CEO Bonus:
Alternative Performance Measurement versus Gamesmanship

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Abstract

Although CEO bonus plans traditionally use net income as the standard performance measure, there is an increasing trend that CEOs influence directors to adopt alternative non-GAAP performance metrics in setting bonuses. In this study, we analyze the managerial and economic consequences of this alternative bonus contract design in the Real Estate Investment Trusts (REITS) industry. REITs provide a unique setting since most firms have been using FFO, an industry-specific non-GAAP performance measure, rather than net income, to determine CEO bonuses. Essentially, FFO consists of two components: net income, which is a GAAP measure, and a non-GAAP component that includes adjustments from net income made by firms. We examine to what extent CEO bonus arises as the result of manipulating these components. We also examine whether voluntary industry guidance and mandatory regulatory standards related to non-GAAP reporting and bonus disclosures are effective in mitigating such manipulation. Lastly, we analyze if capital market participants penalize firms' manipulative activities for bonus purposes. Our findings show, when given a choice to manipulate a GAAP versus a non-GAAP component, firms primarily choose to manage the non-GAAP component to increase bonuses. We further show that mandatory compensation regulatory standards are important in reducing such manipulation. Finally, we find that firms with larger manipulation have higher cost of capital and lower market value, irrespective of whether these manipulative activities are driven by CEO bonus or other concerns.

Keywords: Performance Measurement, CEO Bonus Compensation, Non-GAAP Reporting, Earnings Manipulation, Industry Guidance, Disclosure Regulation

I. Introduction

Although prior literature shows audited, GAAP financial information provides a more credible signal than unaudited information,[1] the reporting of alternative non-GAAP performance measures such as EBIT or EBITDA has become a common occurrence in recent years (Bradshaw and Sloan, 2002). Also labeled as "pro forma" or "street" earnings, managers typically exclude some unusual or unexpected nonrecurring items (e.g., restructuring charges, extraordinary items) from GAAP net income in arriving at these alternative performance measures. The underlying premise is that these measures are more representative of a firm's sustainable earnings.

Though compensation contracts are traditionally not tied to these alternative performance measures, CEOs often exert their influences on directors to consider these measures in bonus determination. In fact, Dechow, Huson and Sloan (1994) and Gaver and Gaver (1998) provide evidence that CEOs often exclude several unusual one-time losses in setting their bonus targets in compensation contracts. There is plenty of anecdotal evidence indicating an increasing trend of firms adopting alternative non-GAAP performance metrics in setting bonus. For example, in the 2009 proxy statement (DEF 14A) of Time Warner Inc., the company explicitly states that its "bonus pool to be determined for any calendar year based on a percentage of the amount by which the Company's EBITDA for such year exceeds the Company's average EBITDA for the preceding three years." As another example, Flower Foods, a leading producer and marketer of packaged bakery food in the United States that trades on the New York Stock

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[1]See, for example, Libby (1979), Pany and Smith (1982) and Johnson, Pany and White (1983).

Exchange (NYSE), states on its website that "EBITDA is used as the primary performance measure in the company's Annual Executive Bonus Plan."[2]

While compensation contracts can effectively align the interests of managers and shareholders according to agency theory (e.g., Smith and Watts, 1982; Jensen and Murphy, 1990), prior literature also recognizes that managers have more incentives to engage in earnings management activities and potentially manipulate financial information when CEO compensation is linked to firm performance (e.g., Healy, 1985; Holthausen, Larcker and Sloan, 1995; Gaver, Gaver and Austin, 1995; Cheng and Warfield, 2005; Bergstresser and Philippon, 2006). Given that non-GAAP performance measures are unaudited and are reported voluntarily by management, studies have shown that opportunistic reasons can drive the reporting of these alternative performance measures (e.g., Doyle, Lundholm and Soliman, 2003). Two recent studies (Isidro and Marques, 2010; Black, Black, Christensen and Waegelein, 2011) show that the design of compensation contracts can significantly influence firm's decision to report alternative performance measures, even when compensation contracts are not explicitly linked to these measures. The intuition is that managers attempt to influence investors' perception of firm performance through the choice to report these measures. Hence, it is highly plausible that the formal adoption of non-GAAP alternative performance measures for bonus contract design could further increase the risks of firms manipulating these measures, as evident in companies such as Nortel Network Corp.[3]

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[2] http://www.flowersfoods.com

[3] Nortel Network Corp. distributed huge bonuses to its top executives while the company was reporting net losses under GAAP. The bonuses were triggered when the company achieved its pro forma income targets (Sturgeon, 2012).

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In this study, we analyze the potential managerial and economic consequences when bonus contract is explicitly determined by a non-GAAP performance metric. We utilize a unique industry in Real Estate Investment Trusts (REITs), where according to the annual compensation survey by the National Association of Real Estate Investment Trusts (NAREIT),[4] the overwhelming majority of firms use an unaudited, non-GAAP performance measure known as Funds from Operations (FFO) to explicitly determine CEO bonus.[5] In the REIT industry, FFO has long been recognized as the industry-wide standard alternative performance measure (Sloan, 1998). Prior academic evidences show that FFO is value relevant (e.g., Vincent, 1999; Fields, Rangan and Thiagarajan, 2001; Baik, Billings and Morton, 2008) and REIT CEO compensation is significantly related to FFO (e.g., Pennathur and Shelor, 2002; Pennathur, Gilley and Shelor, 2005).

The industry has established voluntary FFO definition guidelines that serve as an alignment mechanism in terms of management behavior. According to the recommended definition that NAREIT advocates, the calculation of FFO excludes (from net income) depreciation and amortization expenses related to real estate properties, their associated disposal gains and losses, and items that are unusual and/or nonrecurring in nature, namely extraordinary items, impairment write-downs of depreciable real estate properties, discontinued operations, and cumulative effects of accounting changes.[6] Given this unique reporting environment, we can proxy the extent of manipulation on a

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[4] NAREIT is the trade organization for the REIT industry and has conducted the annual survey for 15 consecutive years. It is considered the industry's most comprehensive compensation report.
[5] We also verify this claim with our hand-collected sample and find that over 80% of our sample firms have explicitly stated in their proxy statements the use of FFO in determining bonuses. The remainder of the firms could also be using FFO in bonus determination though they do not specifically highlight this issue in their proxy statements.
[6] See "White Paper on Funds from Operations" published by NAREIT in 2002.

non-GAAP performance measure by comparing firm's reported FFO with the NAREIT-defined measure and examine how such manipulation is driven by CEO bonus concerns.

We first explore the extent to which using FFO in designing an executive bonus plan gives managers an incentive to behave opportunistically to maximize their payoffs. In particular, though prior research shows CEO incentive compensation can induce opportunistic activities, we are interested in how such an alternative bonus contract design would change managerial behavior for earnings management. When CEO compensation is tied to net income, managers who want to manipulate earnings for bonus purposes have no choice but to manage the GAAP-defined net income. However, since FFO is comprised of net income and firm-defined ad-hoc adjustments, managers who want to manipulate FFO can select either net income (GAAP component), adjustment items (non-GAAP component), or both. Given that adjustment items are unaudited (non-GAAP), there is a greater temptation for managers to manage expectations using this FFO component. However, two countervailing factors can temper this behavior. For one, when firms make adjustments that are not in the recommended FFO definition, these ad-hoc exclusions are quite transparent. It is also questionable as to how much discretionary expenses a firm can exclude for managers to achieve the intended earnings management effect. Hence, managers may still need to manipulate net income (i.e., the GAAP component of FFO) to achieve their bonus.

Utilizing a sample of 436 CEO-firm-year observations over the 2006-2011 period, we test if CEO bonus compensation is related to FFO manipulation by regressing CEO bonuses on proxies of earnings management in the GAAP and non-GAAP components of FFO. We use the level of discretionary accruals to measure if manipulation exists in the

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GAAP component of FFO. Ad-hoc adjustments, as measured by the difference of actual and NAREIT-defined FFO (Fortin, Liu and Tsang, 2011), are used to measure manipulation in the non-GAAP component. Our results show that CEO bonus is significantly associated with the non-GAAP adjustments but not with discretionary accruals, our GAAP component. The insignificance of discretionary accruals in affecting bonus payoff is in contrast to prior literature (e.g., Holthausen et al., 1995). Our results imply that managers are more likely to manipulate the non-GAAP component rather than the GAAP component for bonus purposes to "game the system" when given a choice.

If the CEO bonus that is contingent on FFO performance prompts managers to manipulate FFO, this raises the question as to whether any effective regulatory mechanism exists to mitigate such self-serving managerial actions and to alleviate the concerns of this alternative bonus contract design. Consequently, we next analyze if either industry or regulatory standards constrain opportunistic behavior. In particular, we examine three standards: a voluntary industry standard and a mandatory regulatory requirement, both of which govern the reporting of FFO, and a regulatory requirement that applies to compensation disclosures.

i. Voluntary industry standard for FFO Reporting: In an effort to improve the uniformity and transparency of FFO, NAREIT "recommended" a FFO definition and published reporting guidelines that its member firms are encouraged to follow when presenting FFO in their financial statements (NAREIT, 1999; 2002). We posit that managers who choose to disclose the adoption of the NAREIT definition of FFO as a signal of transparency are less likely to manipulate FFO to boost CEO bonuses.

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ii. Mandatory requirement for FFO Reporting: To curtail misreporting of non-GAAP information, the Security and Exchange Commission (SEC) adopted Regulation G in 2003. The regulation states that when firms report non-GAAP performance measures, these measures must not contain any untrue statement of a material fact. It also specifically requires firms reporting non-GAAP information provide the most directly comparable GAAP measure and a reconciliation of their non-GAAP measure with this GAAP financial measure. However, our sample shows some firms have not complied fully (namely, by providing reconciliation) with the regulation. We posit REITs that have more adherences to Regulation G are less likely to manipulate FFO to increase CEO bonus.

iii. Required compensation disclosure: The SEC mandated new rules on compensation disclosures in 2006 under Item 402 of Regulation S-K that require a new Compensation Discussion and Analysis section in the proxy statements filed with the SEC. One particular aspect of the expanded disclosure requirements is the explicit discussion of specific performance targets and formulae used to determine compensation payout. We conjecture that noncompliance of the new compensation disclosures via the nondisclosure of performance targets or formulae is associated with firms whose managers are more likely to manipulate FFO for bonus purposes.

We hand-collect data from the proxy statements and 10-K filings of our sample firms to construct our proxies of regulatory disclosure. We empirically test the interrelationships of CEO bonus compensation, FFO manipulation and regulatory forces. Our empirical findings show the impact of FFO manipulation on CEO bonus is smaller

for firms with better adherence to the SEC mandated compensation disclosures by disclosing specific performance targets and calculation that determine CEO bonuses.

In additional analysis, we also evaluate the impact of internal corporate governance, the financial crisis and positive manipulation on the relationship of CEO bonus and FFO manipulation. We find that general corporate governance mechanisms, as measured by the overall firm-specific corporate governance score provided by Institutional Shareholder Services (ISS), are effective deterrents of FFO manipulation. The effect of FFO manipulation on CEO bonus is significantly lower in the post-financial crisis period where firms are under increased scrutiny. We show that CEO bonuses are higher at firms with significant positive manipulations of FFO. Our findings provide further evidence incentive compensation based on alternative performance measures induces opportunistic managerial behavior in FFO reporting where managers classify more discretionary items as non-GAAP adjustments, especially when they are under less scrutiny.

Lastly, we analyze if capital market participants penalize firms' manipulative activities that overstate the non-GAAP measures for bonus purposes. Extant literature has examined the capital market consequences of earnings management and generally finds firms that are lower quality and more susceptible to earnings manipulating activities have higher cost of capital (e.g., Francis, LaFond, Olsson and Schipper, 2005). Consistently, we find that firms with larger non-GAAP manipulation have higher cost of capital and lower equity valuation. This suggests that capital market could act as an additional disciplining mechanism if firms' actual FFO deviates significantly from FFO based on NAREIT guidelines. However, we do not find larger capital market responses when the

non-GAAP manipulation occurs at firms with higher CEO bonuses. The findings imply that market participants respond uniformly negatively to firms' non-GAAP manipulation, irrespective of whether these manipulative activities are driven by CEO bonus or other concerns.

We contribute to the literature in several ways. First, we provide novel evidence on the association of CEO compensation and non-GAAP performance measures. Prior research generally supports the view that non-GAAP disclosures contain useful and value relevant information,[7] though other studies have found opportunistic reporting of non-GAAP performance measures.[8] Our paper is one of the few studies that links incentive compensation plans to the opportunistic reporting of non-GAAP performance measures.[9] Our findings have important implications for the design of compensation contracts, given the increasing openness of the board of directors and compensation committee members to the idea of using an "adjusted" net income measure in setting performance targets for bonuses.[10]

Limited research currently exists which examines how CEO bonuses are related to non-GAAP reporting. Two recent studies look into how compensation concerns affect

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[7]See, for example, Bradshaw and Sloan (2002); Brown and Sivakumar (2003); Bhattacharya, Black, Christensen and Larson (2003); Gu and Chen (2004); Bowen, Davis and Matsumoto (2005); Bhattacharya, Black, Christensen and Mergenthaler (2007).

[8]Studies that find opportunistic reporting of non-GAAP performance measures include Doyle et al. (2003); Johnson and Schwartz (2005); Abarbanell and Lehavy (2007); Cohen, Hann and Ogneva (2007); and Black and Christensen (2009).

[9] In particular, the only study that we are aware of that relates CEO bonuses to FFO is Zhu (2009). But the study is conducted on a sample period between 1996 and 2000, which is before all the regulatory mechanisms we examine in the current study. Our research design is also drastically from the above-mentioned study as we examine the GAAP vs. non-GAAP components of FFO manipulation.

[10] For instance, according to the recent "Financial Executive Compensation Survey" issued by Grant Thornton, the use of EBITDA (EBIT) in executive compensation plans in public companies has increased from 16% (15%) in 2008 to 30% (23%) in 2012. A similar survey study by Meridian "2012 Trends and Developments in Executive Compensation" shows that profit measures are the most commonly utilized metrics to evaluate annual performance for bonus determination. Among these measures, net income and EPS are used by 50% (48%) of firms and EBIT/EBITDA are used by 46% (44%) of firms in 2012 (2011) respectively.

the decision to report pro forma earnings (Isidro and Marques, 2010) and motivate the aggressive calculation of pro forma earnings (Black et al., 2011). Unfortunately, a severe data limitation with pro forma studies is that it is difficult to determine if these firms are in fact using an alternative performance measure as a benchmark for bonus compensation, and therefore, it is hard to establish a direct link of CEO bonus and non-GAAP metric that is independent of GAAP performance. There is also little consensus on how firms define pro forma earnings, thus making it problematic to quantify the extent of non-GAAP manipulation. Our study utilizes the unique REIT environment where firms uniformly adopt FFO in performance reporting and in bonus contract design. Moreover, the industry has established guidelines for the calculation of FFO. To the best of our knowledge, we know of no other industry that has issued similar guidelines. Though one could argue that FFO is not used in other industries as a performance measure and thus our study represents a special case, we believe that the REIT setting nonetheless offers generalizable insights for other firms that use non-GAAP performance measure for incentive compensation. Since REITs are tax-exempt entities and FFO excludes depreciation and amortization, the main component of FFO is in essence similar to EBITDA (except for interest costs). Thus, the REIT industry offers an experimental setting that could yield broad insights on managerial behavior when CEO bonuses are directly linked to a non-GAAP performance measure.

Second, we extend the literature that examines the association of CEO compensation and earnings management. Prior research suggests the likelihood that managers manipulate earnings via accruals is driven by various components of CEO

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compensation including bonuses[11] or equity incentive plans.[12] We show that the design of the CEO bonus contract based on a non-GAAP performance measure can provide an incentive for managers to manipulate earnings through an unconventional form of classification shifting. Although considerable academic research has focused on accrual and real earnings management, evidence on earnings management with classification shifting is relatively scant. For instance, McVay (2006) shows firms may engage in earnings management using classification shifting of special items such that their "core" (pro forma) earnings meet analyst forecast. Fan, Barua, Cready and Thomas (2010) show classification shifting of special items happens more often in the fourth quarter when managers are less able to manipulate accruals. Other studies show that firms exercise discretion in defining extraordinary items to achieve classification shifting for income smoothing.[13] We show that, instead of manipulating discretionary accruals (i.e., the GAAP component), managers are more likely to tinker with the non-GAAP exclusions (e.g., classify expenses as unusual and nonrecurring to be excluded from FFO) when their CEO bonuses are tied to a non-GAAP measure.

Third, we contribute to the limited literature on disclosure regulation (see Healy and Palepu, 2001) related to both non-GAAP financial reporting[14] and compensation disclosure.[15] Our research responds to the call of Leuz and Wysocki (2008) for further studies that evaluate the complementary nature among different disclosure regulations.

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[11]For the literature on bonuses, see for example, Healy (1985); Gaver et al. (1995); Holthausen et al. (1995); and Balsam (1998).
[12]Equity incentive studies include Cheng and Warfield (2005); Bergstresser and Philippon (2006); and Burns and Kedia (2006).
[13]See for example Beattie, Brown, Ewers, John, Manson, Thomas and Turner (1994); Godfrey and Jones (1999); and Athanasakou, Strong and Walker (2007).
[14] E.g., Marques (2006); Heflin and Hsu (2008); Kolev, Marquardt and McVay (2008); and Fortin et al. (2011).
[15] E.g., Vefeas and Afexentiou (1998); Ke, Petroni and Safieddine (1999); Lo (2003); Craighead, Magnan and Thorne (2004); Robinson, Xue and Yu (2009).

There is also a growing literature on corporate governance and non-GAAP reporting.[16] Two recent studies (Jennings and Marques, 2011; Frankel, McVay and Soliman, 2011) specifically examine Regulation G and show that the regulation has reduced the association between corporate governance and opportunistic non-GAAP reporting. Our study utilizes an ideal setting that allows us to evaluate the importance of three distinct disclosure rules. Although NAREIT guidance and Regulation G both govern the reporting of FFO, the former represents voluntary self-regulation while the SEC enforces the latter. The SEC is also responsible for enforcing the new compensation disclosure requirements that govern executive compensation. These three regulatory mechanisms could exert differing degrees of influence for limiting opportunistic behavior.

The remainder of the paper is organized as follows: The next section presents the institutional background of our research setting. The third section develops the hypothesis and outlines the research design. The fourth section outlines the sample selection process and presents descriptive statistics. Empirical results are presented in the fifth section while the final section summarizes our conclusions.

II. Institutional Background

The REIT industry has long argued that GAAP net income does not accurately reflect firm performance given the mandatory inclusion of accounting depreciation[17] and several nonrecurring items that provide little information in evaluating REIT

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[16]This literature includes but is not limited to Klein (2002); Xie, Davidson and DaDalt (2003); and Bowen, Rajgopal and Venketachalam (2008).

[17] For instance, Ben-Shahar, Sulganik and Tsang (2011) show accounting depreciation reported by REITs suffer from huge measurement errors, thereby distorting the value relevance of REIT net income. Kang and Zhao (2010) show REIT accounting depreciation deviates from economic depreciation to a greater extent than other industries.

performance. To address this concern, NAREIT introduced the concept of FFO in 1991 as an alternative non-GAAP performance measure to supplement net income in measuring firm profitability. Since then, FFO has become the standard industry-wide measure that almost all equity REITs report. Prior research generally shows that both net income and FFO provide useful information that market participants value.[18] However, continued concerns exist that REIT managers use FFO to mislead investors since FFO is a non-GAAP measure. In response, NAREIT issued a "White Paper on Funds from Operations" in 2002 on a recommended FFO definition for its member firms. Baik et al. (2008) show that these increased industry efforts at self-regulation have reduced managerial discretion as well as have increased the uniformity and improved the transparency of FFO reporting. However, anecdotal evidence shows that REIT managers' compliance to the NAREIT-recommended FFO is far from perfect (Romanek, 2003).

Concerned that companies provide non-GAAP performance measures to mislead investors, the SEC adopted Regulation G in 2003 to govern non-GAAP reporting. The regulation requires firms to explain why management believes the non-GAAP information is beneficial to investors. The regulation also requires firms that report non-GAAP information to disclose the most directly comparable GAAP financial measure with a reconciliation schedule of the non-GAAP measure to this GAAP measure. Research that examines the effect of Regulation G largely focuses on pro forma earnings. These findings generally indicate a decreased likelihood of firms reporting pro forma earnings (e.g., Marques, 2006) but an overall improvement in the reporting quality of pro forma earnings (e.g., Heflin and Hsu, 2008; Kolev et al., 2008). In the context of the

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[18]See Fields, Rangan and Thiagarajan (1998); Vincent (1999); Graham and Knight (2000); Stunda and Typpo (2004); and Hayunga and Stephens (2009).

REIT industry, Fortin et al. (2011) finds a uniform improvement in the quality of FFO disclosures subsequent to the enactment of Regulation G.

In 2006, the SEC had a substantial overhaul of executive compensation disclosure regulation to improve the quality and quantity of executive compensation information that management presents. The amended regulation set forth in Item 402 of Regulation S-K requires disclosures in five categories: (a) option disclosures, (b) Compensation Discussion and Analysis (CD&A), (c) a summary compensation table, (d) exercises and holdings of previously awarded equity interests, and (e) post-employment compensation. Companies are required to disclose specific quantitative or qualitative performance-related targets in the CD&A unless such disclosure involves confidential information and disclosing the information will have an adverse effect on the company. However, if the company uses targets that it does not disclose, the company must provide detailed discussions on how difficult or likely it will be for the company to achieve the undisclosed targets. If the company decides to use performance targets based on a non-GAAP financial measure, the company must also disclose how the measures are derived in the audited financial statements. A recent study by Robinson et al. (2009) shows non-compliance with the new compensation disclosure requirement is associated with excessive CEO compensation and higher media criticisms of CEO compensation.

III. Hypothesis Development & Research Design

3.1 Hypothesis Development

Healy (1985) shows that management bonuses tied to an accounting number can create incentives for manipulation. Research has since shown that net income is subject to

more severe manipulation when it is used as the benchmark to determine the bonus (e.g., Holthausen et al., 1995). In the REIT industry, bonus is directly tied to FFO. Given that FFO is a non-GAAP unaudited performance measure, it is susceptible to more management discretion than the GAAP-governed net income measure. Hence, it is possible for firms to use FFO opportunistically to enhance firm performance to increase performance-based compensation.

If REIT managers do manipulate FFO for compensation purposes, an interesting question regards the strategy chosen to achieve their goals. Unlike the net income measure, managers who intend to manipulate a non-GAAP alternative performance measure have the option of exercising discretion in the calculation of the non-GAAP component, the GAAP component, or both. As firms' adherence to the recommended NAREIT definition of FFO is voluntary, managers can choose to report an ad-hoc, firm-defined FFO that adjusts (from net income) for additional items that managers deem appropriate. In fact, NAREIT has specifically stated that firms have the discretion to exclude items from FFO if managers have a good justification.[19] However, this flexibility also increases the potential of managers to manipulate FFO through the selective inclusion or exclusion of items in their firm-defined FFO measure. As a result, we expect firms would have a greater incentive to manipulate these adjustment items, i.e., the non-GAAP component of FFO, to increase bonus compensation. However, since Regulation G has made these non-GAAP adjustments more visible to financial statement users, managers may not be as motivated to include too many ad-hoc adjustments in the non-GAAP component. This gives rise to our first hypothesis:

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[19]This is due to the diversity of the nature of nonrecurring items, hence some items (e.g., debt restructuring expenses, straight-line rent expense) that are not commonly reported by REITs are not considered in the recommended exclusions.

H$_{1A}$: CEO bonus compensation tied to an alternative non-GAAP performance measure is positively associated with the level of manipulation in the non-GAAP component of this measure.

While REIT managers can manipulate the non-GAAP adjustments in FFO to increase performance-based compensation, they can also engage in earnings management of the GAAP component in FFO to affect the non-GAAP performance measure. Note non-GAAP performance measures (e.g., pro forma earnings, EBITDA, FFO) are typically derived as the result of adjustments to a GAAP measure (i.e., usually net income). Hence, earnings management on the GAAP measure can affect both GAAP and non-GAAP performance measures. For REITs, managers can thus affect FFO via manipulating net income. One could argue that managers may not want to manipulate the GAAP-governed net income measure for compensation purposes when they have the alternative choice of manipulating the non-GAAP component. However, prior research (e.g., Doyle et al., 2003) shows that large GAAP-non-GAAP differences are a detrimental signal to future firm value. Consequently, managers are somewhat constrained in taking liberties with the non-GAAP component. This is especially true for the REIT industry, given the recommended FFO definition that affords investors an approximation of FFO-net income differences. Moreover, it is also questionable how much discretionary expenses a firm can exclude from FFO for REIT managers to achieve the intended earnings management effect. Therefore, managers might have an incentive to pursue earnings management of the GAAP component in order to increase CEO bonuses. Our next hypothesis is therefore defined as follows:

H_{1B}: *CEO bonus compensation tied to a non-GAAP measure is positively associated with the level of manipulation in the GAAP component of this measure.*

We next consider the effectiveness of regulatory mechanisms to constrain potential FFO manipulation. While little, if any, standards exist as to how pro forma earnings are defined, the REIT industry provides detailed FFO guidelines. These self-regulatory efforts have proved useful in improving the transparency of the FFO measure. For instance, Baik et al. (2008) show that the frequency of managers using FFO to meet or beat analysts forecast has declined subsequent to increased industry efforts to promote a uniform definition of FFO. However, since industry guidance is voluntary, managers who wish to manipulate FFO for bonus purposes aren't likely to adhere to the industry definition. We therefore expect a lower association between CEO bonus and FFO manipulation when firms voluntarily disclose the adherence to the NAREIT industry guidance;[20] we thus define the first part of our second hypothesis as follows:

H_{2A}: The adherence to industry self-regulatory efforts reduces the association of CEO bonus compensation tied to a non-GAAP performance measure and the level of manipulation in the measure.

Prior research shows that Regulation G is effective in constraining opportunistic reporting behavior of pro forma earnings (e.g., Kolev et al., 2008) as well as FFO (e.g., Fortin et al., 2011). Until recently however, the SEC had not initiated any enforcement

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[20] Note firms can still make ad-hoc adjustments (with justification) to their reported FFO measure even if they disclose the use of NAREIT FFO definition. Hence, we are not claiming that firms that state the use of NAREIT FFO definition should report an actual and NAREIT-defined FFO difference of zero. In essence, we conjecture firms that voluntarily disclose the use of NAREIT FFO definition would want to convey a greater signal of transparency, and these firms should be less likely to manipulate FFO.

action for the noncompliance of Regulation G.[21] Our sample shows that some firms did not comply with the key requirement of Regulation G to provide a reconciliation of the non-GAAP measure and the GAAP measure. Both Baik et al. (2008) and Fortin et al. (2011) have shown reconciliation is an effective device to improve the transparency of FFO reporting. We conjecture that managers who have less intention to manipulate FFO to affect CEO compensation will follow Regulation G and disclose the reconciliation schedule. Managers who want to manipulate FFO have a stronger incentive to omit the disclosure of such important information. Hence, we expect a lower association between CEO bonus and FFO manipulation when firms comply with the reconciliation disclosure requirement of Regulation G. We therefore define the second part of our second hypothesis as follows:

H_{2B}: *The compliance to Regulation G's reconciliation requirement reduces the association of CEO bonus compensation tied to a non-GAAP performance measure and the level of manipulation in the measure.*

Anecdotal evidence shows that even with mandatory compensation disclosure and severe compliance penalties, some firms still provide incomplete and even fraudulent compensation disclosure, eventually resulting in SEC enforcement actions (Wood and Missal, 2006).[22] We conjecture that firm managers who want to manipulate FFO to increase CEO bonuses have stronger incentives to obscure compensation disclosure. We focus on the disclosure of benchmarks as they are the most relevant and quantifiable factors for bonus determination (Indjejikian and Nanda, 2002). We expect a lower

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[21] The SEC filed its first enforcement action under Regulation G on November 12, 2009 to SafeNet, Inc., claiming that the company made improper adjustments to the company's recurring expenses without factual support (Katz, 2009).

[22] For example, the SEC has initiated enforcement proceedings against General Electric Co. in 2004 and against Tyson Foods Inc. in 2005.

association between CEO bonus and FFO manipulation for firms that comply with the SEC compensation disclosure requirement, i.e., revealing their benchmarks used and formulae in determining the bonus. We define the last part of our second hypothesis as follows:

H_{2C}: *The compliance to the SEC compensation disclosure requirements reduces the association of CEO bonus compensation tied to a non-GAAP performance measure and the level of manipulation in the measure.*

Finally, a natural question arises is whether the capital market penalizes managers for actions taken especially those that dis-align owner-management incentives. Much empirical research have looked into whether earnings management, as measured by accrual (Bhattacharya et al. 2003; Francis et al. 2005) and real activities (e.g., Roychowdhury, 2006; Gunny, 2010), are price factors that affect firm valuation and the cost of capital. We conjecture that FFO manipulation motivated by CEO bonus concerns increases the risks faced by capital market participants and investors, and expect a positive association with the cost of capital and a negative effect on firm valuation when managers manipulate FFO. This leads to our last hypotheses in alternative form, as follows:

H_{3A}: *Cost of capital is positively associated with the extent of manipulation in the non-GAAP performance measure driven by bonus purposes.*

H_{3B}: *Firm valuation is negatively associated with the extent of manipulation in the non-GAAP performance measure driven by bonus purposes.*

3.2 Research Design

Our first two hypotheses (H_{1A} and H_{1B}) examine whether REIT managers manipulate FFO to increase CEO bonuses. We use the following regression models:

$BONUS = \alpha + \beta_1\,FFOMANI + \beta_2\,NAREIT\_FFO + \beta_3\,SIZE + \beta_4\,MTB + \beta_5\,CEO\_DIR + \beta_6\,CEO\_COMP + \beta_7\,CEO\_TENURE + \varepsilon$ *(1)*

$BONUS = \alpha + \beta_1\,DACC + \beta_2\,NAREIT\_FFO + \beta_3\,SIZE + \beta_4\,MTB + \beta_5\,CEO\_DIR + \beta_6\,CEO\_COMP + \beta_7\,CEO\_TENURE + \varepsilon$ *(2)*

Where the dependent variable is total annual bonus (in thousands) awarded to the CEO. Our key variables of interest are *FFOMANI* and *DACC*. *FFOMANI* measures the level of manipulation in the non-GAAP component of FFO. We follow the real estate literature (e.g., Zhu, Ong and Yeo, 2010; Anglin, Edelstein, Gao and Tsang, 2012) and measure *FFOMANI* as the deviation of actual FFO from normal FFO. Normal FFO is defined, as in Fortin et al. (2011), as net income adjusted for depreciation and amortization expenses related to real estate properties, their associated disposal gains and losses, and items that are unusual and/or nonrecurring in nature, namely extraordinary items, discontinued operations, and cumulative effects of accounting changes (as in the NAREIT definition).[23] *DACC* represents manipulation in net income, the GAAP component of FFO. We use the level of discretionary accruals to estimate the level of manipulation in net income. We measure *DACC* using the modified Jones model, as proposed in Dechow, Sloan and Sweeney (1995).[24] We use the signed instead of the absolute discretionary accruals since firms should have positive discretionary accruals if managers want to

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[23] We follow NAREIT's further guidance on FFO in 2003 that advises firms should no longer exclude impairment write-downs from FFO in accordance with SEC position (NAREIT, 2003).

[24] For the accounting and finance literature on alternative measurement of accruals, please see Bergstresser and Philippon (2006); and Cohen, Dey and Lys (2008). In unreported robustness analysis, we also conduct our study using alternative accrual measures in Dechow and Dichve (2002) and Kothari et al. (2005) and obtain similar results.

increase CEO bonus compensation. Given that CEO bonuses are typically determined by firm performance on a per-share basis, both variables are scaled by average common shares outstanding. If managers manipulate both components of FFO to increase CEO bonus compensation, we would observe positive and significant coefficients for both *DACC* and *FFOMANI*.

We include control variables that affect the level of CEO bonus compensation. Not surprisingly prior research has shown a positive relation between FFO performance and bonus since REITs' CEO bonuses are directly tied to FFO.[25] We measure FFO performance with the variable *NAREIT_FFO*, measured as normal FFO per share.[26] We include firm size, measured the log of beginning-of-year total assets. We expect positive coefficients on the variable.[27] Since prior research (e.g., Davis and Shelor, 1995) shows that firm growth has a positive impact on CEO compensation, we include *MTB,* measured as the market-to-book ratio of equity, to capture future growth opportunities. We also include variables that capture CEO characteristics. We include *CEO_DIR* (dummy variable equal to one if the CEO serves a dual role as director of the board and zero otherwise), *CEO_COMP* (dummy variable equal to one if the CEO serves as a member on the compensation committee, zero otherwise), and *CEO_TENURE* (measured as the number of years the CEO has served the firm). We expect positive effects from these

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[25]See for example Pennathur and Shelor (2002); Pennathur et al. (2005); and Griffin, Najand and Weeks (2012).
[26] This measure ideally excludes the non-GAAP component in FFO, but it is possible that *NAREIT_FFO* may contemplate the effect of *DACC* since it encompasses net income. In our robustness check, we conduct further test by including only the component of FFO performance that is not affected by *DACC* as our performance control variable. Our findings remain the same.
[27]For the reasons why we expect positive coefficient please refer to Ghosh and Sirmans (2005); Feng, Ghosh and Sirmans (2007); Eichholtz, Kok and Otten (2008); and Feng, Ghosh, He and Sirmans (2010).

variables.[28] Since property types of REITs are important determinants of a REIT's operating structure and they affect CEO compensation (e.g., Hardin, 1998), we use REIT types (i.e., retail, office, industrial residential, diversified, and specialized) and include property type dummies in the regressions. Given that our sample period covers a volatile period of 2006-2011, we also include year dummies in our regressions.

To test our next hypothesis on the effect of regulatory forces on the association of CEO bonus and FFO manipulation, we first augment (1) and (2) by introducing several new variables to capture firms' compliance to non-GAAP reporting, i.e., the NAREIT definition of FFO and SEC's Regulation G:

$BONUS = \alpha + \beta_{1A}\ FFOMANI/DACC*(D\_NAREIT) + \beta_{1B}\ FFOMANI/DACC*(1-D\_NAREIT) + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ \quad (3.1)

$BONUS = \alpha + \beta_{1A}\ FFOMANI/DACC*(D\_RECON) + \beta_{1B}\ FFOMANI/DACC*(1-D\_RECON) + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ \quad (3.2)

In specification (3.1), *D_NAREIT* is a dummy variable equal to one (zero otherwise) when REIT managers disclose the adoption of the NAREIT FFO definition. Our coefficients of interest are β_{1A} and β_{1B} and we expect a significantly lower positive coefficient for β_{1A}, since voluntary disclosure of the use of NAREIT definition acts as a signal that managers are more committed to the transparency of FFO reporting and these managers should be less likely to manipulate FFO to increase CEO bonus. In specification (3.2), *D_RECON* is a dummy variable equal to one (zero otherwise) when REIT managers comply with Regulation G and provide a reconciliation between FFO and net income. We also expect a lower positive coefficient for β_{1A} (as compared to β_{1B}) since

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[28]Previous REIT studies that have looked at these CEO variables include Feng, Ghosh and Sirmans (2007), Feng et al. (2010) and Griffin et al. (2012).

the provision of a reconciliation schedule reduces management opportunity to manipulate

FFO and in turn affect the CEO bonus.

We examine the impact of the new compensation disclosure regulation in

specifications (4.1) and (4.2):

$BONUS = \alpha + \beta_{1A}\ FFOMANI/DACC*(D\_FFOTARGET) + \beta_{1B}\ FFOMANI/DACC*(1-D\_FFOTARGET) + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ (4.1)

$BONUS = \alpha + \beta_{1A}\ FFOMANI/DACC*(D\_WFFO) + \beta_{1B}\ FFOMANI/DACC*(1-D\_WFFO) + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ (4.2)

Specifically, we focus on the disclosure of benchmarks with regard to bonus

determination. *D_FFOTARGET* is a dummy variable equal to one (zero otherwise) if

firms have a target FFO level and/or growth and managers decide to disclose this target.

In addition, we find that a substantial portion of our sample firms also disclose the

weights on different factors they use when determining CEO bonus.[29] We include

D_WFFO, a dummy variable equal to one (zero otherwise) when firms discuss the

weighting scheme of how bonus is determined.

Lastly, we examine the capital market effects of FFO manipulation. We first look

at whether capital market participants penalize REITs' manipulative activities for bonus

purposes by raising the cost of equity capital required. We follow the model in Francis et

al. (2005) and use the industry-adjusted earnings-price ratios to proxy for the cost of

equity capital:[30]

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[29] In fact, the compensation disclosure requirement states that firms should address in their CD&A how each element of compensation is determined in terms of the amount and formula, if applicable. Hence, the weighting of factors in determining bonus is also a required, albeit less explicit, disclosure requirement.
[30] Other studies (Claus and Thomas, 2001; Gebhardt, Lee and Swaminathan, 2001; Easton, 2004; Ohlson and Juettner-Nauroth, 2005) employ accounting-based valuation models that use firm-specific time-series data to estimate the implied cost of capital. However, it is difficult to utilize these measures in our industry setting, as doing so would substantially reduce the number of our sample firms.

$IND\_EP = \alpha + \beta_{1A}\ FFOMANI/DACC + \beta_{1B}\ BONUS + \beta_{1C}\ BONUS*FFOMANI/DACC + \beta_2\ SIZE + \beta_3\ LEV + \beta_4\ ASSETGROWTH + \varepsilon$ *(5)*

Where *IND_EP* is calculated, for our sample firms, as the difference between actual FFO-to-price ratio and the average FFO-to-price ratio by sub-industry property type and by year. We expect higher FFO manipulation (i.e., lower earnings quality) would result in higher earnings-price ratios (Penman, 2001). In addition, we also hypothesize that investors may further penalize firms' manipulation for firms with high CEO bonus. As in Francis et al. (2005), we include controls for leverage, firm size and past firm growth (measured as one-year growth of total assets).[31]

Alternatively, we also employ *Tobin's q*, measured as the market-to-book ratio of shareholders' equity (i.e., *MTB)*, as a proxy for firms' equity valuation. We follow the assumptions of higher Tobin's q reflects higher growth expectations and/or lower discount rates (e.g., Servaes, 1991; Lang and Stulz, 1994), and better reporting transparency could increase such growth expectations (Daske et al., 2008). We estimate the following model:

$Tobin's\ q = \alpha + \beta_{1A}\ FFOMANI/DACC + \beta_{1B}\ BONUS + \beta_{1C}\ BONUS*FFOMANI/DACC + \beta_2\ LEV + \beta_3\ SIZE + \beta_4\ ASSETGROWTH + \beta_5\ IND\_Q + \varepsilon$ *(6)*

We expect higher FFO manipulation (i.e., worse reporting transparency) is associated with lower values of *Tobin's q*, and the association is stronger for firms with high CEO bonus. We include, in (6), leverage, firm size, asset growth and average industry q (by sub-industry property type and by year) as control variables (Doidge et al., 2004; Lang et al., 2004; Daske et al., 2008).

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[31] While Francis et al. (2005) also includes beta as a control variable, the estimation of beta requires a long time series of data that significantly reduces our sample size. As an alternative solution, we include additional industry-index and sub-property-index returns as control variables in (7). Our robustness analysis (unreported) finds the main results remain intact.

IV. Data & Sample Selection

Our sample firms include 157 REITs in the U.S. over the period of 2006-2011 in the Capital IQ database. The start year of 2006 is chosen as detailed compensation disclosure is relatively scarce before the passage of compensation disclosure regulation. We exclude 38 mortgage REITs from our sample as performance measurement is different and FFO is typically not reported for this sub-sector. Our sample thus includes 119 equity REITs (both active and inactive) with 603 distinct firm-year observations, of which 540 CEO-firm-years have bonus information.[32] We match this sample with firm data from SNL Financials. We obtain FFO information for 517 observations and are able to calculate discretionary accruals (using the modified Jones model) for 444 observations. We require non-missing data on other firm variables, and our final sample contains 436 CEO-firm-year observations. We obtain CEO characteristics from Capital IQ, and this further reduces our sample to 405 observations. We present both our results using the full sample (436 observations) and the reduced sample (405 observations) in the empirical analysis section. Given our intent to examine firms' compliance to and the complementary nature of three different mechanisms (industry FFO guidelines, Regulation G, and compensation disclosure) to control opportunistic managerial behavior, we then hand-collect information on firms' compliance to NAREIT and the SEC disclosure requirements from the companies' SEC filings. Firms' disclosure of the use of NAREIT definition of FFO and FFO reconciliation are found in the Management Discussion and Analysis (MD&A) section in the 10-K filings. We obtain disclosure

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[32] Our sample size is comparable to prior REIT studies on CEOs compensation. For example, Feng et al. (2010) has a sample of 124 REITs for the year 1998, and Ertugrul et al. (2008) uses 100, 100, and 112 REITs for the period of 1999-2001 in their study.

information on executive compensation in the CD&A section from the annual proxy statements (DEF-14A). Finally, the Corporate Governance Index Score is obtained from ISS.

Table 1 provides descriptive statistics for the total sample. On average, the CEO bonus amounts to $442.47 (in thousands).[33] *FFOMANI* and *DACC* have means of 0.43 and 0.90 respectively. The sample firms report an average *NAREIT_FFO* of $1.89 per share, *SIZE* of 14.64 and *MTB/Tobin's q* of 1.71. On average, 47% of CEOs serves as the chairman of the board, and 5% of CEOs also serves as a member of the compensation committee. A CEO has an average tenure of 9.87 years. For the disclosure variables, we find that 74% of firms on average explicitly state they follow the NAREIT FFO definition.[34] An average of 82% of firms adheres to Regulation G e.g., provision of a reconciliation schedule between FFO and a GAAP performance measure. *D_FFOTARGET* has a mean of 0.50.[35] An average of 39% of the firms also discloses the weighting of FFO in setting the bonus. *IND_EP (IND_Q)* has a mean of -0.003 (1.83) for the sample firms. Finally, *LEV* reports a mean of 0.58 and the average asset growth rate is 20.46%.

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[33] Capital IQ defines cash compensation as the sum of salary, bonus and non-equity incentive compensation; and non-cash compensation as the sum of stock awards, option awards, non-equity incentives, pension change and other compensation. Our sample firms report an average CEO cash compensation of $1576.17 (in thousands) and non-cash compensation of $1631.95 (in thousands). Hence, bonus represents 13.79% of total CEO compensation.

[34] We acknowledge there is a possibility that firms are actually following the NAREIT definition of FFO without explicitly disclosing the use of the NAREIT definition. On the other hand, firms that disclose the use of NAREIT FFO definition nonetheless report actual FFOs that can be substantially different from *NAREIT_FFO*. However, our variable *D_NAREIT* is not intended to capture actual conformance to the NAREIT definition. Instead, *D_NAREIT* measures the disclosure quality with regard to the industry self-regulation assuming all REITs follow the NAREIT definition of FFO to a certain extent.

[35] In un-tabulated results, we find that the average disclosures of FFO target and FFO growth target are 0.40 and 0.16 respectively.

V. Empirical Results

5.1 Main Findings

Table 2 presents the empirical results for regression equations (1) and (2). All regressions are estimated using ordinary least square (OLS) with robust standard errors. Columns I and II show the results of specification (1) with *FFOMANI* as our key variable of interest for our full sample and reduced sample (with the inclusion of CEO characteristics) respectively. We find that *FFOMANI* is significant and positively related to CEO bonus. The findings suggest that when the bonus is explicitly tied to a non-GAAP measure, managers are tempted to manipulate the non-GAAP component. More specifically, REIT managers deviate from the recommended NAREIT definition of FFO by incorporating discretionary positive exclusions. We also find that *NAREIT_FFO, SIZE*, *MTB* as well as *CEO_COMP* are significantly associated with bonus with the expected signs.

Columns III and IV in Table 2 present the results of specification (2). We find that signed discretionary accruals are unrelated to bonus compensation, implying REIT managers do not manage discretionary accruals to affect CEO bonus when the bonus contract is tied to a non-GAAP performance measure. Our results contrast the extant literature that documents a positive association between CEO compensation and discretionary accruals when compensation is directly linked to a GAAP measure (e.g., Holthausen et al., 1995; Balsam, 1998).

Finally, we include both *DACC* and *FFOMANI* in the same regressions with the results reported in columns V and VI. We obtain the same findings. *DACC* remains insignificant while *FFOMANI* remains significant.

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We next examine the impact that regulatory mechanisms exert on managerial behavior in terms of the association of FFO manipulation to CEO bonus. Given our finding that REIT managers only manipulate the non-GAAP component of FFO to increase their bonus, we simply present the results with *FFOMANI* as the explanatory variable in subsequent analysis.[36] Table 3 reports the results of regression specification (3.1) and (3.2). Columns I and II present results of the regression specification (3.1). We find significant and positive associations between bonus and *FFOMANI* for both groups of firms that choose to voluntarily disclose and not disclose the adoption of NAREIT FFO definition. It is interesting that firms choose to disclose that they follow the NAREIT FFO definition report a lower association between bonus and *FFOMANI*, though the differences between β_{1A} and β_{1B} are not statistically significant. The next two columns of Table 3 reports results of regression specification (3.2). Although we do not find that the provision of a reconciliation schedule between FFO and net income affects the impact of FFO manipulation on bonus (as evident by the slightly higher coefficients for β_{1A} as compared to β_{1B}), we continue to find positive associations between CEO bonus and FFO manipulation for all firms.

Table 4 reports the results of regression specifications (4.1) and (4.2). We find that regulatory mechanisms with respect to compensation disclosures have statistically significant effect with *FFOMANI* on CEO bonus. The impact of FFO manipulation on CEO bonus is no longer significant for firms that disclose their FFO targets and the weighing formulae to determine bonus (i.e., *D_FFOTARGET* =1 and *D_WFFO* =1). On the other hand, *FFOMANI* remains positively significantly related to CEO bonus for the

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[36] We find that the inclusion of the disclosure variables does not change our conclusions with regard to the insignificance of *DACC*. Hence, the results with *DACC* as the explanatory variable are not tabulated but are available from the authors upon request.

group of firms that do not adhere to the compensation disclosure regulation. Overall, our findings suggest that disclosure of the FFO targets and weights in bonus calculation actually plays an important role in improving the transparency of the performance measure, and firms are less likely to manipulate FFO to boost CEO bonus when their bonus plans are more transparent. Our results extend the recent findings by Robinson et al. (2009) that show that noncompliance with the new compensation disclosure is associated with excess CEO compensation.

In summary, our empirical analysis on the determinants of CEO bonus shows that when bonus compensation is tied to a performance measure consisting of a non-GAAP component, and a GAAP portion, managers are motivated to use manipulation of the non-GAAP adjustments to achieve a given level of bonus compensation if managers choose to behave opportunistically. We further find that mandatory SEC regulations that apply specifically to bonus determination are more effective than general regulations (both voluntary and mandatory) with regard to non-GAAP reporting in constraining opportunistic financial reporting for bonus purposes.

We examine the capital market consequences of FFO manipulation for bonus purposes and we present the results in Tables 5 and 6. In Table 5, we present results of regression specification (5). Column I shows that *FFOMANI* is significantly positively related to *IND_EP* and imply higher FFO manipulation leads capital market participants to penalize firms with higher cost of capital. However, results reported in the second column shows the interaction term of *FFOMANI* and *BONUS* is insignificant. One interpretation of the findings is that investors penalize firms for manipulating FFO, but they simply do not care for the reason of FFO manipulation. In other words, investors do

not place further discount on firms that manipulate FFO for bonus concerns as compared to other earnings management objectives (e.g., debt contracting, analysts' forecasts, earnings smoothing).

In Table 6, we present results of regression specification (6) examining the impact of FFO manipulation on equity valuation using *Tobin's q* as the dependent variable. Once again, we show that FFO manipulation has an adverse effect on equity valuation, as the coefficients of *FFOMANI* are negative in both columns.

5.2 Additional Analysis

We next examine the impact of internal corporate governance on the association of FFO manipulation and CEO bonus. Prior evidence (e.g., Klein, 2002; Xie et al., 2003; Bowen et al., 2008) shows that opportunistic earnings management is associated with weak governance quality. Extant research (e.g., Boyd, 1994; Core, Houlthausen and Larcker, 1999; Cyert, Kang and Kumar, 2002) also shows weaker corporate governance structure is associated with greater agency problem and higher executive pay. In the context of non-GAAP reporting, Mbagwu (2007) shows that board independence is positively associated with quality of non-GAAP measures. However, Jennings and Marques (2011) and Frankel et al. (2011) show that subsequent to Regulation G, the association between corporate governance and the level of opportunism on non-GAAP reporting declines; regulation is an effective substitute for internal corporate governance. We test the following model:

$BONUS = \alpha + \beta_{1A}\ FFOMANI*(D\_CG\_INDEX) + \beta_{1B}\ FFOMANI*(1-D\_CG\_INDEX) + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ (7)

We obtain our measure of overall firm-specific corporate governance from ISS based on their most recent (2013) measures. The measure ranges from 1 to 10, and our sample firms report a mean (median) of 5.46 (6). We test the impact of corporate governance on FFO manipulation by dividing our sample observations into two groups, and we assign a value of one (zero otherwise) to the variable *D_CG_INEX* when the firm-specific *CG_INDEX* is larger than (or smaller or equal to) the sample median. In Table 7, we report results of regression specification (7). Consistent with prior literature (e.g., Boyd, 1994; Core et al., 1999; Cyert et al., 2002), we find the level of corporate governance has significant impact on CEO compensation. In our particular setting, we find that corporate governance constrains the opportunistic reporting of FFO for bonus purposes, as the impact of FFO manipulation on CEO bonus is only significant for the group of firms with low level of corporate governance.[37] To ensure the robustness of our findings, in unreported analysis we also adopt an alternative corporate governance measure and find similar results.[38] Our findings provide interesting contrasts with recent REIT studies that show that corporate governance has little effect on accruals earnings management (Anglin et al., 2012) and is only weakly related to firm performance (e.g., Hartzell, Sun and Titman, 2006; Bauer, Eichholtz and Kok, 2010). These different results could arise as the consequence of a different sample period as our sample covers particularly the recent financial crisis. Hence, it is interesting for us to next examine the impact of the financial crisis.

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[37] In unreported analysis, we also examine the impact of corporate governance using the raw measure instead of the dummy variable and we find similar results.

[38] Since 2000s, ISS calculates and reports corporate governance scores from time to time. Unfortunately, the scores are not time-variant and the scoring scheme has also changed each time ISS conducts a new survey study. We elect to use the 2013 measure to proxy for corporate governance as this is the most recent and most complete measure. Alternatively, we also adopt the 2005 Corporate Governance Quotient from ISS and obtain weaker but similar results with a reduced sample of 238 observations.

Over our sample period, REITs experienced one of the largest financial crises in its history. Given the seriousness of the crisis to the real estate industry, we further examine the whether the crisis had an impact on CEO bonus compensation and FFO manipulation in the following model:

$BONUS = \alpha + \beta_{1A}\ FFOMANI{*}PRECRISIS + \beta_{1B}\ FFOMANI{*}POSTCRISIS + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ (8)

Prior research (e.g., Devos, Ong, Spieler and Tsang, 2012; Devos, Spieler and Tsang, 2012) indicates that the REIT industry was hit hard over 2007 and 2008 before bouncing back in 2009. Hence, we define *PRECRISIS* (*POSTCRISIS)* as a dummy variable equal to one (zero otherwise) for firm-year observations in the year before (in and after) 2009. Table 8 reports the results of regression specification (8). We find that the impact of FFO manipulation on CEO bonus is higher and significant in the pre-crisis period but not in the post-crisis period. The results imply that increased scrutiny on firms after the market downturn has limited the opportunity for managers to manipulate the performance measure and in turn to affect CEO compensation.

One interesting extension of our findings is that, if the non-GAAP portion of FFO is being manipulated for bonus purposes, firms should be expected to make less negative adjustments than positive adjustments from the NAREIT-defined FFO measure to boost CEO bonuses. Hence, our findings that FFO manipulation is associated with CEO bonus should be more apparent for firms that report positive FFO deviation from NAREIT definition. We therefore examine the following model:

$BONUS = \alpha + \beta_{1A}\ NEG\_FFOMANI + \beta_{1B}\ POS\_FFOMANI + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ (9)

Where *NEG_FFOMANI (POS_FFOMANI)* is *FFOMANI* that is smaller (greater) than 0.

Results reported in Table 9 shows that when we partition FFO manipulation into positive and negative amounts, positive FFO manipulations are highly associated with CEO bonus in both columns while negative manipulations are not related to CEO bonus.

Thus far, our study has focused on the examination of CEO bonus as it is *directly* linked to the non-GAAP performance measure in the REIT industry. Prior studies (Isidro and Marques, 2010; Black et al., 2011) suggest that CEO compensation is related to opportunistic non-GAAP reporting even when the non-GAAP measures are *not* used in compensation contracts, as managers may try to overstate the non-GAAP measures to affect market perceptions. If this conjecture is true, we should observe a positive relationship between FFO manipulation and other components of CEO compensation. We test this conjecture with the following model:

$$CEO\_COMP = \alpha + \beta_1\ FFOMANI + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon \qquad (10)$$

Where *CEO_COMP* represents CEO salary, CEO other cash compensation (excluding bonus and salary), and CEO total noncash compensation reported in the Capital IQ database. Regression results of specification (10) are presented in Table 10. The first two columns report results using CEO salary as the dependent variable. We find negative coefficients for *FFOMANI* at the 10% significance level, as the impact of manipulation on CEO bonus should be less when the fixed portion of CEO compensation package increases. Columns III and IV report results using other cash compensation (excluding salary and bonus) as the dependent variable. We find that *FFOMANI* is no longer significant. Finally, the last two columns of Table 10 show *FFOMANI* is also not related to non-cash compensation (which includes mainly stock and option awards). Overall, our

findings in Table 10 show that none of the other components of CEO compensation is significantly related to *FFOMANI*.[39] The findings reinforce the notion that it is specifically the inclusion of the non-GAAP measure in bonus contract design that motivates opportunistic reporting of FFO in our sample firms.

5.3 Robustness Analysis[40]

In our sensitivity analysis, we examine alternative proxies for *FFOMANI* and *DACC.* We measure *FFOMANI* as percentage deviation from NAREIT FFO definition instead of on a per-share basis to alleviate the concerns of scale effect. We measure *DACC* following Dechow and Dichev (2002) and Kothari et al. (2005). Since some parts of *FFOMANI* may be recurring, we replace *NAREIT_FFO* with FFO in the previous year as control for performance. Given that *NAREIT_FFO* inevitably includes some manipulation of accruals, we "normalize" the measure by subtracting *DACC* from *NAREIT_FFO*. We also include other control variables, such as *LEV* and *ASSETGROWTH,* in our regressions of bonus determinants. We repeat our analysis controlling for outliers by eliminating bonus observations below the 1st and above the 99th percentiles. Given that *BONUS* is a truncated variable; we replicate the analysis with the truncated regression model (with lower bound of zero) instead of OLS in our regression analysis. Our main findings remain the same with all these sensitivity analysis.

An interesting issue is how various regulatory forces interact with one another to constrain opportunistic financial reporting for bonus purposes. To address this issue, we

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[39] We attribute differences of results in our study and the above-mentioned pro forma studies to sample differences. Firms that report the pro forma measure may have used the non-GAAP measure, or some adjusted net income measures that are highly correlated to pro forma, in determining CEO compensation. Unfortunately, it is rather difficult for authors of these pro forma studies to identify which firms in their samples tie CEO compensation directly to pro forma performance. In fact, Isidro and Marques (2010) have acknowledged this data limitation in their study.

[40] Results in this section are not reported but are available upon request.

run an augmented regression model including *D_NAREIT, D_RECON, D_FFOTARGET,* and *D_WFFO*. We find that the effects of *D_FFOTARGET* and *D_WFFO* with *FFOMANI* remain highly significant. The findings indicate that imposing external compensation regulation represents the most important safeguard in warranting the proper use of non-GAAP measures in bonus determination.

VI. Concluding Remarks

In recent years, the reporting of non-GAAP performance measures along with audited GAAP performance measures has slowly evolved into a norm for many firms and in many industries. Our study utilizes the unique setting where an entire industry has incorporated its industry-specific performance measure consisting of a GAAP component and a non-GAAP component in the bonus compensation contract. Even though FFO is commonly considered a more reliable metric compared to other non-GAAP pro forma measures given the guidance of an industry organization (NAREIT), we find that REIT managers nonetheless manipulate FFO upwards in order to increase CEO bonus compensation. In particular, these managers manipulate the non-GAAP component of FFO by making ad-hoc adjustments to the NAREIT FFO definition. We show that mandatory SEC regulations regarding compensation disclosures are most effective in curbing the extent that managers manipulate FFO to increase CEO bonus. Moreover, good corporate governance and increased scrutiny on the REIT market after the financial crisis also seem to provide added controls to deter managerial manipulative actions. Finally, we find that capital market participants also penalize FFO manipulations, as firms with larger manipulation have lower market value and higher cost of capital,

irrespective of whether these manipulative activities are driven by CEO bonus or other concerns.

While non-GAAP performance measures can provide a more representative benchmark of firm performance and is a consideration in the design of compensation contract, our study highlights the concern of aggressive non-GAAP reporting when these measures are also used to determine CEO compensation. We show that, in this situation, external regulatory and market oversights are required to ensure fair reporting of non-GAAP information.

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TABLE 1
Descriptive Statistics of Total Sample

Descriptive Statistics for Total Sample						
Variables	N	Mean	Median	Standard Dev.	Min	Max
BONUS	436	442.47	25.00	907.71	0.00	7500.00
FFOMANI	436	0.43	0.14	1.53	-6.01	9.99
DACC	436	0.90	-0.51	15.51	-130.98	51.69
NAREIT_FFO	436	1.89	1.63	2.01	-7.15	10.11
SIZE	436	14.56	14.61	1.32	9.13	17.20
MTB/ Tobin's q	436	1.71	1.42	1.67	-5.01	18.45
CEO_DIR	405	0.47	0.00	0.50	0.00	1.00
CEO_COMP	405	0.05	0.00	0.22	0.00	1.00
CEO_TENURE	405	9.62	9.00	5.70	1.00	27.00
D_NAREIT	436	0.74	1.00	0.44	0.00	1.00
D_RECON	436	0.82	1.00	0.38	0.00	1.00
D_FFOTARGET	436	0.50	0.00	0.50	0.00	1.00
D_WFFO	436	0.39	0.00	0.49	0.00	1.00
IND_EP	436	-0.003	-0.004	0.24	-2.24	2.06
IND_Q	436	1.83	1.63	1.44	-5.51	6.92
LEV	436	0.58	0.59	0.19	0.001	1.41
ASSETGROWTH	436	10.46	4.12	25.18	-29.45	199.96

This table reports sample statistics for 436 CEO-firm-year observations for 2006-2011. BONUS is total bonus (in thousands) awarded to CEO in a particular year. FFOMANI is per-share deviation of actual FFO from the NAREIT definition of FFO. DACC is signed discretionary accruals calculated using the modified Jones model, scaled to per-share basis. NAREIT_FFO is FFO, as defined according to the NAREIT definition, divided by average common shares outstanding. SIZE is log of beginning-of-year total assets. MTB/ *Tobin's q* is market value to book value of shareholders' equity. CEO_DIR is a dummy variable equal to one if the CEO also serves as the director of the board. CEO_COMP is a dummy variable equal to one if the CEO also serves as a member on the compensation committee. CEO_TENURE is the number of years that the CEO has served the firm. D_NAREIT is a dummy variable equal to one if the firm discloses the use of the NAREIT definition of FFO in reporting its alternative performance measure, zero otherwise. D_RECON is a dummy variable equal to one if the firm reports a reconciliation schedule between net income and FFO, zero otherwise. D_FFOTARGET is a dummy variable equal to one if the firm discloses its target FFO or FFO growth for compensation purpose, zero otherwise. D_WFFO is a dummy variable equal to one the firm discloses the weight assigned to FFO when setting bonus, zero otherwise. IND_EP is FFO-to-price ratio, adjusted by the mean FFO-to-price ratio by property type sub-industry and by year. IND_Q is average Tobin's q ratio by property type sub-industry and by year. LEV is leverage ratio (percentage) of the firm. ASSETGROWTH is the one-year growth (percentage) of total assets.

TABLE 2
The Impact of FFO and Accrual Manipulation on CEO Bonus

$$BONUS = \alpha + \beta_1\,FFOMANI + \beta_2\,NAREIT\_FFO + \beta_3\,SIZE + \beta_4\,MTB + \beta_5\,CEO\_DIR + \beta_6\,CEO\_COMP + \beta_7\,CEO\_TENURE + \varepsilon \quad (1)$$
$$BONUS = \alpha + \beta_1\,DACC + \beta_2\,NAREIT\_FFO + \beta_3\,SIZE + \beta_4\,MTB + \beta_5\,CEO\_DIR + \beta_6\,CEO\_COMP + \beta_7\,CEO\_TENURE + \varepsilon \quad (2)$$

	I	II	III	IV	V	VI
Constant	-1922.55 ***	-1188.14 *	-3579.21 ***	-2518.25 ***	-1921.54 ***	-1269.02 *
FFOMANI	174.90 **	179.81 **			160.83 ***	162.60 ***
DACC			-2.58	-3.28	-0.98	-0.28
*FFOMANI*DACC*					-2.90	-2.95
NAREIT_FFO	81.85 ***	80.65 ***	-12.12	-17.52	82.86 ***	80.78 ***
SIZE	116.16 ***	127.07 ***	233.25 ***	210.62 ***	120.67 ***	132.17 ***
MTB	42.25 *	84.23 **	321.58 **	121.87 ***	40.27 *	81.18 *
CEO_DIR		54.68		65.79		57.45
CEO_COMP		326.78 **		279.07 *		315.86 **
CEO_TENURE		-10.99		-5.19		-10.92
Property Type Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	436	405	436	405	436	405
R^2	0.26	0.28	0.22	0.23	0.27	0.28

This table reports results of OLS regression for model specification (1) and (2). See Table 1 for variable definitions. ***, **, * indicate significance at 1%, 5%, 10% respectively (two-sided test).

TABLE 3
The Impact of FFO Manipulation & Non-GAAP Regulation on CEO Bonus

$BONUS = \alpha + \beta_{1A}\ FFOMANI*(D\_NAREIT) + \beta_{1B}\ FFOMANI*(1\text{-}D\_NAREIT) + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ (3.1)

$BONUS = \alpha + \beta_{1A}\ FFOMANI*(D\_RECON) + \beta_{1B}\ FFOMANI*(1\text{-}D\_RECON) + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ (3.2)

	I	II	III	IV
Constant	-1909.06 ***	-1012.25 *	-1931.88 ***	-1213.96 *
FFOMANI*(D_NAREIT)	173.91 **	178.85 **		
FFOMANI*(1-D_NAREIT)	190.08 **	195.70 **		
FFOMANI*(D_RECON)			175.40 **	180.71 **
FFOMANI*(1-D_RECON)			166.43 *	163.47 *
NAREIT_FFO	81.83 ***	80.71 ***	81.80 ***	80.50 ***
SIZE	114.90 ***	125.66 ***	116.70 ***	128.80 ***
MTB	42.36 *	84.28 **	42.24 *	84.32 **
CEO_DIR		53.10		56.68
CEO_COMP		325.53 **		327.98 **
CEO_TENURE		-11.04		-11.02
Property Type Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
N	436	405	436	405
R^2	0.26	0.28	0.26	0.28

This table reports results of OLS regression for model specification (3.1) and (3.2). See Table 1 for variable definitions. ***, **, * indicate significance at 1%, 5%, 10% respectively (two-sided test).

TABLE 4
The Impact of FFO Manipulation & Compensation Regulation on CEO Bonus

$BONUS = \alpha + \beta_{1A}\,FFOMANI*(D\_FFOTARGET) + \beta_{1B}\,FFOMANI*(1-D\_FFOTARGET) + \beta_2\,NAREIT\_FFO + \beta_3\,SIZE + \beta_4\,MTB + \beta_5$
$CEO\_DIR + \beta_6\,CEO\_COMP + \beta_7\,CEO\_TENURE + \varepsilon$ *(4.1)*

$BONUS = \alpha + \beta_{1A}\,FFOMANI*(D\_WFFO) + \beta_{1B}\,FFOMANI*(1-D\_WFFO) + \beta_2\,NAREIT\_FFO + \beta_3\,SIZE + \beta_4\,MTB + \beta_5\,CEO\_DIR +$
$\beta_6\,CEO\_COMP + \beta_7\,CEO\_TENURE + \varepsilon$ *(4.2)*

	I	II	III	IV
Constant	-1926.63 ***	-1042.18 *	-1977.03 ***	-1045.16
FFOMANI(D_FFOTARGET)*	248.20	263.00		
FFOMANI(1-D_FFOTARGET)*	140.75 **	142.97 **		
FFOMANI(D_WFFO)*			61.42	65.09
FFOMANI(1-D_WFFO)*			198.52 **	203.04 **
NAREIT_FFO	85.00 ***	84.47 ***	81.68 ***	80.15 ***
SIZE	114.02 ***	125.60 ***	120.89 ***	130.82 ***
MTB	43.77 *	85.75 **	44.78 *	88.54 **
CEO_DIR		57.35		60.46
CEO_COMP		317.79 **		315.48 *
CEO_TENURE		-10.96		-10.79
Property Type Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
N	436	405	436	405
R^2	0.27	0.29	0.27	0.28

This table reports results of OLS regression for model specification (4.1) and (4.2). See Table 1 for variable definitions. ***, **, * indicate significance at 1%, 5%, 10% respectively (two-sided test).

TABLE 5
The Impact of FFO Manipulation on Cost of Capital

$IND\_EP = \alpha + \beta_{1A} FFOMANI + \beta_{1B} BONUS + \beta_{1C} BONUS*FFOMANI + \beta_2 SIZE + \beta_3 LEV + \beta_4 ASSETGROWTH + \varepsilon$ (5)

	I	II
Constant	-0.08	-0.10
FFOMANI	2.30 ***	2.44 ***
BONUS		0.01
*BONUS*FFOMANI*		-0.48
SIZE	-0.003	-0.002
LEV	0.12	0.12
ASSETGROWTH	-0.0004	-0.0004
Property Type Dummies	Yes	Yes
Year Dummies	Yes	Yes
N	436	436
R^2	0.07	0.07

This table reports results of OLS regression for model specification (8). See Table 1 for variable definitions. ***, **, * indicate significance at 1%, 5%, 10% respectively (two-sided test).

TABLE 6
The Impact of FFO Manipulation on Equity Valuations

Tobin's q = α + β₁ₐ FFOMANI + β₁ᵦ BONUS + β₁c BONUS*DACC (FFOMANI) + β₂ *LEV + β₃SIZE + β₄ASSETGROWTH + β₅IND_Q + ε*   *(6)*

	I	II
Constant	3.01 ***	2.92 ***
FFOMANI	-5.65 **	-5.79 *
BONUS		0.08
BONUS*FFOMANI		0.14
SIZE	-0.10	-0.10
LEV	0.58	0.61
ASSETGROWTH	-0.0020	-0.0020
IND_Q	0.24 ***	0.25 ***
Property Type Dummies	Yes	Yes
Year Dummies	Yes	Yes
N	436	436
R²	0.13	0.13

This table reports results of OLS regression for model specification (8). See Table 1 for variable definitions. ***, **, * indicate significance at 1%, 5%, 10% respectively (two-sided test).

TABLE 7
The Impact of FFO Manipulation & Corporate Governance on CEO Bonus

$BONUS = \alpha + \beta_{1A}\ FFOMANI*(D\_CG\_INDEX) + \beta_{1B}\ FFOMANI*(1-D\_CG\_INDEX) + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ (7)

	I	II
Constant	-1234.53 **	-1454.01 **
FFOMANI(D_CG_INDEX)*	-22.22	-24.44
FFOMANI(1-D_CG_INDEX)*	294.42 ***	305.45 ***
NAREIT_FFO	71.52 ***	69.40 **
SIZE	136.44 ***	150.22 ***
MTB	40.20 *	81.69 **
CEO_DIR		70.56
CEO_COMP		356.60 ***
CEO_TENURE		-10.60
Property Type Dummies	Yes	Yes
Year Dummies	Yes	Yes
N	426	395
R^2	0.33	0.35

This table reports results of OLS regression for model specification (5.1) and (5.2). See Table 1 for variable definitions. ***, **, * indicate significance at 1%, 5%, 10% respectively (two-sided test).

TABLE 8
The Impact of FFO Manipulation and Financial Crisis on CEO Bonus

$BONUS = \alpha + \beta_{1A}\ FFOMANI*PRECRISIS + \beta_{1B}\ FFOMANI*POSTCRISIS + \beta_2\ NAREIT\_FFO + \beta_3\ SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon$ (8)

	I	II
Constant	-2013.01 ***	-1293.85 *
*FFOMANI*PRECRISIS*	244.06 **	244.90 **
*FFOMANI*POSTCRISIS*	35.08	34.07
NAREIT_FFO	57.11 **	49.00 *
SIZE	124.14 ***	139.80 ***
MTB	37.86	75.88 *
CEO_DIR		-5.40
CEO_COMP		282.52 *
CEO_TENURE		-5.42
Property Type Dummies	Yes	Yes
Year Dummies	No	No
N	436	405
R^2	0.29	0.30

This table reports results of OLS regression for model specification (9). POSTCRISIS (PRECRISIS) is a dummy variable equal to 1 (0 otherwise) when year is 2009 or after (before 2009). See Table 1 for other variable definitions. ***, **, * indicate significance at 1%, 5%, 10% respectively (two-sided test).

TABLE 9
The Impact of Positive & Negative FFO Manipulation on CEO Bonus

$BONUS = \alpha + \beta_{1A}\ NEG\_FFOMANI + \beta_{1B}\ POS\_\ FFOMANI + \beta_2\ NAREIT\_FFO + \beta_3$
$SIZE + \beta_4\ MTB + \beta_5\ CEO\_DIR + \beta_6\ CEO\_COMP + \beta_7\ CEO\_TENURE + \varepsilon\ (9)$

	I	II
Constant	-1922.74 ***	-1057.62 *
NEG_FFOMANI	-81.10	-80.91
POS_FFOMANI	247.95 ***	254.34 ***
NAREIT_FFO	89.78 ***	87.81 ***
SIZE	109.51 ***	121.82 ***
MTB	46.72 **	90.02 **
CEO_DIR		53.97
CEO_COMP		314.88 ***
CEO_TENURE		-9.60
Property Type Dummies	Yes	Yes
Year Dummies	Yes	Yes
N	436	405
R^2	0.29	0.31

This table reports results of OLS regression for model specification (6). We partition
FFOMANI into positive and negative amounts. See Table 1 for other variable definitions.
***, **, * indicate significance at 1%, 5%, 10% respectively (two-sided test).

TABLE 10
The Impact of FFO Manipulation on Other Components of CEO Compensation

$CEO\_COMP = \alpha + \beta_1 FFOMANI + \beta_2 NAREIT\_FFO + \beta_3 SIZE + \beta_4 MTB + \beta_5 CEO\_DIR + \beta_6 CEO\_COMP + \beta_7 CEO\_TENURE + \varepsilon$
(10)

	I	II	III	IV	V	VI
Constant	-1471.74 ***	-1398.27 ***	-6306.36 *	-7002.49 *	-10945.45 ***	-11044.87 ***
FFOMANI	-16.26 *	-16.92 *	-236.82	-238.33	21.37	19.33
NAREIT_FFO	-10.04	-13.10 *	-257.99 *	-247.92 *	123.10	134.95
SIZE	126.24 ***	131.19 ***	487.56 *	490.59 *	745.84 ***	770.25 ***
MTB	10.24 *	18.71 **	61.60	137.34	43.68	69.42
CEO_DIR		-57.30 ***		114.58		348.10
CEO_COMP		111.16 **		2206.20		-239.42
CEO_TENURE		3.11 *		-27.40		-21.36
Property Type Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	434	403	434	403	435	404
R^2	0.52	0.56	0.07	0.1	0.29	0.28

This table reports results of OLS regression for model specification (10). CEO_COMP represents CEO salary in columns (1) and (2), CEO other cash compensation (excluding bonus and salary) in columns (3) and (4), and CEO noncash compensation in columns (5) and (6). See Table 1 for other variable definitions. ***, **, * indicate significance at 1%, 5%, 10% respectively (two-sided test).