

The Effect of Sarbanes-Oxley Act on CFO Compensation and Rank

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Abstract

We examine the increasing prominence of CFOs in the executive suite in relation to the passage of Sarbanes-Oxley Act (SOX) and provide insight into three related questions: the level of CFO compensation and rank, the likelihood of the CFO being in the top five highest paid executives, and the relationship between CFO pay and performance. We find that CFO compensation and the compensation rank within the set of top five highest paid executives exhibit an increasing trend over the 1994-2006 period. The logistic regression analysis on the S&P 1,500 firms reveals that the probability of the CFO being in the top five is larger post-SOX controlling for the firm characteristics and board structure. In the OLS regressions on CFO compensation that control for the time trend and the unobserved industry characteristics along with firm characteristics and governance structure, the coefficients on the *Post_SOX* dummy is positive and significant at the conventional levels. Based on the CFO responsibilities on communicating effectively with analysts and the investing community, we proxy for CFO performance with the dispersion in analyst forecasts and earnings surprises. When we examine the effect of CFO-specific performance variables on CFO pay, we find that CFO compensation is positively related to earnings surprises and negatively related to the dispersion in analyst forecasts.

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1. Introduction

The literature on executive compensation has focused largely on the CEO, presumably because this position embodies a disproportionate amount of authority and responsibility. Ever increasing importance of financial management in the presence of truly global capital markets however, should have enhanced the responsibilities of other members of the executive suite as well, but little is known about compensation and performance for these officers. In particular, the passage of the Sarbanes-Oxley Act (SOX) in 2002 further increased the responsibilities of the CFO by requiring both the CEO and CFO to certify to the accuracy of the firm's financial statements and by requiring them to reimburse the company for any bonuses received if the company has to restate its earnings.

In this paper we examine the increasing prominence of the CFOs in the executive suite in relation to the passage of SOX. We provide insight into three related questions - the level of CFO compensation and rank, the determinants of CFO compensation, and the relationship between CFO pay and performance. Our work utilizes the *ExecuComp* database, which includes compensation data for the highest paid executives at firms in the S&P 1,500.

We find that the proportion of S&P 1,500 firms in our sample where CFO was one of the five highest paid executives was 54% in 1994. This proportion has increased steadily over time, reaching 69% in 2000 and 93% by 2006, indicating that firms view CFOs to be more and more important. At the same time, the proportion of firms where COO was one of the five highest paid executives dropped from 38% in 1994 to 35% in 2006. Similar trend is observed for the CFO total compensation and rank within the top five executives. Average total compensation of CFOs

increased steadily through the 1994-2006 period in both nominal and real terms, with a spike in 1999-2001 period. The total compensation rank for CFOs has also increased during the sample period. The trends in average cash compensation (salary and bonus) and cash compensation rank are similar to those of total compensation and total compensation rank, but relatively modest. In contrast, COOs experienced decreases in their cash and total compensation-based ranks within the set of five highest-paid executives over the period of 1994-2006.

These findings support the view that increasing globalization and financial market integration, coupled with increased responsibilities and risk-bearing has increased the relative importance of the CFO position, with corresponding increases in compensation and rank. Comparing firms where the CFO is (is not) one of the five highest-paid executives reveals that the probability of the CFO being in the top five increases with shareholder returns and firm risk, declines with the firm's market-to-book ratio and is larger post-SOX. The probability is also related to the firm's governance structure, and varies directly with board size and board independence.

An appropriate measure of CFO performance is not readily apparent because while the CEO is responsible for overall corporate performance, the CFO has more limited responsibilities. Since CFO responsibilities include communicating effectively with analysts and the investing community, we proxy for CFO performance with the dispersion in analyst forecasts, and with earnings surprises. We include these measures of CFO-specific performance in multivariate regressions designed to examine the CFO compensation.

In addition to being higher post-SOX, we find that CFO compensation is increasing in firm size, market-to-book, stock returns and total risk, where the latter is proxied by the volatility of

stock returns. As for the relation between CFO pay and CFO-specific performance, CFO compensation is negatively related to the dispersion in analyst forecasts and positively related to earnings surprises. Not surprisingly, the governance structure influences CFO compensation, which is found to be positively related to board size and board independence, and is lower at firms where the CEO and Chair positions are held by different individuals.

2. Related literature and hypothesis development

2.1. Increasing prominence of CFOs

Zorn (2004) presents an historical analysis of the emergence of the CFO position among a sample of some 400 major U.S. corporations during the period 1963-2000. He reports that the position first emerged in 1964 largely as a way to manage growing numbers of diversifying acquisitions. The number of firms with officers designated as CFOs remained fairly small until 1979, when the issuance of FASB Statement 33 created reporting requirement that could have a significant negative impact on reported earnings. Following this trigger, the proportion of firms with CFOs increased from zero to 80 percent over the next two decades. While the change in reporting requirements may have provided the initial impetus for firms to appoint a CFO, the steady increase in firms with CFOs observed over the following decades was for a myriad of reasons. The deregulation wave that started in the 1980s made the task of financial management more important, as firms increasingly put their focus on identifying core competencies, and maximizing shareholder value became the primary driver of corporate strategy. Corporate restructuring was facilitated by the emergence of high-yield debt markets, and firms increasingly engaged in mergers, divestitures of non-core businesses, share repurchases, leverage increasing

changes in capital structure and hostile takeover bids. The increased focus on maximizing shareholder value also made the task of communicating with and managing expectations of the analyst and investing community increasingly important.

The focus on shareholder value led in the 1990s to significant changes in the structure of executive compensation, as option-based incentive compensation grew to constitute the major proportion of total compensation. Increasing globalization, the steady opening up of world markets in the 1990s and the emergence of truly global capital markets further increased the importance of financial management, culminating with the passage of SOX, which mandates that both the CEO and the CFO certify to the accuracy of reported financial statements.

2.2. Effects of Sarbanes-Oxley Act

Since its passage, there has been an ongoing debate on benefits and costs imposed by SOX. While the proponents emphasize more reliable financial reporting, greater transparency, and accountability as the main benefits for investors, the critics point out significant compliance costs for firms. Event studies offer conflicting evidence depending on their choice of event days. For example, Zhang (2007) examines stock price reactions to key legislative events related to the passage and implementation of SOX. As non-U.S.-traded foreign firms are exposed to common global economic news as U.S. firms but are not directly affected by SOX, she examines abnormal returns of the U.S. market relative to returns of these foreign firms. After taking into account different markets exhibiting different response to common economic news in computing U.S. expected returns, the estimated U.S. cumulative abnormal returns around key SOX events range from -3.76% to -8.21% suggesting that SOX imposes statistically significant net costs on complying firms. Rezaee and Jain (2006) and Li et al. (2008) find significantly positive

cumulative event return to SOX using slightly different event days, suggesting that SOX was beneficial to firms. In a related event study, Chang et al. (2006) infer that enacting the sworn certification of financial statements as a permanent reporting requirement under the SOX likely resulted in improved investors' confidence in corporate reporting¹.

Engel et al. (2007) analyze firms' going-private decisions around SOX as well as the market responses to these decisions. They find a statistically significant increase in the number of firms undertaking going-private transactions in the post-SOX period compared to the pre-SOX period. In addition, they find that abnormal returns around events that increase the likelihood of SOX passage, while negative overall, are positively related to firm size and share turnover, suggesting that SOX compliance costs are more burdensome for smaller and less liquid firms. Lastly, Linck, Netter, and Yang (2008) document that the decreasing trend in board size in the 1990s was reversed after the implementation of SOX and associated changes mandated by the stock exchanges. They also find that board independence increased substantially from the pre- to post-SOX period.

2.3. CFO compensation and turnover following Sarbanes-Oxley Act

In addition to its effects on investors and firms, SOX enhanced responsibilities of the CEOs and CFOs by requiring them to certify to the accuracy of the firm's financial statements, and by requiring them to reimburse the company for any bonuses received if the company has to restate its earnings. While CEO compensation is extensively studied, there has been surprisingly little

¹ Chang et al. (2006) examine the impact on share prices of firms whose CEOs and CFOs certify their financial statements under oath, pursuant to the administrative order issued by the SEC on June 27, 2002. Their results provide evidence that the SEC order requiring filing of sworn statements by CEOs and CFOs had a positive effect on the market value of certifying firms. Although this SEC order was supposed to be a one-time requirement, Sarbanes-Oxley Act of 2002 perpetuated it and made the sworn certification of financial statements as a permanent reporting requirement.

research into the level and determinants of CFO compensation. Recent papers that address these issues in relation to the passage of SOX include Wang (2005), who focuses on the role of board structure and firm risk in determining the relative importance of firm performance measures as determinants of CFO compensation. He finds that firm performance measures decrease (increase) in importance in the post-SOX era at firms with a strong (weak) board structure and high (low) levels of uncontrollable risk.

Carter, Lynch and Zechman (2005) examine whether firms go beyond the Act's specific legal requirements to change incentive compensation for the CEOs and CFOs executives to reduce their financial incentives to manage earnings. They find that SOX led to greater reliance on nondiscretionary earnings in the bonus contract and imposed a significantly greater penalty for income-decreasing accruals, and that the net result has been a decline in earnings management behavior. Burks (2007) examines whether a shift in accountability has occurred inside the firm by testing how boards discipline managers for accounting restatements, and whether disciplinary action has become more severe after passage of the SOX and related reforms. By focusing on restatements that are not obvious frauds perpetrated by top management, he finds that the turnover of CFOs is sensitive to these types of restatements after SOX but not before.

2.4. Research questions and hypotheses

Our objective in this paper is to address three questions relating to CFO compensation. We first document compensation levels at firms in the S&P 1,500 and the compensation-based rank of CFOs among the five highest-paid corporate executives. Our expectation is that (i) CFO compensation should have increased over time in both nominal and real terms, (ii) the proportion of firms where the CFO is among the five highest-paid executives should have increased over

time, and (iii) CFOs should have made compensation gains within the group of five highest-paid executives.

The second objective is to identify differences among firms where the CFO is (is not) one of the five highest-paid executives. We examine the extent to which differences in financial characteristics (firm size, profitability, risk, growth prospects) and governance structure (board size and independence, separation of the Chair and CEO position) can explain the relative position of the corporate CFO in the hierarchy of executive compensation.

Our third objective is to examine (i) the extent to which CFO compensation is related to corporate performance, and (ii) whether CFO compensation increased significantly following the passage of SOX. Aggarwal and Samwick (2003) argue that compensation should be related to differing performance measures, and the latter should depend upon the responsibilities of a particular executive. CEO compensation for example, is expected to depend upon the performance of the firm as a whole, but a better signal of performance for divisional managers may be the operating performance of their division. Aggarwal and Samwick find that pay-performance sensitivity (PPS) is highest for CEOs, lower for officers who have firm-wide responsibilities and lowest for executives with divisional responsibilities. These findings suggest that CFO compensation should depend not only on overall corporate performance but also on performance measures that may be specific to the responsibilities of the CFO.

Our analysis of the determinants of CFOs compensation includes overall corporate performance plus two additional performance measures that are designed to proxy for the CFOs responsibility to manage the information flow between the firm, analysts, and investors. Our empirical proxies for the quality of the information flow are (i) the dispersion in analyst forecasts

of earnings and (ii) earnings surprises. We expect CFO compensation to be positively related to corporate performance and negatively related to the dispersion in analyst forecasts and earnings surprises. In addition, we expect to observe a significant increase in CFO compensation in the post-SOX period.

While our analysis of CFO compensation is similar to that in Wang (2005), the primary difference is that we control for the performance measures that are specific to the responsibilities of the CFO, and that we examine the differences among firms where CFO is (is not) one of the five-highest paid executives.

3. Sample and variables

3.1. Sample

To construct our sample, we first identify CFOs covered by *ExecuComp* for the 1994 to 2006 period. Using the “Annual Title” variable, we define CFO as an executive having “chief finance officer”, “chief financial officer”, or “cfo” in his/her title. While recent studies on CFO compensation (e.g., Carter et al., 2005; Wang, 2005; Burks, 2007) also include executives having “treasurer”, “controller”, “v-p-finance” in their titles in the sample of CFOs, these executives do not have oversight authority as CEOs, presidents, chairmen, CFOs, and COOs do (Aggarwal and Samwick, 2003). Therefore, we focus on executives who retain the ultimate responsibility for the design and implementation of the policy decisions related to the company's financial performance.

We exclude utilities (SIC codes 4900-4999) and financial institutions (SIC codes 6000-6999) from the sample because the CFO's responsibilities in those industries are likely to differ substantially from other firms in the sample. In addition, Ely (1991) provides evidence that the compensation functions for those industries are not representative of other firms. While some companies elect to report pay beyond the five highest paid, we limit our analysis to the top five executives (ranked annually by cash and total compensation) for each firm to eliminate potential sample-selection bias driven by over-reporting. We further require that firm specific characteristics from *Compustat* and *CRSP* databases are not missing, which leads to 14,520 firm-year observations.

3.2. Measurements of the level of CFO compensation and rank

The empirical analysis of CFO compensation is based on two different measures of compensation: total compensation, and total current (cash) compensation. Core, Guay and Verrechia (2003) note that cash compensation is likely to be more relevant for executive officers other than the CEO because they tend to hold fewer shares and options than the CEO². However, given the increasing trend in equity-based compensation for top management, we examine total compensation in addition to cash compensation. Total compensation (variable *TDC1* in *ExecuComp*) is comprised of the following: salary, bonus, other annual compensation, total value of restricted stock granted, total value of stock options granted (using Black-Scholes), long-term incentive payouts, and all other total compensation. Total current or cash compensation (variable

² Core, Matsunaga, and Yeung (2004) also note that for their sample, the median number of options held, as a percentage of outstanding shares, is 0.23% for the CFO versus 0.76% for the CEO. Similarly, the median percentage of shares owned as a percentage of outstanding shares is 0.05% for the CFO versus 0.62% for the CEO. Finally, the median ratio of equity compensation to total compensation is 31% for their sample CEOs and 28% for their sample CFOs.

TCC in *ExecuComp*) is the sum of salary and annual bonus. Compensation variables are inflation adjusted to constant 1982 dollars using the Consumer Price Index.

To determine the relative importance of CFOs within the top management group, we compute cash and total compensation based ranks (1 being lowest and 5 being highest). Since the executive turnovers can affect the rankings, we have to be concerned with the partial year observations where the executive is in his or her first and last year. Following Barron and Waddell (2003), we assign a departing executive a rank equal to the rank of the position held in the prior year if the executive's title is the same in both years but the exit-year rank based on compensation alone is below the prior-year rank. Similarly, we assign the new executive a rank equal to the rank of the position held in the subsequent year if the executive's title is the same in both years but the first-year rank based on compensation alone is below the subsequent-year rank.

3.3. Determinants of the level of CFO compensation

Consistent with prior theory and empirical work on compensation (e.g., Banker and Datar, 1989; Core et al., 1999), we include firm size, growth opportunity, firm performance, and firm risk as control variables for the level of compensation. We expect that larger firms with greater growth opportunities and more complex operations will demand higher quality managers with higher compensation. We proxy for firm size and complexity with the natural logarithm of firm sales (*LSALES*³), and for growth opportunity with the firm's market-to-book ratio (*MB*). Since the executive compensation is an increasing function of firm performance in the standard agency models, we proxy for firm performance with the accounting return on assets (*ROA*) and the

³ Dollar sales are inflation adjusted to constant 1982 dollars using the Consumer Price Index.

annual stock market return (*RET*). The proxy for firm risk is the standard deviation of monthly stock returns over the fiscal year (*MRET_VOL*). The data used to compute these variables are obtained from the *Compustat* and *CRSP* databases.

3.4. CFO performance variables

As noted earlier, Aggarwal and Samwick (2003) suggest that CFO compensation should depend not only on overall corporate performance but also on performance measures that may be specific to the responsibilities of the CFO. CFOs oversee preparation of financial reports and serves as the point person for external communication of financial strategy, a role that includes conference calls with analysts (Mian, 2001). Based on survey and interview with more than 400 CFOs, Graham et al. (2005) find that earnings matter more to CFOs than cash flows, and that the two most important earnings benchmarks are quarterly earnings for the same quarter last year and the analyst consensus estimate. Therefore, we include dispersion of analyst forecasts and earnings surprise variables in the analysis to capture the financial reporting responsibilities for the CFOs.

We expect that greater role for CFO will lead to lower dispersion of analysts' earnings per share forecasts and more positive earnings surprises (i.e., beating earnings benchmarks). Following Diether et al. (2002), analyst forecast dispersion (*ADISP*) is measured as the scaled standard deviation of Institutional Brokers Estimates System (I/B/E/S) analysts' current fiscal year earnings per share forecasts. As in Diether et al. (2002), we use dispersion calculated from raw I/B/E/S data, because the standard I/B/E/S data have a rounding problem related to stock splits. To make magnitudes comparable across stocks, we scale the standard deviation by the absolute value of mean forecast. Following Livnat and Mendenhall (2006), and Doyle,

Lundholm, and Soliman (2006), we define the earnings surprise (*SUE*) as actual earnings minus expected earnings, scaled by the standard deviation of the analyst forecasts.

3.5. Board structure variables

Following the existing literature, we include variables that characterize the composition of the board using the *RiskMetrics*' directors data files (formerly *IRRC* directors data files). Smaller boards, boards with higher proportion of independent directors, and boards with separate CEO and Chairman are expected to be more effective (e.g., Rosenstein and Wyatt, 1990; Jensen, 1993; Yermack, 1996). Board size (*BDSIZE*) is defined as the number of directors on the board, the proportion of independent directors (*PCTONBD*) is defined as the number of directors who are not affiliated with the company as a percentage of total number of directors. Separation of CEO and Chair (*SEPCHR*) is measured by an indicator variable which takes value of one if the board chair is not the CEO, and zero otherwise. Since the *RiskMetrics*' directors data are only available for 1997 and onwards, only a subset of our final dataset will have board structure variables.

4. Empirical findings

4.1. Rising importance of the CFO job

Table 1 gives an annual breakdown of number of firms at which the CFO was one of the five highest-paid executives. Since we limit our analysis for the top five executives only, we have two slightly different samples depending on the measure of compensation. In terms of total compensation, data indicate that the proportion of firms where the CFO was one of the five highest-paid executives increased from approximately 54% in 1994 to 93% in 2006. The steady

increase in this proportion throughout the sample period confirms the increasing importance of the CFO's job in an era of globalization and increasing financial integration. Figure 1 shows the increasing trend in the number of S&P 1,500 firms where CFO was one of the five highest paid executives in contrast to the decreasing trend in the number of firms where COO was one of the top five.

Summary statistics on total cash compensation and total compensation for each year, as well as the respective rankings are given in Table 2. Figures 2 and 3 present the trends in the total compensation and total compensation rank overtime for CFOs and COOs, respectively. Overall, CFOs experienced increases in both cash and total compensation over the sample period. Increases in CFO compensation may indicate the increasing importance of the position, but may also be a consequence of a general upward trend in executive compensation over this time period. We look into this possibility by constructing a measure of the CFO's rank within the five highest-paid executives. The CFO rank is obtained by sorting cash (TCC) and total compensation (TDC1) within each firm and assigning a rank of 1 (lowest) through 5 (highest) to the five highest-paid executives. As shown in Table 2, the average CFO rank in terms of total compensation improved from 2.99 in 1994 to 3.07 in 2006. The cash compensation rank shows similar trend until 2004, but experiences a decline afterwards. Coupled together with the trends on CFO compensation, these data indicate that increases in CFO compensation have been larger than those for the other members of the executive suite.

4.2. What's different about firms where the CFO is one of the five highest-paid executives?

As discussed earlier, the CFO is not one of the five highest-paid executives at a fairly large proportion of firms. In this section we report answers to two related questions. First, what's

different about firms where the CFO is regarded as important enough to be among the five highest-paid executives? Second, did the proportion of firms where the CFO is in the top five increase significantly after SOX? Our set of explanatory variables includes financial and governance characteristics, and proxies for the quality of communication with the analyst community. In particular, we include firm size (*LSALES*), firm profitability (*ROA*), stockholder returns (*RET*), growth opportunities (*MB* ratio), firm risk (*MRET_VOL*), board size (*BDSIZE*), board independence (*PCTONBD*), separation of the CEO and Chair positions (*SEPCHR*), and a dummy variable that equals one for the post-SOX period and is zero otherwise (*POST_SOX*).

Summary statistics for each of these explanatory variables for the sub-samples of firms where the CFO is in (not in) the top five are presented in Table 3. The last column of the table presents significance tests for differences in means between the two sub-samples. Bivariate tests show significant differences between the two sets of firms for all except one variable when we split the sample based on the total compensation. We find that firms where the CFO is one of the five highest-paid executives tend to be smaller and have a lower market-to-book ratio. These firms also display higher values of ROA and stock returns, but have higher return volatility. Two of the three governance related variables are significantly different; firms where the CFO is one of the five highest-paid executives have smaller boards and a larger proportion of independent directors.

We then use a logistic regression framework to examine the relative influence of these variables on the probability of a firm having the CFO in the top five. The dependent variable takes a value of one for firms where the CFO is one of the five highest-paid executives and is zero otherwise. Again, depending on which measure of compensation we use, we get two

slightly different samples. Explanatory variables include the variables described in Table 3, as well as one-digit SIC code dummies and year dummies.

We report results from two different logit specifications: one with financial variables only and one with financial and governance characteristics⁴. Findings from the two specifications for cash and total compensation are given in Table 4, and are broadly similar. The coefficient for the dummy variable *POST_SOX* is positive and statistically significant in all specifications, confirming that the probability of the CFO being one of the five highest-paid executives was higher in the post-SOX period even after controlling for the year dummies. Several of the control variables are significant in all specifications. The coefficient for firm size is negative and statistically significant, indicating that the probability of the CFO being one of the five highest-paid executives is inversely related with firm size. Given that CFO responsibilities at smaller firms are usually greater whereas larger firms are more likely to have separate positions for CFO, Treasurer, Controller, etc., this finding indicates that CFOs at smaller firms have a higher likelihood of being one of the highest-paid executives. It is also consistent with extant research (e.g., Engel et al., 2007) that shows that SOX compliance costs as a percent of revenues is significantly higher for smaller firms, making CFOs more important for smaller firms.

The probability of the CFO being one of the top five is declining in the firm's market-to-book ratio, suggesting that the role of financial management is relatively more important in low-growth firms. The probability is increasing in profitability, stock returns, and return volatility, which is a proxy for firm risk. These findings make intuitive sense, since CFOs can be expected to be relatively more important at firms that are more profitable and face greater risk exposure.

⁴ Since *RiskMetrics*' directors data is only available from 1997 and onwards, including board structure variables in the regressions significantly reduces our sample size.

Of the three governance related variables, board size and board independence have positive and statistically significant coefficients, indicating that boards with more directors as well as boards with higher proportion of independent directors increase the probability of the CFO being one of the five highest-paid executives.

4.3. Determinants of CFO compensation

Of the 14,520 firm years in the sample, there are 10,245 observations where the CFO is one of the five highest-paid executives (see Table 1); thus our analysis of the drivers of CFO compensation and rank is based on this sub-sample of firm years. We estimate ordinary least squares regressions using the log of cash compensation and the log of total compensation as dependent variables. Explanatory variables include lagged values of the variables described in Table 3, as well as two performance measures that are CFO-specific: the dispersion in analyst forecasts and earnings surprise. Findings from several regression specifications are reported in Table 5.

The *POST_SOX* dummy has a positive and statistically significant coefficient in all specifications, confirming that the increased risks and responsibilities faced by CFOs in the post-SOX era have been accompanied by a significant increase in compensation. The explanatory variables appear to be quite robust across specifications and are largely consistent with the findings reported in the literature on executive compensation. In particular, we find that CFO compensation is increasing in firm size and growth opportunities, where the latter is proxied by the firm's market-to-book ratio. Compensation is increasing in stockholder returns but is negatively related to ROA (in the total compensation regressions). The latter result is puzzling, but appears to be an empirical regularity that has been observed in other papers on executive

compensation (e.g., Core et al., 1999). Return volatility has the expected negative sign for the cash compensation regressions, but not in the total compensation regressions.

In terms of the two measures of CFO-specific performance, the dispersion in analyst opinions has the expected negative sign, but it is not statistically significant. In contrast, earnings surprises have a positive and statistically significant coefficient, confirming that positive earnings surprises have a positive impact on CFO compensation. Consistent with Core et al. (1999), governance structure is also found to have an impact on compensation: larger boards are associated with higher CFO compensation, and CFO compensation is higher at firms where the same person holds both positions.

We check the robustness of our results from the compensation regressions by removing the partial year observations, observations that correspond to the executive's first and last year in the sample. Even though the sample size reduces significantly⁵, the results are almost identical. The only exception is the ROA, where its' coefficient becomes insignificant.

5. Conclusions

In this paper, we have examined the effect of Sarbanes-Oxley Act of 2002 on CFO compensation using *Execucomp*, *I/B/E/S*, and *RiskMetrics* director databases for the period of 1994-2006. Our empirical analysis yields three main findings: (1) CFO compensation and rank have significantly increased following the passage of SOX, (2) the likelihood of CFO being in the five highest paid executives within the firm significantly increased following SOX, and (3)

⁵ For example, for the total compensation regression, sample size is reduced from 9,000 to 7,756 after removing first-year observations, and to 6,430 after removing both first- and last-year observations.

CFO compensation is positively related to firm size, growth opportunity, annual stock return, as well as positive earnings surprise, a measure of CFO-specific performance. We interpret this evidence as being consistent with the notion that increasing importance of financial management made the CFO position much more prominent. While greater compliance burdens and higher turnover made the job more demanding, CFOs became invaluable member of the company's top management, and are being paid accordingly.

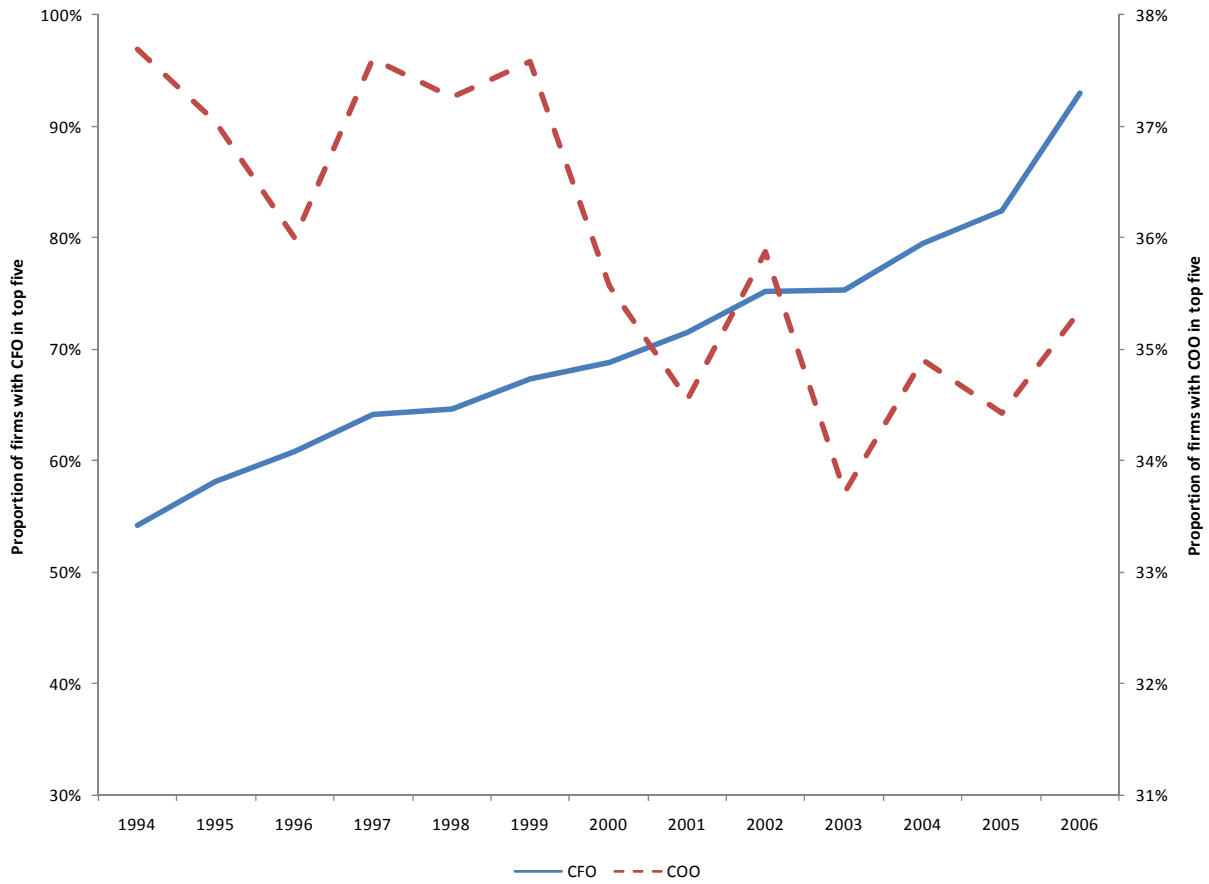


Figure 1. Proportion of S&P 1,500 firms with CFO and COO in the executive suite during the period 1994-2006. The proportion of firms with CFO among the five highest paid executives is on the primary axis, and the proportion of firms with COO in the top five is on the secondary axis. Data source: Execucomp.



Figure 2. Average real total compensation (in 1982 constant dollars) and total compensation rank for CFOs during the period 1994-2006. The average real total compensation for CFOs is on the primary axis, and the average total compensation rank for CFOs is on the secondary axis. In computing the rank, we account for the partial year observations by adjusting first- and last-year ranks. Data source: Execucomp.



Figure 3. Average real total compensation (in 1982 constant dollars) and total compensation rank for COOs during the period 1994-2006. The average real total compensation for COOs is on the primary axis, and the average total compensation rank for COOs is on the secondary axis. In computing the rank, we account for the partial year observations by adjusting first- and last-year ranks. Data source: Execucomp.

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Table 1. Proportion of firms with CFO in the five-highest paid executives

Year	By Cash Compensation		By Total Compensation			
	CFO in top 5	Total	CFO in top 5	Total	Total	
1994	325	50%	733	548	54%	736
1995	505	53%	1,010	607	58%	1,011
1996	556	57%	1,040	656	61%	1,045
1997	615	58%	1,079	717	64%	1,078
1998	653	60%	1,119	748	65%	1,117
1999	686	62%	1,146	799	67%	1,157
2000	736	62%	1,180	820	69%	1,187
2001	732	67%	1,190	801	72%	1,192
2002	745	69%	1,119	841	75%	1,120
2003	772	69%	1,113	853	75%	1,118
2004	783	75%	1,133	909	80%	1,133
2005	862	82%	1,146	930	83%	1,143
2006	925	92%	1,132	1,016	93%	1,127
Total	9,579	66%	14,502	10,245	71%	14,520

Table 2. Average CFO compensation (in thousands, 1982 constant US\$) and rank

The CFO rank is obtained by sorting cash (TCC) and total compensation (TDC1) within each firm and assigning a rank of 1 (lowest) through 5 (highest) to the five highest-paid executives. Following Barron and Waddell (2003), we adjust the CFO rank for the partial year observations as follows. We assign a departing executive a rank equal to the rank of the position held in the prior year if the executive's title is the same in both years but the exit-year rank based on compensation alone is below the prior-year rank. Similarly, we assign the new executive a rank equal to the rank of the position held in the subsequent year if the executive's title is the same in both years but the first-year rank based on compensation alone is below the subsequent-year rank.

Year	Cash Compensation			Total Compensation		
	N	Mean	Rank	N	Mean	Rank
1994	505	\$ 250	3.39	548	\$ 515	2.99
1995	556	\$ 238	3.25	607	\$ 510	2.87
1996	615	\$ 246	3.25	656	\$ 573	2.87
1997	653	\$ 264	3.30	717	\$ 687	2.95
1998	686	\$ 269	3.36	748	\$ 780	2.97
1999	736	\$ 287	3.45	799	\$ 1,108	3.07
2000	732	\$ 285	3.41	820	\$ 1,196	3.08
2001	745	\$ 260	3.40	801	\$ 1,057	3.01
2002	772	\$ 286	3.38	841	\$ 838	3.00
2003	783	\$ 318	3.40	853	\$ 778	3.02
2004	862	\$ 343	3.32	909	\$ 880	3.07
2005	925	\$ 351	3.06	930	\$ 865	2.99
2006	1,009	\$ 245	3.10	1,016	\$ 863	3.07

Table 3. Differences in firm-specific characteristics

Variable	Cash Compensation				Total Compensation			
	N	CFO not in top 5	CFO in top 5	t-test	N	CFO not in top 5	CFO in top 5	t-test
<i>LSALES</i>	14,502	6.772	6.509	***	14,520	6.700	6.500	***
<i>MB</i>	14,502	2.181	2.176		14,520	2.221	2.159	**
<i>ROA</i>	14,502	2.311	2.753		14,520	2.457	2.992	*
<i>RET</i>	14,502	0.152	0.188	***	14,520	0.156	0.182	***
<i>MRET_VOL</i>	14,502	0.119	0.120	**	14,520	0.117	0.121	***
<i>POST_SOX</i>	14,502	0.257	0.454	***	14,520	0.248	0.444	***
<i>BDSIZE</i>	6,954	9.376	8.967	***	6,964	9.405	8.991	***
<i>PCTONBD</i>	6,954	63.430	66.075	***	6,964	62.529	66.338	***
<i>SEPCHR</i>	6,954	0.291	0.312	*	6,964	0.293	0.309	

Table 4. Logistic Regressions

Dependent variable =1 for firms where CFO is one of the five highest paid executives; 0 otherwise. Dollar values are inflation adjusted to constant 1982 dollars using the Consumer Price Index. *LSALES* = log of sales, *ROA* = return on assets, *RET* = annual stockholder returns, *MB* = market-to-book ratio, *MRET_VOL* = standard deviation of the monthly stock returns over the year, *BDSIZE* = number of directors on the board, *PCTONBD* = percentage of independent directors, *SEPCHR* = dummy variable that indicates separation of the CEO and Chair positions, *POST_SOX* = dummy variable that equals one for the post-SOX period and is zero otherwise. ***, **, and * denote significance of coefficients at the 1%, 5%, and 10% levels, respectively.

Variables	By Cash Compensation		By Total Compensation	
<i>LSALES</i>	-0.320*** (-23.13)	-0.391*** (-15.80)	-0.311*** (-21.78)	-0.403*** (-15.67)
<i>MB</i>	-0.066*** (-4.69)	-0.091*** (-4.20)	-0.096*** (-6.56)	-0.137*** (-6.04)
<i>ROA</i>	0.023*** (4.20)	0.070*** (7.20)	0.025*** (4.68)	0.075*** (7.84)
<i>RET</i>	0.121*** (3.08)	0.159** (2.45)	0.092** (2.26)	0.073 (1.08)
<i>MRET_VOL</i>	-0.723 (-1.63)	2.222*** (3.35)	-0.068 (-0.14)	3.679*** (4.94)
<i>POST_SOX</i>	0.750*** (8.09)	0.673*** (5.65)	0.861*** (8.94)	0.551*** (4.30)
<i>BDSIZE</i>		0.077*** (5.46)		0.085*** (5.72)
<i>PCTONBD</i>		0.008*** (5.10)		0.013*** (7.84)
<i>SEPCHR</i>		-0.08 (-1.31)		-0.058 (-0.90)
Constant	1.829*** (5.44)	0.045 (0.07)	2.923*** (7.98)	1.759*** (4.07)
Year dummies	Yes	Yes	Yes	Yes
SIC dummies	Yes	Yes	Yes	Yes
Log Likelihood	-8,425.8	-3,971.9	-7,998.7	-3,676.1
N	14,502	6,954	14,520	6,964

Table 5. OLS regressions on CFO compensation

Dependent variable is log of cash compensation for the first three columns and log of total compensation for the last three columns. Dollar values are inflation adjusted to constant 1982 dollars using the Consumer Price Index. *LSALES* = log of sales, *ROA* = return on assets, *RET* = annual stockholder returns, *MB* = market-to-book ratio, *MRET_VOL* = standard deviation of the monthly stock returns over the year, *BDSIZE* = number of directors on the board, *PCTONBD* = percentage of independent directors, *SEPCHR* = dummy variable that indicates separation of the CEO and Chair positions, *POST_SOX* = dummy variable that equals one for the post-SOX period and is zero otherwise. *ADISP* = standard deviation of analysts' earnings per share forecasts scaled by the absolute value of the mean forecast. *SUE* = earnings surprise. ***, **, and * denote significance of coefficients at the 1%, 5%, and 10% levels, respectively.

Variables	Log (Cash Compensation)			Log (Total Compensation)		
<i>LSALES</i> _(t-1)	0.237*** (58.12)	0.237*** (57.36)	0.226*** (37.16)	0.348*** (60.07)	0.348*** (59.18)	0.326*** (37.02)
<i>MB</i> _(t-1)	0.018*** (4.61)	0.017*** (4.26)	0.020*** (3.7)	0.134*** (19.53)	0.131*** (18.89)	0.144*** (16.76)
<i>ROA</i> _(t-1)	-0.001 (-1.17)	0.0001 (-0.80)	0.0001 (0.14)	-0.002** (-2.10)	-0.002** (-2.07)	-0.004*** (-2.81)
<i>RET</i> _(t-1)	0.089*** (8.75)	0.086*** (8.39)	0.121*** (8.35)	0.124*** (7.1)	0.129*** (7.16)	0.151*** (6.12)
<i>MRET_VOL</i> _(t-1)	-0.461*** (-4.27)	-0.430*** (-3.87)	-0.13 (-0.90)	1.185*** (7.26)	1.248*** (7.33)	1.833*** (8.16)
<i>POST_SOX</i>	0.205*** (8.61)	0.232*** (9.38)	0.186*** (6.25)	0.251*** (7.07)	0.276*** (7.75)	0.132*** (3.00)
<i>ADISP</i> _(t-1)		-0.009 (-0.63)	-0.020 (-0.95)		-0.022 (-1.15)	-0.025 (-0.87)
<i>SUE</i> _(t-1)		0.003*** (3.88)	0.004*** (3.89)		0.003*** (2.84)	0.003** (2.31)
<i>BDSIZE</i>			0.037*** (9.76)			0.038*** (7.28)
<i>PCTONBD</i>			-0.001*** (-3.41)			0.001 (1.58)
<i>SEPCHR</i>			-0.075*** (-5.17)			-0.087*** (-4.11)
Constant	4.084*** (37.29)	3.996*** (40.52)	4.148*** (53.34)	3.652*** (16.97)	3.454*** (27.07)	3.734*** (13.18)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
SIC Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.43	0.43	0.48	0.40	0.40	0.43
N	8,401	8,082	4,375	9,000	8,674	4,740