

**The Effects of Internal Control Quality, CFO Characteristics, and Board of
Director Strength on CFO Annual Compensation**

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ABSTRACT: We examine how CFO annual salary and bonus compensation relates to internal control material weakness (MW) disclosures, and consider the roles of CFO expertise and reputation, along with board of director strength, in moderating this relationship. While an extensive body of research considers CEO compensation, little is known about factors influencing CFO compensation. Our study is motivated by recent reforms aimed at improving the quality of financial reporting, particularly in terms of requiring CFOs to certify the annual and interim financial reports and to monitor and report on internal controls. Our results reveal that CFO bonuses are negatively associated with MW disclosures, and that this relationship is moderated by CFO expertise and reputation, and board of director strength. Specifically, CFOs reporting MWs receive more severe bonus penalties if they are former audit partners, serve on their own board, and if they are employed by a company with a stronger board, compared to other CFOs. Results also reveal that CFOs earn higher salaries if they are former audit partners, and if they serve on either their own or other companies' boards.

Keywords: CFO Compensation, Internal Controls, Corporate Governance, Sarbanes-Oxley Act of 2002.

Data Availability: Data used in this study is available from public sources.

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I. INTRODUCTION

Recent corporate scandals and subsequent responses by legislators reemphasize the role of CFOs as company controllers charged with the accuracy of the financial reporting process, and increase the financial and legal risks associated with this role. Under the Sarbanes Oxley Act of 2002 (SOX), CFOs are required to certify the annual and interim financial reports, regularly monitor and evaluate the internal controls, and certify that all material changes to the internal controls have been disclosed (SEC 2002). The certification requirement implies that CFOs have the necessary accounting qualifications and are in a position to impact the quality of the internal controls. Hence, CFO performance evaluation should logically depend in part on the reported quality of the internal controls. The purpose of this paper is to examine how CFO annual salary and bonus compensation relates to internal control material weakness (MW) disclosures. In addition, we consider the roles of CFO expertise, CFO reputation, and board of director strength in moderating the relationship between MW disclosures and CFO compensation.

Consistent with the regulatory changes that increase CFO responsibilities and risks, recent evidence shows an increase in CFO compensation post-SOX incremental to that of other executives (Wang 2007). Yet, evidence on the association between CFO compensation and CFO enhanced responsibilities is sparse. The limited available research shows that employment penalties are imposed on executives (Collins et al. 2006; Desai et al. 2006) and directors (Srinivasan 2005) of companies that reveal accounting errors. Further, Li et al. (2007) observe increased CFO turnover in companies that report

MWs, showing that dismissal penalties are imposed on CFOs who are not able to maintain effective controls.

However, penalties may also be imposed on CFOs that retain their positions. For example, boards of directors and compensation committees may react to the disclosure of MWs by imposing bonus penalties. This should yield a negative association between MW disclosure and cash bonus, but no association with base salary, as the latter is determined *ex ante*. Failure to observe such a bonus “penalty” would imply that boards and compensation committees do not consider weak internal controls as an indication of inferior performance. Investigating these possibilities yields this paper’s first incremental contribution to the literature.

Increased CFO responsibilities suggest that high level knowledge and skill (i.e., expertise) and a high quality reputation are more important than ever to competent CFO performance. For example, research reveals that CFOs with greater accounting knowledge are more effective (Aier et al. 2005; Li et al. 2007), although prior research does not link this characteristic to compensation. Using biographical data, we examine the association between compensation and CFO expertise (proxied by prior audit partner experience) and CFO reputation (proxied by serving on their own or other firms’ board of directors).

We expect that CFOs with greater expertise and reputation will be able to extract higher base salary than their counterparts, but we do not expect an association of these characteristics with annual bonus compensation as the latter should be determined by yearly performance. Importantly, we extend this analysis by investigating the potential moderating role of these CFO characteristics on the relation between MW disclosures and

compensation, predicting that CFOs with greater expertise and reputation will be held to a standard that implies an even more strict bonus penalty upon the disclosure of a MW compared to their counterparts with weaker characteristics on these dimensions. These analyses yield this paper's next incremental contribution.

In addition to changes associated with internal control reporting, SOX and subsequent SEC rules (e.g., SEC 2003) sought to strengthen corporate governance quality, in terms of increased independence of the board of directors as well as full independence of the compensation and the audit committees. Core et al. (1999) (among others) find that CEO compensation is lower among companies with stronger boards, so we predict that CFO salary and bonuses will be negatively associated with board of director strength. We provide a further incremental contribution to the literature by investigating the potential moderating role of board strength on the relation between MW disclosures and compensation, predicting that CFOs employed by companies with stronger boards will be less successful at resisting the bonus penalties potentially associated with MW disclosures.

To conduct our tests, we use 635 firm observations during 2005 and employ OLS and Tobit regression models with CFO annual salary and bonus as dependent variables, respectively. We consider the association of these compensation variables with MW disclosures, CFO expertise (prior experience as an audit firm partner), CFO corporate board memberships (service on own and other companies' boards), and board of director strength, along with interactions of these variables with MW. We use data parsing and matching methodologies to generate certain CFO expertise and board membership

variables that have not been used in prior research due to difficulties associated with data collection.

Turning to empirical results, we first find that CFO bonuses, but not base salaries, are negatively associated with the disclosure of MWs, revealing the importance of internal control monitoring and reporting in the performance evaluation of CFOs. Second, we show that CFOs reporting MWs receive more severe bonus penalties if they have prior experience as audit partners, serve on their own board of directors (but not on other companies' boards), and if they are employed by a firm with a stronger board of directors compared to other CFOs. Taken together, these results imply that boards and compensation committees hold higher expectations for CFOs with greater expertise and internal corporate reputation relative to other CFOs, and that stronger boards are more likely than weaker boards to act on those expectations in a punitive manner.

Third, we find that only about five percent of the CFOs in our sample have experience as audit firm partners, and our analyses reveal that CFOs have higher salaries if they possess such experience. Thus, the role of highly technical accounting and internal control expertise appears to be particularly valued in the CFO labor market. Fourth, we find that external corporate reputation as proxied by serving on other boards (both in an overall capacity and on the audit committee) is positively associated with CFO salaries, which is consistent with the director qualification/reputation literature (e.g. Fama and Jensen 1983). Fifth, we find that internal reputation as proxied by serving on their own board of directors is also positively associated with CFO salaries, demonstrating the ability of such CFOs to exercise some influence over their own boards.

The remainder of this paper is organized as follows. In Section Two, we discuss changes to the CFO role after SOX, review the prior literature, and develop our hypotheses. We discuss methods in Section Three, and document our results in Section Four. We discuss limitations and our conclusions in Section Five.

II. BACKGROUND LITERATURE AND HYPOTHESES

CFO Responsibilities Following the Sarbanes-Oxley Act of 2002

CFOs have traditionally assumed the role of controllers regarding implementation of accounting principles and the preparation of the financial reports, and the role of overseers for corporate capital structure and financing decisions. The CFO role has expanded in the period following SOX, including greater emphasis on the financial reporting process overall, and internal controls in particular. For example, Section 302 of SOX requires that CEOs and CFOs establish, maintain, and regularly evaluate the effectiveness of internal controls. Additionally, they must report on this evaluation in both quarterly and annual financial statements, and provide disclosures about significant changes to the internal controls and certification of these reports. While CEO's have higher level and more varied responsibilities, CFOs assume the leading role in the oversight concerning internal control compliance and associated risk management (McConnell and Banks 2003; COSO 2004; Sinnott 2007).

In addition to increased responsibilities, the risks associated with the CFO role have expanded in the post-SOX period (Linck et al. 2007). For example, Section 304 of SOX requires that if an issuer restates previously reported financial statements due to material non-compliance as a result of misconduct, the CFO must reimburse bonuses and/or incentives/equity-based compensation received during the 12 months following

the filing of the non-compliance report and any profit realized from the sales of securities of the issuer during that period. In addition, Section 906 of SOX details specific penalties for CFOs who knowingly certify inaccurate reports, including fines of up to \$5 million and/or 20 years of jail time. The additional responsibilities and risks faced by CFOs should be associated with increased compensation. In fact, Wang (2007) shows increasing CFO compensation in the post-SOX period compared to COOs. Disclosures by Apton Corporation (2005) provide an example of CFO responsibilities and compensation in the contemporary environment:

During 2005, the Compensation Committee awarded the Chief Financial Officer a cash bonus. After conversations with the outside auditors and the Audit Committee ... the Compensation Committee believed that a bonus of 60% of base salary was warranted based on significant improvements in the Company's internal controls, implementation of a strict budgeting and cost-control process, the successful implementation of an internal control documentation plan in a limited time-frame and receipt of a "clean" 404 opinion from Apton's auditors.

Internal Control Material Weaknesses as a CFO-Specific Measure of Performance

The executive compensation literature has focused primarily on CEOs, with little attention to issues concerning compensation and performance of CFOs. The limited stream of research with respect to CFO compensation examines the impact of supervisor financial expertise (i.e., CEO expertise and financial experts on the audit committee) on CFO pay (Gore et al. 2007), the change in CFO pay over time (Wang 2007), and the relation between earnings and bonus compensation changes in the post-SOX era (Carter et al. 2007). Prior research on the pay-performance relation for CFOs does not examine the role of CFO-specific performance indicators in the post-SOX period.

Our primary focus regarding CFO-specific performance in the post-SOX period concerns reporting of internal control quality based on Section 404 of SOX. Research on

the initial period of SOX compliance shows adverse consequences for companies with weak controls. These findings include negative stock returns (De Franco et al. 2005; Beneish et al. 2007; Hammersley et al. 2007), higher cost of capital (Ashbaugh-Skaife et al. 2007) and higher audit cost (Raghunandan and Rama 2006; Hoitash et al. 2007) among companies with weak internal controls. Collectively, this research suggests that ineffective internal controls adversely affect shareholder wealth.

Considering individual repercussions of revelations of ineffective internal controls, Li et al. (2007) report an increased likelihood of CFO departure following the disclosure of a MW, suggesting that CFOs are held accountable for their performance in this regard. In related contexts, Mian (2001) reports that CFO turnover is commonly preceded by negative excess returns, and Collins et al. (2005) show that companies penalize executives via lower bonuses for both the detection of low quality financial reporting and for the subsequent restatement of financial statements. Extending these results to the CFO internal control performance realm, it seems logical that CFO responsibilities regarding internal controls will cause boards and compensation committees to impose penalties on CFOs at companies that fail to maintain effective controls. Disclosures by OM Group Inc. (2007) illustrate this point:

The 2006 management incentive plan for Mr. Bloem included two strategic measures, each given equal weight. The first strategic measure was to provide sufficient capital to support Humana's Medicare expansion. Mr. Bloem's second measure required the absence of any material weakness in the design or operation of the Company's internal controls.

Our focus is on the base salary and bonus components of CFO cash compensation.¹ The annual base salary is determined ex ante, so we predict that it will not be associated with the quality of the internal controls in the current period. In

contrast, annual bonus payments are determined at the end of the year. Hence, we predict that CFOs reporting weak internal controls will be penalized with lower current period bonus payments.

H1a: CFO base salary will not be associated with the disclosure of internal control material weaknesses.

H1b: CFO cash bonus will be negatively associated with the disclosure of internal control material weaknesses.

CFO Expertise and Reputation

In addition to considering the association of CFO compensation with the quality of internal controls, we also explore the potential moderating roles of CFO expertise (proxied by audit firm partner experience) and CFO reputation (proxied by serving on other corporate boards, and serving on the CFO's own board) in that association.

Prior Audit Firm Partner Experience as an Expertise Attribute

The requirements imposed by SOX with regard to CFOs suggest that high level accounting knowledge will be crucial to successful CFO performance. "Soft skills" and very high level technical knowledge have become particularly important expertise attributes for CFOs (Sinnott 2007). Investigating the association between general CFO knowledge and skill on financial reporting outcomes, academic research shows that companies with CFOs that do not hold accounting qualifications have a higher likelihood of restatements (Aier et al. 2005). Moreover, Li et al. (2007) observe that following the departure of CFOs, internal control improvements are more likely in companies that hire more accounting-qualified CFOs. More generally, a lower likelihood of MWs has been documented for companies with a higher proportion of audit committee members possessing accounting expertise (Bedard et al. 2007; Zhang et al. 2007).

We use prior audit firm partner experience as our measure of CFO expertise. While prior studies often use the CPA designation to measure accounting qualifications, the CPA designation has become much more prevalent for contemporary CFOs (Durfee 2005), leading to reduced variability in this measure of expertise. Because all audit partners are CPAs, our measure provides a more precise indication of high-level expertise in this domain. We predict that the increased demand for CFOs with high-level accounting expertise, coupled with the positive impact of such expertise on the quality of the financial reporting, will put CFOs with prior experience as an audit partner in a better negotiating position regarding their base salaries. Holding all else constant (e.g., company financial performance), we expect that bonus payments will be unrelated to CFO prior experience as an audit partner, and will instead depend on performance, so we do not predict a relationship between CFO prior audit partner experience and cash bonus.

H2a: CFO prior experience as an audit partner will be positively associated with CFO base salary.

H2b: CFO prior experience as an audit partner will not be associated with CFO cash bonus.

While we do not predict that a CFO will receive a bonus simply for having prior experience as an audit partner per se, we note that CFOs with greater expertise are certainly expected to perform very well with regard to their duties as company controllers. Inability to produce anticipated effective internal control results may cause boards and compensation committees to impose monetary penalties. As an example in a somewhat different setting, Srinivasan (2005) reports significantly higher director turnover following a financial restatement, and reports that the likelihood of director turnover is highest for directors with the most accounting expertise. Consistent with these

results, we expect that the disclosure of MWs by CFOs with prior experience as audit partners will be associated with lower cash bonuses, beyond the effect attributed to the MW disclosure (i.e., a larger penalty for CFOs with prior experience as an audit partner).

H2c: CFO cash bonus will be negatively associated with the disclosure of internal control material weaknesses, and this association will be more negative for CFOs with prior experience as an audit partner.

Serving on Corporate Boards as a Reputation Attribute

Like the employment market for CEOs, which recognizes the economic benefits associated with CEO reputation (MacLeod and Malcomson 1988; Gibbins and Murphy 1992), the employment market for CFOs likely considers personal characteristics in addition to accounting expertise. Importantly, some CFOs have a positive reputation in their own companies, in the business community in general, or in a particular industry niche. These CFOs establish and maintain their reputation by serving on the board of directors at their own company (Likierman 2005) or on the board at other companies (and by serving on the audit committees of those boards in particular). For example, the corporate governance literature suggests that the number of directorships is indicative of superior performance (e.g., Fama and Jensen 1983; Kaplan and Reishus 1990, Ferris et al. 2003), although reputation does not necessarily always improve company performance, at least for CEOs (Francis et al. 2006; Malmendier and Tate 2007). Instead, the combination of reputation and performance appears to be important in determining the pay-for-performance relation (Lee 2006). Based on these studies, we expect that CFOs serving on corporate boards (their own or others) will be in a better negotiating position regarding their base salaries, but that cash bonus payments will be unrelated to reputation and will instead depend on current period performance.

H3a: CFO service on corporate boards will be positively associated with CFO base salary.

H3b: CFO service on corporate boards will not be associated with CFO cash bonus.

We also consider the interaction of a CFO's board service and the ability to produce effective internal control results on the receipt of a cash bonus. Related to this notion, Lee (2006) reports that companies with weak financial performance are more likely to dismiss CEOs with high-profile reputations than CEOs with low-profile reputations, i.e., larger penalties for weak performance. Based on this, we predict that CFOs serving on corporate boards will be penalized more severely for MW disclosures than CFOs not serving on corporate boards (their own or others).

H3c: CFO cash bonus will be negatively associated with the disclosure of internal control material weaknesses, and this association will be more negative for CFOs serving on corporate boards.

Board of Director Strength

The quality of the board of directors and its ability to monitor and reward CEOs has been the subject of numerous papers (e.g., Core et al. 1999). The literature on CEO compensation provides evidence that less effective corporate governance in general and weaker boards of directors in particular are less effective in monitoring management (Jensen 1993; Core et al. 1999; Brick et al. 2006), enabling CEOs to extract excessive compensation in terms of both base salary and bonuses (e.g., Grinstein and Hribar 2004). While this association has not been previously examined with respect to CFOs, it seems intuitive to predict that it will hold in the CFO context, and we use the following hypotheses as a baseline to test subsequent expectations:

H4a: Board of director strength will be negatively associated with CFO base salary.

H4b: Board of director strength will be negatively associated with CFO cash bonus.

But most importantly for our purposes, companies with stronger boards of directors may impose stricter monetary penalties on CFOs of companies that disclose MWs compared to companies with less effective corporate governance/weaker boards. Therefore, we predict:

H4c: CFO cash bonus will be negatively associated with the disclosure of internal control material weaknesses, and this association will be more negative for CFOs operating in companies with strong boards of directors.

III. METHODS

Sample and Data Collection

Our sample consists of companies with complete internal controls reports, CFO compensation, and board of director data for fiscal year 2005. We begin by collecting governance data, such as board and committee composition, board size, number of board meetings and CFO compensation for fiscal year 2005 from Audit Analytics. We eliminate companies in which the CFO salary was zero or CFO salary/bonus was in the 99th percentile, leaving us with 1,912 observations. We then eliminate observations in which the CFO is also designated as the CEO (N = 28), since these individuals have more varied job responsibilities than those with only the CFO designation. To avoid extraneous issues concerning CFO turnover, we eliminate observations for companies in which the CFO joined or left the company in the preceding or current period (N = 488). We then eliminate non-accelerated filers that did not need to comply with Section 404 of SOX (N = 312), companies in regulated industries (financials and utilities) (N = 348), and observations with missing financial data (N = 66). Finally, we remove observations with

incomplete CFO biographical data (N = 35), yielding a final data set that includes 635 observations. See Table 1 for a summary of our sample, including industry composition.

Insert Table 1 About Here

Dependent Variables

The first dependent variable is the natural log of CFO salary (*LnSalary*), which equals the cash-based salary that the CFO earned during that fiscal year. The second dependent variable is the natural log of CFO cash bonus (*LnBonus*). We summarize variable definitions and data sources in Table 2.

Insert Table 2 About Here

Independent Variables

Test Variables

In H1 we examine the association between material weakness disclosures and CFO compensation. We define *MW* as an indicator variable equal to one if the company reports a material weakness in its Section 404 report, and equal to zero otherwise.

In H2 we examine the association of CFO expertise with compensation. To create a variable representing CFO expertise we first obtain biographical information about CFOs from Audit Analytics (via a data feed from Hemscott Data). The Audit Analytics database provides corporate governance, executive compensation and biographical information of executives and directors in HTML format that is derived from proxy statements (most commonly the Def 14A). We then identify CFOs by parsing each officer title to identify the words “chief financial officer” or “cfo”. Third, we download each HTML page and use Perl, a programming language, to parse it and upload it to a SAS data set (see Core et al. 2007 for another example of the application of Perl). Fourth,

we parse these biographies to locate phrases indicating prior experience as an audit partner at a Big 4/5/6/8 or national audit firm. We search for phrases associated with the current names or past names of any of the Big 4/5/6/8 and the national audit firms, e.g., we use phrases such as “Ernst”, ”Deloitte”, “KPMG”, “Arthur Andersen”, “BDO”, etc. Finally, we manually read all the bios of CFOs that were flagged as former audit partners to verify our procedure. The measure, *AuditPartner*, equals one for CFOs with prior experience as audit partners in one of the Big 4/5/6/8 or the largest two national public accounting firms, and equals zero otherwise.²

H3 concerns the association of CFO board membership with compensation. To measure service on the CFO’s own board of directors, we use an indicator variable from Audit Analytics that equals one for CFOs who are members of their own board, and that equals zero otherwise (*CFOonOwnBoard*). Next, we use a novel data matching methodology to construct variables representing memberships on other boards. To construct the variables, we first use the unique ID assigned by Hemscott Data to each company executive and board member. This ID is unique across the universe of companies. Second, we use data from Audit Analytics on over 6,900 companies for which we have board data (but not necessarily other data such as Compustat or internal control filings). We examine whether the unique ID assigned to a CFO appears on any other boards. If so, we code the variable *CFOonOtherBoards* equal to one, and equal to zero otherwise. Using this methodology, we can identify CFOs that do not serve on their own board, but do serve on other boards; such identification is not possible using traditional public corporate governance data sets because these data sets capture CFO information only if they serve on their own board. We note that most CFOs that serve on

other boards do not serve on their own board (overlap between *CFOonOtherBoards* and *CFOonOwnBoard* occurs in only 11 observations in our sample).

CFOs on other boards can be members of audit committees, or simply members of the board at large. We partition *CFOonOtherBoards* into two additional indicator variables: (1) *CFOServeOnOtherAudit* is an indicator variable equal to one for CFOs who serve on at least one audit committee, and equal to zero otherwise, and (2) *CFOServeOnOtherNotAudit* is an indicator variable equal to one for CFOs who serve on other company boards but not on any audit committees, and equal to zero otherwise.

H4 concerns the association of board of director strength with CFO compensation. We follow the direction of prior studies and use a composite governance score (e.g. Carcello et al. 2006) to measure board strength. The governance score is composed of the following measures: board size (*BoardSize*), board meetings (*BoardMeetings*), percentage of inside directors on the board (*Pinsiders*), and an indicator for boards that are not chaired by the CEO (*CEOnotChair*). Consistent with prior studies, we view smaller, more independent boards that meet more frequently and are not chaired by the CEO as stronger boards (see e.g., Core et. al 1999). For each of the components (except for *CEOnotChair*) we calculate the sample median. We assign the value of one for high quality indicators (i.e., companies above the sample median for board meetings, or below the sample median for board size and percentage of inside directors). We then sum these values, including the value of the indicator variable, *CEOnotChair*, and calculate the sample median of the aggregated value. Our composite measure, *BoardScore* equals one for companies with an aggregated value that is greater than the sample median (i.e., higher quality), and equals zero otherwise (i.e., lower quality).

Control Variables

CFO Characteristics. We control for two CFO characteristics: the age of the CFO (*AGE*), and the number of years the CFO has been with the company (*Tenure*). Similar to the CEO literature (Core et al. 1999, Larcker et al. 2006) we expect that both CFO age and CFO tenure will be positively associated with salary, but not with bonus.

Financial Control Variables. Because salary is determined at the beginning of the year and bonus is evaluated at the end of the year, we use prior year financial data in models that estimate base salary, and we use current year data in models that estimate cash bonus. Our variables and directional predictions are consistent with those documented by CEO compensation studies (e.g. Core et al. 1999, Larcker et al. 2006). Regarding size, we include the natural log of total assets (*lnTA*), and expect a positive association with salary and bonus. To control for investment opportunities, we use the ratio of book to market (*BTM*), expecting a negative association with salary and bonus. We measure company performance in terms of stock returns (*Ret*) and accounting performance in terms of return on assets (*ROA*). We anticipate positive associations with these variables and bonus, but we make no directional prediction with regard to salary.

We control for risk in several ways. We calculate the standard deviation of returns (*stdRet*) and the standard deviation of ROA (*stdROA*) (over a period of no less than three years, and no more than four years), but we make no directional predictions for the association of these variable with either salary or bonus. We control for risk that relates to litigation (*Litigation*) with an indicator variable that equals one for companies in litigation prone industries and that equals zero otherwise. We expect that this variable will be positively associated with salary, but we make no directional prediction for

bonus.³ We define *Loss* as an indicator variable that equals one if the company experienced a loss in the current year (for the *LnBonus* model) or in the prior year (for the *LnSalary* model), and that equals zero otherwise. We define *Restatement* as an indicator variable that equals one if the company disclosed that it will restate its financials, and that equals zero otherwise. We expect that both variables will be negatively associated with bonus, but we make no directional prediction for salary.

We control for work complexity in terms of the number of company segments and recent restructuring, where *Geo_Bus_Segment* is the number of geographic and business segments possessed by the company, and *Restructure* is an indicator variable equal to one if the company was involved in a restructuring and equal to zero otherwise. We predict a positive association for both variables with salary, but we make no directional prediction for bonus. Finally, we control for industry effects by including two digit SIC code indicator variables (*Industry*), and we make no directional predictions for these variables. To control for potential outliers, we winsorize all continuous economic variables at the 2nd and 98th percentile (see Larcker et al. 2006).

We use OLS regression for our base salary models, and Tobit regression for our cash bonus models.⁴ In summary, we use the following models to consider the association of CFO salary and bonus with MW, CFO expertise, CFO reputation, and board of director strength, along with interactions of these variables with MW, and control variables as follows:

$$\begin{aligned} LnSalary = & \alpha + \beta_1 MW + \beta_2 AuditPartner + \beta_3 CFOServeOnOtherAudit \\ & + \beta_4 ServeOnOtherNotAudit + \beta_5 CFOonOwnBoard + \beta_6 BoardScore \\ & + \beta_{7-19} General\ Control\ Variables + \beta_{20-74} Industry\ Control\ Variables + e_1. \end{aligned}$$

$$\begin{aligned}
LnBonus = & \alpha + \beta_1 MW + \beta_2 AuditPartner + \beta_3 AuditPartner * MW \\
& + \beta_4 CFOServeOnOtherAudit + \beta_5 CFOServeOnOtherAudit * MW \\
& + \beta_6 ServeOnOtherNotAudit + \beta_7 ServeOnOtherNotAudit * MW \\
& + \beta_8 CFOonOwnBoard + \beta_9 CFOonOwnBoard * MW + \beta_{10} BoardScore \\
& + \beta_{11} BoardScore * MW + \beta_{12-24} General Control Variables \\
& + \beta_{25-78} Industry Control Variables + e_2.
\end{aligned}$$

IV. RESULTS

Descriptive Statistics

Table 3 presents descriptive data for our sample firms, in total and disaggregated by disclosure of MWs. The average CFO salary is \$316,932, with an average bonus of \$222,764. Results (not tabled) reveal that 69 CFOs receive no bonus, thus motivating use of a Tobit censored model for hypothesis testing regarding bonus compensation. Fourteen percent of the sample firms report MWs. In terms of CFO characteristics, the results reveal that five percent are former audit partners, 13 percent sit on other firms' boards (with about half of those serving on the audit committee of those boards), and nine percent sit on their own boards. Regarding board of director strength, the descriptive results reveal that the boards in our sample meet about seven times a year, have about nine members (of which 18 percent are insiders), and 40 percent of the time the CEO is not the chair of the board. These board characteristics are similar to those reported by recent prior research (e.g., Abbott et al. 2003; Carcello et al 2006; Chhaochharia and Grinstein 2006).

Insert Table 3 About Here

There are some interesting differences in descriptive statistics between companies that do versus do not disclose MWs. Both *LnSalary* and *LnBonus* are lower for MW companies ($t = 1.83, p = 0.07$; $t = 3.58, p = 0.00$). CFOs at MW companies are less likely

to serve on other companies' boards ($X^2 = 4.91$, $p = 0.03$), and have shorter tenure with their companies ($t = 2.27$, $p = 0.02$). Results concerning financial control variables are consistent with recent prior literature (Doyle et al. 2007; Bedard et al. 2007), showing that companies disclosing MW are smaller in terms of total assets ($t = 3.59$, $p = 0.00$), have higher *BTM* ($t = -3.69$, $p = 0.00$), are more likely to report a *LOSS* ($X^2 = 13.63$, $p = 0.00$), have higher *stdRet* and *stdROA* ($t = -2.74$, $p = 0.00$, $t = -2.45$, $p = 0.01$), and are more likely to have a *Restatement* ($t = 68.45$, $p = 0.00$).

Table 4 presents a correlation matrix of the dependent and independent variables used in hypothesis-testing. CFO salaries are positively correlated with bonus ($r = 0.574$, $p = 0.00$), prior experience as an audit partner ($r = 0.079$, $p = 0.05$), external board memberships (*CFOonOtherAudit*: $r = 0.209$, $p = 0.00$; *CFOonOtherNotAudit*: $r = 0.109$, $p = 0.00$), and with membership on their own board (*CFOonOwnBoard*: $r = 0.089$, $p = 0.02$). CFO salaries are negatively associated with the disclosure of material weakness (*MW*: $r = -0.070$, $p = 0.08$), and with board strength (*BoardScore*: $r = -0.082$, $p = 0.04$). CFO bonuses are also negatively correlated with MW disclosure ($r = -0.171$, $p = 0.00$), and are positively correlated with external board memberships (*CFOonOtherAudit*: $r = 0.160$, $p = 0.00$; *CFOonOtherNotAudit*: $r = 0.132$, $p = 0.00$).⁵

Insert Table 4 About Here

Hypothesis Tests

Internal Control Material Weaknesses

Table 5 reports results of models of base salary (Panel A) and bonus (Panel B) with independent variables including MW disclosure, CFO expertise, CFO reputation, and board strength. In both Panels A and B, Column 1 represents a model that includes

only the MW variable (plus control variables), while Column 2 represents a model that includes the MW variable and the other hypothesis-testing variables (plus control variables). Results show that the models are well-specified, wherein the Adj-R² of the salary regression models is between 64 and 66 percent, while the AIC for the Tobit models is between 3,443 and 3,448.⁶

H1 examines the association of MW disclosure with CFO salary and bonus. We expect no association of MW with salary (H1a), and a negative association with bonus (H1b). Results in Column A of both panels support these expectations, showing no significant association between MW and annual base salary, and a negative association between MW and bonus ($t = -2.36$, $p = 0.01$). This is consistent with the achieved level of internal control quality being used by boards and compensation committees as a year-end performance measure.⁷

Insert Table 5 About Here

CFO Prior Experience as an Audit Partner

H2 examines the association of CFO prior experience as an audit partner with CFO salary and bonus. We expect a positive association of CFO prior partner experience with salary (H2a), and no association with bonus (H2b). The results are consistent with these expectations, revealing that audit partner status is positively associated with salary ($t = 2.64$, $p = 0.00$), but not with bonus.

While the results show that companies pay salary premia for CFOs with greater accounting expertise (in terms of prior audit partner status), these CFOs also are likely held to a high standard of performance. Specifically, we predict that while CFO cash bonus will be negatively associated with the disclosure of MW, this association will be

more negative for CFOs with prior experience as audit partners (H2c). Our results support H2c, showing that the interaction $MW * AuditPartner$ is negative and significant ($t = -2.73, p = 0.00$). This result indicates that while all MW disclosures are associated with a bonus penalty, a further penalty is imposed on former audit partners.⁸

CFOs on Corporate Boards

H3 examines the association of CFOs who sit on corporate boards with CFO salary and bonus. We expect a positive association of CFO board memberships with salary (H3a), and no association with bonus (H3b). We first measure external board memberships with an indicator variable equal to one for CFOs who sit on other boards (results not tabled). We expect that CFOs who sit on other boards are likely to have a more prominent reputation, be on greater demand in the employment market, and consequently extract higher pay. Our results are consistent with these expectations, revealing that $CFOServeOnOtherBoards$ is positively associated with salary ($t = 2.41, p = 0.01$), but is not associated with bonus.

We refine our measure of CFO external board membership by also measuring whether individual CFOs do ($CFOServeOnOtherAudit$) or do not serve ($CFOServeOnOtherNotAudit$) on the audit committees of the boards on which they sit. The results show that both $CFOServeOnOtherAudit$ ($t = 2.40, p = 0.01$) and $CFOServeOnOtherNotAudit$ are associated with higher salary ($t = 1.30, p = 0.10$) but not higher bonuses, consistent with both H3a and H3b. Differences between the coefficients of $CFOServeOnOtherAudit$ and $CFOServeOnOtherNotAudit$ suggests marginally higher salaries for CFOs that sit on the audit committees of other boards ($F = 1.77, p = 0.09$).

We further examine the association of CFOs who sit on their own board of directors with CFO salary and bonus. Similar to expectations concerning other board memberships, we expect a positive association of *CFOonOwnBoard* with salary (H3a), but no association with bonus (H3b). Unlike CEOs, only a small percentage of CFOs sit on their own board (9 percent in our sample), thus motivating the study of their differential compensation. Results in Table 5 Panel A show that our expectation of higher salary among these individuals is supported ($t = 2.39, p = 0.01$). Further, results in Table 5 Panel B reveal that *CFOonOwnBoard* is unexpectedly (albeit marginally) positively associated with bonus payment ($t = 1.82, p = 0.07$).

We next examine whether disclosures of MWs by CFOs who sit on corporate boards are associated with the imposition of stricter bonus penalties among such individuals (H3c). We find that *CFOonOtherBoards*MW* is not significant (results not tabled). In addition, partitioning outside board memberships into *CFOServeOnOtherAudit*MW* and *CFOServeOnOtherNotAudit*MW* continues to yield insignificant results, so with respect to external board memberships, H3c is not supported. These results differ from those regarding bonus penalties for former audit partners, possibly because the decision of the CFO to become a member on other boards/audit committees is exogenous to the board.

We also test H3c with respect to CFOs who sit on their own boards, expecting that the interaction between CFO and MW (*CFOonOwnBoard*MW*) will be negatively associated with cash bonus (i.e., stricter bonus penalties for CFOs who serve on their own board). Consistent with this expectation, we find that *CFOonOwnBoard*MW* is negative ($t = -2.43, p = 0.01$). Overall, the findings for H3c are mixed, showing stricter bonus

penalties for CFOs who serve on their own board, but not for those who serve on other boards.

Board of Director Strength

H4 examines the association of board of director strength with CFO salary and bonus. We expect a negative association of board strength with both salary (H4a) and bonus (H4b). Further, we link board strength to MW disclosures, expecting that while CFO bonuses will be negatively associated with the disclosure of MWs, this association will be more negative for CFOs operating in companies with strong boards (i.e., a negative interaction of *BoardScore***MW*) (H4c). Results reveal no association between *BoardScore* and salary or bonus, so neither H4a nor H4b is supported. However, results provide support for H4c, revealing a negative and significant value on *BoardScore***MW* ($t = -3.30, p = 0.00$). These results show that strong boards impose bonus penalties on CFOs who report MWs.⁹

Control Variables

Commenting on control variables in the salary model (Table 5 Panel A), we find that CFO age is associated with higher salary ($t = 6.08, p = 0.00$).¹⁰ The results also reveal a positive association of salary with *lnTA* ($t = 24.38, p = 0.00$), a negative association with *BTM* ($t = -2.34, p = 0.01$), a negative association with *ROA* ($t = -2.12, p = 0.03$) and a positive association with *stdROA* ($t = 2.31, p = 0.02$). We also observe that CFO compensation is positively associated with both membership in industries prone to *Litigation* ($t = 1.76, p = 0.04$) and is marginally associated with restructuring activities ($t = 1.33, p = 0.10$). Results for control variables in the bonus Tobit model (Table 5 Panel B) are similar to those in the salary model, with positive associations between bonus and

lnTA ($t = 3.78, p = 0.00$), *Litigation* ($t = 1.94, p = 0.05$), and *Restructure* ($t = 2.42, p = 0.00$), and a negative association between bonus and *BTM* ($t = -1.60, p = 0.05$). Results also reveal a positive association of bonus with *Ret* ($t = 3.02, p = 0.00$) and complexity in terms of geographic business segments ($t = 2.48, p = 0.01$). Finally, we observe that *LOSS* is marginally negatively associated with bonus ($t = -1.42, p = 0.08$).

Sensitivity Analyses

Material Weakness Severity

We test the sensitivity of the results to material weakness severity, as opposed to simply the presence/absence of a MW, which is the focus of our main analyses. Accelerated filers were required to start compliance with Section 404 of SOX in 2004. Therefore, during 2005 (our sample period), it could be that companies did not report MWs that were previously disclosed in 2004, implying remediation of these control deficiencies. Further, it is possible that companies that did not report any MW in 2004 reported new problems in 2005. Finally, some companies report MWs in 2004 as well as in 2005 (i.e., consecutive MW disclosures). We conduct a sensitivity analysis that acknowledges that these alternative scenarios reflect on the severity of the MW situation faced by CFOs.

To conduct the analysis, we construct a measure for these alternatives (*MW Severity*) in which higher values represent more severe internal control problems. For companies with no MW disclosures in either 2004 or 2005, *MW Severity* equals zero, i.e., no problems. Companies that remediate MWs in 2005 that were initially disclosed in 2004 are assigned the value of one, i.e., a past problem that has been eliminated in the current period. Companies that initially report a MW in 2005, but that did not disclose a MW in

2004, are assigned the value of two. Finally, *MW Severity* equals three for companies that disclose MWs in both 2004 and 2005.

When we include *MW Severity* in the salary model in place of *MW*, we find that hypothesis testing results are essentially unchanged. When we include *MW Severity* in the bonus model in place of *MW*, we also find that hypothesis testing results are essentially unchanged. Specifically, results show that *MW Severity* is negatively associated with bonus ($t = -1.82$, $p = 0.03$), revealing that more severe MW scenarios are associated with bigger bonus penalties. Further, the interactions of *MW Severity* with the CFO expertise (*AuditPartner***MW Severity*: $t = -2.72$, $p = 0.01$), CFO reputation (*CFOonOwnBoard***MW Severity*: $t = -3.48$, $p = 0.00$), and board strength (*BoardScore***MW Severity*: $t = -3.41$, $p = 0.00$) variables are all consistent with the results of our main analyses. These results provide evidence of larger bonus penalties for more severe MW scenarios when CFOs have greater expertise/reputation, and when boards are stronger, compared to scenarios when CFOs have weaker expertise/reputation and when the board at their own company is weaker.

Equity Compensation

We also test the association of MW disclosures with equity compensation. To perform this test, we use the Black-Scholes value of options granted during fiscal 2005. We obtained equity compensation data for 337 companies from ExecuComp. We manually collected the remaining data (298 companies) from proxy filings, and then followed Standard & Poor's methodology for calculating the value of the stock options granted. Using a Tobit regression, we find no association between the Black-Scholes value of the option grants and MW disclosures.

A number of explanations for the lack of association between equity compensation and MW disclosures are plausible. First, the objective of long term equity compensation for named executive officers is usually intended to tie the interests of management with that of shareholders with respect to *future* performance rather than past performance. Second, a number of external factors, not related to performance, could influence option grants, including past option grants for a particular executive and time in the current position. Third, a new regulation requiring stock option expensing (FASB 2004) could result in non-systematic option granting behavior in our sample period (see also Carter et al. 2007).

V. LIMITATIONS AND CONCLUSIONS

Limitations

We acknowledge certain limitations of our analyses. First, we note that our sample period (fiscal year 2005) is a period of heightened managerial sensitivity to the importance of and requirements associated with internal control reporting. Comparing our results to prior research in time periods preceding Sarbanes-Oxley (SOX) and Section 302 and 404 reporting may not in all cases be appropriate given the significant shifts in the political, regulatory, and litigation environments pre- and post-SOX. Further, it is likely that boards of directors and compensation committees are particularly sensitive to the internal control reporting issues pertinent in the 2005 time period, and our results may not be as strong if there is substantially reduced emphasis on internal control reporting in the future. Second, we acknowledge that there may be potential correlated omitted variables that we have not included in our analysis, and the extent to which one can rely

on our results rests on the assumption that such variables do not provide convincing alternative explanations for the results.

Conclusions

We examine how CFO cash compensation relates to MW disclosures, and consider the roles of CFO expertise, CFO reputation, and board of director strength in moderating this relationship. We contribute to the existing CFO compensation literature with an investigation of issues that pertain specifically to CFO responsibilities and characteristics during the initial years of compliance with the internal control reporting and certifications under Sections 302 and 404 of SOX. We examine a sample of 635 observations during 2005 and find evidence that CFOs who report ineffective internal controls receive monetary bonus penalties. Further, those bonus penalties are more severe for CFOs that are former audit partners, CFOs that serve on their own companies' boards, and CFOs in companies that have stronger corporate governance in terms of the structure of the board of directors.

Prior research shows increases in CFO turnover following MW disclosure (Li et al. 2007), yet the impact of MW disclosure on CFO compensation has not been previously studied. Anecdotal evidence from compensation committee reports of public companies suggests that internal controls are viewed as a performance measure for CFOs. Our results support this view, indicating the importance of internal control quality revelations for CFO bonus compensation (but not for base salary), and that this association is independent of the impact of MW disclosure on stock returns. These findings are important as they suggest that boards and compensation committees are willing to act on behalf of shareholders and inflict monetary penalties on CFOs who fail

to maintain effective internal controls. These results also highlight the importance of non-financial measures in year-end performance evaluation.

Our study is the first to examine the association of CFO accounting expertise with CFO compensation. This examination is motivated by the recent attention given to accounting related tasks that are under the responsibility of the CFO. Our results reveal that CFOs with prior experience as audit partners receive higher salaries, but not higher bonuses. Further, we find that CFOs with prior experience as audit partners receive stricter bonus penalties in relation to MW disclosures compared to CFOs without such experience. This result reveals the likely disappointment of compensation committees when the performance of highly qualified CFOs fails to live up to expectations.

This paper is also the first to consider how CFO reputation is associated with CFO compensation. Regarding the impact of external board memberships on CFO compensation, the results show that CFO membership on other boards is associated with higher base salary. Contrary to expectations, we find that CFOs serving on other boards who also report MWs do not experience stricter bonus penalties, perhaps because the decision to become a member on other boards is exogenous to the CFOs' own boards. Turning to within-firm reputation, we examine whether the minority of CFOs who are granted a seat on their own board of directors (just nine percent in our sample) are able to negotiate superior compensation. The results reveal that CFOs with the stature of serving on their own board extract higher base salary and cash bonuses. However, the results also show stricter penalties on CFOs who sit on their board and disclose MWs compared to other CFOs. We infer that the greater performance expectation for CFOs who sit on their

own boards might lead to greater displeasure with such CFOs when they fail to report high quality internal controls.

Finally, we extend the CEO literature that investigates the role of the board of directors in monitoring and rewarding executives. In our CFO context, we document no association between board strength and CFO base salary or bonuses (contrary to our expectations). Importantly, however, we find that stronger boards are more likely to impose stricter penalties on CFOs that report MWs, compared to weaker boards. Thus, our results reveal the importance of effective corporate governance in imposing incentive structures on CFOs that reflect the expectations associated with the requirements of SOX.

Taken together, our results provide new insight concerning the effects of SOX as it relates to changes in the monitoring, reporting, and certification of internal controls. The results reveal the accountability implications for CFOs reporting MWs, particularly for CFOs with personal characteristics that would otherwise imply that under their leadership a MW disclosure is less likely. Our results thus shed light on previously unexplored consequences of contemporary changes in the regulatory, political, and legal environment in which CFOs operate.

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Table 1
Sample and Industry Composition

Panel A: Sample Derivation

Description	N
Initial sample from Audit Analytics	1,912
Removal of firms with joint CFO and CEO role	(28)
Removal of firms with CFO turnover	(488)
Removal of non-accelerated filers	(312)
Removal of utility or financial firms	(348)
Removal of firms with missing data from Compustat	(66)
Removal of firms with missing biographical data	(35)
Final Sample	635

Panel B: Industry Composition

<u>SIC</u>	<i>Industry Description</i>	N	%
0	Agriculture	4	0.63%
10-14	Mining	43	6.77%
15-17	Construction	6	0.94%
20-39	Manufacturing	323	50.87%
40-48	Transportation, communications	54	8.50%
50-51	Wholesale trade	22	3.46%
52-59	Retail trade	56	8.82%
70-89	Service	127	20.00%
	Total	635	100.00%

Table 2
Variable Definitions

Variable Name	Variable Definition [source]
<i>LnSalary</i>	The natural log of CFOs' base salary [<i>Audit Analytics</i>]
<i>LnBonus</i>	The natural log of CFOs' bonus [<i>Audit Analytics</i>]
<i>MW</i>	An indicator variable equal to one if the company had a material weakness in its internal controls; zero otherwise [<i>Audit Analytics</i>]
<i>AuditPartner</i>	An indicator variable equal to one if the CFO is a former Big 4/5/6/8 or largest two national firm audit partner; zero otherwise [<i>Audit Analytics</i>]
<i>CFOonOwnBoard</i>	An indicator variable equal to one if the CFO also serves on the board of directors; zero otherwise [<i>Audit Analytics</i>]
<i>CFOon OtherBoards</i>	An indicator variable equal to one if the CFO serves on at least one additional board; zero otherwise [<i>Audit Analytics</i>]
<i>CFOServe OnOtherAudit</i>	An indicator variable equal to one if the CFO serves on at least one additional audit committee; zero otherwise [<i>Audit Analytics</i>]
<i>CFOServe OnOtherNotAudit</i>	An indicator variable equal to one if the CFO serves on at least one additional board, but not additional audit committee; zero otherwise [<i>Audit Analytics</i>]
<i>BoardSize</i>	Number of members serving on the board of directors [<i>Audit Analytics</i>]
<i>BoardMeetings</i>	Number of meetings held by the board for the fiscal year [<i>Audit Analytics</i>]
<i>Pinsiders</i>	Percentage of insiders as board members [<i>Audit Analytics</i>]
<i>CEOnotChair</i>	An indicator variable equal to one if the CEO is not the chairman of the board; zero otherwise [<i>Audit Analytics</i>]
<i>BoardScore</i>	An indicator variable equal to one if the composite score is greater than the within-sample median; zero otherwise. The composite score comprises board size, board meetings, percent of insiders, and CEOs who do not chair the board [<i>Audit Analytics</i>]
<i>AGE</i>	Age of the CFO [<i>Audit Analytics</i>]
<i>TENURE</i>	Number of years the CFO has been with the company [<i>Audit Analytics</i>]
<i>LnTA</i>	The natural log of total assets [<i>Compustat data6</i>]

Table 2
Variable Definitions (continued)

<i>BTM</i>	Book value of common equity divided by market value of equity. [Compustat Data60 divided by (data25 * data199)]
<i>Ret</i>	Annual stock return: the percentage change of this year stock price from last year stock price [Compustat data199 divided by last year data 199, -1]
<i>ROA</i>	Net income divided by total assets [Compustat data172 divided by data6]
<i>stdRet</i>	the standard deviation of Ret over a period of no less than three years and no more than four years [Compustat]
<i>stdROA</i>	the standard deviation of ROA over a period of no less than three years and no more than four years [Compustat]
<i>Litigation</i>	An indicator variable equal to one if a firm is in a litigious industry—SIC codes 2833 to 2836; 3570 to 3577; 3600 to 3674; 5200 to 5961; and 7370; zero otherwise [Compustat]
<i>Loss</i>	An indicator variable equal to one if the company experienced a loss in the current year (for the <i>LnBonus</i> model) or in the prior year (for the <i>LnSalary</i> model); zero otherwise. [Compustat data item #172]
<i>Restatement</i>	An indicator variable equal to one if a firm disclosed that it will restate its financials; zero otherwise [Audit Analytics]
<i>Geo_Bus_Segment</i>	Number of reported business and geographic segments [Compustat Segment file]
<i>Restructure</i>	An indicator variable equal to one if a firm was involved in a restructuring; zero otherwise. [Coded as one if any of the following Compustat data items are non-zero: 376, 377, 378 or 379.]

Table 3
Descriptive Statistics

<i>Variable</i>	<u>Mean</u>	<u>Median</u>	<u>Std Dev</u>	<u>Mean</u>	<u>Median</u>	<u>Std Dev</u>	<u>Mean</u>	<u>Median</u>	<u>Std Dev</u>	<i>t or Chi-squared statistic for differences</i>
	<i>Pooled Sample N=635</i>			<i>Material Weakness Companies N=86</i>			<i>Companies with no MW N=549</i>			
<i>Salary</i>	316,932	286,500	116,983	297,022	262,500	111,837	320,051	289,346	117,562	1.70*
<i>LnSalary</i>	12.60	12.57	0.36	12.54	12.48	0.36	12.61	12.58	0.35	1.83*
<i>Bonus</i>	222,764	150,000	230,874	144,893	96,201	186,644	234,962	165,300	234,869	3.39***
<i>LnBonus</i>	10.71	11.92	3.86	9.34	11.47	4.75	10.93	12.02	3.66	3.58***
<i>MW</i>	0.14	0.00	0.34	NA	NA	NA	NA	NA	NA	NA
<i>AuditPartner</i>	0.05	0.00	0.22	0.05	0.00	0.21	0.05	0.00	0.22	0.011
<i>CFOonOther Boards</i>	0.13	0.00	0.34	0.06	0.00	0.24	0.15	0.00	0.35	4.91**
<i>CFOServe OnOtherAudit</i>	0.06	0.00	0.24	0.03	0.00	0.18	0.06	0.00	0.24	1.09
<i>CFOServe OnOtherNotAudit</i>	0.07	0.00	0.26	0.02	0.00	0.15	0.08	0.00	0.27	3.73*
<i>CFOonOwnBoard</i>	0.09	0.00	0.28	0.10	0.00	0.31	0.08	0.00	0.28	0.40
<i>BoardMeetings</i>	7.19	7.00	3.22	7.63	7.00	4.01	7.12	6.00	3.07	-1.37
<i>BoardSize</i>	8.65	8.00	2.25	8.51	8.00	2.06	8.67	8.00	2.28	0.62
<i>Pinsiders</i>	0.18	0.14	0.09	0.17	0.14	0.08	0.18	0.14	0.09	1.10
<i>CEOnotChair</i>	0.40	0.00	0.49	0.45	0.00	0.50	0.39	0.00	0.49	1.33
<i>BoardScore</i>	0.37	0.00	0.48	0.41	0.00	0.49	0.36	0.00	0.48	0.74
<i>AGE</i>	49.82	50.00	6.42	50.43	50.00	6.32	49.72	49.00	6.43	-0.95
<i>TENURE</i>	8.24	7.00	4.85	7.14	6.00	5.03	8.41	7.00	4.80	2.27**
<i>lnTA</i>	6.55	6.49	1.57	5.98	5.90	1.29	6.63	6.59	1.60	3.59***
<i>BTM</i>	0.41	0.37	0.29	0.52	0.45	0.37	0.39	0.36	0.27	-3.69***

Table 3
Descriptive Statistics (continued)

<i>Variable</i>	<u>Mean</u>	<u>Median</u>	<u>Std Dev</u>	<u>Mean</u>	<u>Median</u>	<u>Std Dev</u>	<u>Mean</u>	<u>Median</u>	<u>Std Dev</u>	<i>t or Chi-squared statistic for differences</i>
	<i>Pooled Sample N=635</i>			<i>Material Weakness Companies N=86</i>			<i>Companies with no MW N=549</i>			
<i>Ret</i>	0.07	0.00	0.42	0.07	-0.05	0.49	0.07	0.01	0.41	0.18
<i>ROA</i>	0.02	0.05	0.17	0.00	0.03	0.14	0.02	0.06	0.17	1.08
<i>stdRet</i>	0.75	0.44	0.98	1.02	0.55	1.36	0.71	0.43	0.90	-2.74***
<i>stdROA</i>	0.08	0.03	0.15	0.11	0.04	0.24	0.07	0.03	0.13	-2.45**
<i>Litigation</i>	0.26	0.00	0.44	0.30	0.00	0.46	0.25	0.00	0.44	0.93
<i>Loss</i>	0.22	0.00	0.41	0.37	0.00	0.49	0.19	0.00	0.40	13.63***
<i>Restatement</i>	0.12	0.00	0.33	0.40	0.00	0.49	0.08	0.00	0.27	68.45***
<i>Geo_Bus_Segment</i>	4.36	4.00	2.66	4.44	4.00	2.89	4.34	4.00	2.62	-0.32
<i>Restructure</i>	0.29	0.00	0.45	0.36	0.00	0.48	0.28	0.00	0.45	2.29

See variable definitions in Table 2. *** significant at 1% level; ** significant at 5% level; * significant at 10% level. Chi-squared is used to test indicator variables.

Table 4
Correlation Matrix

N=635

	1.	2.	3.	4.	5.	6.	7.	8.
1. <i>LnSalary</i>		0.245***	-0.073*	0.072*	0.214***	0.109***	0.087**	-0.086**
2. <i>LnBonus</i>	0.574***		-0.141***	0.009	0.081**	0.087**	0.043	-0.029
3. <i>MW</i>	-0.070*	-0.171***		-0.004	-0.042	-0.077*	0.025	0.034
4. <i>AuditPartner</i>	0.079**	-0.006	-0.004		-0.026	0.048	0.008	-0.005
5. <i>CFOonOtherAudit</i>	0.209***	0.160***	-0.042	-0.026		-0.071*	0.135***	-0.067*
6. <i>CFOonOtherNotAudit</i>	0.109***	0.132***	-0.077*	0.048	-0.071*		-0.044	0.023
7. <i>CFOonOwnBoard</i>	0.089**	0.064	0.025	0.008	0.135***	-0.044		-0.199***
8. <i>BoardScore</i>	-0.082**	-0.057	0.034	-0.005	-0.067*	0.023	-0.199***	

See variable definitions in Table 2. *** significant at 1% level; ** significant at 5% level; * significant at 10% level. Pearson correlations are presented above the diagonal, and spearman correlations are presented below.

Table 5
CFO Compensation, MW Disclosure, CFO Characteristics and Board of Director Strength

Panel A: Base Salary (N=635)

		<i>1.</i>	<i>2.</i>
	<i>Predicted Sign</i>	<i>Coefficient (t-statistic)</i>	<i>Coefficient (t-statistic)</i>
<i>Variable</i>			
<i>INTERCEPT</i>		10.82 (47.99***)	10.88 (48.82***)
<i>MW (H1a)</i>	+/-	0.00 (0.00)	0.00 (0.14)
<i>AuditPartner (H2a)</i>	+		0.11 (2.64***)
<i>CFOServe OnOtherAudit (H3a)</i>	+		0.09 (2.40***)
<i>CFOServe OnOtherNotAudit (H3a)</i>	+		0.04 (1.30*)
<i>CFOonOwnBoard (H3a)</i>	+		0.08 (2.39***)
<i>BoardScore (H4a)</i>	-		-0.01 (-0.36)
<i>AGE</i>	+	0.01 (7.00***)	0.01 (6.08***)
<i>TENURE</i>	+	-0.00 (-1.27)	-0.00 (-0.87)
<i>lnTA</i>	+	0.18 (25.07***)	0.18 (24.38***)
<i>BTM</i>	-	-0.09 (-2.62***)	-0.08 (-2.34***)
<i>Ret</i>	+/-	0.02 (1.35)	0.02 (1.08)
<i>ROA</i>	+/-	-0.15 (-2.04**)	-0.16 (-2.12**)
<i>stdRet</i>	+/-	0.00 (-0.06)	0.00 (0.11)
<i>stdROA</i>	+/-	0.13 (2.31**)	0.14 (2.31**)
<i>Litigation</i>	+	0.08 (2.07**)	0.07 (1.76**)
<i>Loss</i>	+/-	0.01 (0.17)	0.00 (0.04)
<i>Restatement</i>	+/-	0.05 (0.71)	-0.03 (-0.86)
<i>Geo_Bus_Segment</i>	+	-0.00 (-0.48)	-0.00 (-0.37)
<i>Restructure</i>	+	0.03 (1.46*)	0.03 (1.33*)
<i>Adj- R²</i>		0.64	0.66

See variable definitions in Table 2. *** significant at 1% level; ** significant at 5% level; * significant at 10% level. One-tailed tests are used when coefficients have predicted signs.

Table 5 (continued)
CFO Compensation, MW Disclosure, CFO Characteristics and Board of Director Strength

Panel B: Bonus (N=635)

		<i>1.</i>	<i>2.</i>
	<i>Predicted Sign</i>	<i>Coefficient (t-statistic)</i>	<i>Coefficient (t-statistic)</i>
<i>Variable</i>			
<i>INTERCEPT</i>		8.61 (2.15**)	9.70 (2.46**)
<i>MW (H1b)</i>	-	-1.20 (-2.36***)	-0.90 (-1.62**)
<i>AuditPartner (H2b)</i>	+/-		1.14 (1.43)
<i>AuditPartner*MW (H2c)</i>	-		-6.01 (-2.73***)
<i>CFOServeOnOtherAudit (H3b)</i>	+/-		0.92 (1.28)
<i>CFOServe OnOtherAudit*MW (H3c)</i>	-		0.01 (0.01)
<i>CFOServeOnOtherNotAudit (H3b)</i>	+/-		-0.90 (-1.48)
<i>CFOServe OnOtherNotAudit*MW (H3c)</i>	-		2.53 (0.83)
<i>CFOonOwnBoard (H3b)</i>	+/-		1.15 (1.82*)
<i>CFOonOwnBoard*MW (H3c)</i>	-		-3.93 (-2.43***)
<i>BoardScore (H4b)</i>	-		0.56 (1.60)
<i>BoardScore*MW (H4c)</i>	-		-3.34 (-3.30***)
<i>AGE</i>	+/-	-0.00 (-0.04)	-0.02 (-0.75)
<i>TENURE</i>	+/-	-0.02 (-0.47)	-0.02 (-0.61)
<i>lnTA</i>	+	0.49 (3.84***)	0.49 (3.78***)
<i>BTM</i>	-	-1.41 (-2.29**)	-0.98 (-1.60*)
<i>Ret</i>	+	1.24 (2.96***)	1.25 (3.02***)
<i>ROA</i>	+	-0.01 (-0.01)	0.14 (0.10)
<i>stdRet</i>	+/-	0.13 (0.70)	0.14 (0.75)
<i>stdROA</i>	+/-	-1.39 (-1.04)	-0.90 (-0.67)
<i>Litigation</i>	+/-	1.47 (2.15**)	1.32 (1.94**)
<i>Loss</i>	-	-0.89 (-1.62*)	-0.78 (-1.42*)
<i>Restatement</i>	-	0.11 (0.20)	-0.12 (-0.21)
<i>Geo_Bus_Segment</i>	+/-	0.15 (2.15**)	0.17 (2.48**)
<i>Restructure</i>	+/-	1.00 (2.63***)	0.91 (2.42**)
<i>AIC</i>		3,448	3,443
<i>Log Likelihood</i>		-1,653	-1,640

See variable definitions in Table 2. *** significant at 1% level; ** significant at 5% level; * significant at 10% level. One-tailed tests are used when coefficients have predicted signs.

ENDNOTES

¹ We focus on cash compensation and not on stock option compensation for a number of reasons. First, a new regulation requiring stock option expensing (FASB 2004) could result in non-systematic option granting behavior in our sample period. Other contemporary research shares a similar concern (e.g., Carter et al. 2007), and notes the decrease in the option-based portion of compensation (Chhaochharia and Grinstein 2006). Second, option based compensation is designed as a long term incentive to drive future performance, rather than as a reaction to past performance. Further, companies often grant options multiple times a year, usually before year end, at which point it might not be known whether a MW is present and will not be remediated by year end. Therefore, the long term objective and the ex ante decision to grant options suggest no association between MW disclosure and option based compensation. For completeness, however, we conduct a sensitivity test using stock option compensation as the dependent variable, and we find no relation with MW disclosure.

² The Big 8 audit firms include Arthur Andersen, Arthur Young & Company, Coopers & Lybrand, Ernst & Whinney, Deloitte Haskins & Sells, KPMG Peat Marwick, Price Waterhouse, and Touche Ross. The Big 6 include Arthur Andersen, Coopers & Lybrand, Ernst & Young, Deloitte & Touche, KPMG Peat Marwick, and Price Waterhouse. The Big 5 include Arthur Andersen, KPMG, Deloitte, Ernst & Young, and PricewaterhouseCoopers. The Big 4 include KPMG, Deloitte, Ernst & Young, and PricewaterhouseCoopers. The two national audit firms are BDO Seidman and Grant Thornton.

³ The following SIC codes are associated with industries more prone to litigation: 2833 to 2836, 3570 to 3577, 3600 to 3674, 5200 to 5961, and 7370 (See Ashbaugh-Skaife et al. 2007).

⁴ Because cash bonus could be censored at zero, the use of Tobit regression is common (e.g., Bryan et al. 2005; Bergman and Jenter 2007).

⁵ In order to avoid potential multicollinearity problems, we center independent variables (at their mean) that we interact with MW. Following this transformation, in a linear regression there are no indications of collinearity, with the highest variance inflation factor being 2.14, which is well below the 10.00 cutoff (Belsley et al. 1980).

⁶ The output from SAS Proc Qlim procedure used for the censored Tobit model does not provide a goodness of fit measure. Linear regression yielded consistent results and an Adj-R² of 16.1 percent.

⁷ Prior research finds that the disclosure of a material weakness is associated with negative stock returns (De Franco et al. 2005; Beneish et al. 2007; Hammersley et al. 2007). Hence, it could be that the influence of a material weakness on returns might drive the observed negative association between *BONUS* and *MW*. To examine whether this relationship is spurious we interact *MW*Ret* and include it in the Tobit regression. Results show that *Ret* continues to be positive and significant and *MW* continues to be negative and significant, whereas *MW*Ret* is not significant. This suggests that the impact of a material weakness on bonus payments is independent of returns.

⁸ The practitioner literature reports that the CPA certification is valued in CFO hiring decisions (O'Sullivan 2004), and a large percentage of CFOs hold a CPA designation (Durfee 2005). In fact, about 22 percent of the CFOs in our sample are CPAs, and the percentage does not vary by *MW* disclosure groups. Given this lack of variability, it is not surprising that we find no significant interactive effect of CPA certification X *MW* on bonus.

⁹ We conduct a similar analysis using the raw value of our board score, i.e. from zero to four (not tabled) and results are essentially the same.

¹⁰ As we note previously, we use lagged variables for the salary estimation models. Results for all of our hypotheses are essentially the same when we include contemporaneous financial measures rather than lagged measures.