

An Agency Theoretic Approach to Executive Compensation: Tests of Dichotomous Contract Theory

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Abstract

This study analyses properties and implications of managerial contractual arrangements within the framework of Harris and Raviv's theory of dichotomous contracts. This study tests the efficacy of using component reporting of executive compensation contracts as an imperfect estimator of executive performance. Evidence suggests magnitude of profitability is a contributing factor, percentage change in profitability varies between groups, and disclosure of the separate components of compensation provides no useful information based on the risk-adjusted abnormal returns.

I. Introduction

For the past thirty years, accountants, economists, and management theorists have empirically investigated the compensation of top executives. Management theorists have addressed many diverse issues regarding the role that compensation plays in eliciting desired behavior including the theory that pay should be related to performance. Economic theorists have investigated the maximization behavioral aspects of executive compensation as well as the factors that determine the level and composition of executive remuneration. Accounting theorists, on the other hand, have examined the effects of management compensation in regard to the standard setting process and the ability of managers to manipulate net income to enhance their remuneration. Unfortunately, the results of previous research often conflict. This conflict stems to some extent from the lack of a clearly defined theory, or set of theories, regarding executive compensation.

In order to clearly understand the relationships among the theories in the various disciplines, one must first understand the evolution of the theory of the firm. The fundamental or traditional model of the firm, which was developed early by economic theorists, assumes that the objective of the owners of the firm is to maximize short-run profits [Varian, 1978]. The traditional model

of the firm is actually a theory of markets in which firms are the primary actors. The firm is seen only as a "black box" that is operated to meet relevant marginal conditions with respect to inputs and outputs, thereby maximizing profits [Jensen and Meckling, 1976]. In an attempt to demystify the "black box," theorists have explored the internal transactions of the firm.

The striking insight of Alchian and Demsetz [1972] and Jensen and Meckling is in viewing the firm as a set of contracts (implicit and explicit) among factors of production. However, Fama [1980] suggests that this insight is not carried far enough and posits that the agent who personifies the firm is taken to be both manager and residual risk bearer. Consequently, this literature fails to explain the large modern corporation in which control of the firm is in the hands of managers who are more or less separate from the firm's security holders. It is this separation of ownership and control that gives rise to the potential conflict between the two parties, the principals (outside security holders) and the agents (managers), that is commonly referred to as an agency problem.

Several important aspects of agency relationships are not fully explored in the literature on the theory of

contracts. First, incentive problems arise if both parties to the relationship, the principal and the agent, are utility maximizers because there is good reason to believe that the agent will not always act in the best interest of the principal. Second, in most situations, a principal may acquire information about an agent through monitoring. The quality of the information obtained through monitoring is dependent on the resources committed to this activity as well as on the available monitoring technology. In situations where complete monitoring may be either impossible or too costly, imperfect estimators of actions may be used. Harris and Raviv [1978, 1979] address the question of when imperfect information about actions can be used to improve a contract which is initially based on the payoff alone, within the context of a principal-agent relationship. They examine monitors which provide information that is independent of the state of nature and allows the principal to detect any shirking by the agent. Harris and Raviv state clearly that "the quality of the information obtained through monitoring (or supervising) depends on the resources committed to the activity as well as on the available monitoring technology" [1979, p. 232].

Harris and Raviv construct a theoretical proof and conclude that "the optimal use of a monitor is via a dichotomous contract" [p. 247], which, they explain, "has two branches:"

If the results of monitoring reveal the action to be acceptable, the agent is paid according to a predetermined schedule; otherwise the agent receives a less preferred fixed payment. . . [p. 247-48].

If the action by the agent is acceptable, the payoff is paid out in agreement with a predetermined schedule. However, if the action is not acceptable, the agent receives a fixed and less preferred payment. The dichotomous contract could be categorized as having two returns, one risky and the other one nonrisky. The owner imposes risk on the agent with the risky return and shares the risk by allowing for a nonrisky return. Thus, the risk averse agent bears some but not all of the risk. For the purpose of this study, the nonrisky, fixed component of the dichotomous compensation contract is proxied by the salary, whereas the risky, variable contract component is represented by the bonus.

This study empirically analyzes the properties and implications of managerial contractual arrangements within the framework of Harris and Raviv's [1979] theory of dichotomous contracts. This study is designed to test the efficacy of using the component reporting, defined as the separate disclosure of salary and bonus, of executive compensation contracts as an imperfect es-

imator of executive performance and to determine whether or not disclosure of the separate components of executive compensation provides useful information to those who use financial data to evaluate management and company performance.

II. Tests of Variation in Firm Profit Performance

If the dichotomous contract is a viable monitor of executive performance, then firms which report components versus total compensation should be sending a signal to the market regarding firm performance; consequently, differences in firm performance should be observed. Furthermore, if the market perceives this reporting difference as an information signal, differences in market performance between the two groups should be observed.

The role of executive compensation component reporting in distinguishing among firms is one of information screening. Given an association between specific firm accounting variables and executive compensation, the disclosure of compensation components should assist in screening firms. Since firms are not currently required to publicly disclose separate components of executives' compensation, the firms choosing to report this additional information are providing information on which to screen securities. Whether or not the choice of reporting format, component or total compensation figures, is useful as a screen is examined in tests of the following two hypotheses.

$H_0(1)$: The mean profit for the sample of firms reporting components is equal to the mean profit of the sample of firms reporting total compensation.

$H_0(2)$: The mean percentage change in profits for the sample of firms reporting components is equal to the mean percentage change in profits for the sample of firms reporting total compensation.

In testing hypotheses one and two, profit and percentage change in profit can be measured in different ways. Managers as agents have the discretion and available techniques to recognize various income enhancing accounting changes. Consequently, profit (π) is determined according to four different definitions to assess management performance.

Income from operations (π_1) assesses management's performance on the continuing lines of business. It indicates management's ability to control costs while maximizing revenues.

Income from operations plus depreciation (π_2) is used

as a gross approximation of cash flow to capture management's long-term capital investment decisions. In the short run, management can maximize profits by consuming and not replacing existing assets which would result in greater operating income but smaller cash flows than firms who invest in new assets. This behavior will increase management's short-run benefits if bonus is tied to income; however, it will be detrimental to the shareholders in the long run.

Net income is represented as (π_3); whereas income from operations minus net income (π_4) is used to capture the effects of management's capital structure decisions and discretionary asset acquisitions and dispositions. Many of the items appearing between operating income and net income on the income statement are discretionary items. If management's remuneration is tied to net income, and operating income falls below the stated performance level, managers can utilize generally accepted accounting techniques to enhance their remuneration.

The four measures of profitability were chosen to distinguish between measures which are easily manipulated and measures which are not easily manipulated by managers in the short run. The inclusion of each of the measures is predicated on the assumption that salary or bonus or both are more closely associated with one particular profitability measure on a consistent basis.

Two statistical tests are applied to the data in order to test null hypotheses $H_0(1)$ and $H_0(2)$. The first test is the test of difference between means (z-test). The z-test is a parametric test, and as such, its use is predicated on the assumption that the samples are drawn from a population whose elements are normally distributed. There is, however, no theoretical basis for presuming that profits or changes in profits are normally distributed; therefore, a nonparametric test statistic is also employed.

The nonparametric test used is the Kolmogorov-Smirnov two sample goodness-of-fit test. The Kolmogorov-Smirnov test compares the two samples on the basis of homogeneity of distribution. The Kolmogorov-Smirnov statistic is sensitive to differences in median, dispersion, and skewness.

The source of data for profit measures and change in profit measures is the 1984 Standard and Poor Corporation's COMPUSTAT Annual Industrial File when available. When data is not available on the COMPUSTAT file, it is obtained from annual issues of *Moody's Industrial Manual*, *Moody's Transportation Manual*, *Moody's Public Utility Manual* and *Moody's Bank and*

Finance Manual. The executive compensation reporting classifications and compensation data are obtained from the annual *Business Week* surveys for 1980 through 1984. Firms that report other than salary and current cash bonus, in total or separately, i.e., deferred amounts, stock equivalents, accruals, etc., were deleted from the sample. The sample sizes are dependent on the number of firms participating in the annual survey and the number of firms meeting the above criteria. The 1980-84 time period is used because *Business Week* discontinued disclosing components subsequent to 1984.

Foster [1978] has established that information is a variable on which investors may screen securities. If differences in disclosure affect the ability of the capital market to discriminate between securities, then changes in the prices of traded securities are expected. The disclosure of compensation components, given their association with previously specified factors, should convey additional information to security market participants relative to the total reporting group, *ceteris paribus*. One possible performance measurement is the capital market assessment of the value of compensation information. This assessment is obtained through tests of the following null hypothesis:

$H_0(3)$: The mean abnormal risk-adjusted return in each month over the test period for the sample of firms reporting components is equal to the mean abnormal risk-adjusted return for the sample of firms reporting total compensation.

The abnormal risk-adjusted returns are calculated using the Capital Asset Pricing Model to estimate each firm's stock beta, forecast the next month's stock return, and measure abnormal returns as the difference between actual and forecast returns.

Since *Business Week* publishes its annual survey of salaries for any one year in May of the following year, abnormal risk-adjusted returns are determined for both the year in which the compensation is earned and the subsequent year in which the compensation is reported. This twenty-four month test period requires that beta estimates for each security be determined in each month, based on the preceding sixty months of data, and used to forecast the following month's return. The abnormal return distributions for the two groups of reporting companies, component and total, are compared each month in the twenty-four month period.

The statistics used to examine hypothesis three are the test of difference between means and the Kolmogorov-Smirnov statistic.

III. Empirical Results

A. Mean Profit Test

Table 1 contains the results of the parametric test of difference between means (z test) and the nonparametric Kolmogorov-Smirnov statistics. A negative z value in Table 1 indicates that the average profit for the component reporting group of firms exceeds the average profit for the group reporting total compensation. As indicated in Panel B for the president position, the profit three variable (net income) is associated with a negative z statistic in every year. Furthermore, Panel C shows a negative z value in four out of five years for chairmen. Similar observations arise for the groups' previous year's net income as well. Magnitude of net income, therefore, is a possible contributing factor in reporting components.

The results contained in Table 1 evince an almost total absence of significant difference in profitability between the two reporting groups. This observation is similar for both the parametric and nonparametric test statistics. Significant differences in the distributions occur only in 1981 for CEOs and in 1982 for both presidents and chairmen. Based on this evidence, it is not possible, statistically, to reject the null hypothesis for the group of firms participating in the *Business Week* surveys in the 1980 to 1984 time period.

B. Percentage Change in Profit Test

Table 2 contains the results of the test of difference between means (z test) and the Kolmogorov-Smirnov statistics. In the table of z values, a negative value indicates that the percentage increase in the profit measure employed is larger for the component reporting group relative to the total reporting group. Since the majority of the values in the z table are positive across executive classification, the group of firms reporting total compensation experienced higher percentage profitability increases. One possible explanation for this occurrence is that the component reporting group started with higher absolute profits than the total reporting group. A smaller absolute change in profits for the total reporting group, therefore, would translate into a larger percentage increase. For example, an examination of the z values of the profit three variable (net income) for chairmen (see Panel C of Table 1) reveals that the component reporting group had higher profitability (i.e., the z values are negative for four out of five years); in fact, it was significantly higher in 1982. In contrast, the total reporting group chairmen have a higher percentage increase in the profit three measure (net income) in four out of five years as indicated by the

Table 1
Tests of $H_0(1)$
Difference in Profitability by Reporting Group:
Components versus Total Compensation

Panel A: CEO					
Z-Test Values					
	1980	1981	1982	1983	1984
$\pi 1$	-.21 ^b	1.94	-.38	1.48	----- ^c
$\pi 1_{t-1}$ ^a	-.26	1.82	-.18	1.24	----
$\pi 2$	-.25	1.84	-.77	.87	----
$\pi 2_{t-1}$	-.31	1.72	-.68	.73	----
$\pi 3$	-.41	1.64	-.56	1.25	----
$\pi 3_{t-1}$	-.36	1.58	-.22	.63	----
$\pi 4$	-.04	2.00*	-.19	1.37	----
$\pi 4_{t-1}$	-.17	1.85	-.14	1.35	----
Kolmogorov-Smirnov Statistic Values					
	1980	1981	1982	1983	1984
$\pi 1$	.803	1.272	1.058	.982	----
$\pi 1_{t-1}$	.775	1.092	.602	.856	----
$\pi 2$	.938	1.061	.807	1.049	----
$\pi 2_{t-1}$	1.020	1.119	.504	.698	----
$\pi 3$	.425	.760	.788	1.140	----
$\pi 3_{t-1}$	.956	.660	.721	.522	----
$\pi 4$	1.095	1.577*	1.132	.896	----
$\pi 4_{t-1}$	.475	1.156	.774	.849	----
Panel B: President					
Z-Test Values					
	1980	1981	1982	1983	1984
$\pi 1$	-1.09	-.02	-1.54	.55	.06
$\pi 1_{t-1}$	-1.21	-.36	-1.58	.52	.49
$\pi 2$	-1.15	.01	-1.91	-.15	.04
$\pi 2_{t-1}$	-1.26	-.27	-1.99*	-.07	.35
$\pi 3$	-1.50	-.86	-1.83	-.05	-.05
$\pi 3_{t-1}$	-1.38	-.48	-1.61	-.39	.09
$\pi 4$	-.77	.71	-1.10	.95	.19
$\pi 4_{t-1}$	-1.03	-.18	-1.49	1.23	.94
Kolmogorov-Smirnov Statistic Values					
	1980	1981	1982	1983	1984
$\pi 1$	.811	.579	.597	.525	.718
$\pi 1_{t-1}$	1.115	.668	.617	.654	.775
$\pi 2$	.861	.810	.928	.773	.654
$\pi 2_{t-1}$	.957	.863	.888	.716	.481
$\pi 3$	.843	.897	.800	.643	.641
$\pi 3_{t-1}$	.630	.730	.774	.566	.641
$\pi 4$	.712	.543	.721	.604	.884
$\pi 4_{t-1}$	1.179	.637	.589	.515	.551
Panel C: Chairman					
Z-Test Values					
	1980	1981	1982	1983	1984
$\pi 1$	-.66	.29	-1.65	.27	.26
$\pi 1_{t-1}$	-.73	-.11	-1.69	.15	.78
$\pi 2$	-.70	.36	-1.98*	-.44	.35
$\pi 2_{t-1}$	-.78	.05	-2.05*	-.42	.72
$\pi 3$	-.98	-.38	-2.03*	-.13	.21
$\pi 3_{t-1}$	-.87	-.07	-1.92	-.86	.61
$\pi 4$	-.40	.86	-1.05	.57	.28
$\pi 4_{t-1}$	-.60	-.04	-1.34	1.12	.86
Kolmogorov-Smirnov Statistic Values					
	1980	1981	1982	1983	1984
$\pi 1$	.413	.792	.707	.617	.560
$\pi 1_{t-1}$	.466	.896	.914	.611	.415
$\pi 2$	.424	.821	.942	.558	.584
$\pi 2_{t-1}$	.871	.892	1.016	.532	.516
$\pi 3$	.518	.792	.994	.863	.739
$\pi 3_{t-1}$	.450	.986	1.178	.524	.540
$\pi 4$	.795	.583	.594	.632	.650
$\pi 4_{t-1}$	.492	.635	.623	.631	.454

^a t-1 refers to prior period.

^b negative t value occurs if average profit for component reporting group is larger than the average profit for the total reporting group.

^c CEO position not reported in 1984.

* value is significant at the .05 level.

Table 2
Tests of $H_0(2)$
Difference in Percentage Change in Profitability
Between Total and Component Reporting Groups

Panel A: CEO					
Z - Values					
	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Percent π_1 change	-.12	1.88	1.55	1.53	---- ^a
Percent π_2 change	.41	1.33	.38	-.24	----
Percent π_3 change	.03	-.44	-1.30	1.64	----
Percent π_4 change	1.44	1.76	1.62	.19	----
Kolmogorov-Smirnov Values					
	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Percent π_1 change	.776	1.394*	1.400*	1.566*	----
Percent π_2 change	.696	1.304	1.179	1.225	----
Percent π_3 change	1.367*	1.174	.917	1.408*	----
Percent π_4 change	1.292	1.336	.532	.700	----
Panel B: President					
Z - Values					
	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Percent π_1 change	-.53	1.42	1.52	-.31	.86
Percent π_2 change	-.31	1.01	1.49	-.59	.77
Percent π_3 change	-.22	-.55	-1.16	1.50	-1.04
Percent π_4 change	1.09	1.74	1.44	-.17	1.20
Kolmogorov-Smirnov Values					
	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Percent π_1 change	.651	1.034	.850	1.209	.801
Percent π_2 change	.566	.825	.932	.838	.801
Percent π_3 change	1.237	.917	.648	1.366*	.769
Percent π_4 change	1.045	1.226	.938	.862	.589
Panel C: Chairman					
Z - Values					
	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Percent π_1 change	-.55	1.18	1.36	.79	.68
Percent π_2 change	-.30	1.79	.37	-.42	.92
Percent π_3 change	.27	1.37	-2.19*	1.76	.44
Percent π_4 change	.98	1.68	.79	-1.08	1.27
Kolmogorov-Smirnov Values					
	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Percent π_1 change	.774	.981	1.317	1.265	.872
Percent π_2 change	.701	.994	.865	1.128	.818
Percent π_3 change	1.381*	.738	.804	1.402*	.960
Percent π_4 change	.989	1.062	.582	.675	.742

^a CEO position is not reported in 1984 *Business Week* survey
 * value is significant at the .05 level.

positive z values in Panel C of Table 2. In 1980 and 1983, the difference between the two groups' profits is significant as indicated by the Kolmogorov-Smirnov values.

One further observation of the results in Table 2 is that the percentage change in profitability for profit measures one (operating income) and three (net income) is apparently not normally distributed. The results of the z test are not significant. The z test, however, presumes a normal distribution. When the normality assumption is relaxed and the distributions are

compared using the Kolmogorov-Smirnov test, significant differences between groups occur. Consequently, examination of the results in Table 2 indicates that $H_0(2)$ is rejected in every year of the study for the CEO position as measured by the Kolmogorov-Smirnov statistic.

C. Percentage Change in Shareholder Wealth Test

Risk-adjusted returns were calculated using the Capital Asset Pricing Model (CAPM). The results of the test of difference in means (z test) and the Kolmogorov-Smirnov tests appear in Tables 3 and 4, respectively. Since each test associated with $H_0(3)$ covers a twenty-four month period (i.e., twelve months before the year of the survey plus the twelve months of the survey year), the entire test period spans six continuous years.

Table 3
Test of $H_0(3)$
Test of Difference of Means in Abnormal
Stock Returns Between Reporting Groups

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
January, previous year	-.52	1.51	-.65	.94	.62
February	-1.16	-.14	-1.06	.84	-1.84
March	-.43	1.24	.47	1.12	1.15
April	-.05	-.45	-.99	.88	-1.38
May	-.79	-.33	-1.18	-.03	-.58
June	.09	.29	-.71	-.80	1.06
July	.06	.26	.61	.29	-.86
August	2.49*	.46	-.04	-.39	.23
September	.31	.65	.29	1.69	.72
October	1.59	-.24	.46	.95	.91
November	-.21	.40	-1.61	-.66	-.43
December	-.28	.99	2.04*	-.34	-.05
January, survey year	.93	-1.17	-.34	-.09	1.19
February	-.15	-1.39	-1.10	1.19	-.28
March	.83	-.81	-.27	.87	.50
April	-1.50	.11	1.01	-1.08	-.28
May	.16	-.07	.78	-.60	1.07
June	1.44	1.96	-1.10	-.38	-.58
July	.83	.57	.13	-.06	2.20*
August	-.86	.83	.01	.64	-1.14
September	.02	.46	1.09	1.09	-.56
October	-1.00	.70	-2.15*	.45	-.62
November	-1.22	-.72	-1.85	-.85	-.27
December	-.08	2.24*	1.28	-1.53	-.49

* Indicates the Z-test value given is significant at the .05 level.

In the entire test period, there are only five significant z values. As indicated in Table 3, the occurrence of these significant differences appears to be random. The lack of a consistent abnormal return difference pattern is confirmed by the Kolmogorov-Smirnov test values in Table 4.

Table 4
Test of $H_0(3)$
Kolmogorov-Smirnov Results on Difference in Abnormal
Stock Returns Between Reporting Groups

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
January, previous year	.574	.806	.827	.760	.478
February	1.143	.961	.798	1.025	.974
March	.449	1.059	.610	1.041	.847
April	.429	.918	.666	.654	.995
May	.667	.790	.776	.674	.625
June	.585	.485	.720	.843	.779
July	.544	1.097	.553	.626	1.157
August	1.444*	.741	.485	.824	.685
September	.734	.653	.644	1.306	.746
October	.775	.792	.745	.791	.826
November	.883	.845	.972	.716	.700
December	.562	.938	1.323	.788	.548
January, survey year	.645	1.415*	.458	.547	.818
February	.674	.973	1.114	.915	.518
March	.571	.813	.431	.767	.701
April	1.534*	.598	1.046	1.133	.874
May	1.047	.658	.980	.714	.772
June	.969	1.040	.731	.899	.567
July	1.074	.668	.473	.731	1.148
August	.911	.973	.685	.633	.900
September	.527	.816	.793	.697	.677
October	.914	.515	.840	.761	.906
November	.864	.831	1.108	1.136	.758
December	.503	1.281	.765	.826	.682

* Indicates the Kolmogorov-Smirnov statistic value given is significant at the .05 level.

Based upon the results in Tables 3 and 4, $H_0(3)$ cannot be rejected. There is no significant difference in the mean abnormal risk-adjusted returns between the component reporting group and the total reporting group.

Conclusions

This study analyzed, theoretically and empirically, the properties and implications of managerial contractual arrangements within the framework of Harris and Raviv's [1979] theory of dichotomous contracts. The objective was to determine whether or not there is a variation in performance between the group of firms reporting the salary and bonus components separately (component reporting group) and the group of firms reporting the total of the salary and bonus (total reporting).

The tests of variation in performance between the groups of firms reporting total compensation and the groups of firms reporting components of compensation presented mixed and inconclusive results. Evidence presented suggests that magnitude of profitability is a contributing factor in the reporting of components;

however, this finding is not supported at the .05 level of significance. There is statistically significant evidence that percentage change in profitability does vary between groups for CEOs. The difference in abnormal risk-adjusted return distributions was insignificant with the exception of what appears to be random isolated cases. The empirical results suggest that propensity to report components of compensation is not conditioned upon any measure of firm performance investigated in this study.

The above results suggest at least three possible market information processing behaviors. First, there may be no information content in the compensation data reported in the *Business Week* surveys. Specifically, the stock market participants treat the information as if it did not exist. Second, the reporting of the compensation data is not consistent on a year by year basis as evidenced in Appendix A. Both the sample size and the sample composition change on an annual basis. In addition, firms report components some years and total compensation other years. The inconsistency of the reporting forum may lead analysts to disregard this information. Third, the information published in the *Business Week* surveys may not be timely enough for it to be of value to stock market participants.

Finally, a corollary objective of this study was to determine whether or not disclosure of the separate components of executive compensation provides useful information to those who use financial data to evaluate management and company performance. Holmstrom emphasizes that "any informative signal, regardless of how noisy it is, will have positive value" [1979, p. 87]. Since no positive value was determined for the tests of the abnormal risk-adjusted returns, this study concludes that this information has no value. Disclosure of the components of executive compensation does not provide useful information to the users of financial data for the group of firms participating in the *Business Week* surveys in the 1980 to 1984 time period.

It is recommended that the reporting of the components of executive compensation be mandated on a trial basis to determine whether or not behavior of both managers and stock market participants might change. Since total compensation is currently required to be disclosed, incremental costs to report the components of compensation would be minimal. Broad implementation of component reporting may reveal dichotomous contracts to be viable monitors of top executive performance.

Finally, new incentive schemes and monitoring technologies need to be developed for top level execu-

tives. Evidence presented in this study indicates that the variables that contributed to the bonuses of the presidents and chairmen were the variables that could be manipulated through the alternative choices of generally accepted accounting techniques (i.e., net income, operating income minus net income, and earnings growth). Operating income, cash flow, and change in shareholder wealth are not easily manipulated in the same manner and, therefore, may be more reliable measures of executive performance.

Suggestions for Future Research

The above represents a preliminary examination of dichotomous contract theory applied to executive compensation in the context of managerial performance. The above study does not control for industry representation; therefore, future studies that control for industry influences may produce more significant results. Since this study did not control for firm size, and finance literature suggests that size influences firm behavior, future studies that control for firm size may exhibit behavioral differences. Finally, the initial results of this study indicates that a classical event study should be performed. Such a study would examine security market reaction on the date that compensation is first disclosed. This study would be beneficial especially if the Financial Accounting Standards Board mandates the disclosure of the components of executive compensation. 20

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