 2008; Shivakumar (2000) and Rangan (1998)

In Case 3, restrictions are furthered relaxed so that all SEOs in the sample are taken in consideration. REITs with more than one SEO will also be taken into account in the analysis. Distribution of earnings management in Case 1 and Case 3 is combined in the same graph. The trends in manipulation found in the previous two cases remain in Case 3. An interesting finding is that in Case 3 earnings management

measured by DTA or DWA remains weakly significant and does not change much from Case 1. In contrast, DIFA and DIFMV are higher in Case 3 than in Case 1, additionally, statistical tests reveal that FFO manipulation (DIF) is significantly positive in all the five quarters around SEOs. Moreover, as shown in Table 4. 2, p-values in this case are even lower (more significant) than those in Case 2. In sum, results in Case 3 are supportive to previous findings that there is FFO manipulation around SEOs. Meanwhile, evidence for earnings management (DTA and DWA) is stronger than in Case 2 where only one quarter is significant. In Case 3, earnings management measures DTA and DWA are significantly positive in the two quarters before SEOs. In a word, evidence of earnings management becomes clearer when all SEOs are considered. As such, the hypothesis about manipulation of earnings and FFO is supported. REITs do manipulate their financial results around SEOs.

Fig 4. 9 Earnings Management in Case 1 and Case 3



Source: Author, 2007

4.2.2 Earnings Management and Issuing Frequency

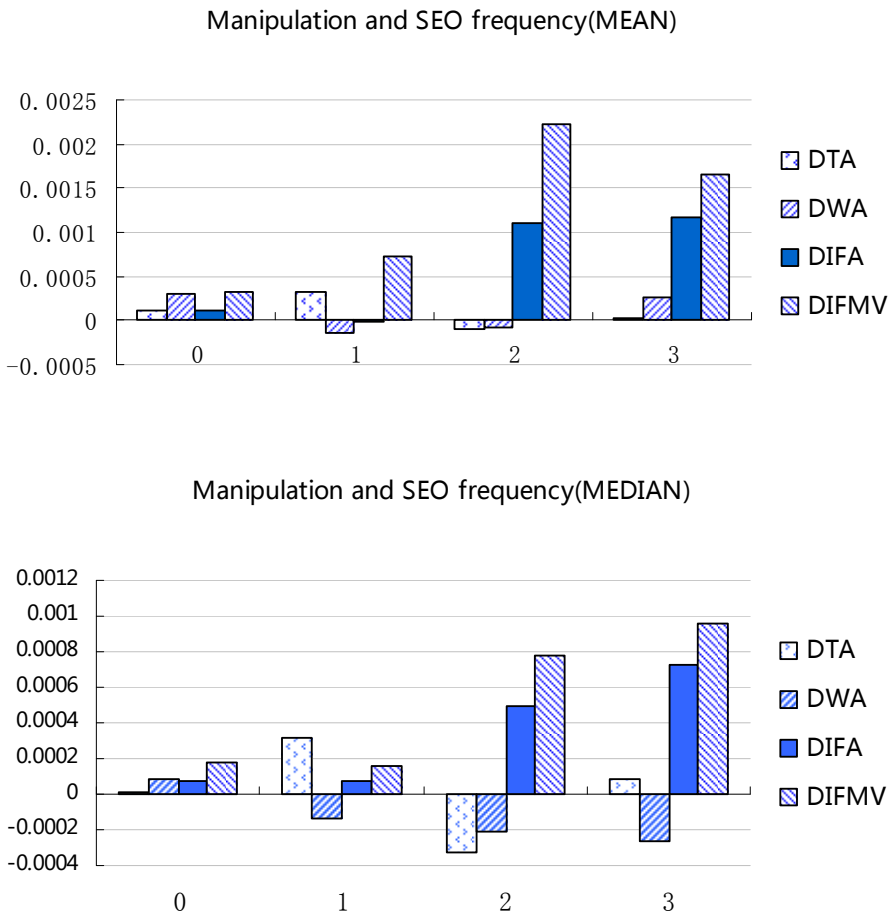
Based on the above analysis of frequent issuers, it is found that earnings management in the REIT industry associates with the equity offering frequency of REITs. As demonstrated in the three figures above, compared with Case 1 where only REITs with one SEO during the sample period are considered, when frequent issuers are added into the analysis, average DIF becomes higher while DTA and DWA are relatively lower. Frequent issuers tend to have higher FFO manipulation, while no clear increase is found in discretionary accruals. It is expected that REITs that issue equity more often would exert more manipulation of FFO instead of using discretionary accruals to boost reported financial results.

4.2.2.1 Testing Hypothesis 2

To test Hypothesis 2 and further investigate the relation between manipulation and issuing frequency, all REITs with SEOs are separated into 3 groups according to their SEO times during the sample period. Namely, Group 1 contains REITs with 1-3 SEOs. Group 2 contains REITs with 4-6 SEOs. REITs with more than 6 SEOs are included into Group 3. The relation between manipulation and SEO frequency is demonstrated in the figure below. Both mean and median of earnings management are provided. Additionally, REITs with no SEOs are also considered in this case.

As shown in the figure below, as offering frequency increases, manipulation of FFO increases while discretionary accruals are largely on the decline. The four manipulation measures used in the graph above are means of earnings management over the three quarters (-3 through -1). An ANOVA test is used to compare DIFA, DIFMV, DTA and DWA among these three different groups. DIFA and DTA among these three groups are significantly different.

Fig 4. 10 Earnings Management and SEO Frequency



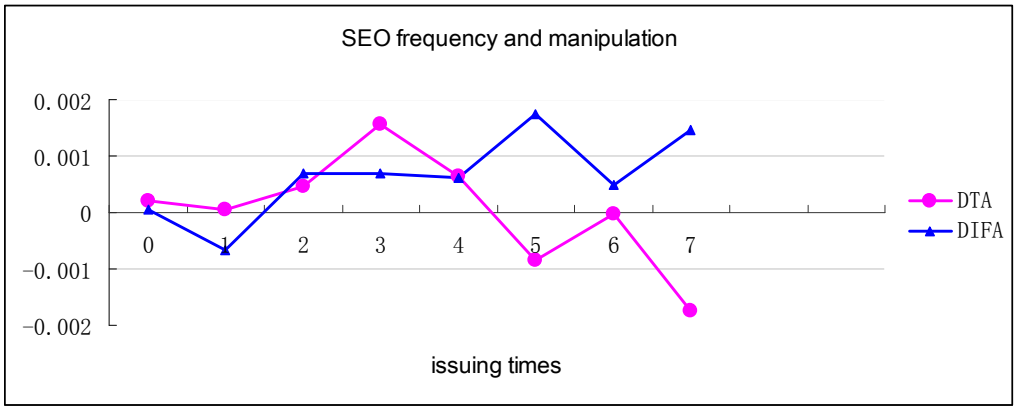
Source: Author, 2008

Table 4. 4 ANOVA of different SEO frequency groups

ANOVA	**DIFA**	**DIFMV**	**DTA**	**DWA**
F-value	2.59	1.59	3.76	1.03
p-value	**0.08**	0.21	**0.02**	0.36

Source: Author, 2008

Fig 4. 11 SEO frequency and manipulation



Source: Author, 2008

As shown in the figures above, frequent SEO issuers tend to have less management in earnings through discretionary accruals and more manipulation of FFO through DIF. This is related to the characteristics of accruals and FFO. Accruals under managers' discretion are limited because certain accruals will offset across different accounting periods. This is related to the reversing characteristic of accruals (Sloan, 1996). For instance, increase in account receivables can increase revenue during the current period but this accrual will finally decrease when the payment is actually made. Chan et al. (2004) find that earnings management causes the negative relationship between current accruals and future earnings. Current accruals will be reversed with the decrease in future earnings in the next one and three years. But those adjustment accounts used to calculate FFO do not have these limitations and give managers more flexibility to exert their discretion on the reported figures.

At the same time, accounting practices in accruals are strictly ruled by GAAP, which makes it difficult for managers to continuously boost earnings over a long time. In contrast, FFO is just an industry-specific measure that NAREIT recommends its members to use. Although NAREIT has published several White Papers to clarify and formalize the calculation method of FFO, there is still enough scope for manipulation. FFO is not calculated consistently across REITs and is not reconciled to net income by many REITs (Vincent 1999). Without legal obligations to follow NAREIT guidelines, REITs managers have substantial discretion over what adjustment to make when calculating FFO. In summary, REITs that issue SEO more frequently have more manipulation of FFO and less earnings management. Therefore Hypothesis 2 is not completely supported. This conclusion is achieved by comparing the average level of manipulation in certain group of REITs. To test for the robustness of this analysis, several other relevant issues are addressed below.

4.2.3 Robustness Discussions

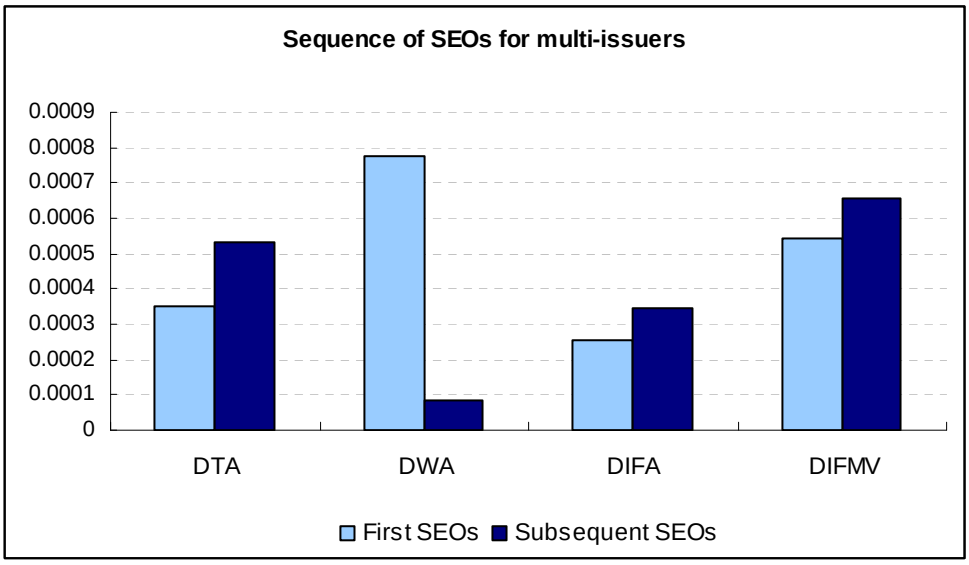
4.2.3.1 SEO Sequence

For REITs with multiple SEOs, FFO manipulation on average is relatively higher than REITs with only one SEO; meanwhile, average earnings management of these multi-issuers is relatively lower. This conclusion is based upon the average manipulation in different SEO frequency groups as shown in Fig 4. 10.

To test the robustness of this argument, SEOs from multi-offering REITs are divided into different groups. For multi-offering REITs, their first SEOs during the period are included into one group and all the subsequent ones into another. Each of these two groups is compared with REITs with only one SEO in the analysis, that is, Case 1 discussed above. Results indicate that for both first and subsequent SEOs of multi-offering REITs, earnings management is lower than REITs in Case 1 (with only one SEO) and FFO manipulation is higher[15]. This finding reinforces the conclusion about the relation between SEO frequency and financial results manipulation. Frequent issuers are more aggressive in manipulating FFO than in managing earnings, which is determined by the characteristic of accounting accruals and the regulatory environment in the REIT industry.

[15] As shown in the figure below, DWA for subsequent SEOs is significantly lower compared with other three gauges. This is related to the characteristic of working capital which goes up and down more frequently than other three indicators. This problem will be further discussed next.

Fig 4. 12 Sequence of SEOs for multi-issuers



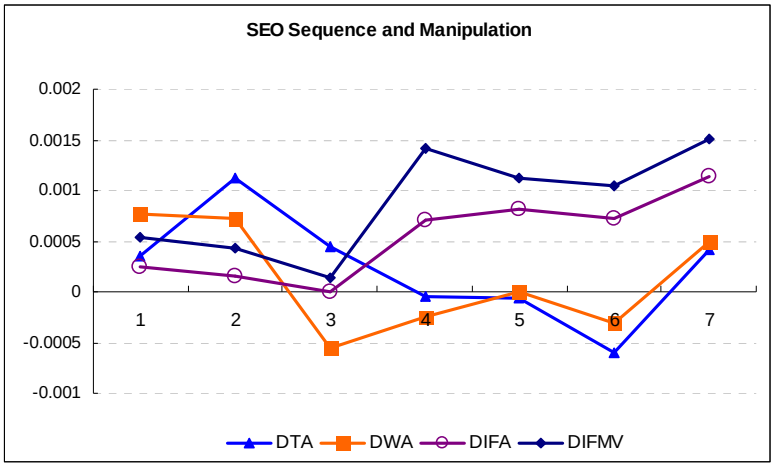
Source: Author, 2008

One question left unanswered is how the manipulation in a specific REIT changes over time. As shown in **Fig 4. 13**, for multi-offering REITs, first SEOs and subsequent SEOs are compared. Three out of the four measures of manipulation are higher for subsequent SEOs than first SEOs even though ANOVA testing results are not significant. As Dechow et al. (1996) suggest, managers of firms that require frequent external financing will report earnings conservatively to create a positive reputation in the market, from which they can benefit in subsequent offerings. Multi-offering REIT managers can reasonably anticipate subsequent SEOs and hence would choose to be less aggressive in manipulating financial results before the first batch of SEOs in order to give some leeway for subsequent offerings.

However, the difference in manipulation between first and subsequent SEOs from multi-issuing REITs is not statistically significant. It means simply separating SEOs into two groups, as the method used above, can not effectively capture possible changes in manipulation choices. To address this problem, the relation between SEO

sequence and manipulation of financial results are examined. SEOs in the sample are categorized according to their sequence in the offering history of certain REIT. By doing so, the trend in manipulation as SEO frequency increases can be demonstrated.

Fig 4. 14 SEO sequence and manipulation



Source: Author, 2008

Fig 4. 15 demonstrates how financial manipulation changes along with SEO sequence. To remove possible influence from extreme cases, REITs that issue SEO too often are all dropped from the analysis, that is, REITs with SEO frequency larger than 7 are ruled out. As SEO frequency increases, FFO manipulation (DIFA and DIFMV) is generally on the rise while earnings management (DTA and DWA) is declining. However, no clear trend in one direction has been found in the figure, which means the relation between SEO sequence and financial results manipulation is quite contextual and not conclusive. Results in this analysis are supportive to previous findings when testing Hypothesis 2. As SEO frequency increases, REITs are more likely to manipulate FFO instead of earnings. The robustness of previous conclusions is supported.

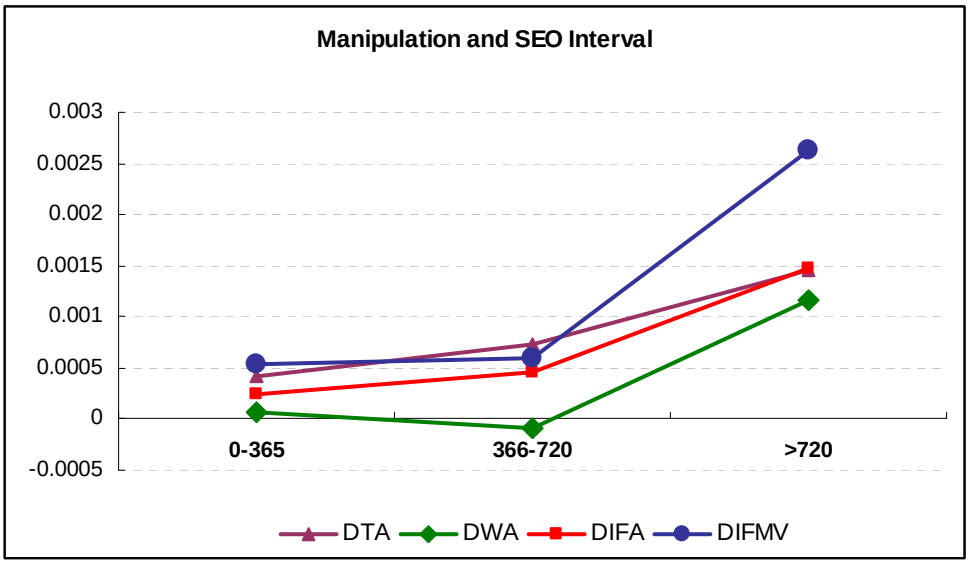
4.2.3.2 SEO Interval

Another factor affecting financial results manipulation is the interval between SEOs. As mentioned in the literature, if managers can anticipate future SEOs in the pipeline, they tend to be more conservative in current manipulation. One reasonable hypothesis is that a longer delay from previous SEOs would place less restriction on REIT managers when manipulating financial results because the influence from previous offerings becomes weaker over time.

The variable used to capture this feature, interval, is defined as the difference in dates of two adjacent SEOs by the same REIT. In calculation, REITs with only one SEO are excluded. Similarly, for multi-offering REITs, their first SEOs during the sample period are no included. The remaining sample is divided into three groups according to the length of intervals. SEOs with interval length of less than one year is included into Group 1, SEOs with intervals longer than one year and shorter than two years fall into Group 2, the rest goes to Group 3.

As shown in the figure below, all the four manipulation measures become higher as the length of intervals increases. The results indicate that both earnings management and FFO manipulation are positively correlated with the length of intervals between the two SEOs. A longer delay from previous SEOs can make managers more aggressive in manipulating financial results. Shorter intervals would induce managers to be more conservative. That explains why REITs with SEO intervals larger than 720 days would have so much earnings management.

Fig 4. 16 Manipulation and SEO interval



Source: Author, 2008

4.2.4 Regulatory Environment

When examining the financial results manipulation in the REIT industry, it is far from enough to consider only equity offering-related factors, even though these characteristics are what make REITs different from other stocks. As SEO frequency and sequence issues discussed above can not fully posit how manipulation choices are affected, several other factors which may have effect on manipulation are discussed in this section as a supplement to previous discussions. In this additional section, changes in the regulatory environment in the US capital markets are considered.

4.2.4.1 The Sarbanes-Oxley Act

The regulatory environment in the US has dramatically changed during the past few years. Regulatory requirements in capital markets have been profoundly strengthened after a series of financial scandals in enterprise America. Scandals in famous companies such as Enron, Tyco International, Adelphia, Peregrine Systems

and WorldCom cost investors billions of dollars when the share prices of the affected companies collapsed, dramatically damaged public confidence in the nation's securities markets. In response to these major corporate and accounting scandals, the Sarbanes-Oxley Act (SOX) was enacted on July 30, 2002. Aimed at restoring public confidence in the nation's capital markets by, among other things, strengthening corporate accounting controls, the legislation enhanced standards for all U.S. public company boards, management, and public accounting firms. As such, one reasonable expectation is that internal control and corporate governance in the REIT industry are getting stronger and there would be less financial results manipulation. To verify this judgment, an additional question to be discussed is whether there is a structural change in financial manipulation caused by the Sarbanes-Oxley Act.

The SOX was enacted on July 30, 2002, which can be used as a break point. The whole sample period covered in this study can be separated into two sub periods: pre-SOX and past-SOX. Considering possible delay in the effect of this law on manipulation choices of REIT managers, another time point chosen to detect possible structural changes is Jan 1, 2003. Introducing a second break time point is to test the robustness of this. Therefore, a total of two scenarios are considered and the only difference between them is the break time point used to locate the possible structural change.

The ANOVA test is applied in both scenarios. Echoing the multivariate analysis in latter part of this study, a total of three situations are considered. In the first two situations, manipulation in Q (-1) and Q (-3 through -1) is investigated respectively for REITs that have SEOs during the sample period. Presumably this restricted sample of REITs with SEOs can not provide an overall picture about earnings management

practices in the industry. As discussed before, REITs that issue equity frequently tend to be more aggressive in performance manipulation. Therefore, the restrictive effect of the Sarbanes-Oxley Act can somehow be offset by increasing SEOs. To address this bias, in the third situation, REITs without SEOs are added in an attempt to investigate whether the finding of the first two tests still holds if restrictions about equity offerings are removed. The results in the third situation would be more informative and reasonable.

As the table below shows, the only four significant structural changes detected are all in FFO manipulation. Manipulation of FFO in Q (-1) has significantly changes since the Sarbanes-Oxley Act took effect. Even when all REITs, with or without SEOs, are taken into consideration, this result does not change. Although the Sarbanes-Oxley Act does not affect the FFO calculation directly, it has brought stricter internal control and disclosure requirement, which in turn make it even harder for REIT managers to manipulate FFO. In contrast, no such significant change in structure has been found in earnings management. It means that the extent of earnings management in the REIT industry was already relatively lower than in other industries even before the Sarbanes-Oxley Act. This law has not brought a structural change to earnings management in the REIT industry, which remains at a relatively lower level.

Table 4. 5 Testing for possible structural changes caused by SOX

	July 2002[16]			**Jan 2003**		
	Q(-1)	Q(-3 to -1)	All	Q(-1)	Q(-3 to -1)	All
DIFA	**0.0345**	0.8988	**0.0060**	**0.0891**	0.6390	**0.0075**
DIFMV	**0.0227**	0.9566	**0.0009**	**0.0625**	0.4692	**0.0001**
DTA	0.6829	0.1687	0.3477	0.5979	0.1016	0.4768
DWA	0.8799	0.4364	0.6600	0.9132	0.3527	0.4537

Source: Author, 2008

No matter which break point is used in the analysis, the result remains

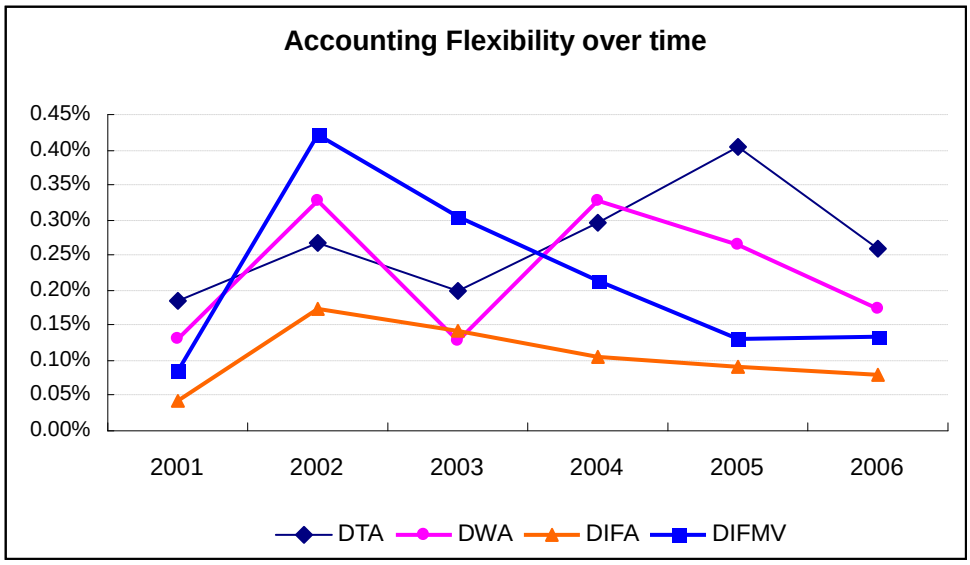
[16] This is the first break point of July 30, 2002, the date when the Sarbanes-Oxley was signed into effect. Break point 2 is Jan 1, 2003, assuming that there was a delay of five months before this law started to affect manipulation decisions.

unchanged. In both scenarios, the results reveal that the Sarbanes-Oxley Act has significantly affected FFO manipulation and no significant structural change has been found in earnings management. As shown by previous results, earnings management in the REIT industry tends to be less significant and observable. It is understandable that stricter internal control measures brought by the Sarbanes-Oxley Act do not considerably change manipulation in GAAP earnings. Given the widely recognized transparency in the industry and strict monitoring from regulatory authorities, this type of manipulation has already been limited even before the Act came into force. In contrast, stronger control and monitoring have left less space for managers to exert their discretion over the calculation of FFO, which is much easier to manipulate before. As a result, there is less FFO manipulation after the introduction of the Sarbanes-Oxley Act. In multivariate analysis, this finding will be further investigated with other influencing factors being controlled.

4.2.4.2 Accounting Flexibility over Time

A series of financial scandals in enterprise America prompted the authority to further enhance regulatory environment in the US. Regulatory requirements in capital markets have been profoundly strengthened. Along this trend in the whole market, the regulatory environment in the REIT industry has been intensified too. For instance, in order to help investors better understand and measure REITs performance; NAREIT has updated its guideline about the definition of FFO and its calculation method several times ever since 1991. With these developments, it is reasonable to hypothesize that regulation becomes stricter over time in the REIT industry, as a result, there would be less accounting flexibility left for managers to manipulate.

Fig 4. 17 Accounting flexibility over time for REITs



Source: Author, 2008

Following Becker et al. (1998), absolute values of financial results manipulation (DTA, DWA, DIFA, DIFMV) are used to measure accounting flexibility. It is demonstrated in the figure above (Fig 4. 17) how accounting flexibility in the REIT industry changes over the six years covered in this study.

A clear declining trend can be found in DIFA and DIFMV since after 2002 while no clear trend can be found in earnings management (discretionary accruals). This is consistent with previous findings about the structural change in FFO manipulation caused by the Sarbanes-Oxley Act. As NAREIT publishes more White Papers about how to calculate FFO, the definition becomes clearer and there is less flexibility in FFO calculation which is up to managerial discretion. At the same time, accounting flexibility in favor of earnings management remains largely the same and no clear change in trend is observable.

4.2.5 Test Summary: Univariate Analysis

When examining earnings management around specific events (SEOs), both univariate analysis and multivariate analysis are employed. Here is a summary of the

findings so far using the univariate method.

It is found that REITs manipulate earnings and FFO around SEOs, but their earnings management is less obvious than general stocks. Hypothesis 1 is supported. REITs that issue SEO more frequently have more manipulation in FFO and less earnings management. Hypothesis 2 is supported if only earnings management is considered. Financial results manipulation in the REIT industry is different from other industries.

Additionally, the robustness of the analysis above is further discussed. As regulatory environment in the industry and corporate government inside REITs get strengthened, it becomes more and more difficult for REIT managers to manipulate FFO. As a result, FFO manipulation is decreasing over time. Hypothesis 6 about the trend in financial results manipulation over time is partly supported.

4.3 Testing Specific Event: Multivariate Analysis

4.3.1 Variable Definition

Based on the univariate analysis above, in this part, four multivariate regressions are used to examine how earnings management practices in the REIT industry are influenced by SEOs as well as other factors. Variables used in the analysis include financial features, governance arrangements, business types and time-related factors.

Definitions of the variables are given below.

Table 4. 6 Definitions of variables in multivariate regression

Variable	Definition
DTA	discretionary total accruals, discretionary accruals from modified Jones model
DWA	discretionary working capital accruals, discretionary accruals from Teoh's model
DIFA	difference between the expected and actual FFO scaled by total assets at the beginning of current quarter
DIFMV	difference between the expected and actual FFO scaled by market value at the beginning of current quarter
ROA	return on assets, ROA = net income/total assets
CFO	cash flow from operation scaled by total assets at the beginning of current quarter
CFOVOL	volatility of CFO measured by standard deviation over sample period
X_LAG	lagged value of any variable
AUDIT	dummy variable, equals 1 for big four auditing firms and 0 otherwise
LEV	leverage ratio, LEV = total liability/total assets
INSTI	= ln (1+ih). The variable ih is the total holding ratio of the three biggest institutional investors in the quarter
MB	Market to book ratio
WC	Working capital scaled by total assets
IBEI	Income before extraordinary items scaled by total assets at the beginning of current
EXT	Extraordinary items scaled by total revenue
FCF	Free cash flow scaled by total assets
NOOP	Non-operation income scaled by total revenue
Q4	dummy variable, equals 1 if current quarter is the fourth quarter and 0 otherwise
TIMESEQ	time variable, all the 24 quarters from 2001Q1 through 2006Q4 are coded 1,2,…,24
SIZE	size of the firm, SIZE = ln (total assets)
SEOAMT	value amount of SEO scaled by total assets
SECTOR	Dummy variables for different REIT sectors, sectordum 1 to 5 stand for Industrial/Office, Lodging, Residential, Retail and Others respectively.
SEO	Dummy variables for different SEO frequency, seodum 1 stands for 1-3 SEOs, seodum 2 for 4-6 SEOs, seodum 3 for 7-10 SEOs.
YEAR	Dummy variables to control for different years.
SOX	Dummy variable to control for possible structural changes caused by the Sarbanes-Oxley Act (SOX) enacted on July 30, 2002. SOX equals 1 if before this date and 0 otherwise.

Source: Author, 2008

4.3.2 Model Settings

In Equation (4.1) and Equation (4.2), attention is paid to manipulation in Quarter -1. By definition, Quarter -1 is defined as the quarter for which the latest financial reports are available when the equity offering announcement is made, therefore, financial results reported for Quarter -1 are most susceptible to earnings management. In Equation (4.1), the dependent variable DA stands for DTA and DWA in Quarter -1. Similarly, DIF stands for DIFA and DIFMV in Quarter -1 in Equation (4.2). The assumption is that managerial manipulation choices are affected by fundamental characteristics of the REIT in current and previous quarters.

Meanwhile, it is expected that earnings management will continue for several quarters because that will make the manipulation smoother and more difficult to detect. Therefore, the quarters around offering announcement are also very susceptible candidate for earnings management (Rangan, 1998). In Equation (4.3), DEP on the left side of the equation represents mean of DA or DIF over the three quarters from Quarter -3 to Quarter -1. Average earnings management level over these three quarters should be more informative than that in Quarter -1 because maybe not all the manipulation is carried out in Quarter -1. Other independent variables are also averaged over these three quarters respectively.

All the analysis above focuses on equity-offering REITs and their financial results manipulation. This might cause some bias of sample selection. To address this concern, in Equation (4.4), all REITs in the sample are considered, that is, REITs with or without SEOs during the sample period are all included in the analysis. DEP in the equation stands for all the four measures of financial results manipulation. This

equation is used to investigate whether the findings in the other three equations are changed if the sample is enlarged to non-offering REITs. This analysis can serve as a robustness test of previous findings about earnings management of REITs with SEOs; at the same time, it can capture the whole picture of financial results manipulation in the REIT industry by considering many other factors in addition to equity offerings.

The four regression functions used in the analysis are listed below.

Equation (4.1)

$$\begin{aligned} DA = {} & \alpha_0 + \alpha_1 DEP\_LAG + \alpha_2 CFO\_LAG + \alpha_3 IBEI\_LAG + \alpha_4 LEV\_LAG \\ & + \alpha_5 NOP\_LAG + \alpha_6 EXT\_LAG + \alpha_7 MB\_LAG + \alpha_8 SIZE\_LAG \\ & + \alpha_9 INSTI\_LAG + \alpha_{10} AUDIT + \alpha_{11} SEOAMT + \alpha_{12} INTVAL \\ & + \sum_{i=1}^{4} \alpha_{12+i} * seo_i + \sum_{i=2}^{3} \alpha_{15+i} * \sec tor_i + \sum_{i=2}^{5} \alpha_{17+i} * year_i + \varepsilon \end{aligned}$$

Equation (4.2)

$$\begin{aligned} DIF = {} & \beta_0 + \beta_1 DEP\_LAG + \beta_2 ROA\_LAG + \beta_3 LEV\_LAG + \beta_4 FCF\_LAG \\ & + \beta_5 MB\_LAG + \beta_6 SIZE\_LAG + \beta_7 INSTI\_LAG + \beta_8 XP\_LAG \\ & + \beta_9 WC\_LAG + \beta_{10} SEOAMT + \beta_{11} INTVAL + \beta_{12} AUDIT \\ & + \sum_{i=1}^{4} \beta_{12+i} * seo_i + \sum_{i=2}^{3} \beta_{15+i} * \sec tor_i + \sum_{i=2}^{5} \beta_{17+i} * year_i + \mu \end{aligned}$$

Equation (4.3)

$$\begin{aligned} DEP = {} & \gamma_0 + \gamma_1 SEOAMT + \gamma_2 SIZE + \gamma_3 INSTI \\ & + \gamma_4 MB + \gamma_5 LEV + \gamma_6 CFO + \gamma_7 CFOVOL + \gamma_8 AUDIT \\ & + \sum_{i=1}^{4} \gamma_{8+i} * seo_i + \sum_{i=2}^{3} \gamma_{11+i} * \sec tor_i + \sum_{i=2}^{5} \gamma_{13+i} * year_i + \nu \end{aligned}$$

Equation (4.4)

$$\begin{aligned} DEP = {} & \phi_0 + \phi_1 DEP\_LAG + \phi_2 CFO\_LAG + \phi_3 CFOVOL + \phi_4 ROA\_LAG \\ & + \phi_5 LEV\_LAG + \phi_6 MB\_LAG + \phi_7 SIZE + \phi_8 INSTI + \phi_9 AUDIT + \phi_{10} TIMESEQ \\ & + \phi_{11} Q4 + \sum_{i=1}^{4} \phi_{11+i} * seo_i + \sum_{i=2}^{3} \phi_{14+i} * \sec tor_i + \sum_{i=2}^{5} \phi_{16+i} * year_i + \omega \end{aligned}$$

4.3.3 Main Findings

4.3.3.1 Manipulation in Quarter -1

Equation (4.1) and Equation (4.2) mainly focus on earnings management in Quarter -1. The results provided in Table 4. 7 through Table 4. 10 reveal that there are significant differences between discretionary accruals and FFO manipulation. These two tools of manipulation have different characteristics and should be discussed separately.

Earnings management (DTA, DWA) is negatively related to their lagged values, that is, there is a mean-reversion trend in discretionary accruals. This result is consistent with Sloan (1996). In contrast, DIF is positively associated with its lagged value and there is no mean-reversion trend in FFO manipulation. This is probably the reason why earnings can not be consistently manipulated higher over a long period. However, manipulation of FFO is not subject to such restriction.

Another finding is that discretionary accruals (DA) are negatively associated with external audit quality, indicating that more scrutiny helps reduce earnings management. Hypothesis 4 about external auditor quality is supported. Higher external auditor quality is associated with less earnings manipulation, but auditing-related factors have no direct effect on FFO manipulation. As for the expected negative effect of institutional holdings on earnings management, no clear evidence has been found in either DA or DIF. Hypothesis 5 about governance is not supported in this case. The negative relation between SEO frequency and earnings management is nearly not significant. Some of the coefficients are only statistically significant at a 10% level. Therefore, Hypothesis 2 about SEO frequency is only

weakly supported in these two regressions.

In addition, most of the coefficients of SOX are weakly significant, indicating the possible structural change caused by the Sarbanes-Oxley Act is not clear if only equity-issuing REITs are considered. Conclusions from the restricted sample can not provide an overall picture about earnings management practices in the industry. As discussed before, REITs that issue equity frequently tend to be more aggressive in performance manipulation. The restrictive effect of the Sarbanes-Oxley Act is somehow offset by increasing SEOs. Further investigation will be done in Equation (4.4), where REITs with or without SEOs are all considered and the results would be more informative and reasonable.

Year dummy variables are most significant in Equation (4.1) but not in Equation (4.2), which means that the level of FFO manipulation in Quarter -1 does not change much from its level in Year 2001. In contrast, earnings management is generally lower than in 2001. It is found that earnings management in REITs is mainly associated with manipulation in previous periods and auditing factors. However, manipulation of FFO is positively correlated to free cash flow and working capital in the past quarter. If the financial health of a REIT in terms of operating cash flow gets worse, managers will be under more pressure and hence have stronger incentives to manipulate FFO. Deterioration in cash flows is one feature of possible manipulation of financial results.

To sum up the findings in Equation (4.1) and (4.2), REITs with high external auditor quality and frequent SEO issuing have less earnings management. In contrast, REITs with deteriorating cash flow and frequent SEO have more FFO manipulation. The effect of the Sarbanes-Oxley Act is not obvious if only equity-issuing REITs are considered.

Table 4. 7 Regression results of earnings management (DTA) in Quarter -1

	1	2	3	4	5	6	7	8
DTA_LAG	-0.1924	-0.2175	-0.1691	-0.1675	-0.13	-0.1154	-0.1806	-0.2087
	(2.48)**	(3.13)***	(2.20)**	(2.20)**	(1.90)*	(1.85)*	(2.55)**	(2.86)***
CFO_LAG	0.1077	0.0802	0.087	0.0626	0.1086	0.1144	0.0865	0.064
	-1.58	-1.24	-1.28	-0.93	-1.62	(1.82)*	-1.33	-0.97
IBEI_LAG	-0.0034	-0.0408	-0.0684	-0.0182	-0.0506	0.0067	0.0597	0.0014
	-0.03	-0.39	-0.61	-0.16	-0.46	-0.06	-0.57	-0.01
LEV_LAG	-0.0054	-0.004	-0.0086	-0.0076	-0.0068	-0.004	-0.0019	-0.0049
	-1.2	-1	(2.07)**	(1.86)*	(1.69)*	-1.02	-0.48	-1.2
NOOP_LAG	0.0049	0.0064	0.0062	0.0065	0.0085	0.0082	0.0075	0.0077
	-0.62	-0.87	-0.78	-0.83	-0.99	-1.05	-1	-1.02
EXT_LAG	-0.0037	-0.0084	-0.0061	-0.0041	-0.0053	-0.0072	-0.0045	-0.006
	-0.73	-1.64	-1.2	-0.81	-0.99	-1.47	-0.96	-1.22
MB_LAB	-0.0003	0.0017	0.0025	0.0013	0.0035	0.0032	0.0024	0.0008
	-0.11	-0.72	-1.01	-0.57	-1.43	-1.35	-1.07	-0.32
SIZE_LAG	-0.0007	0	-0.0003	-0.0005	-0.0001	-0.0001	-0.0005	-0.0002
	-1.21	-0.01	-0.51	-1.03	-0.12	-0.11	-0.84	-0.46
INSTI_LAG	0.0041	0.0067	0.0013	0.0071	0.0038	0.0061	0.0086	0.0102
	-0.57	-0.97	-0.18	-1.03	-0.48	-0.85	-1.29	-1.53
AUDIT	-0.0049	-0.0031	-0.0043	-0.0049	-0.0035	-0.0032	-0.0034	-0.0031
	(2.24)**	-1.58	(1.88)*	(2.29)**	-1.44	-1.52	(1.66)*	-1.49
SEOAMT	-0.0014	-0.0039	-0.0045	-0.0016	-0.0016	-0.004	-0.0035	-0.0026
	-0.23	-0.66	-0.72	-0.26	-0.23	-0.62	-0.56	-0.42
INTERVAL	0	0	0	0	0	0	0	0
	-0.36	-0.59	-0.35	-0.21	-0.23	-0.16	-0.19	-0.26
Industrial/Office	-0.001	0	0.0003	-0.0009				-0.001
	-0.78	-0.03	-0.26	-0.73				-0.78
Lodging	-0.0031	-0.0023	-0.0018	-0.0034				-0.0036
	(2.09)**	-1.63	-1.13	(2.30)**				(2.55)**
Residential	-0.0025	-0.0012	-0.0007	-0.0021				-0.0018
	-1.39	-0.72	-0.39	-1.17				-1.03
Retail	0.0003	0.0012	0.002	-0.0002				-0.0003
	-0.26	-0.85	-1.37	-0.17				-0.19
SOX	-0.0026							
	(1.77)*							
4-6 SEOs		-0.0017	-0.0019		-0.0014	-0.0018		
		(1.76)*	(1.77)*		-1.23	(1.78)*		
>6 SEOs		-0.0016	-0.0026		-0.0015	-0.0015		
		-1.11	(1.74)*		-0.96	-1.02		
Year 2002		-0.0078				-0.0079	-0.0079	-0.0078
		(3.49)***				(3.25)***	(3.31)***	(3.27)***
Year 2003		-0.0051				-0.0059	-0.0054	-0.0053
		(2.18)**				(2.38)**	(2.23)**	(2.12)**
Year 2004		-0.0053				-0.0056	-0.0046	-0.0048
		(2.30)**				(2.33)**	(1.95)*	(2.01)**
Year 2005		-0.0034				-0.0048	-0.0042	-0.0039
		-1.37				(1.90)*	(1.70)*	-1.54
Year 2006		-0.0042				-0.0055	-0.0047	-0.0043
		(1.69)*				(2.18)**	(1.92)*	(1.67)*
Constant	0.0078	0.0049	0.0044	0.0061	-0.0005	0.0032	0.0038	0.0073
	-1.54	-1	-0.89	-1.25	-0.1	-0.64	-0.79	-1.44
Observations	149	146	149	150	150	150	148	149
R-squared	0.27	0.37	0.27	0.23	0.17	0.28	0.28	0.32

Absolute value of t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Author, 2008

Table 4. 8 Regression results of earnings management (DWA) in Quarter -1

	1	2	3	4	5	6	7	8
DWA_LAG	-0.2591 (3.85)*** 	-0.2506 (3.94)*** 	-0.2678 (3.89)*** 	-0.2579 (3.80)*** 	-0.248 (3.49)*** 	-0.2467 (3.95)*** 	-0.2551 (3.82)*** 	-0.2412 (3.85)***
CFO_LAG	0.0585 -0.9	0.013 -0.2	0.0294 -0.44	0.0392 -0.6	0.0207 -0.3	0.0106 -0.17	0.0164 -0.25	0.0295 -0.47
IBEI_LAG	0.0024 -0.02	0.0173 -0.16	-0.0295 -0.25	-0.0369 -0.32	-0.0549 -0.5	0.0189 -0.19	0.0035 -0.03	0.0031 -0.03
LEV_LAG	-0.0065 -1.48	-0.0054 -1.26	-0.0087 (2.00)**	-0.0087 (2.04)**	-0.0087 (2.22)**	-0.0061 -1.57	-0.0056 -1.34	-0.0045 -1.07
NOOP_LAG	0.0013 -0.16	0.0057 -0.76	0.0025 -0.32	0.0024 -0.31	0.0047 -0.57	0.006 -0.81	0.0057 -0.73	0.0056 -0.77
EXT_LAG	0.002 -0.4	0.0006 -0.12	0.0007 -0.13	0.0015 -0.3	0.0012 -0.25	-0.0002 -0.04	0.0006 -0.12	0.0013 -0.28
MB_LAB	0.0007 -0.29	0.003 -1.21	0.0019 -0.78	0.0012 -0.5	0.0017 -0.7	0.0024 -1.04	0.0015 -0.67	0.0022 -0.95
SIZE_LAG	-0.0004 -0.67	0.0001 -0.21	0 -0.02	-0.0001 -0.27	0 -0.02	0.0001 -0.22	0.0002 -0.41	-0.0001 -0.13
INSTI_LAG	-0.0005 -0.07	0.005 -0.7	-0.002 -0.26	0.0015 -0.21	0.0017 -0.22	0.006 -0.88	0.0068 -0.95	0.005 -0.75
AUDIT	-0.0054 (2.88)*** 	-0.0037 (2.05)** 	-0.0054 (2.81)*** 	-0.0053 (2.79)*** 	-0.0049 (2.49)** 	-0.0035 (2.00)** 	-0.0033 (1.72)* 	-0.0039 (2.16)**
SEOAMT	-0.004 -0.49	-0.0052 -0.64	-0.0045 -0.54	-0.0032 -0.38	0.0003 -0.03	-0.0042 -0.53	-0.0003 -0.04	-0.0036 -0.44
INTERVAL	0 -0.16	0 -0.34	0 -0.47	0 -0.68	0 -0.24	0 -0.32	0 -0.79	0 -0.27
Industrial/Office	0.0004 -0.29	0.0005 -0.39	0.0006 -0.46	0.0002 -0.19				0.0002 -0.17
Lodging	0.001 -0.67	0.0014 -0.99	0.0014 -0.93	0.0009 -0.62				0.0011 -0.79
Residential	-0.0004 -0.22	0.0001 -0.04	0 -0.02	-0.0004 -0.24				-0.0004 -0.27
Retail	0.0014 -1.1	0.0008 -0.56	0.0015 -1.07	0.0011 -0.82				0.0004 -0.33
SOX	-0.0025 (1.74)*							
4-6 SEOs		-0.0005 -0.55	-0.0011 -1.05		0.0002 -0.15	-0.0003 -0.28		
>6 SEOs		-0.0011 -0.77	-0.0016 -1.05		-0.0001 -0.1	-0.0008 -0.57		
Year 2002		-0.0101 (3.91)*** 				-0.0102 (4.01)*** 	-0.0099 (3.60)*** 	-0.008 (3.45)***
Year 2003		-0.007 (2.60)**				-0.0072 (2.78)*** 	-0.0069 (2.47)**	-0.0046 (1.96)*
Year 2004		-0.0079 (2.88)*** 				-0.008 (3.04)*** 	-0.0075 (2.71)*** 	-0.0054 (2.25)**
Year 2005		-0.0067 (2.39)**				-0.0068 (2.50)**	-0.0052 (1.83)*	-0.0042 (1.72)*
Year 2006		-0.0081 (2.82)*** 				-0.0081 (2.98)*** 	-0.0076 (2.67)*** 	-0.0055 (2.20)**
Constant	0.0049 -1	0.0054 -1.08	0.0031 -0.62	0.0037 -0.75	0.003 -0.61	0.0068 -1.45	0.0058 -1.13	0.0044 -0.88
Observations	154	152	154	154	154	152	153	153
R-squared	0.29	0.35	0.28	0.28	0.23	0.35	0.32	0.33

Absolute value of t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Source: Author, 2008

Table 4. 9 Regression results of FFO manipulation (DIFA) in Quarter -1

	1	2	3	4	5	6	7	8
DIFA_LAG	0.4316 (8.00)***	0.2624 (4.81)***	0.3088 (5.87)***	0.4211 (7.57)***	0.4207 (7.18)***	0.2906 (5.77)***	0.4465 (8.00)***	0.4441 (8.02)***
ROA_LAG	-0.0212 -1.3	-0.0124 -0.66	-0.0156 -0.86	-0.0255 -1.53	-0.0232 -1.37	-0.0056 -0.33	-0.0156 -0.89	-0.0233 -1.39
LEV_LAG	-0.0014 (1.75)*	-0.0005 -0.55	-0.0009 -1.02	-0.0016 (1.94)*	-0.0008 -1.07	0 0	-0.0005 -0.72	-0.0013 -1.55
FCF_LAG	0.0027 (3.48)***	0.0019 (2.14)**	0.0024 (2.83)***	0.0025 (3.19)***	0.0022 (2.81)***	0.002 (2.50)**	0.0018 (2.42)**	0.0024 (3.05)***
MB_LAG	0.0003 -0.69	0.0005 -0.92	0.0001 -0.15	0.0005 -1.08	0.0003 -0.67	0.0001 -0.27	0.0005 -0.98	0.0005 -1.08
SIZE_LAG	0.0002 (1.78)*	-0.0001 -0.47	0.0001 -1.16	0.0002 -1.4	0.0002 -1.38	0.0001 -0.69	0.0002 -1.44	0.0002 -1.42
INSTI_LAG	-0.0012 -0.84	0.0033 (1.91)*	0.0009 -0.52	0.0005 -0.33	-0.0001 -0.06	0.0001 -0.08	-0.0012 -0.8	-0.0004 -0.28
XP_LAG	0 -0.03	-0.0001 -0.14	-0.0001 -0.09	-0.0001 -0.15	-0.0001 -0.15	-0.0001 -0.15	-0.0001 -0.1	0.0001 -0.15
WC_LAG	0.005 (3.06)***	0.0058 (3.12)***	0.0053 (2.85)***	0.0054 (3.17)***	0.0047 (2.69)***	0.0044 (2.48)**	0.0048 (2.40)**	0.0049 (2.93)***
SEOAMT	0.0011 -0.81	0.0012 -0.73	0.0009 -0.6	0.001 -0.75	0.001 -0.66	0.0013 -0.83	0.0008 -0.56	0.0009 -0.61
INTERVAL	0 -0.55	0 (1.70)*	0 -1.59	0 -0.97	0 -1.3	0 -1.44	0 -1.08	0 -0.91
AUDIT	0.0006 -1.51	0.0004 -0.99	0.0006 -1.29	0.0005 -1.4	0.0005 -1.14	0.0003 -0.85	0.0004 -0.97	0.0005 -1.32
Industrial/Office	-0.0001 -0.53	-0.0001 -0.27	-0.0002 -0.52	-0.0001 -0.28				-0.0002 -0.67
Lodging	-0.0003 -1.07	-0.0001 -0.27	-0.0003 -0.97	-0.0003 -0.94				-0.0003 -1.02
Residential	0.0007 (1.99)**	0.0005 -1.07	0.0005 -1.07	0.0005 -1.29				0.0006 -1.58
Retail	0 -0.17	-0.0003 -0.75	-0.0003 -0.75	0 -0.08				0 -0.12
SOX	-0.0006 (2.01)**							
4-6 SEOs		0.0003 -1.34	0 -0.06		-0.0001 -0.48	0 -0.06		
>6 SEOs		0.0009 (2.48)**	0.0005 -1.45		0.0003 -1.11	0.0004 -1.32		
Year 2002		0.0003 -0.37				0.0002 -0.3	-0.0002 -0.35	-0.0003 -0.46
Year 2003		0.0009 -1.24				0.0012 (1.69)*	0.0007 -1.25	0.0006 -1.05
Year 2004		0.0006 -0.77				0.0007 -1.04	0.0004 -0.66	0.0003 -0.54
Year 2005		-0.0001 -0.15				0.0003 -0.45	0.0001 -0.22	0.0001 -0.18
Year 2006		0.0003 -0.37				0.0007 -1	0.0002 -0.42	0.0002 -0.26
Constant	-0.0009	-0.0011	-0.0008	-0.001	-0.0012	-0.0017	-0.0017	-0.0013

	-0.85	-0.85	-0.74	-0.95	-1.17	-1.47	-1.55	-1.17
Observations	147	149	149	147	148	146	147	148
R-squared	0.47	0.37	0.35	0.41	0.39	0.38	0.44	0.47

Absolute value of t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Author, 2008

Table 4. 10 Regression results of FFO manipulation (DIFMV) in Quarter -1

	1	2	3	4	5	6	7	8
DIFMV_LAG	0.2676	0.2354	0.231	0.2349	0.2307	0.2532	0.2314	0.2239
	(5.07)***	(3.91)***	(4.12)***	(4.49)***	(4.45)***	(4.10)***	(4.31)***	(4.16)***
ROA_LAG	0.0141	0.001	-0.0091	0.0034	0	0.0076	0.0051	0.0013
	-0.39	-0.03	-0.25	-0.09	0	-0.2	-0.13	-0.03
LEV_LAG	0.001	0.001	0.0006	0.0006	0.0007	0.0011	0.0005	0.0004
	-0.51	-0.49	-0.33	-0.29	-0.44	-0.57	-0.3	-0.19
FCF_LAG	0.005	0.0057	0.0045	0.0047	0.0047	0.0061	0.0046	0.0049
	(2.89)***	(3.03)***	(2.61)**	(2.61)**	(2.83)***	(3.37)***	(2.51)**	(2.53)**
MB_LAG	-0.0012	-0.0009	-0.0009	-0.001	-0.0011	-0.0012	-0.0007	-0.0005
	-1.14	-0.77	-0.88	-0.92	-1.1	-1.11	-0.6	-0.42
SIZE_LAG	0.0002	0	0.0001	0.0003	0.0002	0	0.0001	0.0001
	-0.95	0	-0.59	-1	-0.85	-0.08	-0.5	-0.44
INSTI_LAG	-0.0007	0.0046	0.0028	0.0008	0.0018	0.0038	0.0001	0.0012
	-0.23	-1.31	-0.83	-0.27	-0.54	-1.08	-0.04	-0.36
XP_LAG	-0.0007	0.0002	0	-0.0007	-0.0006	-0.0007	-0.0011	-0.001
	-0.43	-0.11	-0.03	-0.46	-0.42	-0.44	-0.71	-0.6
WC_LAG	0.0098	0.014	0.0122	0.0099	0.0102	0.0113	0.01	0.0094
	(2.69)***	(3.69)***	(3.35)***	(2.60)**	(2.73)***	(2.97)***	(2.22)**	(2.41)**
SEOAMT	0.0032	0.0044	0.0038	0.0029	0.0035	0.0033	0.0022	0.0024
	-1.05	-1.32	-1.28	-0.95	-1.13	-0.97	-0.67	-0.73
INTERVAL	0	0	0	0	0	0	0	0
	-1.47	(2.67)***	(2.36)**	(1.82)*	(1.98)**	(2.43)**	(1.98)*	(2.11)**
AUDIT	0.0006	0.0009	0.0009	0.0004	0.0005	0.0005	0.0001	0.0002
	-0.75	-0.95	-1.03	-0.5	-0.6	-0.56	-0.15	-0.17
Industrial/Office	-0.0005	-0.0011	-0.001	-0.0005				-0.0004
	-0.89	(1.72)*	(1.68)*	-0.77				-0.68
Lodging	-0.0001	-0.0002	-0.0004	0				0.0002
	-0.08	-0.25	-0.59	-0.07				-0.22
Residential	0.0004	-0.0001	-0.0003	0.0003				0.0002
	-0.44	-0.07	-0.33	-0.37				-0.27
Retail	0.0001	-0.0011	-0.0009	0				0
	-0.22	-1.59	-1.33	-0.06				-0.07
SOX	-0.0014							
	(1.92)*							
4-6 SEOs		0.0003	0.0001		0.0002	0.0004		
		-0.63	-0.17		-0.43	-0.86		
>6 SEOs		0.0018	0.0012		0.0008	0.0015		
		(2.51)**	(1.69)*		-1.29	(2.27)**		
Year 2002		-0.0001				0.0001	0.0007	0.0006
		-0.08				-0.05	-0.51	-0.45
Year 2003		0.0016				0.002	0.0013	0.0012
		-1.16				-1.43	-0.97	-0.86
Year 2004		0.0007				0.0013	0.001	0.0009
		-0.51				-0.97	-0.77	-0.65
Year 2005		-0.0001				0.0002	-0.0001	-0.0003
		-0.06				-0.18	-0.08	-0.22
Year 2006		0.0002				0.001	0.0007	0.0004
		-0.16				-0.73	-0.49	-0.3
Constant	-0.0012	-0.0014	-0.0009	-0.0015	-0.0018	-0.002	-0.0017	-0.0017
	-0.52	-0.54	-0.43	-0.67	-0.81	-0.76	-0.66	-0.65
Observations	150	151	149	152	152	152	151	152
R-squared	0.3	0.38	0.28	0.25	0.25	0.34	0.27	0.27

Absolute value of t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Author, 2008

4.3.3.2 Manipulation over the Three Quarters

Although financial results reported for Quarter -1 are most susceptible to earnings management, other adjacent quarters are also very susceptible because earnings management naturally continues for several quarters to make the manipulation smoother and more difficult to detect. Combined with the findings in the univariate analysis, the three quarters before offering announcement are chosen to detect potential earnings management.

Equation (4.3) is used to address this problem. Regression results of manipulation in the three quarters (Quarter -3 through Quarter -1) before SEOs[17], as illustrated in Table 4. 11 and Table 4. 12, show that as SEO frequency increases, FFO manipulation is on the rise while earnings management decreases. This supports the findings in testing Hypothesis 2. As SEO frequency increases, the focus of manipulation is shifted from earnings to FFO. This finding is supportive to the notion that earnings management is more strictly monitored than FFO manipulation.

Additionally, manipulation of earnings is negatively affected by the ability of REITs to generate cash flow while positively associated with the volatility of cash flow from operation. The association between DIF and cash flow volatility is largely not significant. As mentioned, low levels of cash flow level as well as volatile cash flows are introduced to proxy for financial constraints. These findings support Hypothesis 3 which states that financially constrained REITs are likely to manage earnings. Constrained cash flow forces managers to be more aggressive in manipulation. The effect of the Sarbanes-Oxley Act is not obvious.

[17] Dependent variable is average manipulation during the three quarters prior to SEO quarter, that is, Quarter -3 through Quarter -1. Other variables such as MB, ROA, CFO, and LEV are all averaged over these three quarters.

Table 4. 11 Regression results of manipulation in Quarter -3 to -1 (Panel A: earnings)

	DTA					DWA				
	1	2	3	4	5	1	2	3	4	5
SEOAMT	-0.0014	-0.0018	-0.0018	-0.0007	-0.001	-0.0018	-0.0015	-0.0024	-0.0018	-0.001
	-0.57	-0.69	-0.7	-0.29	-0.38	-0.87	-0.67	-1.11	-0.87	-0.46
SIZE	-0.0001	0	0.0001	0	-0.0001	0.0001	0.0002	0.0002	0.0001	0.0001
	-0.61	-0.08	-0.34	-0.08	-0.48	-0.77	-1.2	-1.23	-0.81	-0.61
INSTI	0.0011	-0.0011	-0.0007	0.0029	0.0021	0.0004	0.0008	-0.0009	0.0003	0.0022
	-0.38	-0.38	-0.26	-1.06	-0.72	-0.18	-0.31	-0.37	-0.15	-0.95
AUDIT	-0.0006	-0.0003	-0.0004	-0.0001	-0.0006	-0.0003	-0.0007	-0.0004	-0.0005	-0.0002
	-0.75	-0.42	-0.47	-0.13	-0.69	-0.45	-1.14	-0.56	-0.7	-0.23
MB	-0.0007	-0.0002	0.0001	-0.0004	-0.0007	0.0008	0.0019	0.0012	0.0012	0.0016
	-0.8	-0.18	-0.15	-0.45	-0.67	-1.01	(2.41)**	-1.63	-1.61	(2.18)**
ROA	0.0283	0.0272	0.0224	0.0265	0.0306	0.0641	0.064	0.0606	0.0628	0.0656
	-1.18	-1.09	-0.92	-1.08	-1.22	(3.08)***	(3.07)***	(2.92)***	(3.06)***	(3.18)***
LEV	-0.0034	-0.0038	-0.0041	-0.0046	-0.0039	-0.0021	-0.0017	-0.0027	-0.0029	-0.0016
	(2.11)**	(2.27)**	(2.53)**	(2.89)***	(2.33)**	-1.55	-1.23	(1.99)**	(2.11)**	-1.19
CFO	-0.277	-0.2922	-0.2981	-0.3007	-0.2881	-0.2902	-0.3096	-0.3063	-0.3104	-0.3063
	(7.40)***	(7.09)***	(7.87)***	(7.97)***	(7.08)***	(9.38)***	(9.63)***	(9.82)***	(10.20)***	(9.89)***
CFOVOL	0.1536	0.1508	0.144	0.1385	0.1463	0.1742	0.1603	0.175	0.1771	0.1653
	(3.83)***	(3.70)***	(3.57)***	(3.38)***	(3.56)***	(5.01)***	(5.62)***	(5.09)***	(5.17)***	(5.80)***
Industrial/Office	-0.0015	-0.0013	-0.0014	-0.0016	-0.0014	-0.0007	-0.0006	-0.0007	-0.0008	-0.0007
	(2.83)***	(2.36)**	(2.55)**	(2.95)***	(2.72)***	-1.59	-1.32	-1.43	(1.72)*	-1.58
Lodging	-0.0041	-0.0039	-0.0038	-0.0041	-0.0042	-0.0001	0.0004	0.0002	-0.0001	0.0001
	(6.53)***	(5.88)***	(5.80)***	(6.39)***	(6.42)***	-0.15	-0.71	-0.27	-0.2	-0.26
Residential	-0.003	-0.0026	-0.0027	-0.0028	-0.003	-0.001	-0.001	-0.0008	-0.001	-0.0012
	(4.65)***	(3.93)***	(4.02)***	(4.38)***	(4.52)***	(1.76)*	(1.77)*	-1.44	(1.77)*	(2.22)**
Retail	0.0005	0.0006	0.0004	0	0.0004	0.0002	0.0002	0.0003	0.0002	0
	-0.86	-1.03	-0.73	-0.09	-0.7	-0.53	-0.33	-0.58	-0.51	-0.01
SOX	-0.0012 (2.10)**					-0.0006 -1.3				
4-6 SEOs		-0.0005 -1.12	-0.0004 -1.05				-0.0005 -1.5	-0.0006 (1.69)*		
>6 SEOs		-0.0011 (1.90)*	-0.0012 (1.95)*				-0.0006 -1.16	-0.0006 -1.17		
Year 2002		0			-0.0004		-0.0006			-0.0007
		-0.06			-0.46		-0.78			-0.94
Year 2003		0.001			0.0011		0.0006			0.0005
		-1.21			-1.42		-0.83			-0.66
Year 2004		0.0004			0.0006		-0.0003			-0.0004
		-0.48			-0.79		-0.48			-0.61
Year 2005		0			0.0001		-0.0004			-0.0006
		-0.01			-0.12		-0.61			-0.87
Year 2006		0.0011 -1.15			0.0011 -1.17		-0.0007 -0.92			-0.0008 -1.05
Constant	0.0088	0.0074	0.0074	0.008	0.008	0.003	0.0015	0.0028	0.0032	0.0022
	(4.12)***	(3.23)***	(3.43)***	(3.68)***	(3.49)***	(1.73)*	-0.8	-1.61	(1.84)*	-1.17
Observations	223	225	225	225	224	234	236	233	233	235
R-squared	0.42	0.42	0.4	0.39	0.42	0.38	0.41	0.4	0.4	0.41

Absolute value of t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Author, 2008

Table 4. 12 Regression results of manipulation in Quarter -3 to -1 (Panel B: FFO)

	DIFA					DIFMV				
	1	2	3	4	5	1	2	3	4	5
SEOAMT	0.0019	0.0021	0.0022	0.0018	0.001	0.0024	0.0033	0.0037	0.0024	0.0038
	-1.44	(1.85)*	(1.79)*	-1.38	(1.68)*	-0.93	-1.38	-1.46	-0.93	-1.53
SIZE	0.0002	0	0.0001	0.0002	0	0.0003	0.0001	0.0002	0.0003	0.0003
	-1.39	-0.13	-0.98	-1.59	-0.5	-1.54	-0.59	-1.09	-1.55	-1.38
INSTI	0.0002	0.0027	0.0023	0	0.0007	0.0019	0.0043	0.0054	0.0019	0.0017
	-0.1	(1.87)*	-1.51	-0.01	-0.51	-0.66	-1.55	(1.87)*	-0.67	-0.61
AUDIT	0.0004	0.0007	0.0005	0.0004	0.0005	0.0009	0.0013	0.0011	0.0009	0.0009
	-1.05	(1.95)*	-1.42	-1.01	-1.36	-1.21	(1.97)*	-1.58	-1.21	-1.21
MB	-0.0003	-0.0005	-0.001	-0.0003	0.0001	-0.001	-0.0018	-0.0024	-0.001	-0.0006
	-0.7	-0.97	(2.02)**	-0.74	-0.32	-1.12	(1.91)*	(2.59)**	-1.14	-0.63
ROA	0.018	0.0247	0.0195	0.0199	0.0192	0.0368	0.0395	0.0389	0.0368	0.069
	-1.29	(2.04)**	-1.48	-1.21	-1.58	-1.43	(1.68)*	-1.55	-1.44	(3.06)***
LEV	0.0013	0.0013	0.0016	0.0013	0.0012	0.0022	0.0023	0.0031	0.0022	0.0021
	-1.44	(1.74)*	(1.97)*	-1.48	-1.59	-1.28	-1.45	(1.90)*	-1.3	-1.29
CFO	0.0183	0.0055	0.0285	0.0195	-0.0008	0.0579	0.0451	0.071	0.0578	0.0017
	-0.93	-0.3	-1.53	-1.02	-0.05	-1.58	-1.27	(2.00)**	-1.62	-0.05
CFOVOL	-0.0193	-0.0199	-0.022	-0.0175	-0.0175	-0.0609	-0.0417	-0.0653	-0.061	-0.0229
	-0.89	-1.06	-1.08	-0.83	-0.97	-1.5	-1.15	(1.67)*	-1.51	-0.6
Industrial/Office	0	0	-0.0002	0	0.0002	-0.0001	-0.0004	-0.0006	-0.0001	-0.0001
	-0.14	-0.12	-0.83	-0.07	-0.7	-0.15	-0.85	-0.99	-0.16	-0.22
Lodging	0.0004	0.0004	0.0002	0.0004	0.0006	0.0006	0.0004	0.0002	0.0006	0.0008
	-1.21	-1.25	-0.45	-1.26	(1.97)*	-0.93	-0.59	-0.25	-0.93	-1.28
Residential	0.0006	0.0006	0.0001	0.0004	0.0009	0.001	0.0004	0.0003	0.001	0.001
	-1.65	(1.93)*	-0.25	-1.22	(2.94)***	-1.42	-0.68	-0.46	-1.42	-1.56
Retail	-0.0001	-0.0006	-0.0007	-0.0002	-0.0001	-0.0007	-0.0018	-0.0015	-0.0007	-0.001
	-0.46	(2.10)**	(2.28)**	-0.73	-0.41	-1.17	(3.27)***	(2.58)**	-1.22	(1.88)*
SOX	-0.0002					0				
	-0.54					-0.02				
4-6 SEOs		0.0002	0.0003				0.0001	0.0004		
		-0.89	-1.38				-0.15	-1.05		
>6 SEOs		0.0013	0.0014				0.0023	0.0024		
		(4.28)***	(4.26)***				(3.94)***	(3.89)***		
Year 2002		-0.0005			-0.0005		-0.0009			-0.0008
		-1.16			-1.3		-1.09			-0.9
Year 2003		0.0003			0.0001		0.0001			0.0001
		-0.67			-0.26		-0.14			-0.16
Year 2004		-0.0001			-0.0002		-0.0006			-0.0008
		-0.27			-0.54		-0.73			-0.99
Year 2005		-0.0008			-0.0009		-0.0014			-0.0018
		(1.80)*			(2.04)**		(1.74)*			(2.18)**
Year 2006		0			-0.0001		-0.0002			-0.0006
		-0.01			-0.22		-0.28			-0.67
Constant	-0.0017	-0.0008	-0.0014	-0.0019	-0.001	-0.0032	-0.0006	-0.0023	-0.0032	-0.0022
	-1.55	-0.83	-1.3	(1.72)*	-1.07	-1.54	-0.3	-1.11	-1.55	-1.08
Observations	238	234	237	235	235	238	235	237	238	237
R-squared	0.06	0.24	0.13	0.06	0.16	0.09	0.21	0.14	0.09	0.16

Absolute value of t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Author, 2008

4.3.3.3 Manipulation in the REIT Industry

In Equation (4.4), REITs without SEOs during the period are also added into the analysis. As can be seen in Table 4.13 and Table 4.14, results of the first three equations are supported here: there is a mean-reversion trend in earnings management but not in FFO manipulation; earnings management is negatively associated with audit quality; the relation between FFO manipulation and audit quality is weak and not significant; higher SEO frequency is associated with less earnings management and more FFO manipulation.

Additionally, DWA and DIF are both positively correlated with gearing ratio, indicating financially constrained REITs are more susceptible to earnings management. Earnings management is negatively affected by REIT's leverage ratio and the ability to generate cash flow while positively associated with the volatility of cash flow from operation. Hypothesis 3 about the relation between financial constraints and manipulation is supported. Financially constrained REITs are more likely to manipulate earnings. No such relation has been found in FFO manipulation. Additionally, the coefficients of ROA_LAG are significantly negative for DA, suggesting in the face of better performance in the previous quarter, managers would have more incentives to manipulate earnings aggressively. Positive coefficients of M/B ratio mean that high expectation from investors reflected in this ratio would encourage managers to be more aggressive to boost both earnings and FFO.

No clear evidence for the relation between earnings management and firm size has been found. The relation between firm size and earnings management is so far mixed. Moreover, the coefficients of INSTI are significantly negative when DIF is examined, indicating that higher institutional holdings help reduce discretion in FFO calculation and thus reduce manipulation. This evidence is stronger than in the previous three equations where the coefficients are not significant. Hypothesis 5 concerning governance and monitoring is only weakly supported in this analysis. Only manipulation of FFO significantly reduced after the Sarbanes-Oxley Act came into force, which is consistent with the findings in the univariate analysis.

Table 4. 13 Regression results of all REIT sample (Panel A)

	DTA					DWA				
	1	2	3	4	5	1	2	3	4	5
DEP_LAG	0.1072	0.1099	0.1037	0.1091	0.102	-0.1364	-0.1328	-0.138	-0.1352	-0.1403
	(5.46)***	(5.60)***	(5.38)***	(5.59)***	(5.25)***	(6.44)***	(6.32)***	(6.62)***	(6.45)***	(6.65)***
CFOLAG	0.0971	0.0977	0.1002	0.0952	0.0978	0.01	0.009	0.0104	0.0072	0.0106
	(5.46)***	(5.60)***	(5.71)***	(5.43)***	(5.45)***	-0.65	-0.6	-0.68	-0.48	-0.68
CFOVOL	0.0302	0.0315	0.0508	0.0519	0.0383	0.0411	0.0377	0.0419	0.0246	0.0352
	-1.09	-1.14	(1.83)*	(1.85)*	-1.42	-1.63	-1.51	(1.70)*	-0.98	-1.43
ROA_LAG	0.0436	0.0414	0.046	0.0416	0.0417	0.0406	0.0436	0.0432	0.0436	0.0433
	(3.00)***	(2.83)***	(3.15)***	(2.84)***	(2.84)***	(3.49)***	(3.77)***	(3.76)***	(3.77)***	(3.74)***
LEV_LAG	0.0004	0.0005	0.0005	0.0001	0.0008	0.0016	0.0014	0.0017	0.0018	0.0017
	-0.43	-0.57	-0.63	-0.07	-0.95	(2.16)**	(1.94)*	(2.35)**	(2.37)**	(2.26)**
MB_LAG	-0.0005	-0.0004	-0.0005	-0.0002	-0.0006	0.0008	0.0008	0.0007	0.0009	0.0006
	-0.99	-0.8	-0.95	-0.47	-1.16	(1.85)*	(1.86)*	-1.42	(2.22)**	-1.27
SIZE	-0.0001	-0.0001	-0.0001	0	-0.0001	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002
	-0.58	-0.75	-0.59	-0.18	-0.71	(1.88)*	(2.16)**	(1.85)*	(2.03)**	(2.03)**
INSTI	0.0019	0.0017	0.0004	0.0016	0.0003	0.0004	0.0006	-0.0006	-0.0002	0.0005
	-1	-0.95	-0.22	-0.88	-0.14	-0.24	-0.39	-0.33	-0.1	-0.32
AUDIT	-0.0011	-0.0011	-0.001	-0.0011	-0.0009	-0.0005	-0.0006	-0.0006	-0.0008	-0.0005
	(2.99)***	(3.01)***	(2.58)**	(3.01)***	(2.30)**	-1.64	(2.02)**	(1.75)*	(2.40)**	-1.5
Industrial/Office	0.0003	0.0005	0.0005	0.0003	0.0003	0.0013	0.0015	0.0014	0.0014	0.0013
	-0.86	-1.19	-1.3	-0.7	-0.87	(3.84)***	(4.40)***	(4.03)***	(4.21)***	(3.97)***
Lodging	-0.0025	-0.0024	-0.0022	-0.0024	-0.0024	0.0006	0.0008	0.0008	0.0009	0.0006
	(4.97)***	(4.75)***	(4.37)***	(4.77)***	(4.87)***	-1.35	(1.93)*	(1.88)*	(2.15)**	-1.41
Residential	0.0001	0.0002	0.0003	0.0003	0	0.0007	0.0009	0.0006	0.0006	0.0007
	-0.23	-0.34	-0.74	-0.54	-0.06	(1.82)*	(2.27)**	-1.53	-1.53	(1.77)*
Retail	0.0015	0.0016	0.0018	0.0016	0.0014	0.0015	0.0017	0.0016	0.0016	0.0016
	(3.75)***	(3.89)***	(4.34)***	(3.85)***	(3.59)***	(4.35)***	(4.87)***	(4.42)***	(4.47)***	(4.51)***
SOX	-0.0002					0				
	-0.66					-0.18				
Q4		-0.0004					-0.0004			
		-1.29					(1.81)*			
1-3 SEOs			0.0002	0.0002				-0.0005	-0.0005	
			-0.66	-0.84				(2.13)**	(1.97)**	
4-6 SEOs			-0.0001	-0.0001				-0.001	-0.001	
			-0.15	-0.27				(3.13)***	(3.07)***	
>6 SEOs			-0.0011	-0.0012				-0.0009	-0.0009	
			-1.54	(1.78)*				-1.6	-1.58	
Year 2002			0.0007		0.0008			0.0001		0.0001
			(1.66)*		(1.77)*			-0.15		-0.26
Year 2003			0.0001		0.0002			0.0002		0.0002
			-0.29		-0.42			-0.45		-0.61
Year 2004			0.0004		0.0005			0.0003		0.0002
			-0.93		-1			-0.69		-0.55
Year 2005			0.0005		0.0006			0.0003		0.0002
			-1.11		-1.34			-0.71		-0.48
Year 2006			0.0006		0.0007			0.0002		0.0001
			-1.2		-1.42			-0.41		-0.18
Constant	-0.0014	-0.0015	-0.0022	-0.0021	-0.0017	-0.0023	-0.0019	-0.0018	-0.0017	-0.0021
	-1.18	-1.32	(1.77)*	(1.77)*	-1.45	(2.32)**	(2.10)**	(1.82)*	(1.84)*	(2.19)**
Observations	1755	1755	1760	1759	1761	1727	1726	1732	1727	1729
R-squared	0.1	0.1	0.1	0.1	0.1	0.06	0.07	0.07	0.07	0.07

Absolute value of t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Author, 2008

Table 4. 14 Regression results of all REIT sample (Panel B)

	DIFA					DIFMV				
	1	2	3	4	5	1	2	3	4	5
DEP_LAG	0.1362	0.1389	0.131	0.1334	0.1335	0.2804	0.2865	0.2732	0.2779	0.2757
	(10.08)***	(10.31)***	(9.75)***	(9.96)***	(9.90)***	(16.68)***	(17.44)***	(16.40)***	(16.71)***	(16.59)***
CFOLAG	-0.0362	-0.0267	-0.0345	-0.028	-0.0337	-0.0534	-0.0381	-0.052	-0.0499	-0.0518
	(3.82)***	(2.86)***	(3.70)***	(3.04)***	(3.60)***	(2.49)**	(1.83)*	(2.45)**	(2.36)**	(2.44)**
CFOVOL	-0.0307	-0.0302	-0.0153	-0.0215	-0.0233	-0.0278	-0.0191	-0.0301	-0.0346	-0.0335
	-1.56	-1.54	-0.77	-1.08	-1.19	-0.62	-0.43	-0.67	-0.76	-0.76
ROA_LAG	0.0052	0.0035	0.0011	0.0021	0.0046	-0.0128	-0.0175	-0.0162	-0.0145	-0.0151
	-0.58	-0.4	-0.12	-0.24	-0.51	-0.61	-0.84	-0.77	-0.69	-0.72
LEV_LAG	0.0019	0.0019	0.0022	0.0023	0.002	0.0035	0.0046	0.0042	0.0041	0.0039
	(3.66)***	(3.69)***	(4.21)***	(4.30)***	(3.79)***	(2.74)***	(3.69)***	(3.30)***	(3.20)***	(3.08)***
MB_LAG	0.0009	0.0003	0.0007	0.0001	0.0009	0.0002	-0.0007	0	-0.0007	0.0002
	(2.86)***	-1.06	(2.04)**	-0.5	(2.81)***	-0.23	-1.05	-0.02	-0.99	-0.26
SIZE	0.0001	0.0001	0.0001	0.0001	0.0001	0	0	-0.0001	0	0
	-0.93	-1.09	-0.67	-0.71	-0.94	-0.1	-0.05	-0.34	-0.01	-0.15
INSTI	-0.0017	-0.0033	-0.0013	-0.0026	-0.0016	-0.0074	-0.0107	-0.0058	-0.0083	-0.0063
	-1.45	(2.91)***	-1.08	(2.28)**	-1.36	(2.62)***	(4.07)***	(2.03)**	(3.03)***	(2.24)**
AUDIT	-0.0004	-0.0004	-0.0002	-0.0001	-0.0004	-0.0002	-0.0003	0	0.0002	-0.0003
	(1.91)*	-1.56	-0.74	-0.53	-1.61	-0.37	-0.54	-0.04	-0.31	-0.52
Industrial/Office	-0.0008	-0.0007	-0.0009	-0.0009	-0.0008	-0.0014	-0.0011	-0.0015	-0.0014	-0.0014
	(3.25)***	(2.98)***	(3.84)***	(3.69)***	(3.46)***	(2.51)**	(2.09)**	(2.75)***	(2.47)**	(2.57)**
Lodging	0.0002	0.0001	0	-0.0002	0.0002	-0.0004	-0.0003	-0.0003	-0.0004	-0.0002
	-0.71	-0.19	0	-0.51	-0.73	-0.6	-0.42	-0.47	-0.5	-0.22
Residential	-0.0004	-0.0003	-0.0004	-0.0003	-0.0004	-0.0008	-0.0008	-0.001	-0.0007	-0.001
	(1.68)*	-1.37	-1.42	-1.32	-1.63	-1.42	-1.3	-1.63	-1.23	-1.62
Retail	-0.0009	-0.0008	-0.0011	-0.0011	-0.0009	-0.0016	-0.0016	-0.002	-0.0017	-0.0017
	(3.74)***	(3.39)***	(4.40)***	(4.35)***	(3.74)***	(2.77)***	(2.84)***	(3.34)***	(2.93)***	(3.00)***
SOX	0.0008					0.0011				
	(4.38)***					(2.62)***				
Q4		-0.0006					-0.0016			
		(3.43)***					(4.22)***			
1-3 SEOs			0.0004	0.0004				0.0002	0.0002	
			(2.24)**	(2.23)**				-0.57	-0.6	
4-6 SEOs			0.001	0.001				0.0008	0.001	
			(4.23)***	(4.37)***				-1.53	(1.78)*	
>6 SEOs			0.0013	0.0013				0.0013	0.0014	
			(4.02)***	(4.21)***				(1.82)*	(1.92)*	
Year 2002			0.0004		0.0003			-0.0003		-0.0003
			-1.26		-1.18			-0.45		-0.5
Year 2003			-0.0005		-0.0005			-0.0017		-0.0017
			(1.80)*		(1.77)*			(2.53)**		(2.58)***
Year 2004			-0.0004		-0.0005			-0.0013		-0.0014
			-1.47		(1.71)*			(1.90)*		(2.01)**
Year 2005			-0.0004		-0.0005			-0.0015		-0.0016
			-1.52		(1.84)*			(2.25)**		(2.37)**
Year 2006			-0.0007		-0.0009			-0.0019		-0.0019
			(2.52)**		(2.87)***			(2.67)***		(2.79)***
Constant	-0.001	0	-0.0008	-0.0004	-0.0006	0.0015	0.0028	0.0028	0.0021	0.0029
	-1.43	-0.04	-1.04	-0.54	-0.81	-0.89	(1.74)*	-1.61	-1.28	(1.69)*
Observations	1498	1498	1500	1499	1498	1490	1490	1490	1490	1490
R-squared	0.13	0.12	0.15	0.14	0.13	0.21	0.23	0.22	0.21	0.22

Absolute value of t statistics in parentheses

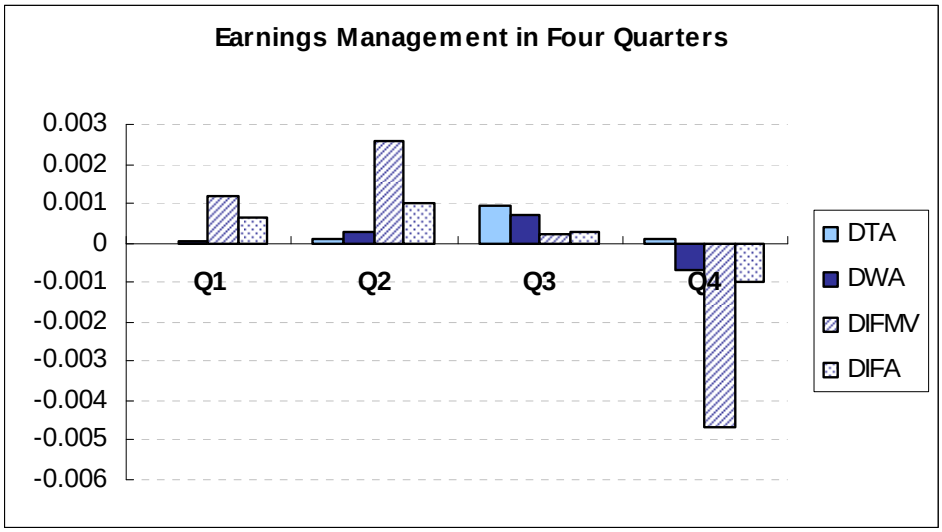
* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Author, 2008

Difference in FFO manipulation across years is more significant than in earnings management. In addition to year dummies, the variable of TIMESEQ is introduced to detect possible linear trend in financial results manipulation. A clear declining trend in manipulation over time has been found. Coefficients of TIMESEQ are significantly negative for FFO manipulation. It means that manipulation of FFO is decreasing over time. This is consistent with Hypothesis 6 and relevant findings in the additional discussion section.

Under more scrutiny and stricter regulation, manipulation in REIT industry is as a whole declining. This is consistent with the fact that corporate governance and regulatory environment in the REIT industry have been strengthened over time. As NAREIT publishes more White Papers about how to calculate FFO, the definition becomes clearer and there is less flexibility in FFO calculation up to managerial discretion. Meanwhile, accounting flexibility in earnings management remains largely the same and no clear change in the trend is found. Hypothesis 6 is supported.

Fig 4. 18 Earnings management in four quarters



Source: Author, 2008

Earnings management is negatively related to audit quality but no such relation has been found between audit quality and FFO manipulation. That means, for REITs hiring external auditors of higher quality, there is less earnings management. Meanwhile, coefficients of Q4 are significantly negative for both earnings management (DWA) and FFO manipulation (DIFA and DIFMV), indicating that manipulation is less in the fourth quarter than in the other three quarters. Both these two findings support the argument that weak monitoring increases financial manipulation.

4.3.4 Test Summary: Specific Event

Here is a summary of findings in testing earnings management around SEOs using the multivariate method. Most hypotheses are supported in the test.

Evidence is found that both earnings and FFO are manipulated around SEOs. REITs with more frequent SEOs tend to have more manipulation of FFO and less earnings management. As SEO frequency increases, the focus of manipulation is shifted from earnings to FFO.

Additionally, financial results manipulation is influenced by several other factors. It is found that financially constrained REITs are more likely to manipulate financial performance. Higher external auditor quality and institutional holdings help to reduce earnings management. In a word, frequent equity offering, financial constraints and weak governance and supervision are the features of REITs more likely to manipulation financial results.

Moreover, manipulation of financial results is generally declining over the

sample period of 2001-2006 which indicates that regulation and monitoring in the REIT industry is getting strengthened over time.

4.4 Testing Benchmark

As a supplement to the analysis about the specific event, benchmark related earnings management is discussed in this section. Two benchmarks are discussed: avoiding losses (Hypothesis 7) and avoiding declines (Hypothesis 8). Considering the dual performance measures in the REIT industry, each benchmark is discussed separately in terms of net income and FFO. As a result, there are four scenarios: level of earnings (NI), level of FFO (FFO), changes in earnings (ΔNI) and changes in FFO (ΔFFO).The sample period covered in this analysis is 2000Q1 through 2006Q4. All financial data are from Compustat database[18].

Following Burgstahler and Dichev (1997) and Dechow et al. (2003), net income and reported FFO are scaled with market value at the end of the quarter (hereafter NI and FFO respectively). Changes in NI/FFO are defined as changes from the same quarter last year. The results are categorized into groups defined by band width. Each group has a width of 0.005[19]. For instance, when analyzing the distribution of NI, Group 0 contains all firm-quarters where $0 \le NI < 0.005$, Group 1 includes all firm-quarters where $0.005 \le NI < 0.010$ and so on. Similar criteria apply to the other three scenarios.

Three methods are utilized to test earnings management around benchmarks. First, the distribution of different groups in the four scenarios is examined. Second, mean comparison method is used to investigate whether there is significant difference

[18] This section focuses on testing the benchmark issue and is separate from previous sections. Information about equity offerings discussed before is not relevant and hence not considered here. Only financial results are used.
[19] Follow the method used by Burgstahler and Dichev (1997) and Dechow et al. (2003).

in firm characteristics among groups around the benchmarks. Third, quartile plots are used to directly examine changes in earnings management measures.

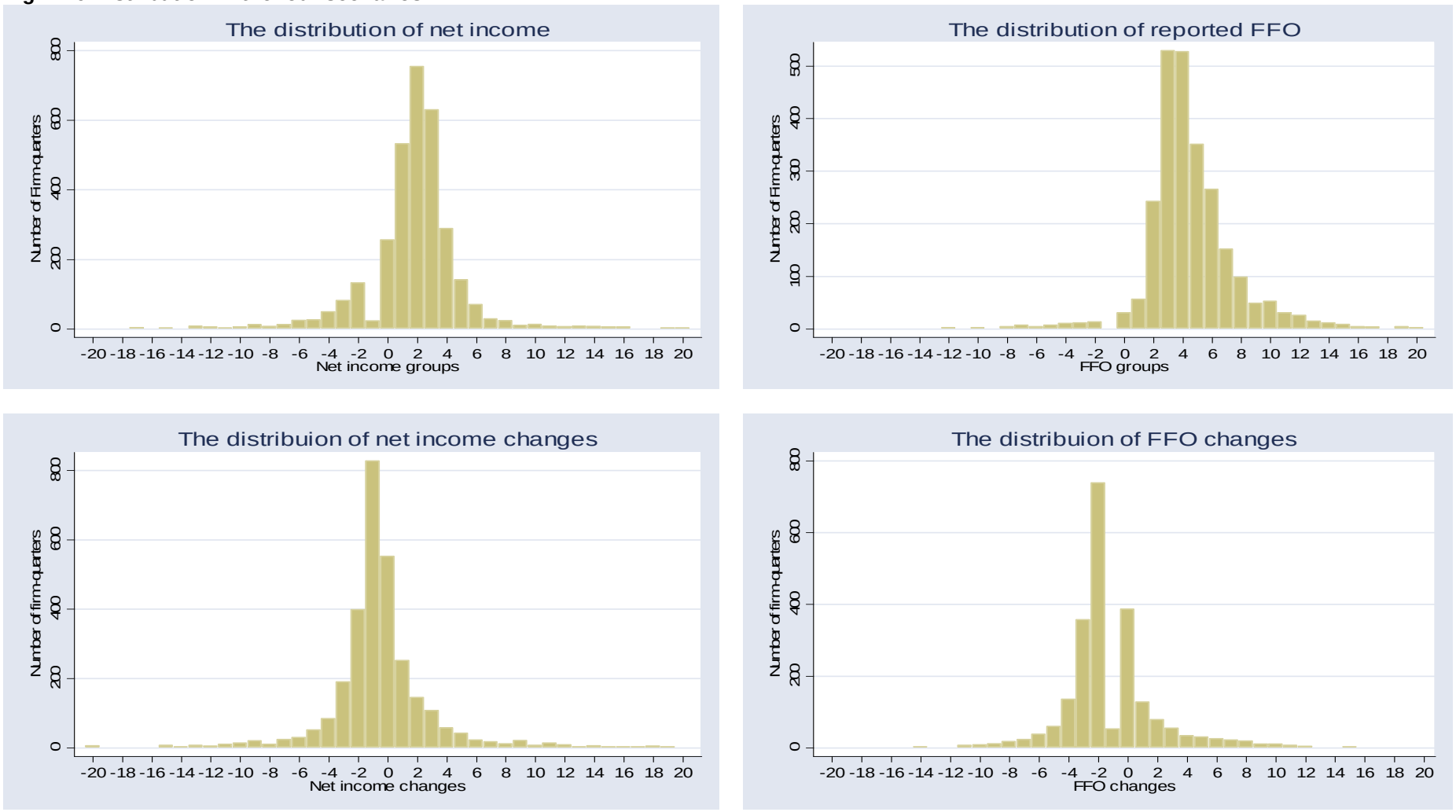
4.4.1 Distribution Method

The distributions of NI, FFO, ΔNI and ΔFFO are shown in Fig 4. 19. The two long tails are truncated because the focus is on groups around benchmarks. Kinks in the distribution of NI and FFO are obvious. In the upper two graphs, frequency of Group -1 is extremely lower compared with Group 0-2. This means REITs reporting small losses are unusually rare and REITs reporting small profits are unusually common. The same pattern can be found in the distribution of FFO. There are relatively fewer REITs reporting small negative FFO and far more REITs reporting small positive FFO. This finding is consistent with Hypothesis 7. However, no clear evidence of kinks is found in the distributions of ΔNI and ΔFFO .

4.4.2 Mean Comparison Method

As mentioned, there are four scenarios each with a benchmark to meet. In each scenario, the four groups closely around benchmarks are selected, that is, Group -2, -1, 0, and 1. Manipulation measures such as DTA, DWA, DIFA, DIFMV and firm characteristics such as leverage ratio (LEV), market to book ratio (M/B), firm size (SIZE) and operating cash flow over total assets (CFO) are compared among the four groups. In each scenario, the four groups can be divided into two types: close benchmark beaters and close losers (hereafter beaters and losers). Namely, beaters are Group 0 and Group 1, while losers stand for Group -2 and Group -1.

Fig 4. 19 Distribution in the four scenarios



Source: Author, 2007

4.4.2.1 Net Income (NI) Comparison

As shown in Table 4. 15, in comparison with all other REITs, DTA and DWA of beaters are not significantly higher even at 10% level. This finding is consistent with previous findings that earnings management in REITs is less obvious.

However, differences in leverage, M/B ratio, firm size and cash flow are statistically significant in most comparisons. Compared with other REITs, beaters tend to have higher leverage, higher M/B, larger size and poor cash flow generating ability. In contrast, losers are more likely to be smaller REITs with higher leverage and constrained ability to generate cash flows.

These findings about the relations between earnings management and firm characteristics are consistent with the findings of earnings management around SEOs discussed in previous sections. REITs with high gearing and poor ability to generate cash flow tend to manipulate their reported financial performance. Additionally, Watts and Zimmerman's (1986) indication that large firms are more likely to manage earnings is supported. Large firms are more reluctant to report losses and hence have stronger incentives to boost earnings.

4.4.2.2 FFO Comparison

In the second scenario with zero FFO as the benchmark, similar comparisons are conducted to detect any difference in firm characteristics among the four selected groups. The results are given in Table 4. 16. Different from the first scenario of NI, differences in FFO manipulation among various groups are strongly significant in both Panel B and C. Losers have lower DIF than other REITs. For REITs reporting small positive FFO, FFO manipulation measured by DIF is much larger than losers.

This is also consistent with the findings in testing Hypothesis 1. Manipulation of FFO is more observable and significant. In Panel A, beaters have higher DIF although the result is only significantly at a 15% level. A Signrank test is tried in addition to mean comparison (t-test), but the significance of the results is not improved.

Moreover, differences in leverage, M/B ratio, size and the ability to generate cash flow are not as clear as those found in the first scenario of NI. Compared with others, both beaters and losers have smaller size, while there is no significant difference in firm size between these two groups. When the two groups are compared, beaters tend to have lower cash flow-generating ability. In sum, small size REITs with constrained cash flow is more likely to manipulate FFO.

4.4.2.3 Change in NI (ΔNI) Comparison

Similar comparison in firm characteristics among different groups is conducted in the third scenario where zero change in NI is the benchmark. The results are demonstrated in Table 4. 17. As shown in Panel A, DTA of beaters is significantly higher than other REITs, while the difference in DWA and DIF is not significant. The mean DTA and DWA of losers are both lower, but the results are only significant at a 15% level. In Panel C, two groups are compared directly. Compared with losers, beaters have higher DTA, DWA but lower DIF. It means that both beaters and losers have manipulated their GAAP earnings trying to surpass the benchmark. REITs which slightly beat the benchmark in ΔNI are more aggressive in manipulation.

The relation between earnings management and specific firm characteristics is different from previous two scenarios. Compared with other REITs, beaters and loser both have higher M/B ratio, larger firm size and higher cash flow. When these two groups are compared, beaters have higher leverage and lower M/B ratio, smaller size

and low cash flow. This means that both beaters and losers exercise earnings management. However, only part of them can successfully surpass the benchmark and finally become benchmark beaters. Compared with losers, beaters tend to have smaller size and lower ability to generate cash flow.

4.4.2.4 Change in FFO (ΔFFO) Comparison

The final comparison is for groups with different changes in FFO. The comparison results are listed in Table 4. 18. As shown in Panel A, beaters have higher DIF than the other REITs. In contrast, no significant difference in DIF is found between losers and the other REITs. When the beaters and losers are compared, Beaters' DIF is significantly higher than that of losers. Again, the relation between these firm characteristics and earnings management practices are different from those in discussing the first two benchmarks of zero NI or FFO. In this scenario, both beaters and losers have the same characteristics such as large firm size and better cash flow ratio. Comparison between beaters and losers directly reveals that close beaters tend to have higher leverage, smaller size and lower cash flow ratio.

To sum up the mean comparison method, both Hypothesis 7 and 8 are supported. Results show that financial results (earnings and FFO) are manipulated in order to beat certain benchmarks (zero NI, zero FFO, zero growth in NI and zero growth in FFO). Meanwhile, analysis of the relation between financial results manipulation and firm characteristics provides additional evidence in support of Hypothesis 3. High leverage and diminished capability to generate cash flow are the common features of earnings manipulators. Financially constrained REITs are more likely to exert managerial discretion and manage financial results.

Table 4. 15 Comparison of firm characteristics: NI

Panel A: Comparison between small profit REITs and all others

	Beaters		All Others			
	Mean	Number	Mean	Number	t-test	p-value
DTA	-0.0021538	603	-0.0011642	1845	-0.8668	0.1931
DWA	0.0010181	569	-0.0000494	1833	1.1068	0.1343
DIFMV	0.0009966	516	-0.0002293	1231	1.1873	0.1176
DIFA	0.0005553	516	0.0000538	1250	1.4709	0.0707
Leverage	0.648152	786	0.6046062	2512	5.717	0.0000
M/B ratio	1.310859	786	1.167392	2397	8.1912	0.0000
Size	7.314828	786	6.987388	2512	5.6404	0.0000
Cash flow	0.0142907	785	0.0158435	2445	-3.5858	0.0002

Panel B: Comparison between small loss REITs and all others

	Losers		All Others			
	Mean	Number	Mean	Number	t-test	p-value
DTA	-0.0034234	116	-0.0013077	2332	-0.9137	0.1805
DWA	0.000177	113	0.0002048	2289	-0.0143	0.4943
DIFMV	0.001613	78	0.0000636	1669	0.6792	0.2486
DIFA	0.0005714	78	0.0001832	1688	0.5141	0.3036
Leverage	0.6536065	153	0.6131054	3145	2.6148	0.0045
M/B ratio	1.16288	153	1.204836	3030	-1.1762	0.1198
Size	6.666073	153	7.084853	3145	-3.5509	0.0002
Cash flow	0.0106369	151	0.015703	3079	-5.7759	0.0000

Panel C: Comparison between small profit REITs and small loss REITs

	Beaters		Losers			
	Mean	Number	Mean	Number	t-test	p-value
DTA	-0.0021538	603	-0.0034234	116	0.9508	0.1710
DWA	0.0010181	569	0.000177	113	0.3562	0.3609
DIFMV	0.0009966	516	0.001613	78	-0.6239	0.2665
DIFA	0.0005553	516	0.0005714	78	-0.03	0.4880
Leverage	0.648152	786	0.6536065	153	-0.3993	0.3449
M/B ratio	1.310859	786	1.16288	153	2.7031	0.0035
Size	7.314828	786	6.666073	153	5.8825	0.0000
Cash flow	0.0142907	785	0.0106369	151	4.8037	0.0000

Test statistic is based on mean comparison across samples (t-test) with p-values reported.

DTA stands for discretionary total accruals calculated using the cross-sectional modified Jones model. DWA means discretionary working capital accruals obtained using the Teoh's Model.
DIFMV stands for DIF scaled by market value.
DIFA stands for DIF scaled by total assets.

Leverage ratio equals total liability over total assets.
Size equals ln(total assets)
Cash flow is calculated using cash flow from operation over total assets.

Source: Author, 2007

Table 4. 16 Comparison of firm characteristics: FFO

Panel A: Comparison between REITs with small positive FFO and all others

	Beaters		All Others			
	Mean	Number	Mean	Number	t-test	p-value
DTA	-0.005089	67	-0.0013044	2381	-1.2554	0.1047
DWA	0.0027518	66	0.0001315	2336	1.0445	0.1482
DIFMV	0.0027454	61	0.0000382	1686	1.0549	0.1458
DIFA	0.0000126	61	0.0002071	1705	0.2289	0.4095
Leverage	0.5561138	87	0.6165794	3211	-2.9753	0.0015
M/B ratio	1.247616	87	1.20156	3096	0.9841	0.1626
Size	6.841944	87	7.07148	3211	-0.4806	0.0694
Cash flow	0.0073628	87	0.0156904	3143	-7.3037	0.0000

Panel B: Comparison between REITs with small negative FFO and all others

	Losers		All Others			
	Mean	Number	Mean	Number	t-test	p-value
DTA	-0.002161	12	-0.0014043	2436	-0.1074	0.4572
DWA	-0.0031708	12	0.0002204	2390	-0.583	0.2800
DIFMV	-0.009849	14	0.0002134	1733	-1.9058	0.0284
DIFA	-0.0093161	14	0.0002764	1752	-5.5303	0.0000
Leverage	0.6199667	15	0.6149615	3283	0.1033	0.4589
M/B ratio	1.22691	15	1.202705	3168	0.2172	0.4140
Size	6.583369	15	7.067628	3283	-1.3114	0.0949
Cash flow	0.014744	15	0.0154695	3215	-0.265	0.3955

Panel C: Comparison between REITs with small positive and negative FFO

	Beaters		Losers			
	Mean	Number	Mean	Number	t-test	p-value
DTA	-0.005089	67	-0.002161	12	-0.37	0.3562
DWA	0.0027518	66	-0.0031708	12	0.9782	0.1655
DIFMV	0.0027454	61	-0.009849	14	1.7556	0.0417
DIFA	0.0000126	61	-0.0093161	14	2.619	0.0054
Leverage	0.5561138	87	0.6199667	15	-0.9955	0.1609
M/B ratio	1.247616	87	1.22691	15	0.2283	0.4100
Size	6.841944	87	6.583369	15	0.7728	0.2207
Cash flow	0.0073628	87	0.014744	15	-1.4003	0.0823

Test statistic is based on mean comparison across samples (t-test) with p-values reported.

DTA stands for discretionary total accruals calculated using the cross-sectional modified Jones model. DWA means discretionary working capital accruals obtained using the Teoh's Model.
DIFMV stands for DIF scaled by market value.
DIFA stands for DIF scaled by total assets.

Leverage ratio equals total liability over total assets.
Size equals ln(total assets)
Cash flow is calculated using cash flow from operation over total assets.

Source: Author, 2007

Table 4. 17 Comparison of firm characteristics: changes in NI

Panel A: Comparison between REITs with small NI increases and all others						
	Beaters		All Others			
	Mean	Number	Mean	Number	t-test	p-value
DTA	0.0004489	608	-0.0020216	1840	2.1716	0.0150
DWA	0.0001361	598	0.0002258	1804	-0.0946	0.4623
DIFMV	0.0007955	466	-0.0001084	1281	0.8485	0.1981
DIFA	0.0002428	466	0.0001851	1300	0.1638	0.4349
Leverage	0.6113011	784	0.6161329	2514	-0.6307	0.2641
M/B ratio	1.230769	784	1.193685	2399	2.0950	0.0181
Size	7.208392	784	7.020841	2514	3.2175	0.0007
Cash flow	0.0160878	783	0.0152672	2447	1.8906	0.0294
Panel B: Comparison between REITs with small NI decreases and all others						
	Losers		All Others			
	Mean	Number	Mean	Number	t-test	p-value
DTA	-0.0019828	943	-0.0010478	1505	-0.9250	0.1775
DWA	-0.0003688	932	0.0005663	1470	-1.1111	0.1333
DIFMV	0.0011592	734	-0.000611	1013	1.8561	0.0318
DIFA	0.0006012	734	-0.0000848	1032	2.1820	0.0146
Leverage	0.5984744	1219	0.6246647	2079	-3.8853	0.0001
M/B ratio	1.255811	1219	1.169928	1964	5.4960	0.0000
Size	7.318879	1219	6.916815	2079	7.8823	0.0000
Cash flow	0.0169219	1219	0.0145837	2011	6.1251	0.0000
Panel C: Comparison between REITs with small NI increases and decreases						
	Beaters		Losers			
	Mean	Number	Mean	Number	t-test	p-value
DTA	0.0004489	608	-0.0019828	943	3.7612	0.0001
DWA	0.0001361	598	-0.0003688	932	1.2932	0.0981
DIFMV	0.0007955	466	0.0011592	734	-0.7014	0.2416
DIFA	0.0002428	466	0.0006012	734	-1.5017	0.0667
Leverage	0.6113011	784	0.5984744	1219	1.6397	0.0506
M/B ratio	1.230769	784	1.255811	1219	-1.8010	0.0359
Size	7.208392	784	7.318879	1219	-1.8164	0.0347
Cash flow	0.0160878	783	0.0169219	1219	-2.1545	0.0157

Test statistic is based on mean comparison across samples (t-test) with p-values reported.

DTA stands for discretionary total accruals calculated using the cross-sectional modified Jones model. DWA means discretionary working capital accruals obtained using the Teoh's Model.
DIFMV stands for DIF scaled by market value.
DIFA stands for DIF scaled by total assets.

Leverage ratio equals total liability over total assets.
Size equals ln(total assets)
Cash flow is calculated using cash flow from operation over total assets.

Source: Author, 2007

Table 4. 18 Comparison of firm characteristics: changes in FFO

Panel A: Comparison between REITs with small FFO increases and all others						
	Beaters		All Others			
	Mean	Number	Mean	Number	t-test	p-value
DTA	-0.0012505	405	-0.0014392	2043	0.1425	0.4433
DWA	-0.0004596	389	0.0003316	2013	-0.7107	0.2387
DIFMV	0.0017249	391	-0.0003264	1356	1.8160	0.0348
DIFA	0.0006522	391	0.0000719	1375	1.5540	0.0602
Leverage	0.6383613	510	0.610708	2788	3.0701	0.0011
M/B ratio	1.205752	510	1.202259	2673	-0.1679	0.4334
Size	7.285257	510	7.025212	2788	3.7914	0.0001
Cash flow	0.0160211	509	0.0153623	2721	1.2901	0.0986
Panel B: Comparison between REITs with small FFO decreases and all others						
	Losers		All Others			
	Mean	Number	Mean	Number	t-test	p-value
DTA	-0.0002807	604	-0.0017772	1844	1.3117	0.0949
DWA	-0.0000807	583	0.0002946	1819	-0.3923	0.3474
DIFMV	0.0005138	628	-0.0000811	1119	0.6058	0.2723
DIFA	0.0003001	628	0.0001453	1138	0.4776	0.3165
Leverage	0.607491	790	0.6173446	2508	-1.2899	0.0986
M/B ratio	1.303494	790	1.169583	2393	7.6485	0.0000
Size	7.448974	790	6.944611	2508	8.7618	0.0000
Cash flow	0.0171844	790	0.0149098	2440	5.2759	0.0000
Panel C: Comparison between REITs with small FFO increases and decreases						
	Beaters		Losers			
	Mean	Number	Mean	Number	t-test	p-value
DTA	-0.0012505	405	-0.0002807	604	-0.9182	0.1794
DWA	-0.0004596	389	-0.0000807	583	-0.7783	0.2183
DIFMV	0.0017249	391	0.0005138	628	2.3046	0.0107
DIFA	0.0006522	391	0.0003001	628	1.3532	0.0881
Leverage	0.6383613	510	0.607491	790	3.5325	0.0002
M/B ratio	1.205752	510	1.303494	790	-5.7139	0.0000
Size	7.285257	510	7.448974	790	-2.6269	0.0044
Cash flow	0.0160211	509	0.0171844	790	-2.2376	0.0127

Test statistic is based on mean comparison across samples (t-test) with p-values reported.

DTA stands for discretionary total accruals calculated using the cross-sectional modified Jones model. DWA means discretionary working capital accruals obtained using the Teoh's Model.
DIFMV stands for DIF scaled by market value.
DIFA stands for DIF scaled by total assets.

Leverage ratio equals total liability over total assets.
Size equals ln(total assets)
Cash flow is calculated using cash flow from operation over total assets.

Source: Author, 2007

4.4.3 Quartile Plots Method

Next, an alternative method is used to examine these differences even if they are not statistically significant. DTA/DWA and DIF across different groups are plotted to display if the increase in manipulation around benchmarks is unusual and different from other groups. Three quartiles are calculated for each group and plotted in the graphs. The Median line in the middle is used to capture the general trend in the level of earnings management. The Lower quartile line and Upper quartile line as well as the distance between them indicate how manipulation choices vary within certain group.

4.4.3.1 Benchmark 1: Level of NI/FFO

Distribution of DTA, DWA and DIF across different groups is shown in Fig 4. 20. In all the four graphs, a clear increase can be found between Group -1 and 0. Additionally, the distribution of DTA has a reversed U-shape in the middle part and there is a clear up trend starting from Group -2. According to the middle part of the graph, as the reported level of NI increases, earnings management indicated by DTA is on the rise. These findings all indicate that the kinks shown in Fig 4. 19 are related to accruals management. Beaters are associated with more earnings management.

The lower two graphs in Fig 4. 20 illustrate how DIF distribute across different FFO groups. In contrast with the upper two graphs, DIF is relatively stable in the middle but volatile at both ends. However, an increase in DIF, although not very obvious, still can be found between Group -2 and 0, which provides evidence that manipulation of FFO exists, consistent with the findings in previous sections. Beaters of FFO tend to have higher DIF than losers.

4.4.3.2 Benchmark 2: Changes in NI/FFO

Additionally, the distribution of DTA, DWA and DIF across groups with different changes in NI/FFO is examined. Results are shown in Fig 4. 21. Similar to the findings of last section, an increasing trend can be found in the upper two graphs. DTA and DWA increase between Group -4 and Group 0. It means that the kinks found before can be partly explained by earnings management. The lower two graphs display how DIF changes across groups with different changes in FFO. The middle part is very flat and no clear change in trend can be found. One possible reason is that a window of 21 groups (Group -10 to Group 10) is selected to display a relatively long-term trend. If the window is shortened, changes in DIF would become more obvious. This problem will be addressed next.

4.4.3.3 Four Manipulation Measures Together

To highlight the changes in earnings management across different groups, the selected window is shortened to 9 groups, namely, from Group -4 to Group 4. All the four measures of manipulation (DTA/DWA and DIFA/DIFMV) are displayed in the same graph. This would help to illustrate how managers make choices about financial results manipulation. Results are shown in Fig 4. 22. The four scenarios discussed before are all demonstrated in this graph.

When Net Income (NI) or changes in NI is considered, attention is paid to manipulation of GAAP earnings measured by discretionary total accruals (DTA) and discretionary working capital accruals (DWA). As shown in the left two graphs, there is an increase between Group -1 and 1 in the upper graph and an increase between Group -4 and Group 0 in the lower one. Additionally, a clear increasing trend is found in DTA but not for DWA. In these two graphs, changes in DIF are less clear,

especially in the first graph. It may suggest that when managers try to avoid a loss or a decline in GAAP earnings, FFO is nearly not relevant.

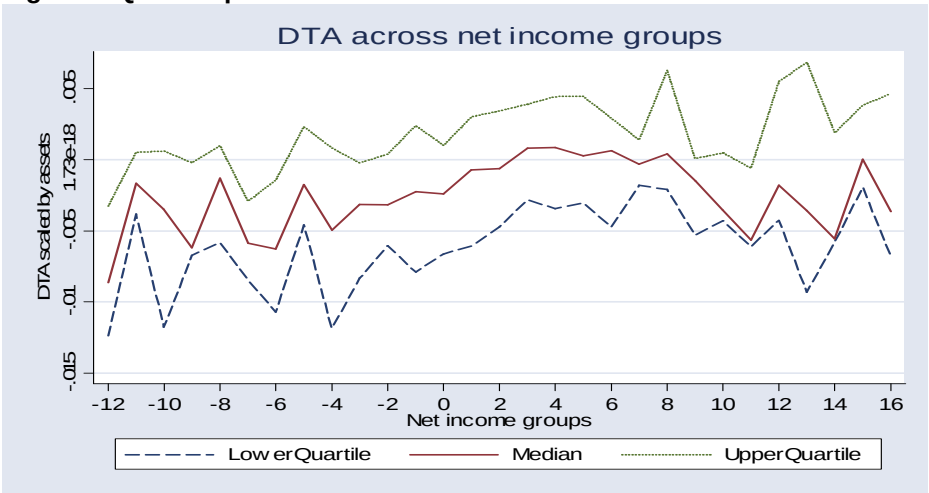
The two graphs on the right show the situation when managers need to boost FFO in order to avoid a negative FFO or a decline in FFO on a seasonal basis. Therefore the difference in calculating FFO (DIF) should be the focus. A clear up trend in DIF in found between Group -2 and 0 in both graphs, indicating REITs manipulate FFO aggressively through DIF in order to avoid reporting a negative FFO or a decline in FFO. Analysis of these four graphs provides evidence that earnings/FFO are manipulated around the benchmarks. A notable fact is that DTA and DIF run in opposite directions at most times. One possible explanation is that the accounting adjustment at managerial discretion is limited. In some cases, managers may have to make a choice between the two goals.

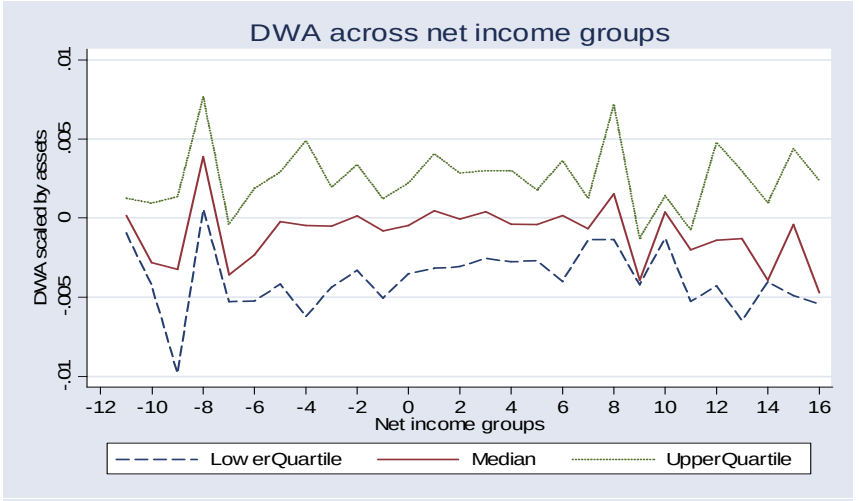
4.4.4 Test Summary: Benchmark

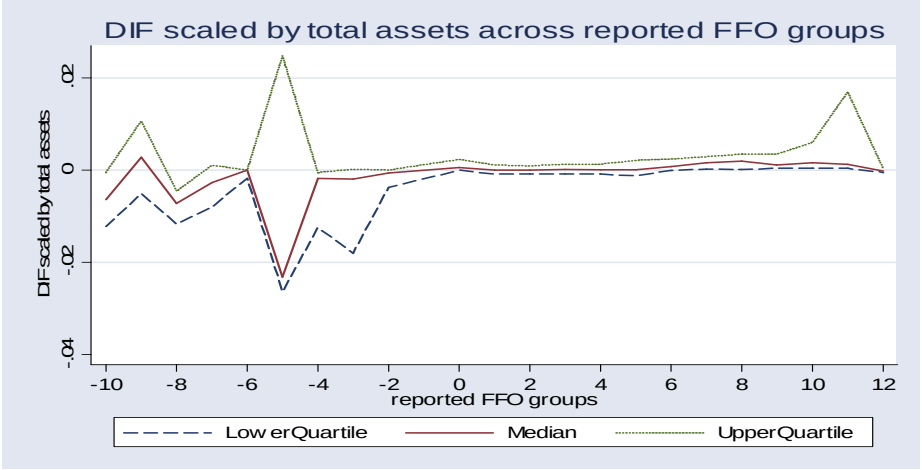
In testing earnings management around benchmarks, three methods are used. The distribution method and quartile plots method are more graphic, the mean comparison method is employed to provide more statistical explanations.

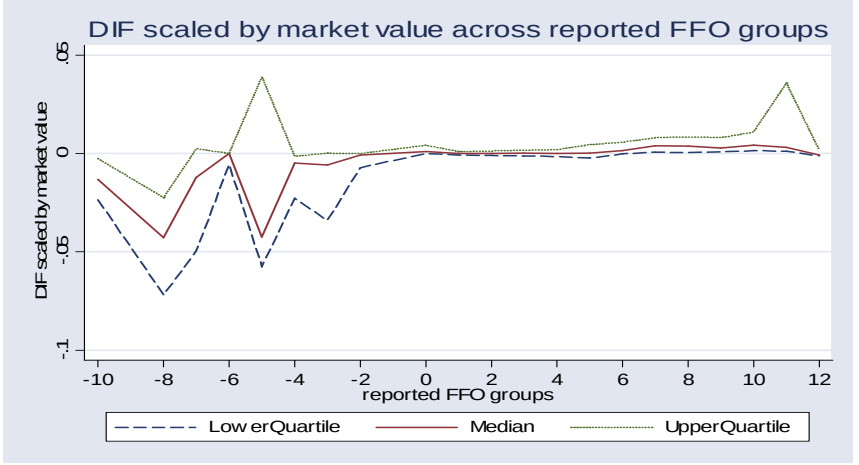
Results show that earnings and FFO are manipulated in order to beat certain benchmarks in performance. Both Hypothesis 7 and 8 are supported. Meanwhile, analysis of the relation between manipulation and firm characteristics provides additional evidence in support of Hypothesis 3. Financially constrained REITs are more likely to exert managerial discretion and manage financial results. These findings are consistent with those in testing the specific event direction.

Fig 4. 20 Quartile plots for level values of NI and FFO



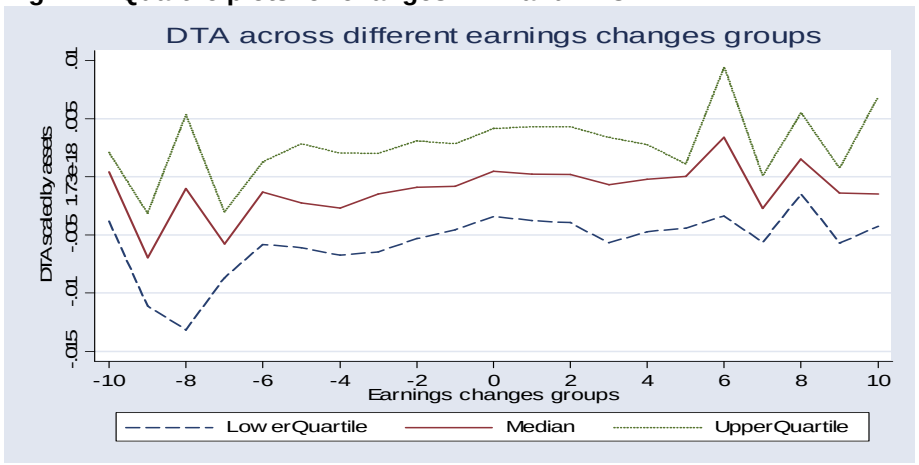


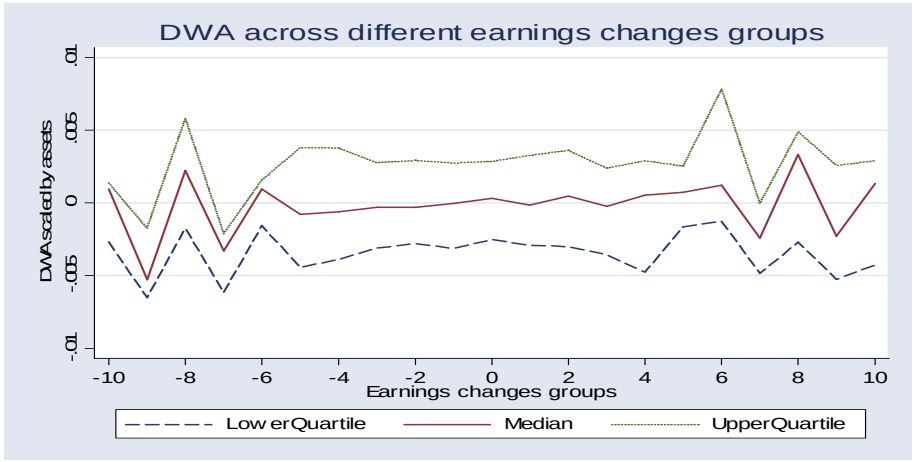


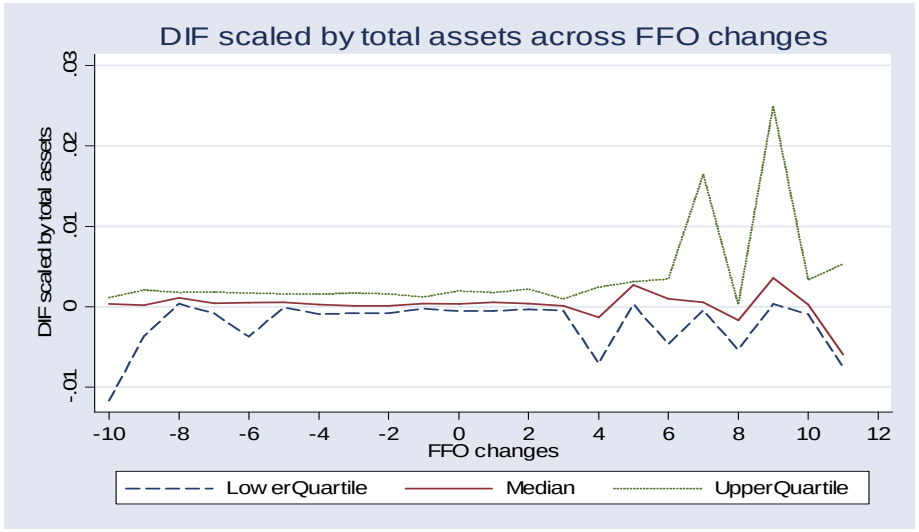


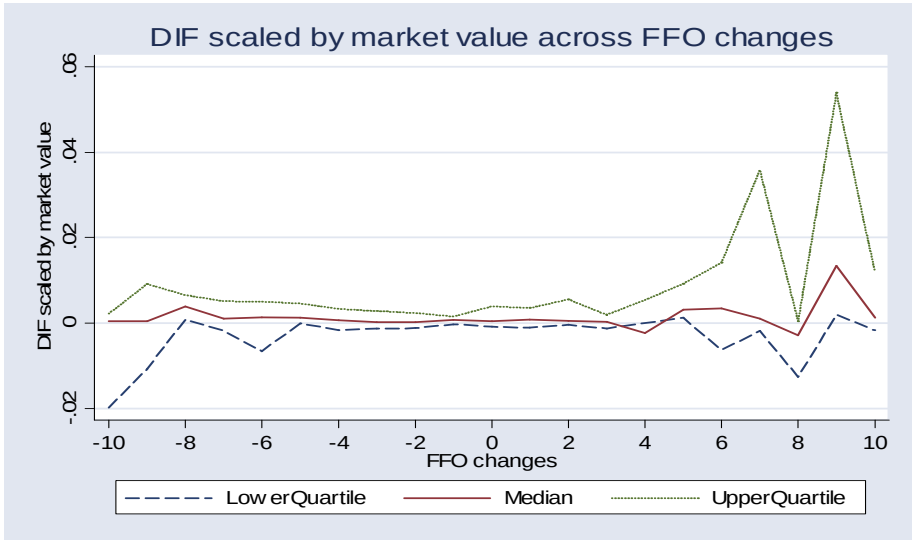
Source: Author, 2007

Fig 4. 21 Quartile plots for changes in NI and FFO



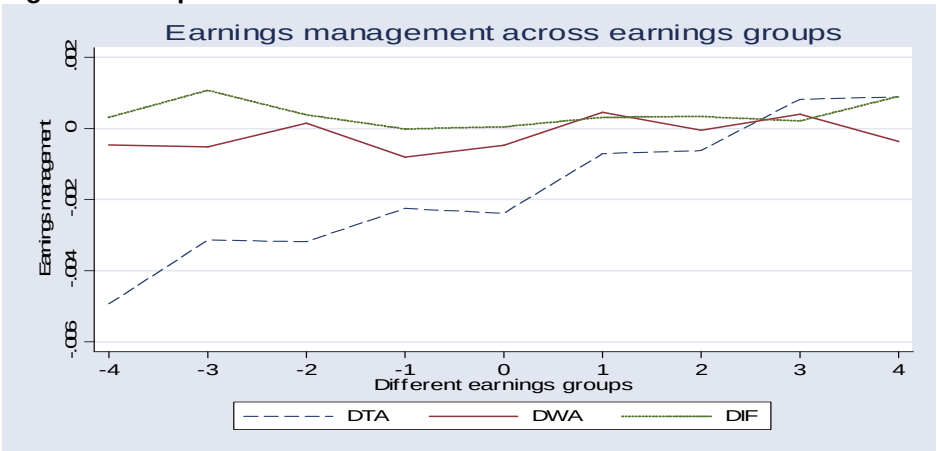


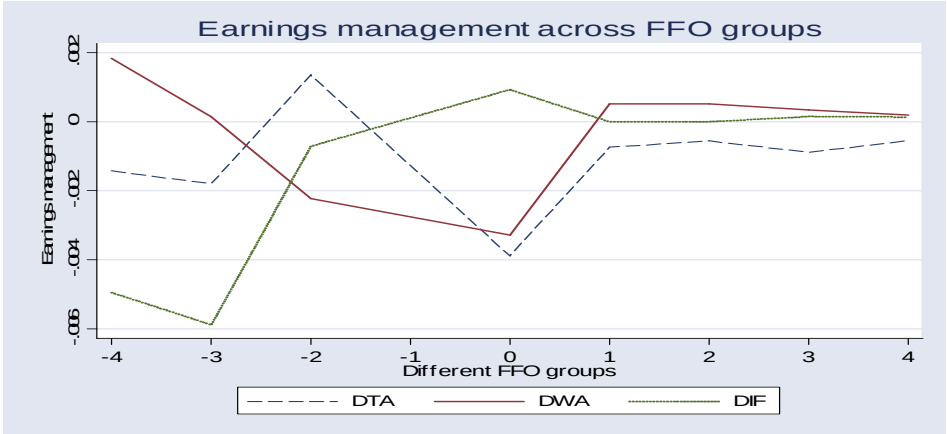


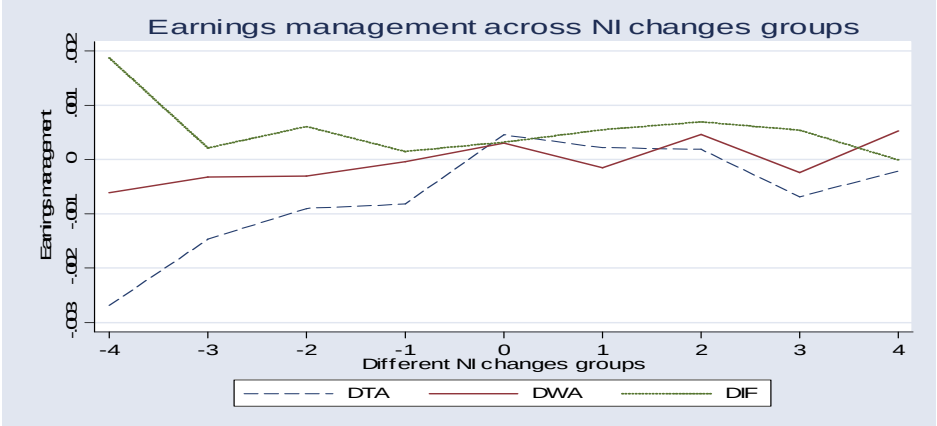


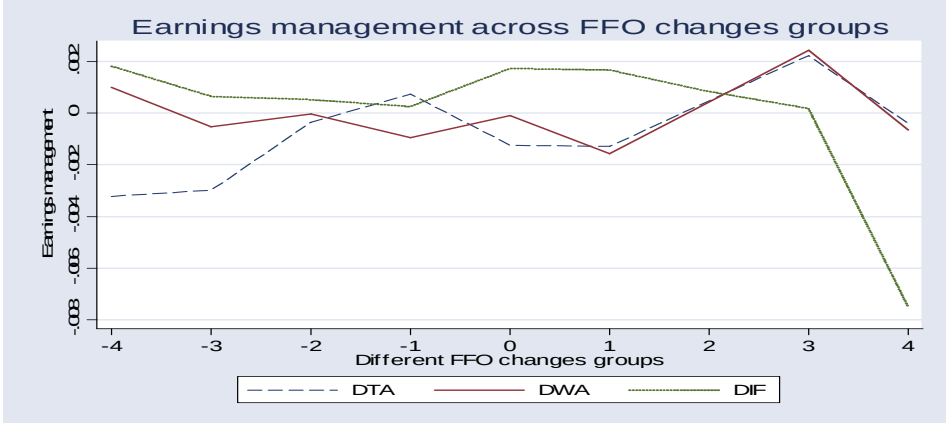
Source: Author, 2007

Fig 4. 22 Manipulation in the four scenarios









Source: Author, 2007

4.5 Chapter Summary

Chapter 4 presents the results of empirical analysis and demonstrates how to detect both Specific Event-driven and Benchmark-driven earnings management.

In testing manipulation around specific events (SEOs), both univariate and multivariate analysis indicate that REITs do manipulate their financial results around SEOs, although the earnings management is less obvious than that of general stocks. REITs with more frequent SEOs tend to have more manipulation of FFO and less earnings management. For REITs with higher SEO frequency, the focus of manipulation shifts from earnings to FFO. Additionally, it is found that financially constrained REITs are more likely to manipulate financial performance. Frequent equity offering, financial constraints and weak governance and supervision are the features of REITs more likely to manipulation financial results. Moreover, manipulation of financial results is generally declining over the sample period of 2001-2006 which indicates that regulation and monitoring in the REIT industry is strengthening over time.

In testing financial results manipulation around benchmarks, results show that earnings and FFO are manipulated in order to beat certain performance benchmarks. Meanwhile, financially constrained REITs are more likely to exert managerial discretion and manage financial results. These findings are consistent with those in testing the specific event-driven earnings management.

Chapter 5 Conclusion

5.1 Review of Research Objectives

The two questions raised in the introduction are addressed in the analysis. To answer the first question of whether there is earnings management in the REIT industry, both specific event and benchmark related incentives are examined. To answer the second question about how earnings management is influenced by various factors, firm characteristics and corporate governance-related features are discussed. This study mainly focuses on testing earnings management around specific events and SEOs are selected as the specific event to examine. Testing earnings manipulation around benchmarks can be seen as a supplement to the discussion about earnings management around SEOs, whose results are used to cross-check with each other.

The two questions mentioned above are addressed in testing earnings management around SEOs (the specific event). For the first question, it is found that REITs do manage their earnings, but the earnings management behavior is different from other general stocks. This is partly determined by the unique characteristics of the REIT industry. They have two performance measures both closely monitored by market participants: Net income (earnings) and FFO. Net income is calculated within GAAP framework. In contrast, FFO is just an industry-specific standard that REITs have no legal obligation to follow. Evidence is found that REITs manage their earnings through discretionary accruals around SEOs although the significance of statistical tests is not very strong. In contrast, manipulation of FFO is more obvious and statistically significant.

For the second question, this study tries to find out which factors affect REITs'

earnings management practices around SEOs. The ability to generate cash flow, the stability of cash flow, the frequency to issue equity and corporate governance settings all influence earnings management. Limited capability to generate cash flow, high volatility in cash flow, frequent SEOs and slack governance and monitoring are the features of REITs which are more likely to manipulate earnings.

5.2 Key Findings and Conclusions

An association is found between financial results manipulation and the SEO frequency of REITs. This is related to another characteristic of the REIT industry. Because of its special payout requirement, REITs need to heavily depend on external capital to finance their investments and expansions. Frequent issuers tend to have more manipulation of FFO. The more frequently REITs go to capital market and issue seasoned equity, the more aggressive they are in manipulating FFO and the less so in manipulating earnings.

There are notable differences between these two types of manipulation. There is a mean-reversion trend in discretionary working capital accruals, but not for FFO manipulation. It means earnings management can not last for a long period, but manipulation of FFO has no such limitation. This can partly explain why the focus of manipulation shifts from earnings to FFO for REITs with higher SEO frequency.

In sum, financial results manipulation in the REIT industry is influenced by various factors. Constrained capability to generate cash flow, high leverage, volatile cash flow, frequent SEOs, slack monitoring and weak corporate governance are the features of REITs which are more likely to manipulate financial results.

In exploring the relation between earnings management and performance

benchmarks, four scenarios are examined. In each scenario, there is a benchmark or threshold for REITs to surpass: NI, FFO, ΔNI and ΔFFO. Evidence is found that REITs manage their earnings/FFO to avoid reporting losses or declines in earnings/FFO. High leverage and low cash flow generating ability are basically associated with earnings management in all the four scenarios. It is consistent with the findings in discussing earnings management around SEOs.

Taken together, results of testing the two cases both support the hypothesis that there is financial results manipulation in the REIT industry and this is influenced by various factors. Limited capability to generate cash flow, high leverage, high volatility in cash flow, frequent SEOs, slack monitoring and weak corporate governance are the features of REITs which are more likely to manipulate financial results.

5.3 Contributions and Limitations

This study is, to my best knowledge, the first to comprehensively examine potential financial results manipulation in the REIT industry. This is the most important academic contribution of this study. By testing two different types of incentives, this study finds clear evidence that REIT managers exert their discretion and manipulate financial performance, although the REIT industry has long been regarded as more strictly regulated with higher transparency.

Results in this study indicate that manipulation in this industry is generally decreasing as a result of stricter regulation and more monitoring from both inside and outside. By highlighting the importance of corporate governance and financial market regulation, this study makes some contributions to regulatory authorities. Additionally, this study provides some features of those REITs that are more likely to manipulate

results, which may help REIT investors to be more cautious and informed when making their investment decisions. Therefore, this study has considerable implications to both regulators and investors. Moreover, NAREIT should cooperate with SEC and continue to promote FFO as a uniform and standard REIT performance gauge. However, the definition of FFO itself is not complete and perfect. For instance, the maintenance expenditures required to keep buildings in good working condition such as light fixtures, flooring repairs, paint, and general repairs is not considered. It is important to adjust for these expenditures. Other measures such as AFFO, CAD and FAD also need best practice guidance.

There are also some limitations in this study. The difference between actual FFO and expected FFO is used as a proxy for manipulation of FFO. This best guess is a practical choice because many REITs do not release all the details of FFO calculation in their financial statements. However, it might cause some potential bias. In addition to the three benchmarks discussed above, there is another benchmark which is unique to the REIT industry, that is, managers may manipulate results to maintain their REIT status. But this unique benchmark is not examined in this study and should be a good direction for future research.

The aim of earnings management is to influence stock prices. Whether earnings management matters in the REIT industry depends on whether managers can effectively influence share prices. Kim and Park (2005) examine the relation between earnings management by SEO firms and the pricing of the SEOs. They find that equity issuers boost earnings before offerings and push offer prices up to increase offering proceeds. This finding can also be tested in the context of REITs, which is a desirable direction for future studies on this topic.

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