The Relevance Of Firms' Accounting And Market Performance For CEO Compensation

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ABSTRACT

This paper investigates the relationship between several different CEO compensation components and several firm performance metrics using canonical correlation analysis (CCA). The principal findings presented in this paper offer evidence supporting the pay-performance relationship in corporate America. CEOs bonuses are closely associated with accounting measures of performance whereas CEO's long-term compensation is directly linked to firm's market performance. Furthermore, a substantial portion of the variance in CEOs bonus is explained by firm performance variables. Firm performance measures have some predictive power for CEO bonus but very little predictive power for other compensation measures.

INTRODUCTION

There has been much academic debate about the relationship between CEO compensation and firm performance. Evidence reported in some of the studies indicates that market performance is an important factor in determining CEO compensation (Murphy 1985; Coughlan and Schmidt 1985; Jensen and Murphy 1992). Another strand of accounting literature supports the hypothesis that CEO compensation is influenced by accounting earnings (Gjesdal 1981; Healy 1985; Lambert and Larcker 1987; Sloan 1993); while economic literature emphasizes the importance of both market performance and accounting performance in analyzing executive compensation arrangements (Rosen 1992; Holmstrom 1992). Although CEO compensation is known to be associated with both accounting earnings and market performance, it is unclear as to which specific compensation variable is associated with which specific accounting or market performance metric.

This study investigates the precise relationship between the compensation "mix" with firm performance "mix" simultaneously.¹ We identify and explain the precise nature of these relationships between the two sets of variables by measuring the relative contribution of each variable to the overall relationship between CEO compensation and firm performance. We posit that because of "horizon problem" CEO's are more likely to improve accounting earnings to boost their *cash* compensation, while strengthening market returns to enhance their deferred *stock-based* compensation components.

In this context, our paper makes two significant contributions. First, we specifically consider the interrelationship between a set of compensation metrics and a set of firm performance variables. Second, we conduct this analysis simultaneously by including several compensation metrics, all at once.

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By simultaneously considering both multiple dependent variables (CEO compensation metrics) and multiple independent variables (firm performance measures), we control for possible suppressor or moderator effects that may exist among the various compensation components. For instance, Bushman et al. (1996) found that amongst firms with greater opportunities for growth, the use of annual bonus contracts and the relative importance of long term compensation were both higher. We provide support to this argument which suggests that compensation components are not independent of each other but closely related. This interrelationship between compensation components would be ignored if, instead of a simultaneous analysis, the researcher were to compute a multiple regression model for each of the CEO compensation components independently.² Multiple regression analysis would also be conceptually inconsistent because the stockholders use different firm performance measures simultaneously to determine the individual component as well as the overall pay package of CEOs.

CEOs and stockholders would therefore be well served if it is known, *a priori*, which specific firm performance measure is precisely associated with which specific compensation component. For instance, the agency literature argues vigorously that asymmetric information and differences in risk preferences lead to conflict between shareholders and management. Shareholders could motivate executives to meet the firm's goals by tying alternative compensation vehicles to the fortunes of the firm. Hence it could be of immense benefit to the shareholders if a relationship between specific components of CEO compensation with particular measures of performance could be delineated.

To mitigate the problems of multiple regression approach, we employ Canonical Correlation Analysis (CCA). Fornell and Larcker (1980) show that a single criterion procedure such as multiple regression ignores the interrelationships within the criterion set and will inaccurately portray the underlying multivariate variable association. They clearly demonstrate the superiority of CCA over multiple regression methodology in moderately correlated criterion sets. CCA investigates the interaction between a set of compensation components and a set of firm performance measures by deriving a set of weights for each set of firm performance (predictor) and executive compensation (criterion) variables so that the linear combinations of each set are maximally correlated. CCA also estimates loadings for the two sets of data by examining only the compensation-performance correlation matrix. The linear combinations are known as the canonical variables. As many canonical variates can be derived as there are variables in the smaller set, as long as the variables are not perfectly multicollinear. Furthermore, tests for overall relationships for each canonical variate can be conducted (See, Bartlett, 1941).

Results for a cross-sectional investigation of 1993 CEO compensation of 196 U.S. corporations are consistent with the premise that CEO's *cash* compensation is tied to accounting performance while CEO's *deferred stock-based* compensation is associated with market returns. In particular, CEO's bonuses are related to firm's earnings before interest and taxes (EBIT) and earnings per share (EP) while CEO's long-term compensation and stock options are associated with firm's market return.

The remainder of this paper is divided into four sections. The next section reviews the literature on this issue. In section III, the sample and methodology are discussed. Empirical results are presented in section IV. The paper ends with a summary and concluding comments.

LITERATURE REVIEW

The analysis of executive compensation is a classic example of the principal-agent problem that governs the discussion regarding the separation of ownership and control of the firm. Chiefly, the problem involves motivating the CEO of the firm (agent) to act in the best interests of the shareholders (principal). Firms seek to address this problem by structuring the incentive contract to provide the appropriate short-term and long-

term incentives.

The ongoing academic debate in economics, finance and accounting, concerning CEO compensation seeks to provide answers as to why CEO compensation is tied to accounting performance measures, despite the noisiness of this measure. As Scholes (1991) notes:

"...this is not to argue that employee payoffs are not tied to accounting measures of performance. They are. But as Lambert and Larcker (1985) argue, the important issue is whether accounting or market data are the most useful for incentive reasons or whether a combination of accounting and stock market data are more efficient as a means to create the proper incentives than either alone."

Holmstrom (1979), a pioneer in the development of the standard principal-agent paradigm, shows that contracting on an additional information signal improves the incentive contract, regardless of how noisy the signal is. Banker and Datar (1989) extend Holmstrom (1979) by showing that the relative weights to be placed on each performance measure should depend on its sensitivity and precision.

Paul (1992), Kim and Suh (1993), Bushman and Indejekian (1993), Sloan (1993) and Lambert (1993) argue that basing CEO compensation on accounting measures of performance improves the incentive contract because accounting income may be a less noisy signal of the CEO's effort than stock returns. Furthermore, a large empirical body of literature documents the extensive use of accounting numbers in CEO contracts. For instance, Ittner et al (1997) found in a recent survey of 312 firms a significant proportion of firms used the following financial measures: Earnings per Share (28.5%), Net Income (27.2%), Operating Income (25.3%), Sales (13.8%), and Return on Assets (9.6%).

Antle and Smith (1986), Lambert and Larcker (1987), Jensen and Murphy (1990), and Sloan (1993), show that CEO compensation may be more closely tied to accounting measures of performance than stock returns. However, as Sloan (1993) cautions, "most of these findings are based on an analysis of CEO *cash* compensation, which excludes certain stock price based incentives, such as CEO holdings of stock and executive stock options."

Most of the empirical work on executive compensation have examined the relationship of CEO pay to measures of performance typically employing multiple regression methodology. Using this approach, Jensen and Murphy (1990), conclude that CEO compensation appears to respond very little to the performance of the firm, fueling a public debate about CEO pay. Besides requiring a strict set of assumptions to be met, multiple regression approach can handle at most a single dependent variable and in cross-sectional analysis suffers from heteroskedasticity and coefficient bias due to scale deflators (e.g., Barth and Kallapur 1996). Hence, this paper uses the canonical correlation analysis whereby cross-sectional relationship between a set of CEO compensation components and a set of firm performance measures can be examined at once without the attendant scale problems.

SAMPLE AND METHODOLOGY

A cross section of 329 firms for 1993 was used in this study. This sample included all firms in the *Wall Street Journal/William M. Mercer 1993 Compensation Survey*. The firms are from several diverse sectors such as basic materials, industrial, technology, pharmaceutical, foods, financial and energy. Accounting data were obtained from the COMPUSTAT merged expanded annual industrial file. Of these, 133 firms were excluded because of missing financial data, leaving us with a final sample size of 196 firms. For each firm, four compensation components and five performance measures were also obtained.³ The compensation variables are SALARY, BONUS, LTCMP, AND OPTGRT. The performance measures included are

MKRTX, ROAA, EP, SALES, and EBIT. The definitions of these variables are given in Appendix A. Table 1 summarizes the descriptive statistics for these firms.

Table 1
Descriptive Statistics of Selected Variables Pertaining
To a Sample of Firms in 1993 (n=196)

<i>Variable</i>	<i>Mean</i>	<i>Median</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Std. Dev.</i>
<i>CEO Compensation:</i>					
Salary (\$TH)	734	719	250	1900	246
Bonus (\$TH)	637	495	0	6300	800
LTCMP (\$TH)	1375	492	0	46900	3705
OPTGRT (\$TH)	1500	771	3	37152	3391
STTERM (\$TH)	1371	1188	390	6900	903
LTOPT (\$TH)	2875	1452	42	84052	6542
<i>Firm Performance:</i>					
MKRTX	16.07	12.20	-25.88	100.63	22.69
ROAA	4.14	4.34	-28.42	23.62	6.22
EP	0.05	0.06	- 0.35	0.22	0.06
Sales	1.50	1.11	0.24	10.70	1.40
EBIT	0.09	0.10	- 1.01	1.11	0.16

Several features of the data in Table 1 are noteworthy. On average, the present value of option grants (OPTGRT) is the single largest component of CEO compensation. The mean Salary and Bonus form a smaller percentage of the overall pay-package but the median salary is about 50% of the overall pay. The variation of Salary and Bonus is also considerably smaller. Also, the market returns (MKRTX) of these firms appear to be considerably higher than the book returns (ROAA).

The simple correlations between the two sets of variables appear in Table 2. A number of interesting relationships can be found in Table 2. For example, OPTGRT is positively correlated with long term compensation (LTCMP), earnings before interest and taxes (EBIT) with earning price ratio (EP), and bonus with both EBIT and EP. On the other hand, salary is not highly correlated with any performance measure. More importantly, the correlations between the compensation variables and performance measures are moderate, the largest being 0.5676 between Bonus and EBIT. The within-set correlations are much larger 0.6999 between OPTGRT and LTCMP and 0.7321 between EBIT and EP. Given the significance of the correlation amongst criterion (i.e., compensation) variables, canonical correlation presents an improvement over multiple regression approach as documented by Fornell and Larcker(1980).

Table 2
Spearman Correlations Among Variables Pertaining to a
Sample of 196 Firms in 1993

A.1. Correlations Among the Compensation Components

	Salary	Bonus	LTCMP	OPTGRT
Salary	1.0000			
Bonus	0.2885	1.0000		
LTCMP	0.2051	0.4355	1.0000	
OPTGRT	0.1983	0.4256	0.6999	1.0000

A.2. Correlations Among the Performance Measures

	MKRTX	ROAA	EP	Sales	EBIT
MKRTX	1.0000				
ROAA	0.0500	1.0000			
EP	0.2979	0.5885	1.0000		
Sales	0.0716	-0.3030	-0.1059	1.0000	
EBIT	0.1841	0.4607	0.7321	0.0319	1.0000

A.3. Correlations Between Compensation Components and Performance Measures

	MKRTX	ROAA	EP	Sales	EBIT
Salary	0.0064	0.0570	0.0900	-0.0723	0.0279
Bonus	0.2329	0.1132	0.3744	-0.0279	0.5676
LTCMP	0.2113	0.0472	0.2106	-0.0665	0.1071
OPTGRT	0.1917	-0.0383	0.0864	-0.0974	0.0226

The first group of CEO compensation variables is represented by the $(p \times 1)$ random vector Y . The second group of firm performance variables is represented by the $(q \times 1)$ random vector X .

Let $E(Y) = \mu_y$; $COV(Y) = \Sigma_{yy}$

$E(X) = \mu_x$; $COV(X) = \Sigma_{xx}$

$COV(Y, X) = \Sigma_{yx} = \Sigma'_{xy}$

Also, U and V are linear combinations of Y and X as follows:

$U = a'Y$; and $V = b'X$.

CCA seeks coefficient vectors a and b such that:

$Corr(U, V) = [(a' \Sigma_{yx} b) / (a' \Sigma_{yy} a) (b' \Sigma_{xx} b)]$

is maximized for each pair of canonical variable.

The nature of the canonical variates is examined by utilizing canonical loadings, which measures the simple linear correlation between an original observed variable and canonical variate. This relationship is enhanced by examining the canonical cross-loadings, which measures the simple linear correlation between an original observed dependent variable directly with the independent canonical variate. The cross-loadings thus

provide a more direct measure of the pay-performance relationship by eliminating an intermediate step involved in conventional loadings.

The canonical loadings and the cross-loadings are simplified using the canonical rotation analysis methods described by Cliff and Krus (1976), and Perreault and Spiro (1978). The loadings are rotated simultaneously using Kaiser's normalized varimax criterion (1958). These techniques simplify the examination of the nature of the canonical variates.

The choice of CCA for this study is obvious, since it is the least restrictive of all the available multivariate techniques besides being capable of handling several criterion variables simultaneously. For instance, CCA does not have to meet the strict assumption of normality in variables, although it is assumed that the relationship between firm performance and compensation is linear. Further, for a study of multiple compensation variables and firm performance measures, CCA is the most appropriate and powerful multivariate technique.⁴ A decision that is reflected in the specification of the CCA is that we focus on the levels of compensation and levels of performance. This formulation implicitly suggests that executive pay will be relatively lower (higher) if the firm's performance is consistently poor (good). It is unclear as to how realistic this assumption is.

RESULTS

Table 3 summarizes the results of the canonical correlation analysis. As shown in Table 3, the first canonical correlation is 0.6687, representing 44.72% common variance between the first pair of canonical variates of CEO compensation and firm performance. The second canonical correlation is 0.2750, representing 7.56% of shared variance between the second pair of canonical variates. These are the two statistically significant pairs of canonical variates. Since only the first two of the canonical functions were significant at the .05 level of significance, only these will be interpreted.⁵

Table 3
Test Statistics for Canonical Functions

<i>Roots</i>	<i>Canonical Correlation</i>	<i>Approximate F Statistic</i>	<i>Probability</i>
1 through 4	0.6687	7.3941	0.0001
2 through 4	0.2750	1.8542	0.0377
3 through 4	0.1759	1.1784	0.3170
4 through 4	0.0750	0.5380	0.5848

Table 4 presents two measures of the contribution of each variable to the canonical relationships. The first measure is the canonical loadings (i.e., the correlation between individual variables and the respective canonical variates). The second measure is the square of the correlation between the variable and the variate and expressed as a percentage of the sum of squared correlations for each variate (also called 'percentage of variate communality').

For a sample size of 196, a canonical loading of 0.40 is significant based on a 0.05 significance level (two-tailed), and a power level of 80% [See, Hair et al. (1995, p. 385)].

Table 4
Varimax Rotated Canonical Loadings and Percentage of Variate Communality

	Canonical Relationships			
	I		II	
	Canonical Loading (L)	Percentage ΣL^2	Canonical Loading (L)	Percentage ΣL^2
<i>Compensation Components:</i>				
Salary	0.2904	4.87	0.0291	0.09
Bonus	0.2794	4.52	0.9331	92.25
LTCMP	0.9497	52.09	0.2259	5.41
OPTGRT	0.8167	38.52	0.1457	2.25
<i>Performance Measures:</i>				
MKRTX	0.6665	57.45	0.3319	8.18
ROAA	0.0305	0.12	0.1856	2.56
EP	0.4696	28.52	0.5759	24.61
Sales	-0.3194	13.19	0.0078	0.00
EBIT	-0.0744	0.72	0.9333	64.65

Although all the variables with a minimum loading of 0.40 would be used as a cut-off for further investigation, the measure of the percentage of variate communality associated with each variable is equally important because the latter measure is more sensitive to variations in contributions of variable than is a constant canonical loading threshold.

The interdependencies between compensation and firm performance metrics are clearly exhibited in the varimax rotated canonical loadings for our sample. In Table 4, LTCMP, OPTGRT, MKRTX and EP (to a lesser extent) have positive loadings of 0.9497, 0.8167, 0.6665 and 0.4696 respectively with Canonical Variable I. This implies that nearly 90% (67%) the variance in LTCMP (OPTGRT) is explained by compensation Canonical Variable I. Furthermore, 44% and 22% of the variance in MKRTX and EP are explained by performance Canonical Variable I. Therefore, a relatively higher CEO's LTCMP is associated with a relatively higher firm's MKRTX. Similarly, Bonus, EBIT and EP load highly on Canonical Variable II, with loadings of 0.9331, 0.9333 and 0.5759 respectively. This suggests that 87% of the variance in Bonus is explained by compensation Canonical Variable II and 87% (33%) of the variance in EBIT (EP) is explained by performance Canonical Variable II. Overall, this implies that a relatively higher Bonus is associated with a higher firm's accounting return.

Table 4 also illustrates the importance of percentage of variate communality. A constant loading cut-off ignores the contribution of each variable to the overall variation. For instance, in the case of the first canonical relationship, loadings for the LTCMP and OPTGRT are higher than that for MKRTX. However, variance in MKRTX was more closely associated with predictor variance extracted by the second variate (57.45%) than the corresponding figures indicated for LTCMP (52.09%) and OPTGRT (38.52%), relative to variance extracted by the second criterion set variate. Thus, the relative rankings of variables' contribution to a canonical relationship may remain the same whether loadings or percentage of variate communality is used. However, the relative rankings may change when both sides of a relationship are considered simultaneously.

Table 5
 Varimax Rotated Canonical Cross Loadings and
 Percentage of Variate Communality

	Canonical Relationships			
	I		II	
	Canonical Loading (L)	Percentage ΣL^2	Canonical Loading (L)	Percentage ΣL^2
<i>Compensation Components:</i>				
Salary	0.0080	0.02	0.0800	4.81
Bonus	0.6116	95.63	0.0819	5.05
LTCMP	0.1132	3.28	0.2626	51.86
OPTGRT	0.0649	1.07	0.2256	38.28
<i>Performance Measures:</i>				
MKRTX	0.1951	6.58	0.1852	57.30
ROAA	0.1226	2.60	0.0094	0.15
EP	0.3658	23.12	0.1323	29.24
Sales	0.0179	0.05	-0.0879	12.91
EBIT	0.6258	67.65	-0.0155	0.40

Table 5 includes the varimax rotated cross loading for the two canonical functions. As is evident from the first canonical function, only Bonus exhibits high correlation of 0.61 with the performance Canonical Variate I. This implies that about 37 percent of the variance in Bonus is explained by performance canonical variable I. Since canonical correlation, by definition, extracts the maximal correlation between the two groups of variables, it may overstate the true relationship. Canonical redundancy, however, provides a summary measure of the average ability of a set of predictor variables taken as a set to explain variation in criterion variables taken one at a time. Thus redundancy analysis is therefore appropriate to measure the magnitude of the relationships between the two sets of variables. Table 6 presents the canonical redundancy analysis.

The first two pairs of canonical variables explain about 13 percent of the variance of the opposite set of variables. The redundancy analysis for the third and the fourth compensation functions produce low redundancy indices - 0.0034 for the third variate and 0.0013 for the fourth variate. This is due to two reasons. First, both variable sets have low shared variance - 0.1086 for the third variate and 0.2227 for the fourth variate. Moreover, the canonical R^2 is substantially lower - 0.0309 for the third and 0.0056 for the fourth. Redundancy analysis confirms our earlier decision to interpret only the first two canonical functions and their associated loadings.

Finally, Table 7 presents the squared multiple correlations (SMC's). The SMC's indicate that the first canonical variable of the firm performance measures has some predictive power for Bonus (see Table 7, panel A) and almost none for other compensation measures.

Table 6
Canonical Redundancy Analysis

Standardized Variance of the Compensation Components Explained By:

Factor	<u>Their Own Canonical Variables</u>		<u>The Opposite Canonical Variables</u>		<u>Cann R²</u>
	<u>Proportion</u>	<u>Cumulative Proportion</u>	<u>Proportion</u>	<u>Cumulative Proportion</u>	
1	0.2166	0.2166	0.0968	0.0968	0.4471
2	0.4521	0.6687	0.0342	0.1310	0.0756
3	0.1086	0.7773	0.0034	0.1344	0.0309
4	0.2227	1.0000	0.0013	0.1356	0.0056

Standardized Variance of the Performance Measures Explained By:

Factor	<u>Their Own Canonical Variables</u>		<u>The Opposite Canonical Variables</u>		<u>Cann R²</u>
	<u>Proportion</u>	<u>Cumulative Proportion</u>	<u>Proportion</u>	<u>Cumulative Proportion</u>	
1	0.2575	0.2575	0.1151	0.1151	0.4471
2	0.1666	0.4241	0.0126	0.1277	0.0756
3	0.2163	0.6404	0.0067	0.1344	0.0309
4	0.2106	0.8510	0.0012	0.1356	0.0056

SUMMARY AND CONCLUSIONS

We find strong evidence that CEO compensation and firm performance are associated when the overall relationship between individual components of compensation and firm performance measures is considered simultaneously. In particular, CEOs' bonuses are more closely tied to accounting measures of performance, and CEOs' long-term compensation is directly related to firm's market performance. Consequently, if CEOs wish to earn a relatively higher bonus, they should implement necessary steps to earn and report a relatively higher firm's EBIT and/or EP. In a similar vein, a relatively higher long-term compensation would ensue if the firm's market return is relatively higher. Furthermore, a substantial portion of the variance in CEO bonus is explained by firm performance variables. Therefore, firm performance measures have some predictive power for CEO bonus but for no other component of compensation.

Another important conclusion is to recommend the use of Canonical Correlation Analysis to explore research topics dealing with the composite association between sets of criterion and predictor variables. This technique, thus, obviates the need to identify a single dependent variable. The majority of published empirical research in accounting and finance has attempted to explain a single dependent variable in terms of firms' characteristics. While such research has sometimes been successful in finding the firm characteristics that are associated with the dependent variable in particular situation, the results usually may not hold in other situations. These would include predicting the levels of financial expenditures (such as research expenditures, exploration expenditures, capital investments), capital structure, capital market research, and corporate governance. CCA would facilitate empirical analysis where no unique variable need be chosen as the

dependent variable. Further, linear combinations of variables can be chosen instead of the typical accounting variables. Canonical variate scores for a firm could be associated with discretionary research expenditures, capital investments, and selling and administrative expenditures. These topics have been individually investigated using financial and accounting measures as predictor variables. These research areas can be investigated using a linear combination of firm specific variables.

Table 7
Squared Multiple Correlations

Panel A: Between the Compensation Components and the First Two Canonical Variables of the Performance Measures

I	II	
Salary	0.0000	0.0065
Bonus	0.3720	0.3808
LTCMP	0.0117	0.0818
OPTGRT	0.0037	0.0551

Panel B: Between the Performance Measures and the First Two Canonical Variables of the Compensation Components

	I	II
MKRTX	0.0366	0.0074
ROAA	0.0150	0.0151
BP	0.1318	0.1513
Sales	0.0004	0.0080
EBIT	0.3919	0.3919

The findings and implications should be approached with caution due to several limitations of the study. First, the sample included only those firms for which data were available on *Compustat* and *Wall Street Journal/William M. Mercer 1993 Compensation Survey*. The results may apply to the year chosen and not to other periods. Second, the actual relationship between firm performance metrics and compensation components could be other than monotonic.

The above limitations notwithstanding, the overriding conclusions still seem valid for a large sample of United States firms. That is, CEO pay is tied to performance even after controlling for moderator effects that may exist among the various compensation components.

SUGGESTIONS FOR FURTHER RESEARCH

Several research issues may merit further investigation. First, this study found significant positive relationships between CEO compensation and firm performance. CEO compensation could be differently associated with firm performance in specific industries. For instance, how different is the association between CEO compensation and firm

performance in construction industry as compared, to say, consumer goods industry? A comparative investigation into industries with different underlying competitive markets, could shed some light on whether firms in high-risk competitive industries, such as electronics and technology, are more likely to associate CEO's compensation to stock market returns, while firms in stable industries, such as foods and utilities might relate CEO's compensation to accounting returns. Second, an industry index could be used to measure relative performance measures and relative compensation measures. Third, it would be interesting to see if our results regarding the association between CEO pay and firm performance for United States firms hold for firms in other countries. Finally, a limitation noted earlier was that the hypothesized relationships were monotonic in nature. Future research needs to explore the possibility of higher order relationships, such as curvilinear or quadratic, between CEO compensation and firm performance.

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Endnotes

1. Our analysis considers whether there is a systematic association between the various compensation components and firm performance measures. As to whether this association is the optimal, although an important question, is beyond the purview of this paper.
2. Cross-sectional multiple regression analysis also suffers from coefficient bias and heteroskedasticity due to scale deflators (See, Barth and Kallapur, 1996).
3. Five firm performance measures were used for reasons of parsimony. The specific measures were selected on the basis of their extensive use by businesses in compensating executives. (See Ittner et al. 1997).
4. Theoretical background on canonical correlation analysis is provided in Johnson and Wichern (1992).
5. To cross-validate the CCA, sensitivity analysis of the performance variable set was undertaken (results not reported here). The canonical loadings obtained by deleting performance variables were remarkably stable and consistent in each of the five cases. The overall canonical correlations also remain stable.

APPENDIX

Definitions of Variables Used in This Paper

1. Salary: Base salary earned in fiscal year 1993 even if deferred or paid in common or restricted common stock.
2. Bonus: Annual bonus earned in fiscal year 1993, even if deferred or paid in common or restricted common stock.
3. LTCMP: It includes option gains and other long-term compensation. Option gains includes gains from the exercise of stock options and/or stock appreciation rights during fiscal year 1993. Other long-term compensation includes a) the value of shares of restricted stock or restricted stock units at grant, and b) value of payout under any other long-term incentive compensation plan.
4. OPTGRT: Present value of option grants for fiscal year 1993 is calculated using the binomial option-pricing model. For assumptions in calculating this figure, see *The Wall Street Journal/William M. Mercer 1993 CEO Compensation Survey*.
5. MKRTX: Common stock price (fiscal year close) *plus* Dividend per share by ex-date *plus* cash equivalent distributions per share by ex-date *divided* by common stock price (fiscal year close).
6. ROAA: Income before Extraordinary Items *divided* by the average of the current year's total assets and the prior year's total assets. This is then *multiplied* by 100.
7. EP: Primary Earnings per Share adjusted to remove the effect of all Special Items from the calculation, and excludes the effect of all nonrecurring events. This is then *divided* by the common stock price (fiscal year close).
8. Sales: This is gross sales reduced by cash discounts, trade discounts, and sales returns and allowances. This is *deflated* by the market value of common stock at the end of the fiscal year.
9. EBIT: This is earnings before interest expense and taxes. This is *deflated* by the market value of common stock at the end of the fiscal year.

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